THE DATASHEET OF

1012405 SL199

Master Catalog

AlphaWire

Cables you trust. Service you deserve.

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Make Alpha Wire Your First Choice for Reliable Performance

No matter how demanding the application or environment, you want a cable with the performance and reliability to put your mind at ease. For more than 85 years, Alpha Wire has engineered wire and cable that excel in taming tough applications. From the harsh environment of a factory floor to critical controls on an offshore oil rig, Alpha Wire products work reliably day-in and day-out.

The industry-leading brands you trust

Today's engineers count on Alpha's industry-leading branded products for virtually every application. From telecommunications and factory automation, to medical equipment and wind turbines, you can count on Alpha Wire cable, wire, tubing, and accessories to work the first time, every time.

Whether it's a standard cable solution or a one-of-a-kind specialized design, Alpha's branded products offer decades of proven performance, superior construction, and manufacturing excellence.

Proven in the real world

We design and manufacture every cable to meet the critical demands of real-world applications. Using premium materials, advanced manufacturing, and world-class quality control, we manufacture every cable knowing its operation is critical to an application's success.

Built to last

Every inch of our cable is given the exact same attention to detail, so you get a cable that goes the distance. With Alpha Wire, you know you're getting wire, cable, and heat-shrink tubing with uniform construction and consistent performance characteristics.

Cable Finder Guide

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32 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	C&C, Hi-Fi Stereo	PVC	—	200	1101	3 - 4	368

30 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Braid	Audio/Video	PE	PVC	300	M3601	1	157
Unshielded	C&C, Hi-Fi Stereo	PVC	—	200	1101	2 - 3	368
Unshielded	Flat Cable, 0.025" CL	PVC	—	150	3582	26 - 60	374

28 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Flat Cable, 0.050" CL	PVC	—	300	3580	9 - 64	371
	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86002	2 - 25	115
	Xtra-Guard 1	PVC	PVC	300	5920	2 - 8	32
Foil, Overall	Flat Cable, 0.050 CL, Jacketed	PVC	PVC	150	3590	10 - 26	373
	Xtra-Guard 1	PVC	PVC	300	5926	2 - 8	38
Braid	C&C	PVC	PVC	600	3302	2 - 20	320
	C&C, Miniature Shielded	PVC	PVC	200	1120	2 - 4	365
	Control	PVC	PVC	600	M1411	1 - 12	188
Foil + Braid	C&C	SR-PVC	PVC	300	3463	3 - 50	336
	C&C	FPP	PVC	300	3483	3 - 25	337
	Computer	SR-PVC	PVC	300	M2403	3 - 50	224
	Flat Cable, 0.050" CL, Round to Flat	PVC	PVC	300	3585	25 - 50	372
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5932	2 - 8	44
Foil, Overall/ Spiral or Foil/Braid	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86002CY	2 - 25	116

Multipair							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Pairs**	**Page**
Foil, Overall	Xtra-Guard 1	PVC	PVC	300	5938	2 - 6	52
Foil + Braid	C&C	SR-PVC	PVC	300	3472C	2 - 25	350
	C&C, Low Cap.	PE	PVC	300	6390	2 - 31	352
	C&C, Low Cap.	FPP	PVC	300	3492C	2 - 25	354
	Computer	FPP	PVC	300	M2487	2 - 25	234
	Computer, Low Cap.	PE	PVC	300	M3970	2 - 31	236
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5943	2 - 6	54
Foil, Overall/ Spiral or Foil/Braid	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86401CY	1 - 14	117

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26 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Silver Satin Telephone	PP	PVC	150	1604	4 - 8	369
	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86102	2 - 25	115
	Xtra-Guard 1	PVC	PVC	300	5666	2 - 15	32
Foil, Overall	Xtra-Guard 1	PVC	PVC	300	5674	2 - 15	38
Foil, Overall/Spiral or Foil, Overall/Braid	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86102CY	2 - 25	116
Braid	C&C	PVC/Nylon	PVC	600	3200	1 - 4	321
	Control	PVC	PVC	600	M1421	1 - 3	188
	High Temperature	PTFE	PTFE	600	M1201	1 - 4	258
Spiral	C&C, Microphone	PE	PVC	1000	1702	1	327
	Microphone	PE	PVC	1000	M3633	1	157
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5682	2 - 15	44

Multipair							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Pairs**	**Page**
Foil, Overall	Xtra-Guard 1	PVC	PVC	300	5690	2 - 6	52
Foil, Overall/Spiral or Foil, Overall/Braid	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86501CY	1 - 14	117
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5695	2 - 6	54

25 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Braid	C&C, Audio	PE	PVC	600	1772	4	328
Foil, Overall and Ind. Pair	C&C	PE	PVC	400	2468	2 + 1 pr	349

24 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Audio/Video	SR-PVC	PVC	300	M38902	2 - 50	161
	C&C	IRR PVC	PVC	300	6622	2 - 4	312
	Computer	SR-PVC	PVC	300	882402	2 - 6	218
	Computer	SR-PVC	PVC	300	M4501	7 - 37	219
	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86202	2 - 25	115
	Xtra-Guard Torsional Flex	TPE	PUR	600	87003	3 - 7	119
	Xtra-Guard 1	PVC	PVC	300	5012C	2 - 50	32
	Xtra-Guard 1	PVC	PVC	300	5201	2 - 37	35
	Xtra-Guard 2	PVC	PUR	300	25012	2 -25	58
	Xtra-Guard 4	TPE	TPE	300	45012	2 - 25	80
	Xtra-Guard 5	FEP	FEP	300	55012	2 - 12	95
Foil, Overall	Audio/Video	PE	PVC	300	M3222	2 - 4	152
	Audio/Video	PE	PVC	300	M13222	2	166
	Audio/Video	SP-PVC	PVC	300	M39024	3 - 50	166
	Audio/Video	PP	PVC	300	M14328	2	170
	C&C	PE	PVC	300	2400C	2	314
	C&C	PVC	PVC	300	1212C	2 - 50	317
	C&C	SR-PVC	PVC	300	6300/3	3 - 50	318
	C&C, Plenum	PVC	PVC	300	58401	2 - 25	363

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24 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Foil, Overall	Computer	PVC	PVC	300	1012405	5 - 9	222
	Computer	SR-PVC	PVC	300	M4602	2 - 50	223
	Plenum	PVC	PVC	300	M244837	2 - 4	179
	Plenum	FEP	FEP	300	M64837	2 - 15	182
	Plenum	FEP	PVC	300			
	Security/Data	PVC	PVC	300	M239023	2 - 4	175
	Xtra-Guard 1	PVC	PVC	300	5092C	2 - 70	38
	Xtra-Guard 1	PVC	PVC	300	5399	3 -27	41
	Xtra-Guard 2	PVC	PUR	300	25092	2 -25	61
	Xtra-Guard 3	PVC	PE	300	35491	1 - 4	77
	Xtra-Guard 4	TPE	TPE	300	45092	2 -25	83
	Xtra-Guard 5	FEP	FEP	300	55092	2 - 12	97
Braid	Audio/Video	PE	PVC	300	M1102	2 - 6	146
	C&C	PVC/Nylon	PVC	600	3210	1 - 4	321
	C&C	IRR PVC	PVC	600	7622	2 - 4	325
	C&C	PTFE	FEP	600	2831	1 - 3	331
	C&C	TFE	Fiberglass	600	2811	1 - 7	332
	C&C	PTFE	PTFE	600	2821	1 - 6	334
	C&C, Microphone	PE	PVC	3500	1703	1	327
	Control	PVC	PVC	600	M1431	1 - 3	188
	High Temperature	PTFE	PTFE	600	24RC2S06	2 - 4	256
	High Temperature	ETFE	ETFE	600	275002402	2	257
	High Temperature	PTFE	PTFE	600	M1211	1 - 4	258
	High Temperature	PTFE	FEP	600	72402	2	260
	Microphone	PE	PVC	3500	M3605	1	157
Foil + Braid	C&C	SR-PVC	PVC	300	6327	3 - 50	335
	C&C, Low Cap.	FPE	PVC	300	6351	3 - 37	339
	Computer, Low Cap.	FPE	PVC	300	M2456	3 - 37	228
	Computer	SR-PVC	PVC	300	M2438	3 - 50	225
	Computer	SR-PVC	PVC	300	M5500	5 - 60	227
Spiral	C&C, Microphone	PE	PVC	1000	1705	1	327
	Xtra-Guard Torsional Flex	TPE	PUR	600	87003CY	3 - 7	121
	Microphone	PE	PVC	1000	M3635	1	157
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5112C	2 - 50	44
	Xtra-Guard 1	PVC	PVC	300	5300C	5 - 48	47
	Xtra-Guard 2	PVC	PUR	300	25112	2 - 50	64
	Xtra-Guard 4	TPE	TPE	300	45112	2 - 25	86
	Xtra-Guard 5	FEP	FEP	300	55112	2 - 12	99
Foil, Overall/Spiral or Foil, Overall/Braid	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86202CY	2 - 25	116

Multipair

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Pairs	Page
Unshielded	Xtra-Guard 1	PVC	PVC	300	5261C	1 - 77	50
Foil, Overall	C&C	LSZH	LSZH	300	5471L	1 - 10	307
	C&C	SR-PVC	PVC	300	5471	1 - 50	341
	C&C, Low Cap.	HDPE	PVC	300	6083C	3 - 4	345
	C&C, Low Cap.	PE	PVC	300	6301	6 - 12.5	346
	C&C, Low Cap.	FPP	PVC	300	6202C	2 - 25	347
	Computer, Low Cap.	FPP	PVC	300	M39249	2 - 27	233

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24 AWG

Multipair

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Pairs	Page
Foil, Overall	C&C, Low Cap., Plenum	FEP	PVDF	150	58902	2 - 12.5	366
	C&C, Mid Cap., Plenum	FEP	PVDF	150	58802	2 - 12.5	366
	C&C, Plenum	PVC	PVC	300/150	57602	2 - 6	365
	Computer	SR-PVC	PVC	300	M13190	1 - 50	231
	Plenum	FEP	FEP	300	M613190	1 - 5	186
	Plenum	FEP	PVC	300	M52893	1 - 12.5	185
	Security/Data	PVC	PVC	300	M213191	2 - 4	178
	Xtra-Guard 1	PVC	PVC	300	5491C	1 - 27	52
	Xtra-Guard 2	PVC	PUR	300	25491	1 - 27	67
	Xtra-Guard 4	TPE	TPE	300	45491	1 - 27	90
	Xtra-Guard 5	FEP	FEP	300	55491	1 - 11	102
Foil, Ind. Pairs	C&C, Low Cap., Plenum	FEP	PVDF	150	58602	2 - 4	366
	C&C	PE	PVC	300	6385	3 - 25	360
	C&C	FPP	PVC	300	6073C	3 - 27	370
	Plenum	FEP	PVDF	300	M42891	2 - 18	187
Foil + Braid	C&C	SR-PVC	PVC	300	6362	2 - 25	351
	C&C, Low Cap.	PE	PVC	300	6401	2 - 25	353
	C&C, Low Cap.	FPP	PVC	300	6222C	2 - 25	355
	Computer	SR-PVC	PVC	300	M3446	2 - 15	237
	Computer	SR-PVC	PVC	300	M5650	5 - 37	232
	Computer	FPP	PVC	300	M3420	2 - 25	234
	Computer, Low Cap.	FPP	PVC	300	M3475	2 - 25	235
	Computer, Low Cap.	PE	PVC	300	M3993	1 - 25	236
Foil + Braid, Foil on Ind. Pairs	C&C, Low Cap.	FPE	PVC	300	6316	2 - 25	362
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5271C	1 - 51	54
	Xtra-Guard 1	PVC	PVC	300	5330C	5 - 37	56
	Xtra-Guard 2	PVC	PUR	300	25271	1 - 19	69
	Xtra-Guard 3	PVC	PE	300	35272	2	78
	Xtra-Guard 4	TPE	TPE	300	45271	1 - 19	92
	Xtra-Guard 5	FEP	FEP	300	55271	1 - 12	103
Foil, Overall/Spiral or Foil, Overall/Braid	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86601CY	1 - 14	118

24 + 22 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Unshielded + Foil	Audio/Video	PVC/PE	PVC	300	M14477	6 - 10	172

23 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Braid	C&C, Audio	PE	PVC	600	1771	2	328

22 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Unshielded	Audio/Video	PVC	PVC	300	M13302	2 - 50	143
	Audio/Video	SR-PVC	PVC	300	M33302	2 - 60	161
	C&C	LSZH	LSZH	300	1172L	2 - 10	306
	C&C	PVC	PVC	300	1172C	2 - 60	308
	C&C	IRR PVC	PVC	300	6632	2 - 4	312
	Computer	SR-PVC	PVC	300	882202	2 -60	218
	Computer	SR-PVC	PVC	300	M4508	2 - 37	219
	Control	PVC	PVC	300	M39071	2 - 3	199

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Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Security/Data	PVC	PVC	300	M213302	2 - 8	174
	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86302	2 - 25	115
	Xtra-Guard Torsional Flex	TPE	PUR	600	87103	3 - 7	119
	Xtra-Guard 1	PVC	PVC	300	5002C	2 - 60	33
	Xtra-Guard 1	PVC	PVC	300	5210	2 - 37	35
	Xtra-Guard 1	PVC	PVC	600	5402	2 - 19	36
	Xtra-Guard 2	PVC	PUR	300	25002	2 - 25	58
	Xtra-Guard 3	PVC	PE	300	35002	2 - 15	72
	Xtra-Guard 4	TPE	TPE	300	45002	2 - 25	80
	Xtra-Guard 5	FEP	FEP	300	55002	2 - 12	95
Foil, Overall	Audio/Video	PE	PVC	300	M3226	2 - 4	152
	Audio/Video	PE	PVC	300	M13226	2 - 3	166
	Audio/Video	PVC	PVC	300	M13229	2	167
	Audio/Video	PP	PVC	300	M4325	2	170
	C&C	PE	PVC	300	2401C	2 - 4	314
	C&C	PP	PVC	300	2460C	2 - 4	316
	C&C	PVC	PVC	300	1292C	2 - 50	317
	C&C, Plenum	PVC	PVC	300	58113	3 - 25	363
	Computer	SR-PVC	PVC	300	M4633	2 - 50	223
	Control	PVC	PVC	300	M39113	2 - 3	202
	Plenum	PVC	PVC	300	M244800	2 - 10	179
	Plenum	FEP	PVDF	300	M413226	2	181
	Plenum	FEP	FEP	300	M64800	2 - 15	182, 183
	Security/Data	PVC	PVC	300	M113226	2 - 3	175
	Xtra-Guard 1	PVC	PVC	300	5192C	2 - 70	39
	Xtra-Guard 1	PVC	PVC	300	5580	2 - 37	41
	Xtra-Guard 1	PVC	PVC	600	5410	2 - 12	42
	Xtra-Guard 2	PVC	PUR	300	25192	2 - 50	61
	Xtra-Guard 3	PVC	PE	300	35192	2 - 60	73
	Xtra-Guard 4	TPE	TPE	300	45192	2 - 25	83
	Xtra-Guard 5	FEP	FEP	300	55192	2 - 12	97
Foil, Overall/Spiral or Foil, Overall/Braid	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86302CY	2 - 25	116
Braid	Audio/Video	PE	PVC	300	M1112	2 - 8	146
	Audio/Video	PVC	PVC	300	M3202	2 - 4	164
	C&C	PVC/Nylon	PVC	600	3220	1 - 8	321
	C&C	PVC	PVC	300	1735	1 - 4	323
	C&C	IRR PVC	PVC	600	7631	2 - 4	325
	C&C	PTFE	FEP	600	2834	1 - 3	331
	C&C	TFE	Fiberglass	600	2814/2	2 - 6	332
	C&C	PTFE	PTFE	600	2824	1 - 6	334
	C&C, Microphone	PE	PVC	1000	1710	2	327
	Control	PVC	PVC	600	M1441	1 - 10	189
	High Temperature	PTFE	PTFE	600	22RC2S06	2 - 4	256
	High Temperature	ETFE	ETFE	600	275002201	1 - 4	257
	High Temperature	PTFE	PTFE	600	M1221	1 - 4	258
	High Temperature	PTFE	FEP	600	72203	3	259
	Microphone	PVC	PVC	300	M14461	2	158
Foil + Braid	C&C	SR-PVC	PVC	300	6339	3 - 50	338
	Computer	SR-PVC	PVC	300	M2473	3 - 50	226
	Computer	SR-PVC	PVC	300	M5509	5 - 60	227

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22 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Spiral	C&C	PVC	PVC	300	2254	1 - 6	319
	Xtra-Guard Torsional Flex	TPE	PUR	600	87103CY	3 - 7	121
	Audio/Video	PVC	PVC	300	M3261	1 - 6	162
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	600	5504	4 - 12	48
	Xtra-Guard 2	PVC	PUR	300	25102	2- 50	64
	Xtra-Guard 3	PVC	PE	300	35102	2 - 15	76
	Xtra-Guard 4	TPE	TPE	300	45102	2 - 25	86
	Xtra-Guard 5	FEP	FEP	300	55102	2 - 12	99
Unshielded + Braid	C&C	PVC	PVC	300	1243	3 - 5	313
Unshielded/Foil	Audio/Video	PVC	PVC	300	M4475	3 - 4	171
Unshielded/Foil	Audio/Video	PP	PVC	300	M14474	2	171

Multipair

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Pairs	Page
Unshielded	Audio/Video	PVC	PVC	300	M13001	1 - 27	150, 151
	C&C	PVC	PVC	300	1300C	1 - 27	340
	Security/Data	PVC	PVC	300	M2210	2 - 4	176
	Xtra-Guard 1	PVC	PVC	300	5021C	1 - 15	50
	Xtra-Guard 5	FEP	FEP	300	55201	1 - 12	101
Foil, Overall	C&C	PVC	PVC	300	5902C	2 - 19	342
	C&C	PVC	PVC	150	2211C	1 - 27	343
	C&C	PVC	PVC	300	6417	1 - 51	344
	C&C	FPP	PVC	300	6072C	2	370
	C&C, Low Cap.	FPP	PVC	300	6212C	2 - 25	347
	Computer	SR-PVC	PVC	300	M4779	1 - 27	231
	Computer	PVC	PVC	300	M3191	51, 102	230
	Computer	PP	PVC	300	M3190	38	231
	Control	PVC	PVC	300	M39130	2 - 51	201
	Fieldbus, High-Speed	FPO	PVC	300	6461	1	300
	Fieldbus, Type B	PO	PVC	300	6460	1	299
	Instrumentation	PVC	PVC	300	5610B2201	1	204
	Instrumentation	PVC	PVC	300	5640B2201	1	210
	Security/Data	PVC	PVC	300	M213222	2 - 4	178
	Xtra-Guard 1	PVC	PVC	300	5481C	1 - 27	53
	Xtra-Guard 2	PVC	PUR	300	25481	1 - 19	67
	Xtra-Guard 3	PVC	PE	300	35481	1 - 5	77
	Xtra-Guard 4	TPE	TPE	300	45481	1 - 15	90
	Xtra-Guard 5	FEP	FEP	300	55481	1 - 12	102
Foil, Ind. Pairs	Audio/Video	PP	PVC	300	M39039	6 - 15	154
	C&C	LSZH	LSZH	300	2466L	2 - 12	307
	C&C	PVC	PVC	300	6052C	2 - 27	356
	C&C	PP	PVC	300	6010C	3 - 27	357
	C&C	PVC	PVC	300	6434	2 - 51	358
	Control	PVC	PVC	300	M39147	2 - 51	200
	Plenum	PVC	PVC	300	M24473	2 - 6	184
	Security/Data	PVC	PVC	300	M213102	2 - 6	177
Foil, Overall and Pairs	C&C, Mid Cap., Plenum	FEP	PVDF	150	58612	2 - 6	367
Foil, Overall/Spiral or Foil, Overall/Braid	Xtra-Guard Continuous Flex, Data	PVC	PVC	300	86701CY	1 - 14	118
Foil + Braid	C&C	SR-PVC	PVC	300	6373	2 - 25	351
	Computer	SR-PVC	PVC	300	M5660	5 - 37	232
	Computer	SR-PVC	PVC	300	M3433	2 - 25	237
	PROFIBUS-DP	HDPE	PVC	300	6462	1	301
	RS-485	HDPE	PVC	600	6453	1 - 4	302

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22 AWG

Multipair							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Pairs**	**Page**
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5121C	1 - 27	55
	Xtra-Guard 1	PVC	PVC	300	5340C	2 - 37	56
	Xtra-Guard 2	PVC	PUR	300	25121	1 - 15	69
	Xtra-Guard 3	PVC	PE	300	35121	1 - 9	78
	Xtra-Guard 4	TPE	TPE	300	45121	1 - 19	92
	Xtra-Guard 5	FEP	FEP	300	55121	1 - 12	103

22 AWG

Triads							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Foil	Instrumentation	PVC	PVC	300	5640B2201	1	210

22 AWG + 18 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Audio/Video	PVC	PVC	300	M4406	6	173
Unshielded	C&C	PVC	PVC	300	1826C	6 - 8	313

20 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Audio/Video	PVC	PVC	300	M13404	2 - 15	143
	Audio/Video	PVC	PVC	300	M33402	2 - 19	159
	C&C	LSZH	LSZH	300	1895L	2 - 6	306
	C&C	PVC	PVC	300	1895C	2 - 15	309
	C&C	IRR PVC	PVC	300	6642	2 - 4	312
	Computer	PVC	PVC	300	882002	2 - 15	216
	Computer	SR-PVC	PVC	300	M4517	2 - 37	219
	Control	PVC	PVC	300	M39073	2 - 3	199
	Security/Data	PVC	PVC	300	M213402	2 - 4	174
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85003	3 - 34	111
	Xtra-Guard Standard Flex	PVC	PVC	600	65002	2 - 25	106
	Xtra-Guard Torsional Flex	TPE	PUR	600	87203	3 - 7	121
	Xtra-Guard 1	PVC	PVC	300	5052C	2 - 50	33
	Xtra-Guard 1	PVC	PVC	300	5220	2 - 37	35
	Xtra-Guard 1	PVC	PVC	600	5413	2 - 25	36
	Xtra-Guard 2	PVC	PUR	300	25052	2 - 70	58
	Xtra-Guard 3	PVC	PE	300	35052	2 - 15	72
	Xtra-Guard 4	TPE	TPE	300	45052	2 - 15	80
	Xtra-Guard 5	FEP	FEP	300	55052	2 - 12	95
Foil, Overall	Audio/Video	PP	HDPE	300	M39047	2 - 15	148
	Audio/Video	PE	PVC	300	M3232	2 - 4	152
	Audio/Video	PE	PVC	300	M13232	2 - 3	167
	Audio/Video	PVC	PVC	300	M14429	2	169
	C&C	PE	PVC	300	2411C	2 - 4	314
	C&C	PE	PVC	300	1243/3C	3	316
	C&C	PVC	PVC	300	2465C	4	316
	C&C, Plenum	PVC	PVC	300	58421	2 - 6	363
	Computer	PVC	PVC	300	M4660	2 - 50	220
	Control	PVC	PVC	300	M39115	2 - 3	202

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20 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Foil, Overall	Plenum	PVC	PVC	300	M244816	2 - 4	179
	Plenum	FEP	FEP	300	M64816	2 - 10	183
	Security/Data	PVC	PVC	300	M113232	2 - 3	175
	Xtra-Guard 1	PVC	PVC	300	5462C	2 - 50	39
	Xtra-Guard 1	PVC	PVC	300	5560	2 - 19	41
	Xtra-Guard 1	PVC	PVC	600	5420	2 - 12	42
	Xtra-Guard 2	PVC	PUR	300	25462	2 - 50	61
	Xtra-Guard 3	PVC	PE	300	35462	2 - 25	73
	Xtra-Guard 4	TPE	TPE	300	45462	2 - 40	83
	Xtra-Guard 5	FEP	FEP	300	55462	2 - 12	97
Braid	Audio/Video	PE	PVC	300	M1122	2 - 20	146
	Audio/Video	PVC	PVC	300	M3206	2 - 12	164
	C&C	PVC/Nylon	PVC	600	3230	10 4	322
	C&C	PVC	PVC	300	1741C	2 - 4	323
	C&C	IRR PVC	PVC	600	7661	2 - 4	325
	C&C	PE	PVC	600	1712	2 - 20	329
	C&C	PTFE	FEP	600	2837/2	2 - 3	331
	C&C	TFE	Fiberglass	600	2817/2	2 - 6	332
	C&C	PTFE	PTFE	600	2827	1 - 6	334
	C&C, Microphone	PE	PVC	4000/1000	1706	1 - 2	327
	Control	PVC	PVC	600	M1451	1 - 4	189
	High Temperature	PTFE	PTFE	600	20RC2S06	2 - 4	256
	High Temperature	ETFE	ETFE	600	275002001	1 - 4	257
	High Temperature	PTFE	PTFE	600	M1231	1 - 4	258
	High Temperature	PTFE	FEP	600	72001	1	260
	Microphone	PE	PVC	4000	M3611	1	157
	Xtra-Guard Standard Flex	PVC	PVC	600	65003CY	3 - 25	109
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85003CY	3 - 25	113
Foil + Braid	Computer	SR-PVC	PVC	300	M5518	5 - 60	227
	Computer	PVC	PVC	300	M5360	2 - 50	229
Spiral	C&C	PVC	PVC	300	2256	1 - 6	319
	Xtra-Guard Torsional Flex	TPE	PUR	600	87203CY	3 - 7	121
	Audio/Video	PVC	PVC	300	M3271	1 - 6	162
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5152C	2 - 60	45
	Xtra-Guard 1	PVC	PVC	300	5320	4 - 37	47
	Xtra-Guard 1	PVC	PVC	600	5514	4 - 19	48
	Xtra-Guard 2	PVC	PUR	300	25152	2 - 50	64
	Xtra-Guard 3	PVC	PE	300	35152	2 - 15	76
	Xtra-Guard 4	TPE	TPE	300	45152	2 - 25	86
	Xtra-Guard 5	FEP	FEP	300	55152	2 - 12	99
Unshielded/Foil	Audio/Video	PVC	PVC	300	M4452	4	171

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20 AWG

Multipair

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Pairs	Page
Unshielded	Audio/Video	PVC	PVC	300	M13063	3 - 15	151
	C&C	PVC	PVC	300	1317C	2 - 19	340
	Instrumentation	PVC	PVC	300	M9500010	1	203
	Security/Data	PVC	PVC	300	M2222	2 - 6	176
	Xtra-Guard 1	PVC	PVC	300	5282C	2 - 12	51
Foil, Overall	C&C	SR-PVC	PVC	300	6416	2	341
	C&C, Plenum	PVC	PVC	300/150	57632	2 - 6	362
	Computer	PVC	PVC	300	M4785	2 - 19	230
	Instrumentation	PVC	PVC	300	M9520010	1	204
	Instrumentation	PVC/Nylon	PVC	600	5616B2001	1	205
	Security/Data	PVC	PVC	300	M213202	2 - 6	178
	Xtra-Guard 1	PVC	PVC	300	5452C	2 - 19	53
	Xtra-Guard 2	PVC	PUR	300	25452	2 - 15	68
	Xtra-Guard 3	PVC	PE	300	35452	2 - 3	77
	Xtra-Guard 4	TPE	TPE	300	45451	1 - 27	91
	Xtra-Guard 5	FEP	FEP	300	55451	1 - 12	102
Foil, Ind. Pairs	Audio/Video	PP	HDPE	350	M39051	3 - 6	149
	Audio/Video	SR-PVC	PVC	300	M13142	2	154
	Audio/Video	PE	PVC	300	M13143	3 - 15	155
	Audio/Video	PP	PVC	300	M14604	4	156
	C&C	PP	PVC	300	6032C	3 - 12	357
	C&C, Direct Burial	PP	PE	350	6314	3 - 6	359
	Plenum	PVC	PVC	300	M243142	2 - 4	184
	Security/Data	PVC	PVC	300	M213142	2 - 6	177
Foil, Overall and Ind. Pairs	Instrumentation	PVC/Nylon	PVC	300	M9740020	2 -50	215
Foil + Braid	Computer	SR-PVC	PVC	300	M5670	5 - 27	232
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5292C	2 - 19	55
	Xtra-Guard 1	PVC	PVC	300	5350C	4 - 27	56
	Xtra-Guard 2	PVC	PUR	300	25292	2 - 9	70
	Xtra-Guard 4	TPE	TPE	300	45291	1 - 15	93
	Xtra-Guard 5	FEP	FEP	300	55291	1 - 12	103

Triads

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Triads	Page
Unshielded	Instrumentation	PVC	PVC	300	M9600010	1	209
Foil, Overall	Instrumentation	PVC	PVC	300	M9520010	1 - 12	210
	Instrumentation	PVC/Nylon	PVC	300	M9700020	2 - 50	214
Foil, Overall and Ind. Pairs	Instrumentation	PVC	PVC	300	5650B2004	4 - 12	211

20 AWG + 18 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Unshielded + Foil	Audio/Video	PVC	PVC	300	M13291	4	173

18 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Unshielded	Audio/Video	PVC	PVC	300	M13502	2 - 25	144
	Audio/Video	PVC	PVC	300	M33502	2 - 25	159
	C&C	PVC	PVC	300	1897C	2 - 25	309
	C&C	IRR PVC	PVC	300	6652	2 - 4	312
	Computer	PVC	PVC	300	881802	2 - 15	216

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18 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Control	PVC/Nylon	PVC	600	M3800	2 - 37	191
	Control	PVC/Nylon	PVC	600	M39056	2	194
	Control	PVC	PVC	300	M39075	2 - 3	199
	AWIS Series F Continuous Flex	PVC/Nylon	TPE	600	F18003	3 - 65	127
	AWIS Series M Control	PVC/Nylon	PVC	600	M18103	3 -65	129
	AWIS Series P Stationary Control	PVC/Nylon	TPE	600	MP181003	3 - 65	131
	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1803R	3 - 65	136
	Security/Data	PVC	PVC	300	M213502	2 - 4	174
	Solar	PVC/Nylon	PVC	1000	SPM1803	3 - 9	295
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85803	3 - 34	111
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85803CY	3 - 25	113
	Xtra-Guard Standard Flex	PVC	PVC	600	658002	2 - 50	106
	Xtra-Guard Torsional Flex	TPE	PUR	600	87303	3 - 7	119
	Xtra-Guard 1	PVC	PVC	300	5062C	2 - 60	34
	Xtra-Guard 1	PVC	PVC	600	5422	2 - 25	36
	Xtra-Guard 2	PVC	PUR	300	25061	2 -25	59
	Xtra-Guard 2	PVC	PUR	600	25422	2 - 12	60
	Xtra-Guard 3	PVC	PE	300	35062	2 - 15	72
	Xtra-Guard 4	TPE	TPE	300	45062	2- 25	81
	Xtra-Guard 4	TPE	TPE	600	45422	2 - 9	82
	Xtra-Guard 5	FEP	FEP	300	55062	2 - 12	96
Foil, Overall	Audio/Video	PE	PVC	300	M3242	2 - 4	152
	Audio/Video	PE	PVC	300	M13242	2 - 3	167
	Audio/Video	SR-PVC	PVC	300	M13244	4	167
	C&C	PE	PVC	300	2421C	2 - 4	314
	C&C, Plenum	PVC	PVC	300	58431	2 - 6	364
	Computer	PVC	PVC	300	M4690	2 - 40	220
	Control	PVC/Nylon	PVC	600	M33800	2 - 19	195
	Control	PVC/Nylon	PVC	600	M39109	2	197
	Control	PVC	PVC	300	M39117	2 - 3	202
	Plenum	PVC	PVC	300	M244825	2 - 4	180
	Plenum	FEP	PVDF	300	M413242	2	181
	Plenum	FEP	FEP	300	M64825	2 - 8	183
	Security/Data	PVC	PVC	300	M113242	2 - 4	175
	Xtra-Guard 1	PVC	PVC	300	5382C	2 - 60	40
	Xtra-Guard 1	PVC	PVC	600	5430	2 - 25	42
	Xtra-Guard 2	PVC	PUR	300	25382	2 - 50	62
	Xtra-Guard 2	PVC	PUR	600	25430	2 - 19	63
	Xtra-Guard 3	PVC	PE	300	35382	2 - 25	74
	Xtra-Guard 3	PVC	PE	600	35430	2 -12	75
	Xtra-Guard 4	TPE	TPE	300	45382	2 - 30	84
	Xtra-Guard 4	TPE	TPE	600	45430	2 - 12	85
	Xtra-Guard 5	FEP	FEP	300	55382	2 - 12	98
Braid	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1803RCY	3 - 49	138
	Audio/Video	PE	PVC	300	M1142	2 - 6	147
	Audio/Video	PVC	PVC	300	M3212	2 - 4	164
	C&C	PVC/Nylon	PVC	600	3240	1 - 4	322
	C&C	PVC	PVC	300	1745	1 - 4	323
	C&C	IRR PVC	PVC	600	7671	2 - 4	325
	C&C	Rubber	Polychloroprene	600	1450	2 - 6	330
	C&C	TFE	Fiberglass	600	2819	1 - 5	333

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18 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Braid	C&C	PTFE	PTFE	600	2829/2	2 - 4	335
	Control	PVC	PVC	600	M1461	1 - 3	189
	Control	PVC	PVC	1000	M1704	4 - 16	190, 326
	High Temperature	PTFE	PTFE	600	18RC2S06	2- 4	256
	High Temperature	ETFE	ETFE	600	275001801	1 - 2	257
	High Temperature	PTFE	PTFE	600	M1241	1 - 4	259
	High Temperature	PTFE	FEP	600	71801	1 - 2	260
	Solar	PVC/Nylon	PVC	600	SPM1803CY	3 - 9	294
	Xtra-Guard Standard Flex	PVC	PVC	600	65803CY	3 - 25	109
Foil + Braid	Computer	PVC	PVC	300	M5390	2 - 30	229
	Industrial Series SF Servo Power	PVC	TPE	600	SF61118CY	4	133
Spiral	C&C	PVC	PVC	300	2258	1 - 4	319
	Xtra-Guard Torsional Flex	TPE	PUR	600	87303CY	3 - 7	121
	Audio/Video	PVC	PVC	300	M3281	1 - 4	162, 163
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5162C	2 - 40	46
	Xtra-Guard 1	PVC	PVC	600	5522	2 - 19	48
	Xtra-Guard 2	PVC	PUR	300	25162	2 - 40	65
	Xtra-Guard 2	PVC	PUR	600	25522	2 - 9	66
	Xtra-Guard 3	PVC	PE	300	35162	2 - 15	76
	Xtra-Guard 4	TPE	TPE	300	45162	2 - 30	87
	Xtra-Guard 4	TPE	TPE	600	45522	2 - 12	88
	Xtra-Guard 5	FEP	FEP	300	55162	2 -12	100

Multipair

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Pairs	Page
Unshielded	Audio/Video	PVC	PVC	300	M13081	1 - 19	133
	C&C	PVC	PVC	300	1131C	1 - 19	340
	Instrumentation	PVC	PVC	300	M9508010	1	203
	Instrumentation	PVC/Nylon	PVC	600	5606B1801	1	208
	Security/Data	PVC	PVC	300	M2215	2 - 4	176
	Xtra-Guard 1	PVC	PVC	300	5032C	2 - 12	51
	Xtra-Guard 4	TPE	TPE	300	45031	1 - 2	89
Foil, Overall	C&C	PVC	PVC	150	2241C	1 - 19	343
	C&C	PVC	PVC	300	6427	2 - 15	344
	Computer	PVC	PVC	300	4799	2 - 19	230
	Control	PVC	PVC	300	M39140	2 - 15	201
	Fieldbus, Type A	PO	PVC	300	6459	1	299
	Instrumentation	PVC	PVC	300	M39140	2 - 15	183
	Instrumentation	PVC/Nylon	PVC	600	M8528010	1 - 50	205
	Instrumentation	PVC/Nylon	PVC	600	M9528010	1	204
	Security/Data	PVC	PVC	300	M213182	2 - 4	178
	Xtra-Guard 1	PVC	PVC	300	5373C	3 - 6	53
	Xtra-Guard 2	PVC	PUR	300	25372	2 - 12	68
	Xtra-Guard 3	PVC	PE	300	35372	2 - 6	77
	Xtra-Guard 4	TPE	TPE	300	45371	1 - 19	91
	Xtra-Guard 5	FEP	FEP	300	55371	1 - 9	102
Foil, Ind. Pairs	Audio/Video	PE	PVC	300	M13173	3 - 15	155
	C&C	PVC	PVC	300	6062C	2 - 15	355
	C&C	PP	PVC	300	6023C	3 - 9	356
	C&C	PVC	PVC	300	6442	2 - 15	357
	Control	PVC	PVC	300	M39157	2 - 15	200
	DeviceNet, Thick and Thin	PVC/HDPE	PVC	300	6451	2	298

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Multipair							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Pairs**	**Page**
Foil, Ind. Pairs	Plenum	PVC	PVC	300	M243172	2 - 3	184
	Security/Data	PVC	PVC	300	M213172	2 - 6	177
Foil, Overall and Ind. Pairs	Instrumentation	PVC/Nylon	PVC	600	M8748020	2 - 50	207
	Instrumentation	PVC/Nylon	PVC	300	M9748020	2 - 50	215
	C&C, Mid Cap., Plenum	FEP	PVDF	150	58632	2 - 3	367
Foil + Braid	Industrial Twinax	PO	PVC	600	6450	1	303
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5132C	2 - 27	55
	Xtra-Guard 2	PVC	PUR	300	25132	2 - 12	70
	Xtra-Guard 4	TPE	TPE	300	45131	1 - 15	93
	Xtra-Guard 5	FEP	FEP	300	55131	1 - 9	103

Triads							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Triads**	**Page**
Unshielded	Instrumentation	PVC	PVC	300	M9608010	1	209
Foil, Overall	Instrumentation	PVC	PVC	300	M9628010	1	210
	Instrumentation	PVC/Nylon	PVC	600	M8628010	1 - 24	212
	Instrumentation	PVC	PVC	300	M9708020	2 - 50	214
Foil, Overall and Ind. Pairs	Instrumentation	PVC/Nylon	PVC	600	M8848020	2 - 24	213

16 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Audio/Video	PVC	PVC	300	M13572	2 - 4	144
	Audio/Video	PVC	PVC	300	M3704	4 - 15	145
	Audio/Video	PVC	PVC	300	M33572	2 - 8	160
	C&C	PVC	PVC	300	1899C	2 - 4	309
	C&C	PVC	PVC	600	1064	4 - 25	311
	Computer	PVC	PVC	300	881602	2 - 10	217
	Control	PVC/Nylon	PVC	600	M3826	2 - 37	191
	Control	PVC/Nylon	PVC	600	M39057	2	194
	Control	PVC	PVC	300	M39077	2 - 3	199
	AWIS Series F Continuous Flex	PVC/Nylon	TPE	600	F16003	3 - 65	127
	AWIS Series M Control	PVC/Nylon	PVC	600	M161003	3 - 65	129
	AWIS Series P Stationary Control	PVC/Nylon	TPE	600	MP161003	3 - 65	131
	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1603R	3 - 49	136
	Security/Data	PVC	PVC	300	M213572	2 - 4	174
	Solar	PVC/Nylon	PVC	1000	SPM1603	3 - 9	295
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85603	3 - 50	111
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85603CY	3 - 34	113
	Xtra-Guard Standard Flex	PVC	PVC	600	65602	2 - 50	106
	Xtra-Guard Torsional Flex	TPE	PUR	600	87403	3 - 7	120
	Xtra-Guard 1	PVC	PVC	300	5072C	2 - 50	34
	Xtra-Guard 1	PVC	PVC	600	5434	4 - 25	37
	Xtra-Guard 2	PVC	PUR	300	25072	2 - 25	59
	Xtra-Guard 2	PVC	PUR	600	25432	2 - 19	60
	Xtra-Guard 3	PVC	PE	300	35072	2 - 15	72
	Xtra-Guard 4	TPE	TPE	300	45072	2 - 25	81
	Xtra-Guard 4	TPE	TPE	600	45432	2 - 9	82
	Xtra-Guard 6	FEP	FEP	300	55072	2 - 12	96
	Audio/Video	PVC	PVC	300	M13572	2 - 4	144

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16 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Foil, Overall	Audio/Video	PE	PVC	300	M3247	2 - 3	153
	Audio/Video	PE	PVC	300	M13247	2 - 3	168
	C&C	PE	PVC	300	2432C	2 - 3	314
	C&C, Plenum	PVC	PVC	300	58142	2 - 4	364
	Computer	PVC	PVC	300	M4720	2 -30	221
	Control	PVC/Nylon	PVC	600	M33826	2 - 19	195
	Control	PVC/Nylon	PVC	600	M39110	2	197
	Control	PVC/Nylon	PVC	600	7616/6	6	198
	Control	PVC	PVC	300	M39119	2 - 3	202
	Plenum	PVC	PVC	300	M244834	2 - 4	180
	Plenum	FEP	FEP	300	M64834	2 - 4	183
	Security/Data	PVC	PVC	300	M113247	2 - 3	175
	Xtra-Guard 1	PVC	PVC	300	5362C	2 - 40	40
	Xtra-Guard 1	PVC	PVC	600	5440	2 - 15	43
	Xtra-Guard 2	PVC	PUR	300	25362	2 - 50	62
	Xtra-Guard 2	PVC	PUR	600	25440	2 - 15	63
	Xtra-Guard 3	PVC	PE	300	35362	2 - 25	74
	Xtra-Guard 3	PVC	PE	600	35440	2 - 12	75
	Xtra-Guard 4	TPE	TPE	300	45362	2 - 25	84
	Xtra-Guard 4	TPE	TPE	600	45440	2 - 12	85
	Xtra-Guard 5	FEP	FEP	300	55362	2 - 12	98
	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1603RCY	3 - 49	138
Braid	Audio/Video	PE	PVC	300	M1162	2 - 4	147
	Audio/Video	PVC	PVC	300	M3216	2 - 3	164
	C&C	PVC/Nylon	PVC	600	3245	1 - 4	322
	C&C	PVC	PVC	300	1748C	2 - 3	323
	C&C	Rubber	Polychloroprene	600	1450/16	2 - 3	330
	C&C	TFE	Fiberglass	600	2820	1 - 4	333
	C&C	PTFE	PTFE	600	2826	1 - 4	335
	Control	PVC	PVC	600	M1471	1 - 4	189
	Control	PVC	PVC	1000	M1764	4 - 27	190, 326
	High Temperature	PTFE	PTFE	600	M1251	1 - 4	259
	High Temperature	PTFE	FEP	600	71602	2	260
	Solar	PVC/Nylon	PVC	600	SPM1603CY	3 - 9	294
	Xtra-Guard Standard Flex	PVC	PVC	600	65603CY	3 - 25	109
Foil + Braid	Computer	PVC	PVC	300	M5420	2 - 25	229
	Flexible Motor Supply	PVC/Nylon	PVC	600	5660	4	304
	AWIS Series SF Servo Composite	PVC	TPE	600	SF61220CY	4 + 2 pr	133
	AWIS Series SF Servo Power	PVC	TPE	600	SF61116CY	4	133
	AWIS Series V VFD	XLPE	PVC	600/1000	V16316/V16016	3, 4, 4 + 1 pr	134, 135
Spiral	C&C	PVC	PVC	300	2260	2 - 3	319
	Xtra-Guard Torsional Flex	TPE	PUR	600	87403CY	3 - 7	122
	Audio/Video	PVC	PVC	300	M3287	2 - 3	163
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	300	5172C	2 - 25	46
	Xtra-Guard 1	PVC	PVC	600	5532	2 - 19	49
	Xtra-Guard 2	PVC	PUR	300	25172	2 - 40	65
	Xtra-Guard 2	PVC	PUR	600	25532	2 - 19	66

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16 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Supra-Shield Foil + Braid	Xtra-Guard 2	PVC	PUR	600	25542	2 - 12	66
	Xtra-Guard 3	PVC	PE	300	35172	2 - 15	76
	Xtra-Guard 4	TPE	TPE	300	45172	2 - 25	87
	Xtra-Guard 4	TPE	TPE	600	45532	2 - 12	88
	Xtra-Guard 5	FEP	FEP	300	55172	2 - 12	100
Multipair							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Pairs**	**Page**
Unshielded	Instrumentation	PVC	PVC	300	M9506010	1	202
	Instrumentation	PVC/Nylon	PVC	600	5606B1601	1	208
Foil, Overall	C&C	PE	PVC	600	2471	1	348
	Computer	PVC	PVC	300	M4799	2 - 6	230
	Instrumentation	PVC	PVC	300	M9526010	1	204
	Instrumentation	PVC/Nylon	PVC	600	M8526010	1 - 50	205
Foil, Ind. Pairs	C&C, Mid Cap., Plenum	FEP	PVDF	150	58642	2 - 3	367
Foil, Overall and Ind. Pairs	Instrumentation	PVC/Nylon	PVC	600	M8746020	2 - 50	207
	Instrumentation	PVC/Nylon	PVC	300	M9746020	2 - 50	215
Triads							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Triads**	**Page**
Unshielded	Instrumentation	PVC	PVC	300	M9606010	1	209
Foil, Overall	Instrumentation	PVC	PVC	300	M9626010	1	210
	Instrumentation	PVC/Nylon	PVC	600	M8626010	1 - 24	212
	Instrumentation	PVC/Nylon	PVC	300	M9706020	2 - 50	214
Foil, Overall and Ind. Pairs	Instrumentation	PVC/Nylon	PVC	600	M8846020	2 - 24	213

14 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Audio/Video	PVC	PVC	300	M13582	2 - 4	144
	Audio/Video	PVC	PVC	300	M33582	2 - 3	160
	C&C	PVC	PVC	300	1891C	2 - 3	310
	C&C	PVC	PVC	600	1274	4 - 12	311
	Computer	PVC	PVC	300	881403	3 - 5	217
	Control	PVC/Nylon	PVC	600	M3845	2 - 37	191
	Control	PVC/Nylon	PVC	600	M39058	2	194
	Control	PVC	PVC	300	M39079	2 - 3	199
	AWIS Series F Continuous Flex	PVC/Nylon	TPE	600	F14004	4 - 12	128
	AWIS Series M Control	PVC/Nylon	PVC	600	M141004	4 - 25	130
	AWIS Series P Stationary Control	PVC/Nylon	TPE	600	MP141004	4 - 25	132
	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1403R	3 - 12	136
	Solar	PVC/Nylon	PVC	1000	SPM1403	3 - 9	295
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85403	4 - 7	111
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85404CY	4 - 7	113
	Xtra-Guard Standard Flex	PVC	PVC	600	65402	2 - 50	107
	Xtra-Guard Torsional Flex	TPE	PUR	600	87503	3 - 7	120
	Xtra-Guard 1	PVC	PVC	600	5442	2 - 25	37
	Xtra-Guard 2	PVC	PUR	600	25442	2 - 12	60
	Xtra-Guard 4	TPE	TPE	600	45442	2 - 7	82

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14 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Foil, Overall	Audio/Video	PE	PVC	300	M3249	2	153
	Audio/Video	PE	PVC	300	M13249	2	168
	C&C	PE	PVC	300	2442C	2	315
	Control	PVC/Nylon	PVC	600	M33845	2 - 19	195
	Control	PVC/Nylon	PVC	600	M39111	2	197
	Control	PVC/Nylon	PVC	600	7614/6	6	198
	Control	PVC	PVC	300	M39121	2 - 3	202
	Xtra-Guard 1	PVC	PVC	600	5450	2 - 12	43
	Xtra-Guard 2	PVC	PUR	600	25450	2 - 15	63
	Xtra-Guard 3	PVC	PE	600	35450	2 - 12	75
	Xtra-Guard 4	TPE	TPE	600	45450	2 - 15	85
Braid	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1403RCY	3 - 12	138
	Audio/Video	PVC	PVC	300	M33218	2 - 3	165
	C&C	PVC	PVC	300	1750	2 - 3	324
	C&C	TFE	Fiberglass	600	2804/2	1 - 2	333
	Solar	PVC/Nylon	PVC	600	SPM1403CY	3 - 9	294
	Xtra-Guard Standard Flex	PVC	PVC	600	65403CY	3 - 18	109
Foil + Braid	Flexible Motor Supply	PVC/Nylon	PVC	600	5661	4	304
	AWIS Series SF Servo Composite	PVC	TPE	600	SF61221CY	4 + 2 pr	133
	AWIS Series SF Servo Power	PVC	TPE	600	SF61114CY	4	133
	AWIS Series V VFD	XLPE	PVC	600/1000	V16314/V16014	3, 4, 4 + 1 pr	134, 135
Spiral	Xtra-Guard Torsional Flex	TPE	PUR	600	87503CY	3 - 7	122
	Audio/Video	PVC	PVC	450	M3289	2 - 3	163
Supra-Shield Foil + Braid	Xtra-Guard 1	PVC	PVC	600	5542	2 - 19	49
	Xtra-Guard 4	TPE	TPE	600	45542	2 - 9	88

Multipair

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Pairs	Page
Foil, Overall	C&C	PE	PVC	600	2472	1	348
	Instrumentation	PVC	PVC	300	M9524010	1	204
	Instrumentation	PVC/Nylon	PVC	600	M8524010	1 - 50	206
Foil, Overall and Ind. Pairs	Instrumentation	PVC/Nylon	PVC	600	M8744020	2 - 50	207

Triads

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Triads	Page
Foil, Overall	Instrumentation	PVC	PVC	300	M9624010	1	210
	Instrumentation	PVC/Nylon	PVC	600	M8624010	1 - 24	212
Foil, Overall and Ind. Pairs	Instrumentation	PVC/Nylon	PVC	600	M8844020	2 - 24	213

12 AWG

Multiconductor

Shielding	Type	Insulation	Jacket	Voltage	Part No. (Typ)	Conductors	Page
Unshielded	Audio/Video	PVC	PVC	300	M13590	2	144
	Audio/Video	PVC	PVC	300	M33590	2 - 3	160
	C&C	PVC	PVC	300	1892C	2 - 3	310
	Computer	PVC	PVC	300	881202	2 - 3	217
	Control	PVC/Nylon	PVC	600	M3865	2 - 37	192

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12 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Control	PVC/Nylon	PVC	600	M39059	2	194
	Control	PVC	PVC	300	M39081	2	199
	AWIS Series F Continuous Flex	PVC/Nylon	TPE	600	F12004	4 - 7	128
	AWIS Series M Control	PVC/Nylon	PVC	600	M121004	4 - 7	130
	AWIS Series P Stationary Control	PVC/Nylon	TPE	600	MP121004	4 - 7	132
	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1203R	3 - 7	137
	Solar	PVC/Nylon	PVC	1000	SPM1203	3 - 9	295
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85204	4 - 7	112
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85204CY	4 - 7	114
	Xtra-Guard Standard Flex	PVC	PVC	600	65203	3 - 7	107
	Xtra-Guard Torsional Flex	TPE	PUR	600	87603	3 - 7	120
Foil, Overall	Audio/Video	PE	PVC	300	M3250	2	153
	Audio/Video	PE	PVC	300	M13250	2	168
	C&C	PE	PVC	300	2444C	2	315
	Control	PVC/Nylon	PVC	600	M33865	2 - 19	196
	Control	PVC/Nylon	PVC	600	M39112	2	197
	Control	PVC	PVC	300	M39123	2	202
Braid	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1203RCY	3 - 7	139
	Audio/Video	PVC	PVC	300	M33220	2 - 3	165
	C&C	PVC	PVC	300	1760	2 - 3	324
	C&C	TFE	Fiberglass	600	2803/2	2	333
	Solar	PVC/Nylon	PVC	600	SPM1203CY	3 - 9	294
	Xtra-Guard Standard Flex	PVC	PVC	600	65203CY	3 - 5	110
Foil + Braid	Flexible Motor Supply	PVC/Nylon	PVC	600	5662	4	304
	AWIS Series SF Servo Composite	PVC	TPE	600	SF61222CY	4 + 2 pr	133
	AWIS Series SF Servo Power	PVC	TPE	600	SF61112CY	4	133
	AWIS Series V VFD	XLPE	PVC	600/1000	V16312/ V16014	3, 4, 4 + 1 pr	134, 135
Spiral	Xtra-Guard Torsional Flex	TPE	PUR	600	87603CY	3 - 7	122

Multipair							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Pairs**	**Page**
Foil, Overall	C&C	PE	PVC	600	2473	1	348
	Instrumentation	PVC	PVC	300	5610B1201	1	204
	Instrumentation	PVC/Nylon	PVC	600	5616B1201	1	206

10 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Control	PVC/Nylon	PVC	600	M3902	2 - 15	193
	AWIS Series F Continuous Flex	PVC/Nylon	TPE	600	F10004	4 - 7	128
	AWIS Series M Control	PVC/Nylon	PVC	600	M101004	4 - 7	130
	AWIS Series P Stationary Control	PVC/Nylon	TPE	600	MP101004	4 - 7	132
	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1003R	3 - 7	137
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85104	4 - 7	112
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85104CY	4 - 7	114

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10 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Xtra-Guard Standard Flex	PVC	PVC	600	65103	3 - 5	107
	Xtra-Guard Torsional Flex	TPE	PUR	600	87703	3 - 7	120
Foil, Overall	Control	PVC/Nylon	PVC	600	M33902	2 - 12	196
Braid	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM1003RCY	3 - 7	139
	Xtra-Guard Standard Flex	PVC	PVC	600	65103CY	3 - 7	110
Foil + Braid	Flexible Motor Supply	PVC/Nylon	PVC	600	5663	4	304
	AWIS Series SF Servo Composite	PVC	TPE	600	SF61223CY	4 + 2 pr	133
	AWIS Series SF Servo Power	PVC	TPE	600	SF61110CY	4	133
	AWIS Series V VFD	XLPE	PVC	600/1000	V16310/V16012	3, 4, 4 + 1 pr	134, 135
Spiral	Xtra-Guard Torsional Flex	TPE	PUR	600	87703CY	3 - 7	122

8 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	AWIS Series F Continuous Flex	PVC/Nylon	TPE	600	F08004	4	128
	AWIS Series M Control	PVC/Nylon	PVC	600	M081004	4-5	130
	AWIS Series P Stationary Control	PVC/Nylon	TPE	600	MP081004	4 - 7	132
	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM0803R	3 - 4	137
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85904	4	112
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85904CY	4	114
	Xtra-Guard Standard Flex	PVC	PVC	600	65904	4 - 5	107
Braid	AWIS Series XM Flexible Control	PVC/Nylon	PVC	600/1000	XM0803RCY	3 - 4	139
	Xtra-Guard Standard Flex	PVC	PVC	600	65904CY	4	110
Foil + Braid	Flexible Motor Supply	PVC/Nylon	PVC	600	5664	4	304
	AWIS Series SF Servo Composite	PVC	TPE	600	SF61224CY	4 + 2 pr	133
	AWIS Series SF Servo Power	PVC	TPE	600	SF61108CY	4	133
	AWIS Series V VFD	XLPE	PVC	600/1000	V16308/ V16008	3, 4, 4 + 1 pr	134, 135

6 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85704	4	112
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85704CY	4	114
	Xtra-Guard Standard Flex	PVC	PVC	600	65704	4 - 5	108
Braid	Xtra-Guard Standard Flex	PVC	PVC	600	65704CY	4	110
Foil + Braid	Flexible Motor Supply	PVC/Nylon	PVC	600	5665	4	304
	AWIS Series V VFD	XLPE	PVC	600/1000	V16306/ V16006	3, 4, 4 + 1 pr	134, 135

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4 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85504	4	112
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85504CY	4	114
	Xtra-Guard Standard Flex	PVC	PVC	600	65504	4 - 5	108
Braid	Xtra-Guard Standard Flex	PVC	PVC	600	65504CY	4	110
Foil + Braid	AWIS Series V VFD	XLPE	PVC	600/1000	V16304/ V16004	3, 4, 4 + 1 pr	134, 135

2 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Unshielded	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85304	4	112
	Xtra-Guard Continuous Flex, Control	PVC	PVC	600	85304CY	4	114
	Xtra-Guard Standard Flex	PVC	PVC	600	65304	4 - 5	108
Braid	Xtra-Guard Standard Flex	PVC	PVC	600	65304CY	4	110
Foil + Braid or Tape	AWIS Series V VFD	XLPE	PVC	600/1000	V16302/ V16002	3, 4, 4 + 1 pr	134, 135

1 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Tape	AWIS Series V VFD	XLPE	PVC	600/1000	V16001	3	134, 135

1/0 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Tape	AWIS Series V VFD	XLPE	PVC	600/1000	V16000	3	134, 135

2/0 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Tape	AWIS Series V VFD	XLPE	PVC	600/1000	V16020	3	134, 135

3/0 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Tape	AWIS Series V VFD	XLPE	PVC	600/1000	V16030	3	134, 135

4/0 AWG

Multiconductor							
Shielding	**Type**	**Insulation**	**Jacket**	**Voltage**	**Part No. (Typ)**	**Conductors**	**Page**
Tape	AWIS Series V VFD	XLPE	PVC	600/1000	V16040	3	134, 135

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The Products You Can Trust

Alpha Wire offers a complete portfolio of exceptionally reliable wire, cable, tubing, and accessories.

Count on us for the great service and quality we're famous for, as well as a renewed dedication to new products. You will see the addition of new wire, cable, and accessories to our nine product families. Additionally, we will be providing solution sets for vertical markets, such as wind power and packaging, to help you select the best Alpha Wire products for the specific needs of your customers or your application.

Xtra-Guard® Performance Cable

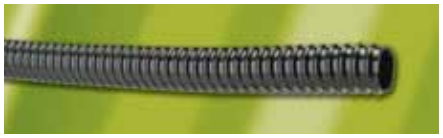
Hook-Up Wire

FIT® Heat-Shrink Tubing

Manhattan Electrical Cables

Dearborn™ Marine Cables

FIT Wire Management



Communication, Control & Industrial Cable

Kerrigan-Lewis™ Specialty Wire

FIT Wire Accessories

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® Performance Cable

Known for both premium performance and system reliability, Xtra-Guard cable is available in several performance grades to give you the best match between cost and environmental and mechanical performance.

- **Xtra-Guard 1** – High-performance in a tough PVC cable
- **Xtra-Guard 2** – Abrasion resistant to withstand mechanical abuse
- **Xtra-Guard 3** – Direct burial cable; no conduit needed
- **Xtra-Guard 4** – Extreme temperatures; handles hot, cold, spills
- **Xtra-Guard 5** – Chemical and temperature resistant to withstand the most hazardous environments
- **Xtra-Guard Flex** – Long-lasting cables rated up to 14 million flex cycles

Alpha Wire Industrial Series

From the factory floor to process control, the Alpha Wire Industrial Series (AWIS) cable line is well suited to the widest range of industrial applications.

- **Series F**
- **Series P**
- **Series V**
- **Series M**
- **Series SF**
- **Series XM**

Manhattan Electrical Cables

Alpha Wire's Manhattan brand has been a trusted and reliable source of cable for over 60 years. You'll find the breadth and depth of products to ensure an optimum solution to your application.

- **Audio/video**
- **Computer**
- **Instrumentation**
- **Thermocouple**
- **Control**
- **Plenum**
- **Coaxial**
- **Cords/cordsets**
- **High temperature**
- **Security & data**

Communication, Control & Industrial Cable

Our broad range of communication and control cables means you can easily find the right cable for your application. Our cables meet special needs, such as low capacitance cables for extended transmission of digital signals, the extra flexibility of rubber insulation and jackets, or excellent shielding for electrically noisy environments.

- **Communication & control**
- **Low smoke, zero halogen**
- **Solar**
- **Industrial automation**
- **Flat cable**

Hook-Up Wire

Find the hook-up wire exactly suited to your application—whether it's as straightforward as a control cabinet in a protected environment or as specialized as a machine tool on the factory floor, a high-temperature oven, or off-road construction equipment. With a broad range of insulation and wire types available, we have everything you need to hook up anything.

- **Hook-up wire**
- **Dearborn bulk hook-up wire**
- **Bus bar**
- **Ribbon cable**

Dearborn Marine

Alpha Wire covers the full spectrum of marine applications. From wiring of engines, batteries, and bilge pumps to cables for communications, instrumentation, and electronics, you will find the exact wire or cable you need. Cables are color-coded to meet boating-industry standards, and specifications ensure regulatory compliance and seaworthiness.

- **Marine wire**
- **Marine cable**
- **Marine heat-shrink tubing**

Kerrigan-Lewis Specialty Wire

Kerrigan-Lewis specialty wire gives exacting performance in transformers, motor windings, and similar applications. From expertise in fine copper and insulations to an exact understanding of your most rigorous application requirements, Alpha can help you increase efficiency, reduce size, and achieve higher levels of productivity. Our specialty wire is available in the lowest minimum order levels in the industry.

- **Litz wire**
- **Resistance wire**

FIT® Heat-Shrink Tubing

Our FIT heat-shrink tubing offers a reliable way to protect and seal terminations, make repairs, or add additional mechanical ruggedness. Whether your concerns are mechanical strain relief, environmental sealing, or organizing wires, our FIT heat-shrink tubing is ideal for solving many challenges in electrical and electronic wiring.

- **Shrink ratios from 2:1 to 6:1**
- **Cross-linked materials**
- **Shrink temperatures from 90°C to 250°C**
- **Special shapes, such as endcaps and crimp sleeves**
- **Dual-wall constructions with inner adhesive lining for additional sealing**
- **Choice of standard and custom colors**

FIT Wire Management

Bringing order to wire harnesses and cable routing means a system that is more reliable, easier to fabricate, and simpler to maintain. Organize, shield, and route cable assemblies and harnesses with our complete line of FIT wire management products in applications such as harnesses, routing, organizing, shielding, and grounding.

- **Sleeving**
- **Tubing**
- **Braid**
- **Lacing tape**
- **EMI tape**

FIT Wire Accessories

From variable-setting heat guns for FIT tubing to our full range of wire management accessories, we can help you complete any installation reliably and neatly.

- **Heat guns**
- **Connectors**

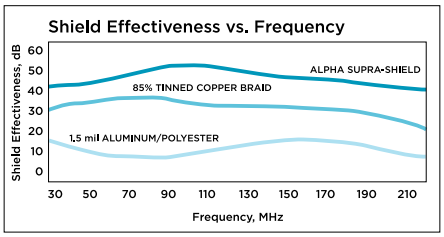
Customs and Specials

Our capabilities go well beyond our cataloged parts. If you don't find what you need, visit our online Cable Design Center® or give us a call to discuss your needs for:

- **Custom designs**
- **Specials**
- **Unique packaging**
- **Legacy products**

Xtra-Guard Shielding Options

Alpha Wire offers Xtra-Guard® cables in three shielding options to handle virtually any electrical environment.



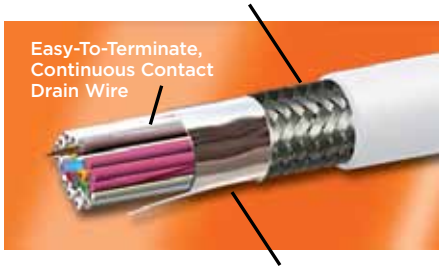
Unshielded

Unshielded cables provide the smallest cable diameter for use in low-noise controlled environments.

Foil shielded

Foil-shielded cables use a sturdy aluminum/polyester shield for moderate EMI needs, especially at lower frequencies. A tinned copper drain wire makes grounding the cable easy. Foil shields allow lighter weights and smaller cables.

70% Tinned Copper Braid



Triple-Laminate Foil with 25% Overlap

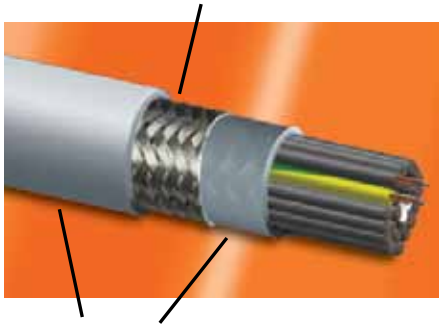
Supra-Shield® (premium foil/braid) shielded

Alpha's exclusive Supra-Shield cables combine a triple-layer aluminum/polyester/aluminum foil with a tinned copper braid shield with tight 70% coverage. Supra-Shield offers exceptional EMI performance and flexibility to protect against noise and maintain overall system integrity. The combination of foil and braid offers better shielding effectiveness than either approach alone against both low- and high-frequency noise.

Shielding for flex cables

Our high-flex shielding options include a double-jacket configuration with 85% braid coverage to achieve high shielding effectiveness while maintaining the desired flexibility. For torsional flex applications, we offer spiral wound shielding with 90% coverage.

85% – 90% Coverage Tinned Copper Braid



Double Jacket For Outstanding Flexing Performance

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

The Service You Deserve

We have applied our expertise to creating service that equals our products. Nobody works harder or more diligently to make sure you get the cable you want, when you need it, backed by the service you deserve.

Logistics that defy logic

Need cable tomorrow? No problem. We maintain a large inventory and offer same-day shipping. Order today and receive your order tomorrow in many locations. Alpha Wire goes one step further: manufacturing custom cables to meet unique applications—offering specific conductor counts, shielding options, jacket materials, and versatile product designs. Our custom cable orders are often shipped in less than a week, once again giving you products with more convenience and less delay.

Small put-ups: get what you need

We're geared to ship in small put-ups or large. With Alpha, you don't have to buy more cable than you need because of high minimum order requirements.

Global reach

Encompassing more than 20,000 products and 9 product families available worldwide through more than 1500 distributor locations, Alpha delivers the industry's widest range and largest inventory of wire, cable, and tubing products.

Application expertise

We understand your applications, from the needs of a machine tool cable to withstand coolants and extreme temperatures to the requirements of a wind turbine where robust reliability eliminates service calls.

We've helped companies successfully deploy applications in the frozen tundra, aboard wind- and water-swept offshore drilling rigs, and in the pristine environment of a semiconductor cleanroom.

Online selection made easy

Our new website makes finding the right cable easier than ever. The site's intuitive navigation helps you quickly find the right cable, along with dimensional, material, and performance specifications. Our online Cable Design Center™ lets you build the perfect cable for your application. Plus you can easily build your own catalog and order samples of our products.

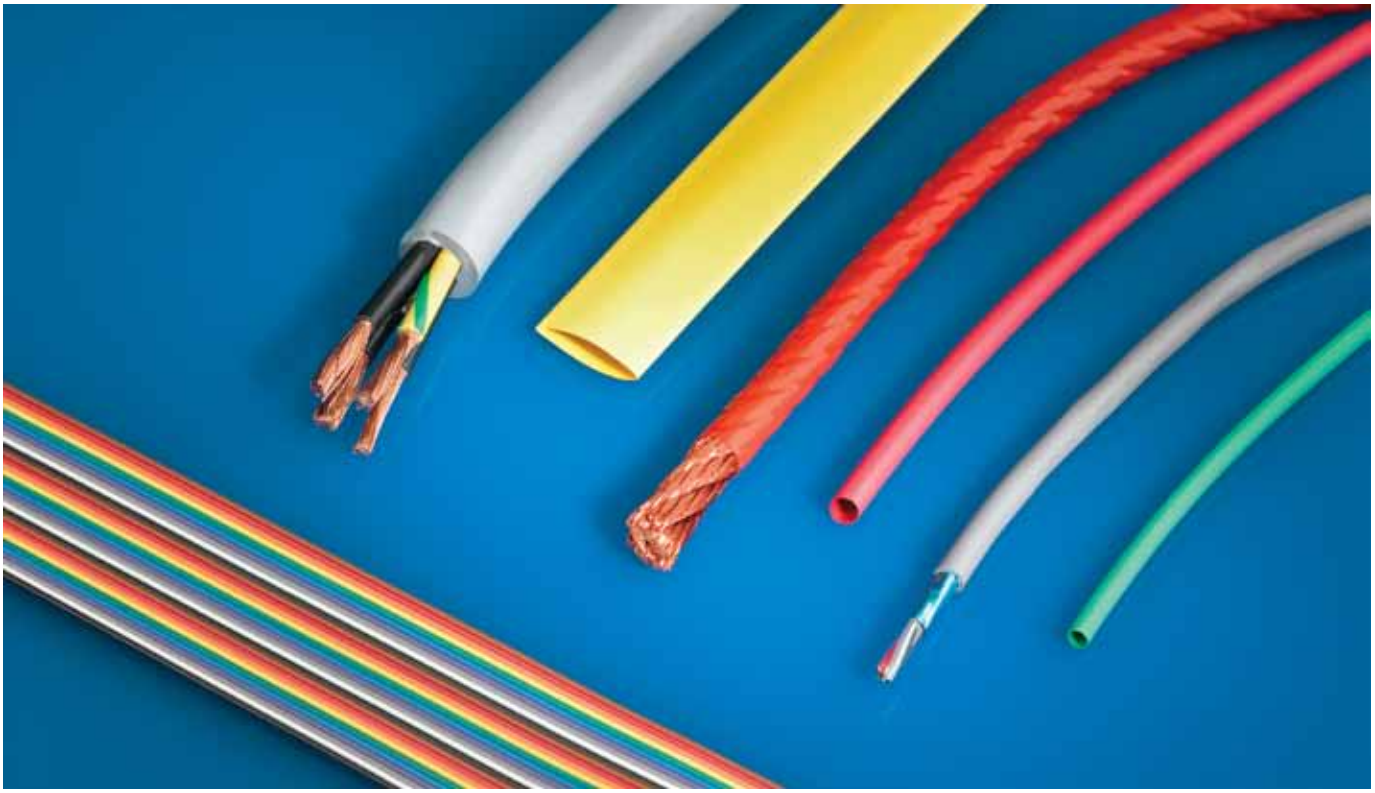
Your standards are our standards

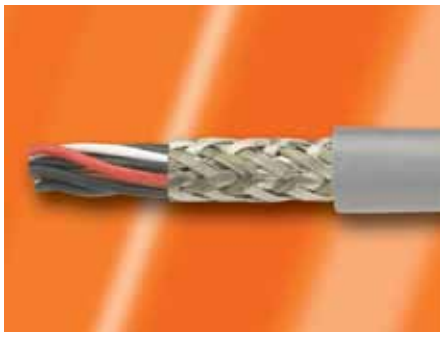
We rigorously test our cable to prevailing industry standards. Our cables are approved by such major agencies as UL, CSA, CE, and VDE.

Make Alpha Wire your first choice for reliable performance

We're all about performance—high-performance products and service without compromise or excuse. Whether you're building new products or engaged in MRO, there is no better place to start your search than Alpha Wire. And once you have experienced the Alpha difference, we will become the only source you need.

Get the Alpha Wire Advantage





Working closely with industry experts during our 85 year history provides us with the insights and expertise to provide the right wire, cable, and tubing products for your application. Better still, we make it easy with our legendary commitment to service.

Even as our product line has expanded and evolved to meet the needs of new markets and application needs, one thing has remained constant: Alpha's dedication to uncompromising service. We are committed to being your most responsive and easiest to work with supplier.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

- Market-specific product solution sets for superior performance and reliability
- Well-earned reputation for high-quality, premium-grade products
- Industry's widest range and largest inventory of wire, cable, and tubing products
- Superior logistics, including same-day shipping
- Fast-turn manufacturing of custom configurations
- Flexible ordering, including small and large put-ups
- Convenient availability through global reach of 3500 distributor locations worldwide
- Unrelenting dedication to making sure you find the right cable to fit your needs
- Online Cable Design Center™ and extensive selection tools to find the right cable or spec a new one

Connect with Alpha Wire

Make the connection with reliable, high-performance wire, cable, tubing, and accessories from Alpha Wire. With our catalog, online resources, authorized distributor network, and Alpha R&D and engineering experts available to you, getting the right Alpha products for your applications is easier than ever—no matter where and when you need them.

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Visit us at www.alphawire.com

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Xtra-Guard® Performance Cable

Ultimate performance in extreme environments

Xtra-Guard® Performance Cable

Ultimate performance in extreme environments

Alpha Wire's Xtra-Guard cable brings performance and reliability to the biggest challenges in the toughest environments. No matter what extremes your application faces, you'll find an Xtra-Guard cable that excels in meeting your requirements. Downtime is costly—whether caused by a complete cable failure or from the little glitches that occur when a cable doesn't live up to the demands of the application.

Xtra-Guard means peace of mind.

Hazard-matched to survive in the most demanding operating conditions, Xtra-Guard cable is the longest-lasting, highest-performing cable available. Field-proven application performance, year after year, has made Xtra-Guard cable the first choice of engineers for more than three decades.

Superior by design

Xtra-Guard performance cable is designed to meet your needs. Its round construction makes it easier to install, seal, and route. With nearly 5000 standard constructions and the industry's broadest range of gauges, conductor counts, shielding options, and jacket color choices, Xtra-Guard cable sets the global standard for reliable performance.

Applications

- **Automotive**
- **Industrial**
- **Machine tools**
- **Marine**
- **Medical/biotechnology**
- **Military**
- **Mining**
- **Petrochemical**
- **Semiconductor**
- **Solar**
- **Wind power**

Key features

- **2 to 80 conductors, configured as single conductors or pairs**
- **28 – 14 AWG**
- **Stranded conductors for flexibility**
- **Choice of shielding options:**
  - **Unshielded**
  - **Aluminum/polyester for moderate EMC performance**
  - **Supra-Shield® foil/braid for exceptional EMC performance**

Choose the right Xtra-Guard cable for your application

Xtra-Guard 1
High Performance
High performance in a tough PVC cable

Xtra-Guard 2
Oil and Abrasion Resistant
Abrasion resistant to withstand mechanical abuse

Xtra-Guard 3
Direct Burial
Direct burial—no conduit needed

Xtra-Guard 4
Advanced Temperature and Chemical Performance
Extreme temperature handles hot, cold, spills

Xtra-Guard 5
Maximum Chemical and Temperature Performance
Chemical and temperature resistant to withstand the most hazardous environments

Xtra-Guard Flex
Flexible/Flexing
Wide variety of flexing applications

Xtra-Guard	Application							
	High Temp	Low Temp	UV	Oil/Water/ Chemical	Abrasion	Direct Burial	EMI Protection with Supra-Shield	High Flex/ Continuous Flex
Xtra-Guard 1	●○○	●○○	●●○	●○○	●○○	NR	●●●	NR
Xtra-Guard 2	●○○	●○○	●●○	●●○	●●●	NR	●●●	NR
Xtra-Guard 3	●○○	●○○	●●○	●●○	●○○	●●●	●●●	NR
Xtra-Guard 4	●●○	●●○	●●○	●●○	●○○	●○○	●●●	NR
Xtra-Guard 5	●●●	●●●	●●●	●●●	●●○	●●○	●●●	NR
Xtra-Guard Flex	●○○	●○○	●○○	●○○ – ●●○	●○○ – ●●○	NR	●●●	●●○ – ●●●

●○○ = Good; ●●○ = Very Good; ●●● = Excellent; NR = Not Recommended

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 1
High Performance

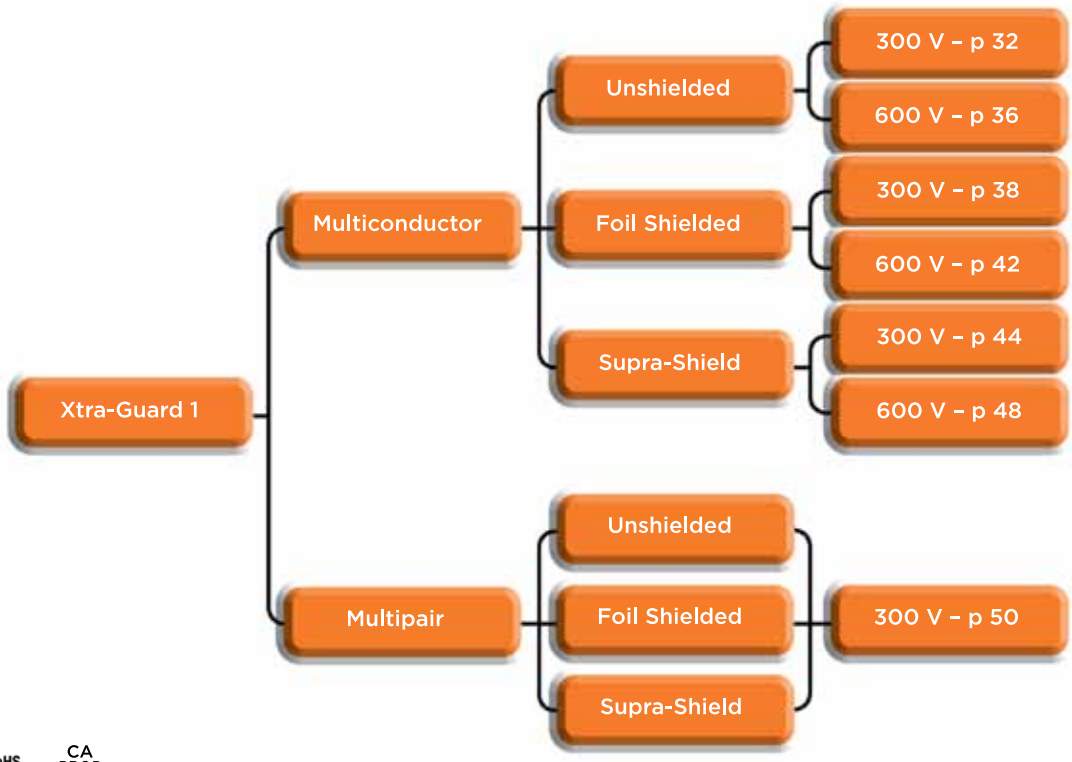
Features
- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- Premium-grade PVC insulation and jacket for easier cable routing in small spaces
- 300 V and 600 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- 105°C temperature rating
- UL VW-1, UL 1685, and CSA FT-4 flammability rating
- Nylon ripcord for easy jacket stripping

Applications
- EIA RS-232 interface
- High technology applications in controlled environments
- Medical electronics
- Point-of-sale equipment
- Computer peripherals
- Industrial process controls

FIT® Tubing Recommendations
- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

SLATE	BEIGE	WHITE
RED	BLACK	BLUE
GREEN	YELLOW	ORANGE

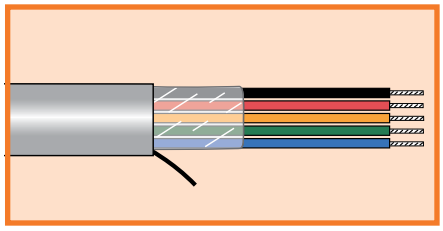
Xtra-Guard cables are available in a range of long-lasting colors for fast, easy identification, for safety reasons, and for matching the color of your system.



RoHS Compliant CA PROP 65

Xtra-Guard® 1

High performance
300 V Unshielded, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.127 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5920	2	0.138	3.51	0.032	0.81
5921	3	0.144	3.66	0.032	0.81
5922	4	0.153	3.89	0.032	0.81
5923	6	0.174	4.42	0.032	0.81
5924	7	0.174	4.42	0.032	0.81
5925	8	0.185	4.70	0.032	0.81

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5666	2	0.146	3.71	0.032	0.81
5667	3	0.152	3.86	0.032	0.81
5668	4	0.162	4.11	0.032	0.81
5669	6	0.186	4.72	0.032	0.81
5670	7	0.186	4.72	0.032	0.81
5671	8	0.198	5.03	0.032	0.81
5672	10	0.224	5.69	0.032	0.81
5673	15	0.248	6.30	0.032	0.81

24 AWG (0.23 mm²)

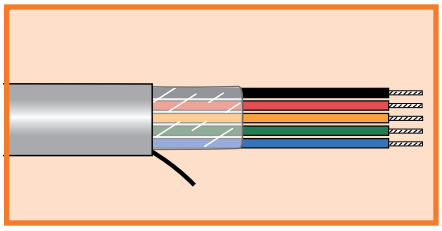
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5012C	2	0.156	3.96	0.032	0.81
5013C	3	0.163	4.14	0.032	0.81
5014C	4	0.175	4.45	0.032	0.81
5016C	6	0.201	5.11	0.032	0.81
5018C	8	0.215	5.46	0.032	0.81
5020C	10	0.244	6.20	0.032	0.81
5020/15C	15	0.271	6.88	0.032	0.81
5020/20C	20	0.300	7.62	0.032	0.81
5020/25C	25	0.332	8.43	0.032	0.81
5020/30C	30	0.350	8.89	0.032	0.81
5020/40C	40	0.390	9.91	0.032	0.81
5020/50C	50	0.429	10.90	0.032	0.81

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 1

High Performance
300 V Unshielded, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5002C	2	0.168	4.27	0.032	0.81
5003C	3	0.176	4.47	0.032	0.81
5004C	4	0.189	4.80	0.032	0.81
5006C	6	0.219	5.56	0.032	0.81
5008C	8	0.235	5.97	0.032	0.81
5010C	10	0.268	6.81	0.032	0.81
5010/15C	15	0.299	7.59	0.032	0.81
5010/20C	20	0.331	8.41	0.032	0.81
5010/25C	25	0.368	9.35	0.032	0.81
5010/30C	30	0.389	9.88	0.032	0.81
5010/40C	40	0.434	11.02	0.032	0.81
5010/50C	50	0.478	12.14	0.032	0.81
5010/60C	60	0.518	13.16	0.032	0.81

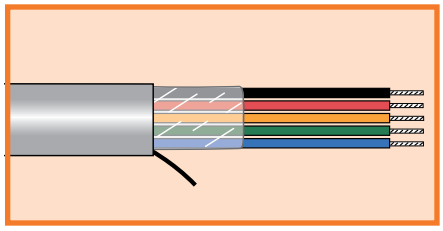
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5052C	2	0.208	5.28	0.032	0.81
5053C	3	0.219	5.56	0.032	0.81
5054C	4	0.238	6.05	0.032	0.81
5056C	6	0.280	7.11	0.032	0.81
5058C	8	0.302	7.67	0.032	0.81
5060C	10	0.348	8.84	0.032	0.81
5060/15C	15	0.391	9.93	0.032	0.81
5060/20C	20	0.437	11.10	0.032	0.81
5060/25C	25	0.488	12.40	0.032	0.81
5060/30C	30	0.517	13.13	0.032	0.81
5060/40C	40	0.622	15.80	0.053	1.35
5060/50C	50	0.684	17.37	0.053	1.35

Xtra-Guard® 1

High Performance
300 V Unshielded, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5062/1C*	2	0.226	5.74	0.032	0.81
5062C	2	0.226	5.74	0.032	0.81
5063/1C*	3	0.238	6.05	0.032	0.81
5063C	3	0.238	6.05	0.032	0.81
5064C	4	0.259	6.58	0.032	0.81
5066C	6	0.307	7.80	0.032	0.81
5068C	8	0.332	8.43	0.032	0.81
5070C	10	0.384	9.75	0.032	0.81
5070/15C	15	0.433	11.00	0.032	0.81
5070/20C	20	0.484	12.29	0.032	0.81
5070/25C	25	0.542	13.77	0.032	0.81
5070/30C	30	0.617	15.67	0.053	1.35
5070/40C	40	0.688	17.48	0.053	1.35
5070/50C	50	0.758	19.25	0.053	1.35
5070/60C	60	0.881	22.38	0.083	2.11

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

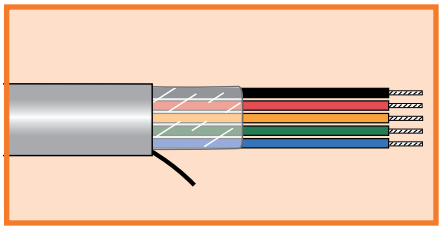
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5072/1C*	2	0.250	6.35	0.032	0.81
5072C	2	0.250	6.35	0.032	0.81
5073/1C*	3	0.264	6.71	0.032	0.81
5073C	3	0.264	6.71	0.032	0.81
5074C	4	0.288	7.32	0.032	0.81
5076C	6	0.343	8.71	0.032	0.81
5078C	8	0.372	9.45	0.032	0.81
5080C	10	0.432	10.97	0.032	0.81
5080/15C	15	0.488	12.40	0.032	0.81
5080/20C	20	0.547	13.89	0.053	0.81
5080/25C	25	0.656	16.66	0.053	0.81
5080/30C	30	0.694	17.63	0.053	0.81
5080/40C	40	0.775	19.69	0.083	2.11
5080/50C	50	0.917	23.29	0.083	2.11

*Conductors color-coded per international standards: brown, blue, green/yellow.

Xtra-Guard® 1

High Performance
300 V Unshielded, Multiconductor



UL CM
UL AWM 2343 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5201C	7	0.263	6.68	0.063	1.60
5202C	12	0.313	7.95	0.063	1.60
5203C	15	0.333	8.46	0.063	1.60
5204C	19	0.350	8.89	0.063	1.60
5206C	37	0.438	11.13	0.063	1.60

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5210/2C	2	0.230	5.84	0.063	1.60
5211C	7	0.281	7.14	0.063	1.60
5212C	12	0.338	8.59	0.063	1.60
5213C	15	0.361	9.17	0.063	1.60
5214C	19	0.380	9.65	0.063	1.60
5214/25C	25	0.430	10.92	0.063	1.60
5215C	27	0.438	11.13	0.063	1.60
5216C	37	0.480	12.19	0.063	1.60

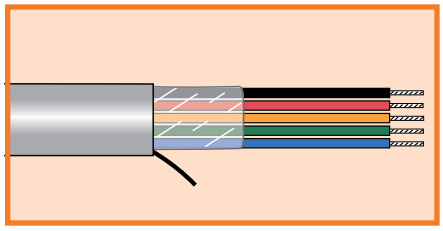
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5220/2C	2	0.246	6.25	0.063	1.60
5220C	5	0.288	7.32	0.063	1.60
5221C	7	0.305	7.75	0.063	1.60
5222C	12	0.371	9.42	0.063	1.60
5223C	15	0.398	10.11	0.063	1.60
5224C	19	0.420	10.67	0.063	1.60
5224/25C	25	0.478	12.14	0.063	1.60
5225C	27	0.487	12.37	0.063	1.60
5226C	37	0.536	13.61	0.063	1.60

Xtra-Guard® 1

High Performance
600 V Unshielded, Multiconductor



UL CM
UL AWM 2501 VW-1
UL MTW
CSA AWM I/II A/B FT4

Operating Temperature

- –30°C to +105°C
- –30°C to +90°C (MTW)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5402	2	0.318	8.08	0.063	1.60
5404	4	0.358	9.09	0.063	1.60
5405	5	0.385	9.78	0.063	1.60
5409	9	0.473	12.01	0.063	1.60
5409/19	19	0.601	15.27	0.063	1.60

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5413	3	0.350	8.89	0.063	1.60
5414	4	0.377	9.58	0.063	1.60
5419	9	0.503	12.78	0.063	1.60
5419/12	12	0.554	14.07	0.063	1.60
5419/15	15	0.601	15.27	0.063	1.60
5419/19	19	0.641	16.28	0.063	1.60
5419/25	25	0.742	18.85	0.063	1.60

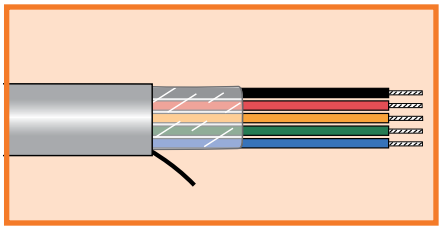
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5422	2	0.352	8.94	0.063	1.60
5423	3	0.369	9.37	0.063	1.60
5424	4	0.399	10.13	0.063	1.60
5425	5	0.432	10.97	0.063	1.60
5427	7	0.466	11.84	0.063	1.60
5429	9	0.535	13.59	0.063	1.60
5429/15	15	0.643	16.33	0.063	1.60
5429/19	19	0.686	17.42	0.063	1.60
5429/25	25	0.796	20.22	0.063	1.60

Xtra-Guard® 1

High Performance
600 V Unshielded, Multiconductor



UL CM
UL AWM 2501 VW-1
UL MTW
CSA AWM I/II A/B FT4

Operating Temperature

- –30°C to +105°C
- –30°C to +90°C (MTW)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5434	4	0.428	10.87	0.063	1.60
5435	5	0.464	11.79	0.063	1.60
5437	7	0.502	12.75	0.063	1.60
5439	9	0.579	14.71	0.063	1.60
5439/12	12	0.641	16.28	0.063	1.60
5439/15	15	0.698	17.73	0.063	1.60
5439/19	19	0.746	18.95	0.083	2.11
5439/25	25	0.908	23.06	0.083	2.11

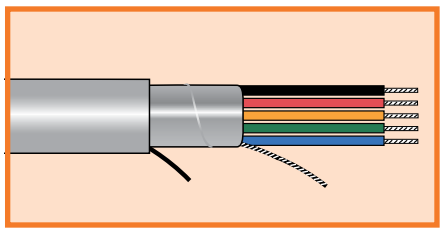
14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5442	2	0.406	10.31	0.063	1.60
5443	3	0.428	10.87	0.063	1.60
5444	4	0.464	11.79	0.063	1.60
5445	5	0.505	12.83	0.063	1.60
5447	7	0.547	13.89	0.063	1.60
5449	9	0.634	16.10	0.063	1.60
5449/12	12	0.703	17.86	0.063	1.60
5449/15	15	0.767	19.48	0.063	1.60
5449/25	25	0.998	25.35	0.083	2.11

Xtra-Guard® 1

High Performance
300 V Foil Shielded, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.127 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5926	2	0.142	3.61	0.032	0.81
5927	3	0.148	3.76	0.032	0.81
5928	4	0.157	3.99	0.032	0.81
5929	6	0.178	4.52	0.032	0.81
5930	7	0.178	4.52	0.032	0.81
5931	8	0.189	4.80	0.032	0.81

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5674	2	0.150	3.81	0.032	0.81
5675	3	0.156	3.96	0.032	0.81
5676	4	0.166	4.22	0.032	0.81
5677	6	0.190	4.83	0.032	0.81
5678	7	0.190	4.83	0.032	0.81
5679	8	0.202	5.13	0.032	0.81
5680	10	0.228	5.79	0.032	0.81
5681	15	0.252	6.40	0.032	0.81

24 AWG (0.23 mm²)

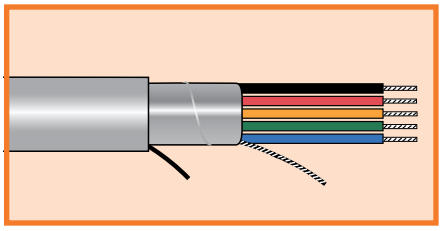
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5092C	2	0.160	4.06	0.032	0.81
5093C	3	0.167	4.24	0.032	0.81
5094C	4	0.179	4.55	0.032	0.81
5096C	6	0.205	5.21	0.032	0.81
5098C	8	0.219	5.56	0.032	0.81
5100C	10	0.248	6.30	0.032	0.81
5100/15C	15	0.275	6.99	0.032	0.81
5100/20C	20	0.304	7.72	0.032	0.81
5100/25C	25	0.336	8.53	0.032	0.81
5100/30C	30	0.354	8.99	0.032	0.81
5100/40C	40	0.394	10.01	0.032	0.81
5100/50C	50	0.433	11.00	0.032	0.81
5100/60C	60	0.468	11.89	0.032	0.81
5100/70C	70	0.505	12.83	0.032	0.81

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 1

High Performance
300 V Foil Shielded, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5192C	2	0.172	4.37	0.032	0.81
5193C	3	0.180	4.57	0.032	0.81
5194C	4	0.193	4.90	0.032	0.81
5196C	6	0.223	5.66	0.032	0.81
5198C	8	0.239	6.07	0.032	0.81
5199/10C	10	0.272	6.91	0.032	0.81
5199/15C	15	0.303	7.70	0.032	0.81
5199/20C	20	0.335	8.51	0.032	0.81
5199/25C	25	0.372	9.45	0.032	0.81
5199/30C	30	0.393	9.98	0.032	0.81
5199/40C	40	0.438	11.13	0.032	0.81
5199/50C	50	0.482	12.24	0.032	0.81
5199/60C	60	0.522	13.26	0.032	0.81
5199/70C	70	0.606	15.39	0.053	1.35

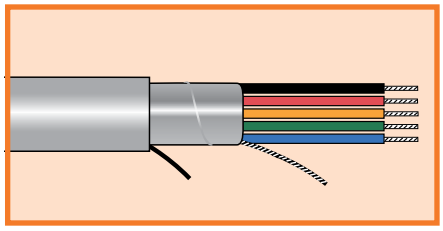
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5462C	2	0.212	5.38	0.032	0.81
5463C	3	0.223	5.66	0.032	0.81
5464C	4	0.242	6.15	0.032	0.81
5466C	6	0.284	7.21	0.032	0.81
5468C	8	0.306	7.77	0.032	0.81
5470C	10	0.352	8.94	0.032	0.81
5470/15C	15	0.395	10.03	0.032	0.81
5470/20C	20	0.441	11.20	0.032	0.81
5470/25C	25	0.492	12.50	0.032	0.81
5470/30C	30	0.521	13.23	0.032	0.81
5470/40C	40	0.626	15.90	0.053	1.35
5470/50C	50	0.688	17.48	0.053	1.35

Xtra-Guard® 1

High Performance
300 V Foil Shielded, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5382C	2	0.230	5.84	0.032	0.81
5382/1C*	2	0.230	5.84	0.032	0.81
5383C	3	0.242	6.15	0.032	0.81
5383/1C*	3	0.242	6.15	0.032	0.81
5384C	4	0.263	6.68	0.032	0.81
5386C	6	0.311	7.90	0.032	0.81
5388C	8	0.336	8.53	0.032	0.81
5390C	10	0.388	9.86	0.032	0.81
5390/15C	15	0.437	11.10	0.032	0.81
5390/20C	20	0.488	12.40	0.032	0.81
5390/25C	25	0.588	14.94	0.053	1.35
5390/30C	30	0.621	15.77	0.053	1.35
5390/40C	40	0.692	17.58	0.053	1.35
5390/50C	50	0.762	19.35	0.053	1.35
5390/60C	60	0.885	22.48	0.083	2.11

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

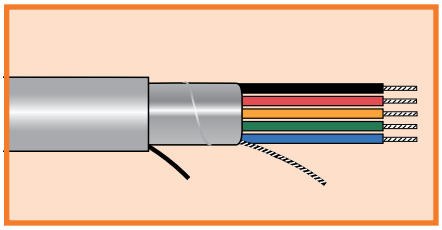
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5362C	2	0.254	6.45	0.032	0.81
5362/1C*	2	0.254	6.45	0.032	0.81
5363C	3	0.268	6.81	0.032	0.81
5363/1C*	3	0.268	6.81	0.032	0.81
5364C	4	0.292	7.42	0.032	0.81
5366C	6	0.347	8.81	0.032	0.81
5368C	8	0.376	9.55	0.032	0.81
5370C	10	0.436	11.07	0.032	0.81
5370/15C	15	0.492	12.50	0.032	0.81
5370/20C	20	0.593	15.06	0.053	1.35
5370/25C	25	0.660	16.76	0.053	1.35
5370/30C	30	0.698	17.73	0.053	1.35
5370/40C	40	0.779	19.79	0.083	2.11

*Conductors color-coded per international standards: brown, blue, green/yellow.

Xtra-Guard® 1

High Performance
300 V Foil Shielded, Multiconductor



UL CM
UL AWM 2343 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5599/3C	3	0.229	5.82	0.063	1.60
5599/5C	5	0.254	6.45	0.063	1.60
5599/7C	7	0.267	6.78	0.063	1.60
5599/12C	12	0.317	8.05	0.063	1.60
5599/15C	15	0.337	8.56	0.063	1.60
5599/19C	19	0.354	8.99	0.063	1.60
5599/27C	27	0.405	10.29	0.063	1.60

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5580/2C	2	0.234	5.94	0.063	1.60
5580C	5	0.270	6.86	0.063	1.60
5581C	7	0.285	7.24	0.063	1.60
5582C	12	0.342	8.69	0.063	1.60
5583C	15	0.365	9.27	0.063	1.60
5584C	19	0.384	9.75	0.063	1.60
5586C	37	0.484	12.29	0.063	1.60

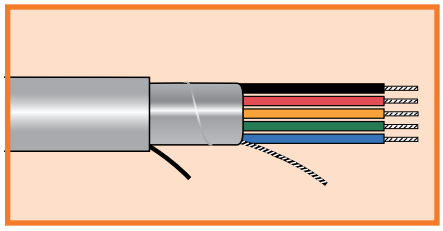
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5560/2C	2	0.250	6.35	0.063	1.60
5560C	5	0.292	7.42	0.063	1.60
5561C	7	0.309	7.85	0.063	1.60
5562C	12	0.375	9.53	0.063	1.60
5563C	15	0.402	10.21	0.063	1.60
5564C	19	0.424	10.77	0.063	1.60

Xtra-Guard® 1

High Performance
600 V Foil Shielded, Multiconductor



UL AWM 2501 VW-1
CSA AWM I/II A/B FT4
UL MTW

Operating Temperature

- –30°C to +105°C (AWM)
- –30°C to +90°C (MTW)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5410/2	2	0.322	8.18	0.063	1.60
5410/3	3	0.337	8.56	0.063	1.60
5410/4	4	0.362	9.19	0.063	1.60
5410/5	5	0.389	9.88	0.063	1.60
5410/9	9	0.477	12.12	0.063	1.60
5410/12	12	0.525	13.34	0.063	1.60

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5420/3	3	0.354	8.99	0.063	1.60
5420/4	4	0.381	9.68	0.063	1.60
5420/5	5	0.411	10.44	0.063	1.60
5420/7	7	0.442	11.23	0.063	1.60
5420/9	9	0.507	12.88	0.063	1.60
5420/12	12	0.558	14.17	0.063	1.60

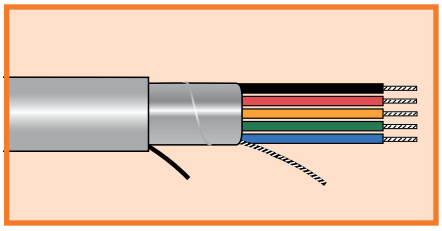
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5430/2	2	0.356	9.04	0.063	1.60
5430/3	3	0.373	9.47	0.063	1.60
5430/4	4	0.403	10.24	0.063	1.60
5430/5	5	0.436	11.07	0.063	1.60
5430/7	7	0.470	11.94	0.063	1.60
5430/9	9	0.539	13.69	0.063	1.60
5430/12	12	0.595	15.11	0.063	1.60
5430/15	15	0.647	16.43	0.063	1.60
5430/19	19	0.690	17.53	0.063	1.60
5430/25	25	0.800	20.32	0.063	1.60

Xtra-Guard® 1

High Performance
600 V Foil Shielded, Multiconductor



UL AWM 2501 VW-1
CSA AWM I/II A/B FT4
UL MTW

Operating Temperature

- –30°C to +105°C (AWM)
- –30°C to +90°C (MTW)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5440/2	2	0.380	9.65	0.063	1.60
5440/3	3	0.399	10.13	0.063	1.60
5440/4	4	0.432	10.97	0.063	1.60
5440/5	5	0.468	11.89	0.063	1.60
5440/7	7	0.506	12.85	0.063	1.60
5440/9	9	0.583	14.81	0.063	1.60
5440/12	12	0.645	16.38	0.063	1.60
5440/15	15	0.702	17.83	0.063	1.60

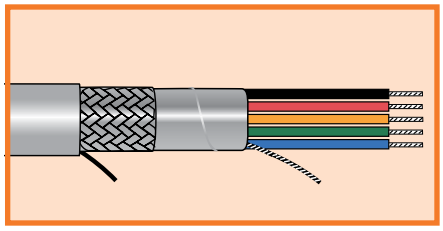
14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5450/2	2	0.410	10.41	0.063	1.60
5450/3	3	0.432	10.97	0.063	1.60
5450/4	4	0.468	11.89	0.063	1.60
5450/5	5	0.509	12.93	0.063	1.60
5450/7	7	0.551	14.00	0.063	1.60
5450/12	12	0.707	17.96	0.063	1.60

Xtra-Guard® 1

High Performance
300 V Supra-Shield® Foil/Braid, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.127 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5932	2	0.166	4.22	0.032	0.81
5933	3	0.172	4.37	0.032	0.81
5934	4	0.181	4.60	0.032	0.81
5935	6	0.202	5.13	0.032	0.81
5936	7	0.202	5.13	0.032	0.81
5937	8	0.213	5.41	0.032	0.81

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5682	2	0.174	4.42	0.032	0.81
5683	3	0.180	4.57	0.032	0.81
5684	4	0.190	4.83	0.032	0.81
5685	6	0.214	5.44	0.032	0.81
5686	7	0.214	5.44	0.032	0.81
5687	8	0.226	5.74	0.032	0.81
5688	10	0.252	6.40	0.032	0.81
5689	15	0.276	7.01	0.032	0.81

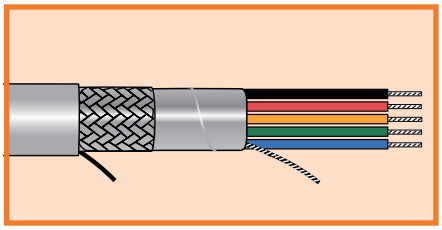
24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5112C	2	0.184	4.67	0.032	0.81
5113C	3	0.191	4.85	0.032	0.81
5114C	4	0.203	5.16	0.032	0.81
5116C	6	0.229	5.82	0.032	0.81
5118C	8	0.243	6.17	0.032	0.81
5120C	10	0.272	6.91	0.032	0.81
5120/15C	15	0.299	7.59	0.032	0.81
5120/20C	20	0.328	8.33	0.032	0.81
5120/25C	25	0.360	9.14	0.032	0.81
5120/30C	30	0.378	9.60	0.032	0.81
5120/40C	40	0.418	10.62	0.032	0.81
5120/50C	50	0.457	11.61	0.032	0.81

Xtra-Guard® 1

High Performance
300 V Supra-Shield® Foil/Braid, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5102C	2	0.196	4.98	0.032	0.81
5103C	3	0.204	5.18	0.032	0.81
5104C	4	0.217	5.51	0.032	0.81
5106C	6	0.247	6.27	0.032	0.81
5108C	8	0.263	6.68	0.032	0.81
5110C	10	0.296	7.52	0.032	0.81
5110/15C	15	0.327	8.31	0.032	0.81
5110/20C	20	0.359	9.12	0.032	0.81
5110/25C	25	0.396	10.06	0.032	0.81
5110/30C	30	0.417	10.59	0.032	0.81
5110/40C	40	0.462	11.73	0.032	0.81
5110/50C	50	0.506	12.85	0.032	0.81
5110/60C	60	0.588	14.94	0.053	1.35
5110/70C	70	0.630	16.00	0.053	1.35
5110/80C	80	0.665	16.89	0.053	1.35

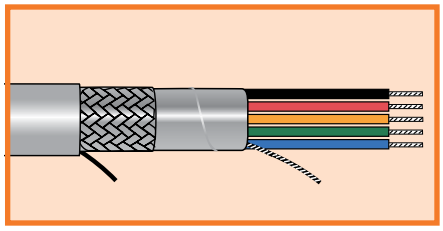
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5152C	2	0.236	5.99	0.032	0.81
5153C	3	0.247	6.27	0.032	0.81
5154C	4	0.266	6.76	0.032	0.81
5156C	6	0.308	7.82	0.032	0.81
5158C	8	0.330	8.38	0.032	0.81
5160C	10	0.376	9.55	0.032	0.81
5160/15C	15	0.419	10.64	0.032	0.81
5160/20C	20	0.465	11.81	0.032	0.81
5160/25C	25	0.516	13.11	0.032	0.81
5160/30C	30	0.545	13.84	0.032	0.81
5160/40C	40	0.656	16.66	0.053	1.35
5160/50C	50	0.718	18.24	0.053	1.35
5160/60C	60	0.774	19.66	0.053	1.35

Xtra-Guard® 1

High Performance
300 V Supra-Shield® Foil/Braid, Multiconductor



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5162/1C*	2	0.254	6.45	0.032	0.81
5162C	2	0.254	6.45	0.032	0.81
5163/1C*	3	0.266	6.76	0.032	0.81
5163C	3	0.266	6.76	0.032	0.81
5164C	4	0.287	7.29	0.032	0.81
5166C	6	0.335	8.51	0.032	0.81
5168C	8	0.360	9.14	0.032	0.81
5170C	10	0.412	10.46	0.032	0.81
5170/15C	15	0.461	11.71	0.032	0.81
5170/20C	20	0.512	13.00	0.032	0.81
5170/25C	25	0.612	15.54	0.053	1.35
5170/30C	30	0.651	16.54	0.053	1.35
5170/40C	40	0.722	18.34	0.053	1.35

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

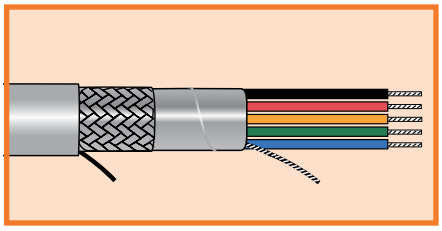
Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5172/1C*	2	0.278	7.06	0.032	0.81
5172C	2	0.278	7.06	0.032	0.81
5173/1C*	3	0.292	7.42	0.032	0.81
5173C	3	0.292	7.42	0.032	0.81
5174C	4	0.316	8.03	0.032	0.81
5176C	6	0.371	9.42	0.032	0.81
5178C	8	0.400	10.16	0.032	0.81
5180C	10	0.460	11.68	0.032	0.81
5180/15C	15	0.516	13.11	0.032	0.81
5180/20C	20	0.617	15.67	0.053	1.35
5180/25C	25	0.690	17.53	0.053	1.35

*Conductors color-coded per international standards: brown, blue, green/yellow.

RoHS Compliant CA PROP 65

Xtra-Guard® 1

High Performance
300 V Supra-Shield® Foil/Braid, Multiconductor



UL CM
UL AWM 2343 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5300C	5	0.278	7.06	0.063	1.60
5301C	7	0.291	7.39	0.063	1.60
5302C	12	0.341	8.66	0.063	1.60
5303C	15	0.361	9.17	0.063	1.60
5304C	19	0.378	9.60	0.063	1.60
5305C	27	0.429	10.90	0.063	1.60
5306C	37	0.466	11.84	0.063	1.60
5307C	48	0.517	13.13	0.063	1.60

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5310C	5	0.294	7.47	0.063	1.60
5311C	7	0.309	7.85	0.063	1.60
5312C	12	0.366	9.30	0.063	1.60
5313C	15	0.389	9.88	0.063	1.60
5314C	19	0.408	10.36	0.063	1.60
5316C	37	0.508	12.90	0.063	1.60
5318C	60	0.608	15.44	0.063	1.60

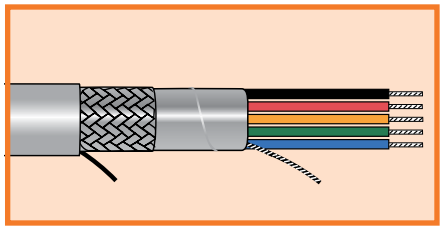
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
5320/4C	4	0.299	7.59	0.063	1.60
5320C	5	0.316	8.03	0.063	1.60
5321C	7	0.333	8.46	0.063	1.60
5322C	12	0.399	10.13	0.063	1.60
5323C	15	0.426	10.82	0.063	1.60
5324C	19	0.448	11.38	0.063	1.60
5325C	27	0.515	13.08	0.063	1.60
5326C	37	0.564	14.33	0.063	1.60

Xtra-Guard® 1

High Performance
600 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 2501 VW-1
CSA AWM I/II A/B FT4
UL MTW

Operating Temperature

- –30°C to +105°C (AWM)
- –30°C to +90°C (MTW)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5504	4	0.386	9.80	0.063	1.60
5507	7	0.442	11.23	0.063	1.60
5509/12	12	0.549	13.94	0.063	1.60

20 AWG (0.56 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5514	4	0.405	10.29	0.063	1.60
5517	7	0.466	11.84	0.063	1.60
5519	9	0.531	13.49	0.063	1.60
5519/12	12	0.582	14.78	0.063	1.60
5519/19	19	0.675	17.15	0.063	1.60

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

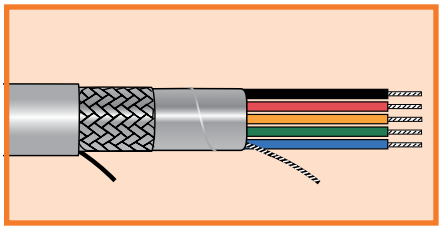
Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5522	2	0.380	9.65	0.063	1.60
5523	3	0.397	10.08	0.063	1.60
5524	4	0.427	10.85	0.063	1.60
5525	5	0.460	11.68	0.063	1.60
5527	7	0.494	12.55	0.063	1.60
5529	9	0.563	14.30	0.063	1.60
5529/12	12	0.619	15.72	0.063	1.60
5529/15	15	0.677	17.20	0.063	1.60
5529/19	19	0.760	19.30	0.083	2.11

RoHS Compliant CA PROP 65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 1

High Performance
600 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 2501 VW-1
CSA AWM I/II A/B FT4
UL MTW

Operating Temperature

- –30°C to +105°C (AWM)
- –30°C to +90°C (MTW)

Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5532	2	0.404	10.26	0.063	1.60
5533	3	0.423	10.74	0.063	1.60
5534	4	0.456	11.58	0.063	1.60
5535	5	0.492	12.50	0.063	1.60
5537	7	0.530	13.46	0.063	1.60
5539	9	0.607	15.42	0.063	1.60
5539/12	12	0.675	17.15	0.063	1.60
5539/15	15	0.772	19.61	0.063	1.60
5539/19	19	0.820	20.83	0.083	2.11

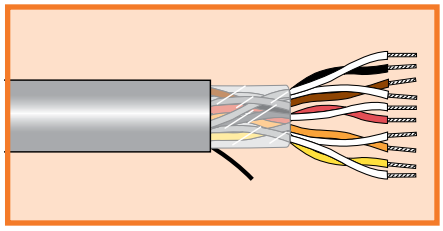
14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5542	2	0.434	11.02	0.063	1.60
5543	3	0.456	11.58	0.063	1.60
5544	4	0.492	12.50	0.063	1.60
5547	7	0.575	14.61	0.063	1.60
5549	9	0.668	16.97	0.063	1.60
5549/12	12	0.777	19.74	0.083	2.11
5549/15	15	0.841	21.36	0.083	2.11

Xtra-Guard® 1

High Performance
300 V Unshielded, Multipair



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5261C	1	0.156	3.96	0.032	0.81
5262C	2	0.212	5.38	0.032	0.81
5263C	3	0.224	5.69	0.032	0.81
5264C	4	0.243	6.17	0.032	0.81
5265C	5	0.264	6.71	0.032	0.81
5266C	6	0.286	7.26	0.032	0.81
5269C	9	0.332	8.43	0.032	0.81
5269/11C	11	0.357	9.07	0.032	0.81
5269/15C	15	0.401	10.19	0.032	0.81
5269/27C	27	0.512	13.00	0.032	0.81
5269/77C	77	0.904	22.96	0.083	0.81

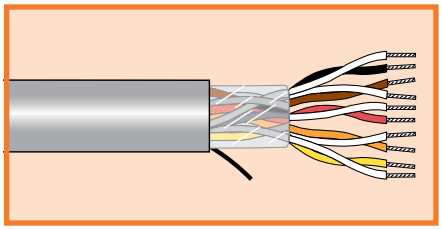
22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5021C	1	0.168	4.27	0.032	0.81
5022C	2	0.232	5.89	0.032	0.81
5023C	3	0.245	6.22	0.032	0.81
5024C	4	0.267	6.78	0.032	0.81
5025C	5	0.291	7.39	0.032	0.81
5026C	6	0.316	8.03	0.032	0.81
5029/15C	15	0.447	11.35	0.032	0.81

Xtra-Guard® 1

High Performance
300 V Unshielded, Multipair



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5282C	2	0.298	7.57	0.032	0.81
5283C	3	0.316	8.03	0.032	0.81
5286C	6	0.415	10.54	0.032	0.81
5289C	9	0.487	12.37	0.032	0.81
5289/12C	12	0.545	13.84	0.032	0.81

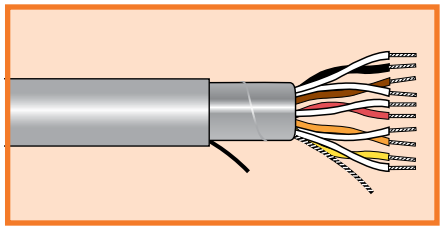
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5032C	2	0.327	8.31	0.032	0.81
5033C	3	0.348	8.84	0.032	0.81
5036C	6	0.460	11.68	0.032	0.81
5039C	9	0.541	13.74	0.053	1.35
5039/12C	12	0.648	16.46	0.053	1.35

Xtra-Guard® 1

High Performance
300 V Foil Shield, Multipair



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.12 mm)
Insulation Thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5938	2	0.187	4.75	0.032	0.81
5939	3	0.196	4.98	0.032	0.81
5940	4	0.211	5.36	0.032	0.81
5941	5	0.228	5.79	0.032	0.81
5942	6	0.246	6.25	0.032	0.81

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5690	2	0.200	5.08	0.032	0.81
5691	3	0.210	5.33	0.032	0.81
5692	4	0.227	5.77	0.032	0.81
5693	5	0.246	6.25	0.032	0.81
5694	6	0.265	6.73	0.032	0.81

24 AWG (0.23 mm²)

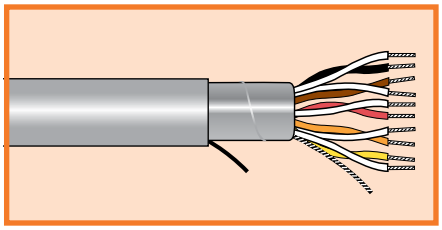
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5491C	1	0.160	4.06	0.032	0.81
5492C	2	0.216	5.49	0.032	0.81
5493C	3	0.228	5.79	0.032	0.81
5494C	4	0.247	6.27	0.032	0.81
5495C	5	0.268	6.81	0.032	0.81
5496C	6	0.290	7.37	0.032	0.81
5499C	9	0.336	8.53	0.032	0.81
5499/11C	11	0.361	9.17	0.032	0.81
5499/15C	15	0.405	10.29	0.032	0.81
5499/19C	19	0.433	11.00	0.032	0.81
5499/27C	27	0.516	13.11	0.32	0.81

RoHS Compliant CA PROP 65

Xtra-Guard® 1

High Performance
300 V Foil Shield, Multipair



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5481C	1	0.172	4.37	0.032	0.81
5482C	2	0.236	5.99	0.032	0.81
5483C	3	0.249	6.32	0.032	0.81
5484C	4	0.271	6.88	0.032	0.81
5485C	5	0.295	7.49	0.032	0.81
5486C	6	0.320	8.13	0.032	0.81
5489C	9	0.372	9.45	0.032	0.81
5489/11C	11	0.400	10.16	0.032	0.81
5489/15C	15	0.451	11.46	0.032	0.81
5489/19C	19	0.483	12.27	0.032	0.81
5489/27C	27	0.619	15.72	0.053	1.35

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5452C	2	0.302	7.67	0.032	0.81
5453C	3	0.320	8.13	0.032	0.81
5456C	6	0.419	10.64	0.032	0.81
5459C	9	0.491	12.47	0.032	0.81
5459/12C	12	0.549	13.94	0.032	0.81
5459/19C	19	0.689	17.50	0.053	1.35

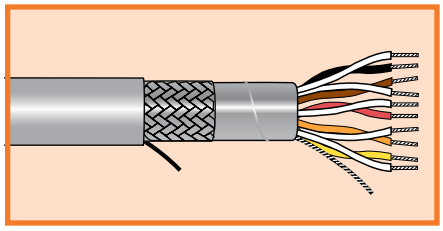
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5373C	3	0.352	8.94	0.032	0.81
5376C	6	0.464	11.79	0.032	0.81

Xtra-Guard® 1

High Performance
300 V Supra-Shield® Foil/Braid, Multipair



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.12 mm)
Insulation Thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5943	2	0.211	5.36	0.032	0.81
5944	3	0.220	5.59	0.032	0.81
5945	4	0.235	5.97	0.032	0.81
5946	5	0.252	6.40	0.032	0.81
5947	6	0.270	6.86	0.032	0.81

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5695	2	0.224	5.69	0.032	0.81
5696	3	0.234	5.94	0.032	0.81
5697	4	0.251	6.38	0.032	0.81
5698	5	0.270	6.86	0.032	0.81
5699	6	0.289	7.34	0.032	0.81

24 AWG (0.23 mm²)

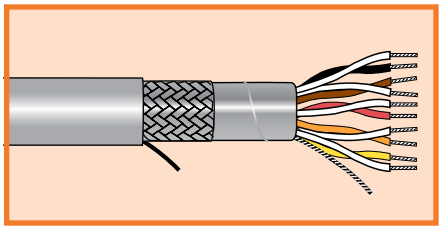
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5271C	1	0.184	4.67	0.032	0.81
5272C	2	0.240	6.10	0.032	0.81
5273C	3	0.252	6.40	0.032	0.81
5274C	4	0.271	6.88	0.032	0.81
5275C	5	0.292	7.42	0.032	0.81
5276C	6	0.314	7.98	0.032	0.81
5279C	9	0.360	9.14	0.032	0.81
5279/11C	11	0.385	9.78	0.032	0.81
5279/15C	15	0.429	10.90	0.032	0.81
5279/19C	19	0.457	11.61	0.032	0.81
5279/27C	27	0.540	13.72	0.032	0.81
5279/51C	51	0.739	18.77	0.053	1.35

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 1

High Performance
300 V Supra-Shield® Foil/Braid, Multipair



UL CM
UL AWM 2464 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5121C	1	0.196	4.98	0.032	0.81
5122C	2	0.260	6.60	0.032	0.81
5123C	3	0.273	6.93	0.032	0.81
5124C	4	0.295	7.49	0.032	0.81
5125C	5	0.319	8.10	0.032	0.81
5126C	6	0.344	8.74	0.032	0.81
5129C	9	0.396	10.06	0.032	0.81
5129/11C	11	0.424	10.77	0.032	0.81
5129/15C	15	0.475	12.07	0.032	0.81
5129/19C	19	0.507	12.88	0.032	0.81
5129/27C	27	0.649	16.48	0.053	1.35

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5292C	2	0.326	8.28	0.032	0.81
5293C	3	0.344	8.74	0.032	0.81
5296C	6	0.443	11.25	0.032	0.81
5299C	9	0.515	13.08	0.032	0.81
5299/19C	19	0.719	18.26	0.053	1.35

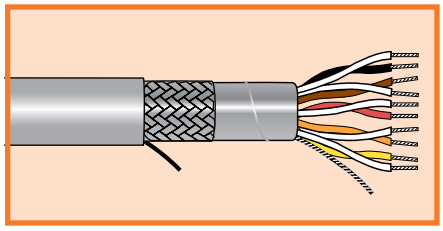
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5132C	2	0.355	9.02	0.032	0.81
5133C	3	0.376	9.55	0.032	0.81
5136C	6	0.488	12.40	0.032	0.81
5139C	9	0.611	15.52	0.053	1.35
5139/27C	27	1.004	25.50	0.083	2.11

Xtra-Guard® 1

High Performance
300 V Supra-Shield® Foil/Braid, Multipair



UL CM
UL AWM 2343 VW-1
CSA CMG FT4

Operating Temperature

- –30°C to +80°C (AWM)
- –30°C to +105°C (CM)

Conductor Color Coding

- Chart B (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5330C	5	0.354	8.99	0.063	1.60
5331C	7	0.376	9.55	0.063	1.60
5332C	12	0.458	11.63	0.063	1.60
5333C	15	0.491	12.47	0.063	1.60
5334C	19	0.519	13.18	0.063	1.60
5335C	27	0.602	15.29	0.063	1.60
5336C	37	0.669	16.99	0.063	1.60

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5340/2C	2	0.322	8.18	0.063	1.60
5340C	5	0.381	9.68	0.063	1.60
5341C	7	0.406	10.31	0.063	1.60
5342C	12	0.499	12.67	0.063	1.60
5344C	19	0.569	14.45	0.063	1.60
5345C	27	0.669	16.99	0.063	1.60
5346C	37	0.738	18.75	0.063	1.60

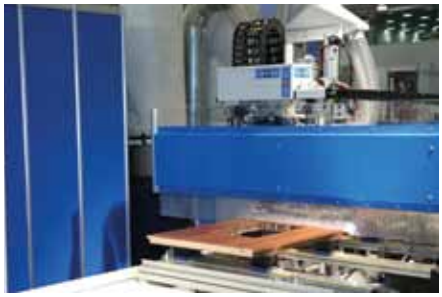
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5350/4C	4	0.388	9.86	0.063	1.60
5350C	5	0.416	10.57	0.063	1.60
5351C	7	0.446	11.33	0.063	1.60
5351/9C	9	0.505	12.83	0.063	1.60
5353C	15	0.597	15.16	0.063	1.60
5354C	19	0.634	16.10	0.063	1.60
5355C	27	0.749	19.02	0.063	1.60

Xtra-Guard® 2

Oil and Abrasion Resistant



Features

- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- Specially formulated, rugged polyurethane jacket offering three times the tear and abrasion resistance of ordinary PVC
- Resistance to cut-through and physical damage
- 300 V and 600 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- Temperature ratings to 90°C (300 V) and 105°C (600 V)
- Superior low-temperature flexibility to -30°C
- Outstanding ultraviolet light stability in all jacket colors
- UL VW-1 and CSA FT-1 flammability ratings
- Nylon ripcord for easy jacket stripping

Applications

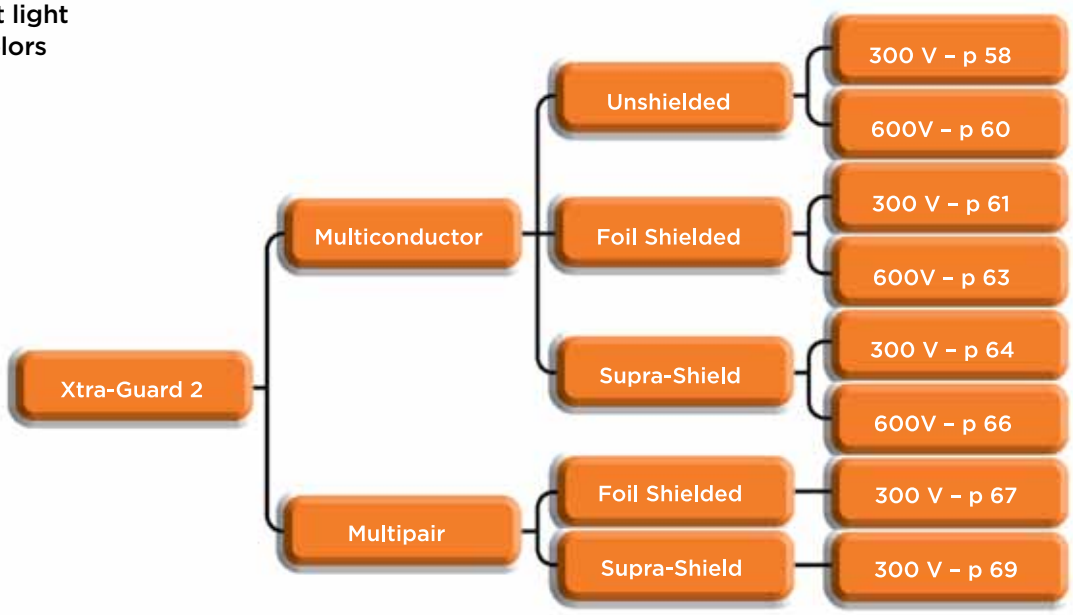
- CNC machine centers
- Automotive assembly plant operations
- Military ground support systems
- Packaging machinery
- Petrochemical plant operations
- Geophysical exploration equipment

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

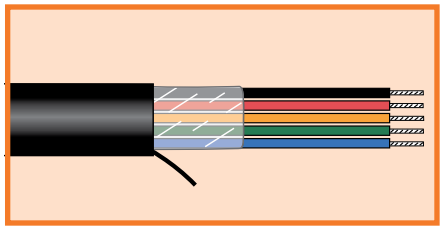
SLATE	BEIGE	WHITE
RED	BLACK	BLUE
GREEN	YELLOW	ORANGE

Xtra-Guard cables are available in a range of long-lasting colors for fast, easy identification, for safety reasons, and for matching the color of your system.



Xtra-Guard® 2

Oil and Abrasion Resistant
300 V Unshielded, Multiconductor



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25012	2	0.156	3.96	0.032	0.81
25013	3	0.163	4.14	0.032	0.81
25014	4	0.175	4.45	0.032	0.81
25016	6	0.201	5.11	0.032	0.81
25018	8	0.215	5.46	0.032	0.81
25020	10	0.244	6.20	0.032	0.81
25020/15	15	0.271	6.88	0.032	0.81
25020/20	20	0.300	7.62	0.032	0.81
25020/25	25	0.332	8.43	0.032	0.81

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25002	2	0.168	4.27	0.032	0.81
25003	3	0.176	4.47	0.032	0.81
25004	4	0.189	4.80	0.032	0.81
25006	6	0.219	5.56	0.032	0.81
25008	8	0.235	5.97	0.032	0.81
25010	10	0.268	6.81	0.032	0.81
25010/15	15	0.299	7.59	0.032	0.81
25010/20	20	0.331	8.41	0.032	0.81
25010/25	25	0.368	9.35	0.032	0.81

20 AWG (0.56 mm²)

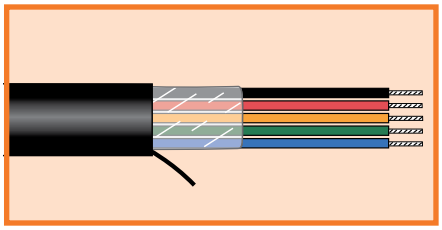
Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25052	2	0.208	5.28	0.032	0.81
25053	3	0.219	5.56	0.032	0.81
25054	4	0.238	6.05	0.032	0.81
25056	6	0.280	7.11	0.032	0.81
25058	8	0.302	7.67	0.032	0.81
25060	10	0.348	8.84	0.032	0.81
25060/15	15	0.391	9.93	0.032	0.81
25060/20	20	0.437	11.10	0.032	0.81
25060/25	25	0.488	12.40	0.032	0.81
25060/30	30	0.517	13.13	0.032	0.81
25060/40	40	0.622	15.80	0.053	1.35
25060/50	50	0.684	17.37	0.053	1.35
25060/60	60	0.740	18.80	0.053	1.35
25060/70	70	0.859	21.82	0.053	1.35

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 2

Oil and Abrasion Resistant
300 V Unshielded, Multiconductor



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25062	2	0.226	5.74	0.032	0.81
25062/1*	2	0.226	5.74	0.032	0.81
25063	3	0.238	6.05	0.032	0.81
25063/1*	3	0.238	6.05	0.032	0.81
25064	4	0.259	6.58	0.032	0.81
25066	6	0.307	7.80	0.032	0.81
25068	8	0.332	8.43	0.032	0.81
25070	10	0.384	9.75	0.032	0.81
25070/15	15	0.433	11.00	0.032	0.81
25070/20	20	0.484	12.29	0.032	0.81
25070/25	25	0.542	13.77	0.032	0.81

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

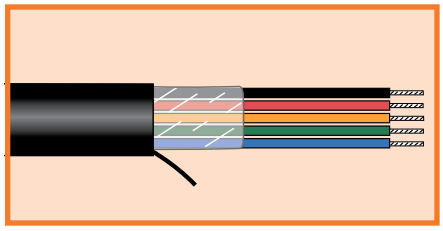
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25072	2	0.250	6.35	0.032	0.81
25072/1*	2	0.250	6.35	0.032	0.81
25073	3	0.264	6.71	0.032	0.81
25073/1*	3	0.264	6.71	0.032	0.81
25074	4	0.288	7.32	0.032	0.81
25076	6	0.343	8.71	0.032	0.81
25078	8	0.372	9.45	0.032	0.81
25080	10	0.432	10.97	0.032	0.81
25080/15	15	0.488	12.40	0.032	0.81
25080/20	20	0.547	13.89	0.053	1.35
25080/25	25	0.656	16.66	0.053	1.35

*Conductors color-coded per international standards: brown, blue, green/yellow.

Xtra-Guard® 2

Oil and Abrasion Resistant
600 V Unshielded, Multiconductor



UL AWM 20952 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +105°C

Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25422	2	0.352	8.94	0.063	1.60
25423	3	0.369	9.37	0.063	1.60
25424	4	0.399	10.13	0.063	1.60
25427	7	0.466	11.84	0.063	1.60
25429	9	0.535	13.59	0.063	1.60
25429/12	12	0.591	15.01	0.063	1.60

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25432	2	0.376	9.55	0.063	1.60
25433	3	0.395	10.03	0.063	1.60
25434	4	0.428	10.87	0.063	1.60
25435	5	0.464	11.79	0.063	1.60
25439	9	0.579	14.71	0.063	1.60
25439/12	12	0.641	16.28	0.063	1.60
25439/19	19	0.746	18.95	0.083	2.11

14 AWG (2.08 mm²)

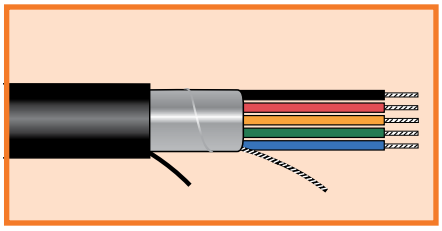
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25442	2	0.406	10.31	0.063	1.60
25443	3	0.428	10.87	0.063	1.60
25444	4	0.464	11.79	0.063	1.60
25445	5	0.505	12.83	0.063	1.60
25449	9	0.634	16.10	0.063	1.60
25449/12	12	0.703	17.86	0.063	1.60

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant
300 V Foil Shielded, Multiconductor



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25092	2	0.160	4.06	0.032	0.81
25093	3	0.167	4.24	0.032	0.81
25094	4	0.179	4.55	0.032	0.81
25096	6	0.205	5.21	0.032	0.81
25098	8	0.219	5.56	0.032	0.81
25100	10	0.248	6.30	0.032	0.81
25100/15	15	0.275	6.99	0.032	0.81
25100/20	20	0.304	7.72	0.032	0.81
25100/25	25	0.336	8.53	0.032	0.81

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25192	2	0.172	4.37	0.032	0.81
25193	3	0.180	4.57	0.032	0.81
25194	4	0.193	4.90	0.032	0.81
25196	6	0.223	5.66	0.032	0.81
25198	8	0.239	6.07	0.032	0.81
25199/10	10	0.272	6.91	0.032	0.81
25199/15	15	0.303	7.70	0.032	0.81
25199/20	20	0.335	8.51	0.032	0.81
25199/25	25	0.372	9.45	0.032	0.81
25199/30	30	0.393	9.98	0.032	0.81
25199/40	40	0.438	11.13	0.032	0.81
25199/50	50	0.482	12.24	0.032	0.81

20 AWG (0.56 mm²)

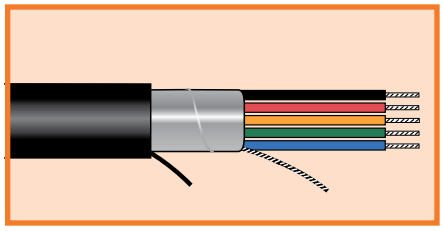
Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25462	2	0.212	5.38	0.032	0.81
25463	3	0.223	5.66	0.032	0.81
25464	4	0.242	6.15	0.032	0.81
25466	6	0.284	7.21	0.032	0.81
25468	8	0.306	7.77	0.032	0.81
25470	10	0.352	8.94	0.032	0.81
25470/15	15	0.395	10.03	0.032	0.81
25470/20	20	0.441	11.20	0.032	0.81
25470/25	25	0.492	12.50	0.032	0.81
25470/30	30	0.521	13.23	0.032	0.81
25470/40	40	0.626	15.90	0.053	1.35
25470/50	50	0.688	17.48	0.053	1.35

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant
300 V Foil Shielded, Multiconductor



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- -30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25382	2	0.230	5.84	0.032	0.81
25382/1*	2	0.230	5.84	0.032	0.81
25383	3	0.242	6.14	0.032	0.81
25383/1*	3	0.242	6.14	0.032	0.81
25384	4	0.263	6.68	0.032	0.81
25386	6	0.311	7.90	0.032	0.81
25388	8	0.336	8.53	0.032	0.81
25390	10	0.388	9.86	0.032	0.81
25390/15	15	0.437	11.10	0.032	0.81
25390/20	20	0.488	12.40	0.032	0.81
25390/25	25	0.588	14.94	0.053	1.35
25390/30	30	0.621	15.77	0.053	1.35
25390/40	40	0.692	17.58	0.053	1.35
25390/50	50	0.762	19.35	0.053	1.35

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

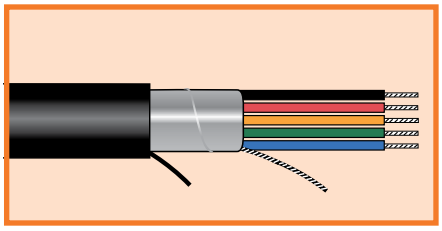
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25362	2	0.254	6.45	0.032	0.81
25362/1*	2	0.254	6.45	0.032	0.81
25363	3	0.268	6.81	0.032	0.81
25363/1*	3	0.268	6.81	0.032	0.81
25364	4	0.292	7.42	0.032	0.81
25366	6	0.347	8.81	0.032	0.81
25368	8	0.376	9.55	0.032	0.81
25370	10	0.436	11.07	0.032	0.81
25370/15	15	0.492	12.50	0.032	0.81
25370/20	20	0.593	15.06	0.053	1.35
25370/25	25	0.660	16.76	0.053	1.35
25370/30	30	0.698	17.73	0.053	1.35
25370/40	40	0.779	19.79	0.083	2.11
25370/50	50	0.921	23.39	0.083	2.11

*Conductors color-coded per international standards: brown, blue, green/yellow.

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant
600 V Foil Shielded, Multiconductor



UL AWM 20952 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +105°C

Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25430/2	2	0.356	9.04	0.063	1.60
25430/3	3	0.373	9.47	0.063	1.60
25430/4	4	0.403	10.24	0.063	1.60
25430/5	5	0.436	11.07	0.063	1.60
25430/7	7	0.470	11.94	0.063	1.60
25430/9	9	0.539	13.69	0.063	1.60
25430/12	12	0.595	15.11	0.063	1.60
25430/15	15	0.647	16.43	0.063	1.60
25430/19	19	0.690	17.53	0.063	1.60

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25440/2	2	0.380	9.65	0.063	1.60
25440/3	3	0.399	10.13	0.063	1.60
25440/4	4	0.432	10.97	0.063	1.60
25440/5	5	0.468	11.89	0.063	1.60
25440/7	7	0.506	12.85	0.063	1.60
25440/9	9	0.583	14.81	0.063	1.60
25440/12	12	0.645	16.38	0.063	1.60
25440/15	15	0.702	17.83	0.063	1.60

14 AWG (2.08 mm²)

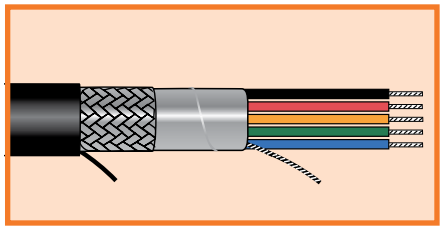
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25450/2	2	0.410	10.41	0.063	1.60
25450/3	3	0.432	10.97	0.063	1.60
25450/4	4	0.468	11.89	0.063	1.60
25450/5	5	0.509	12.93	0.063	1.60
25450/7	7	0.551	14.00	0.063	1.60
25450/9	9	0.638	16.21	0.063	1.60
25450/12	12	0.707	17.96	0.063	1.60
25450/15	15	0.771	19.58	0.063	1.60

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant
300 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- -30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25112	2	0.184	4.67	0.032	0.81
25113	3	0.191	4.85	0.032	0.81
25114	4	0.203	5.16	0.032	0.81
25116	6	0.229	5.82	0.032	0.81
25118	8	0.243	6.17	0.032	0.81
25120	10	0.272	6.91	0.032	0.81
25120/15	15	0.299	7.59	0.032	0.81
25120/20	20	0.328	8.33	0.032	0.81
25120/25	25	0.360	9.14	0.032	0.81
25120/30	30	0.378	9.60	0.032	0.81
25120/40	40	0.418	10.62	0.032	0.81
25120/50	50	0.457	11.61	0.032	0.81

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25102	2	0.196	4.97	0.032	0.81
25103	3	0.204	5.18	0.032	0.81
25104	4	0.217	5.51	0.032	0.81
25106	6	0.247	6.27	0.032	0.81
25108	8	0.263	6.68	0.032	0.81
25110	10	0.296	7.52	0.032	0.81
25110/15	15	0.327	8.31	0.032	0.81
25110/20	20	0.359	9.12	0.032	0.81
25110/25	25	0.396	10.06	0.032	0.81
25110/30	30	0.417	10.59	0.032	0.81
25110/40	40	0.462	11.73	0.032	0.81
25110/50	50	0.506	12.85	0.032	0.81

20 AWG (0.56 mm²)

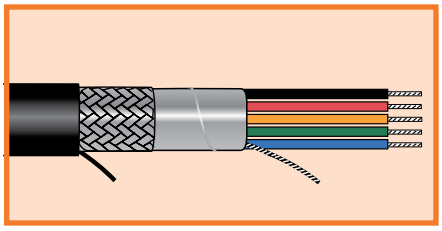
Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25152	2	0.236	5.99	0.032	0.81
25153	3	0.247	6.27	0.032	0.81
25154	4	0.266	6.76	0.032	0.81
25156	6	0.308	7.82	0.032	0.81
25158	8	0.330	8.38	0.032	0.81
25160	10	0.376	9.55	0.032	0.81
25160/15	15	0.419	10.64	0.032	0.81
25160/20	20	0.465	11.81	0.032	0.81
25160/25	25	0.516	13.11	0.032	0.81
25160/30	30	0.545	13.84	0.032	0.81
25160/40	40	0.656	16.66	0.053	1.35
25160/50	50	0.718	18.24	0.053	1.35

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant
300 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25162	2	0.254	6.45	0.032	0.81
25162/1*	2	0.254	6.45	0.032	0.81
25163	3	0.266	6.76	0.032	0.81
25163/1*	3	0.266	6.76	0.032	0.81
25164	4	0.287	7.29	0.032	0.81
25166	6	0.335	8.51	0.032	0.81
25168	8	0.360	9.14	0.032	0.81
25170	10	0.412	10.46	0.032	0.81
25170/15	15	0.461	11.71	0.032	0.81
25170/20	20	0.512	13.00	0.032	0.81
25170/25	25	0.612	15.54	0.053	1.35
25170/30	30	0.651	16.54	0.053	1.35
25170/40	40	0.722	18.34	0.053	1.35

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

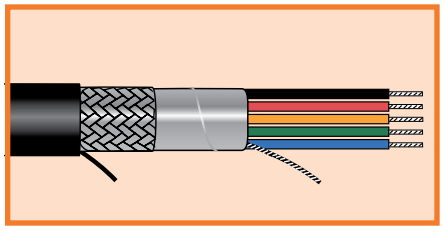
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25172	2	0.278	7.06	0.032	0.81
25172/1*	2	0.278	7.06	0.032	0.81
25173	3	0.292	7.42	0.032	0.81
25173/1*	3	0.292	7.42	0.032	0.81
25174	4	0.316	8.03	0.032	0.81
25176	6	0.371	9.42	0.032	0.81
25178	8	0.400	10.16	0.032	0.81
25180	10	0.460	11.68	0.032	0.81
25180/15	15	0.516	13.11	0.032	0.81
25180/20	20	0.617	15.67	0.053	1.35
25180/25	25	0.690	17.53	0.053	1.35
25180/30	30	0.728	18.49	0.053	1.35
25180/40	40	0.869	22.07	0.083	2.11

*Conductors color-coded per international standards: brown, blue, green/yellow.

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant
600 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20952 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +105°C

Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25522	2	0.380	9.65	0.063	1.60
25523	3	0.397	10.08	0.063	1.60
25524	4	0.427	10.85	0.063	1.60
25525	5	0.460	11.68	0.063	1.60
25527	7	0.494	12.55	0.063	1.60
25529	9	0.563	14.30	0.063	1.60

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25532	2	0.404	10.26	0.063	1.60
25533	3	0.423	10.74	0.063	1.60
25534	4	0.456	11.58	0.063	1.60
25535	5	0.492	12.50	0.063	1.60
25537	7	0.530	13.46	0.063	1.60
25539	9	0.607	15.42	0.063	1.60
25539/12	12	0.675	17.15	0.063	1.60
25539/15	15	0.772	19.61	0.083	2.11
25539/19	19	0.820	20.83	0.083	2.11

14 AWG (2.08 mm²)

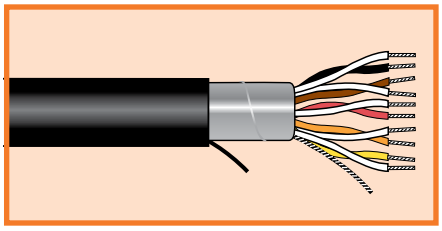
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25542	2	0.434	11.02	0.063	1.60
25543	3	0.456	11.58	0.063	1.60
25544	4	0.492	12.50	0.063	1.60
25545	5	0.533	13.54	0.063	1.60
25547	7	0.575	14.61	0.063	1.60
25549	9	0.668	16.97	0.063	1.60
25549/12	12	0.777	19.74	0.083	2.11

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant 300 V Foil Shield, Multipair



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25491	1	0.160	4.06	0.032	0.81
25492	2	0.216	5.48	0.032	0.81
25493	3	0.228	5.79	0.032	0.81
25494	4	0.247	6.27	0.032	0.81
25495	5	0.268	6.81	0.032	0.81
25496	6	0.290	7.37	0.032	0.81
25499	9	0.336	8.53	0.032	0.81
25499/11	11	0.361	9.17	0.032	0.81
25499/15	15	0.405	10.29	0.032	0.81
25499/19	19	0.433	11.00	0.032	0.81
25499/27	27	0.516	13.11	0.032	0.81

22 AWG (0.35 mm²)

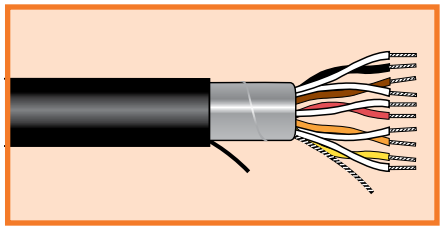
Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25481	1	0.172	4.37	0.032	0.81
25482	2	0.236	5.99	0.032	0.81
25483	3	0.249	6.32	0.032	0.81
25484	4	0.271	6.88	0.032	0.81
25485	5	0.295	7.49	0.032	0.81
25486	6	0.320	8.13	0.032	0.81
25489	9	0.372	9.45	0.032	0.81
25489/11	11	0.400	10.16	0.032	0.81
25489/15	15	0.451	11.46	0.032	0.81
25489/19	19	0.483	12.27	0.032	0.81

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant 300 V Foil Shield, Multipair



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25452	2	0.302	7.67	0.032	0.81
25453	3	0.320	8.13	0.032	0.81
25456	6	0.419	10.64	0.032	0.81
25459	9	0.491	12.47	0.032	0.81
25459/12	12	0.549	13.94	0.032	0.81
25459/15	15	0.644	16.36	0.053	1.35

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

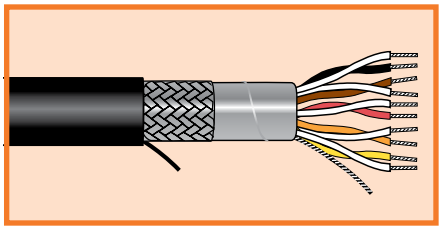
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25372	2	0.331	8.41	0.032	0.81
25373	3	0.352	8.94	0.032	0.81
25376	6	0.464	11.79	0.032	0.81
25379	9	0.545	13.84	0.053	1.35
25379/12	12	0.652	16.56	0.053	1.35

RoHS Compliant CA PROP 65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 2

Oil and Abrasion Resistant
300 V Supra-Shield® Foil/Braid, Multipair



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25271	1	0.184	4.67	0.032	0.81
25272	2	0.240	6.10	0.032	0.81
25273	3	0.252	6.40	0.032	0.81
25274	4	0.271	6.88	0.032	0.81
25275	5	0.292	7.42	0.032	0.81
25276	6	0.314	7.98	0.032	0.81
25279	9	0.360	9.14	0.032	0.81
25279/11	11	0.385	9.78	0.032	0.81
25279/15	15	0.429	10.90	0.032	0.81
25279/19	19	0.457	11.61	0.032	0.81

22 AWG (0.35 mm²)

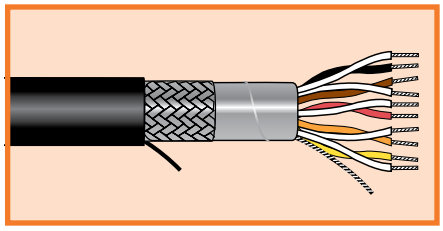
Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25121	1	0.196	4.98	0.032	0.81
25122	2	0.260	6.60	0.032	0.81
25123	3	0.273	6.93	0.032	0.81
25124	4	0.295	7.49	0.032	0.81
25125	5	0.319	8.10	0.032	0.81
25126	6	0.344	8.74	0.032	0.81
25129	9	0.396	10.06	0.032	0.81
25129/11	11	0.424	10.77	0.032	0.81
25129/15	15	0.475	12.07	0.032	0.81

RoHS Compliant CA PROP 65

Xtra-Guard® 2

Oil and Abrasion Resistant
300 V Supra-Shield® Foil/Braid, Multipair



UL AWM 20668 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- –30°C to +90°C

Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

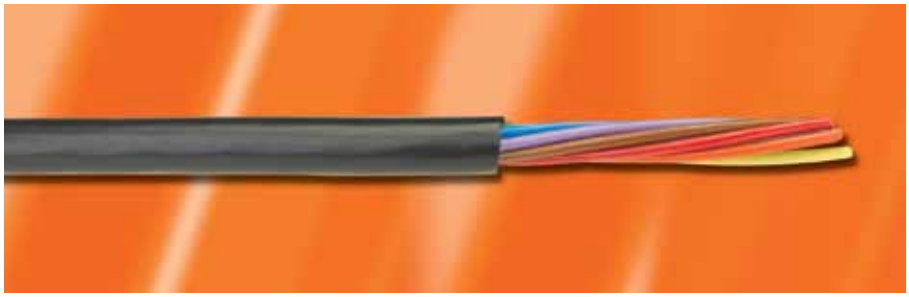
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25292	2	0.326	8.28	0.032	0.81
25293	3	0.344	8.74	0.032	0.81
25296	6	0.443	11.25	0.032	0.81
25299	9	0.515	13.08	0.032	0.81

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
25132	2	0.355	9.02	0.032	0.81
25133	3	0.376	9.55	0.032	0.81
25136	6	0.488	12.40	0.032	0.81
25139	9	0.611	15.52	0.053	1.35
25139/12	12	0.682	17.32	0.053	1.35

Xtra-Guard® 3
Direct Burial



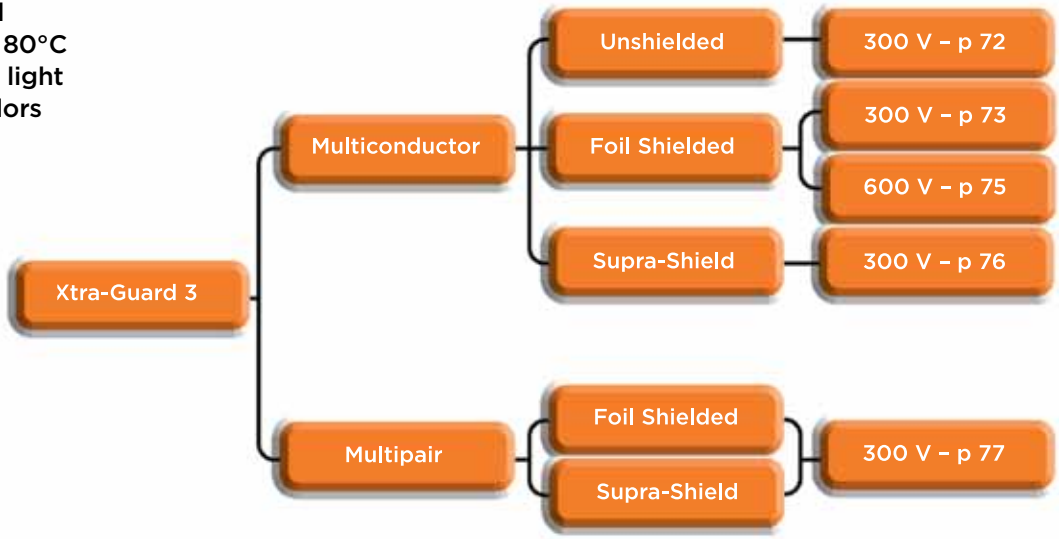
Features
- The preferred outdoor cable for direct burial
- Resistant to the effects of weathering, moisture, and UV aging without the costly use of conduit
- 6 times the water resistance of PVC
- Specially formulated polyethylene jacket for outstanding service life and ultraviolet light stability in all jacket colors
- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- 300 V and 600 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- Temperature ratings to 80°C
- Outstanding ultraviolet light stability in all jacket colors

Applications
- Interbuilding communications
- Satellite communications equipment
- Land irrigation systems
- Outdoor security systems
- Outdoor scoreboards and displays
- Pipeline sensor controls

FIT® Tubing Recommendations
- FIT-700: Bonding thermoplastic adhesive lined, cross-linked polyolefin

SLATE	BEIGE	WHITE
RED	BLACK	BLUE
GREEN	YELLOW	ORANGE

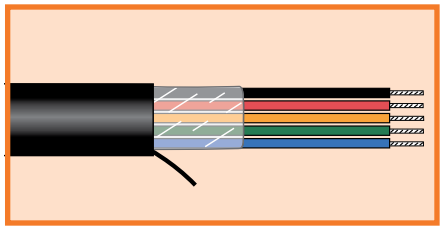
Xtra-Guard cables are available in a range of long-lasting colors for fast, easy identification, for safety reasons, and for matching the color of your system.



RoHS Compliant

Xtra-Guard® 3

Direct Burial
300 V Unshielded, Multiconductor



Operating Temperature

- –30°C to +80°C

Conductor Color Coding

- 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

RoHS Compliant

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35002	2	0.167	4.24	0.032	0.81
35003	3	0.175	4.45	0.032	0.81
35004	4	0.188	4.78	0.032	0.81
35006	6	0.218	5.54	0.032	0.81
35008	8	0.233	5.92	0.032	0.81
35010	10	0.267	6.78	0.032	0.81
35010/15	15	0.297	7.54	0.032	0.81

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35052	2	0.207	5.26	0.032	0.81
35053	3	0.218	5.54	0.032	0.81
35054	4	0.236	5.99	0.032	0.81
35056	6	0.278	7.06	0.032	0.81
35058	8	0.300	7.62	0.032	0.81
35060	10	0.347	8.81	0.032	0.81
35060/15	15	0.389	9.88	0.032	0.81

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35062	2	0.225	5.72	0.032	0.81
35063	3	0.237	6.02	0.032	0.81
35064	4	0.258	6.55	0.032	0.81
35066	6	0.305	7.75	0.032	0.81
35068	8	0.330	8.38	0.032	0.81
35070	10	0.383	9.73	0.032	0.81
35070/15	15	0.430	10.92	0.032	0.81

16 AWG (1.23 mm²)

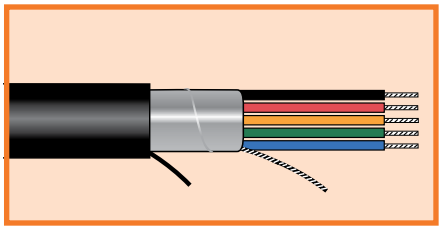
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35072	2	0.249	6.32	0.032	0.81
35073	3	0.263	6.68	0.032	0.81
35074	4	0.287	7.29	0.032	0.81
35076	6	0.341	8.66	0.032	0.81
35078	8	0.370	9.40	0.032	0.81
35080	10	0.431	10.95	0.032	0.81
35080/15	15	0.485	12.32	0.032	0.81

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 3

Direct Burial
300 V Foil Shield, Multiconductor



Operating Temperature

- –30°C to +80°C

Conductor Color Coding

- 22 AWG: Chart E (page 532)
- 20 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35192	2	0.171	4.34	0.032	0.81
35193	3	0.179	4.55	0.032	0.81
35194	4	0.192	4.88	0.032	0.81
35196	6	0.222	5.64	0.032	0.81
35198	8	0.237	6.02	0.032	0.81
35199/10	10	0.271	6.88	0.032	0.81
35199/15	15	0.301	7.65	0.032	0.81
35199/20	20	0.333	8.46	0.032	0.81
35199/25	25	0.371	9.42	0.032	0.81
35199/30	30	0.392	9.96	0.032	0.81
35199/40	40	0.436	11.07	0.032	0.81
35199/50	50	0.479	12.17	0.032	0.81
35199/60	60	0.521	13.23	0.032	0.81

20 AWG (0.56 mm²)

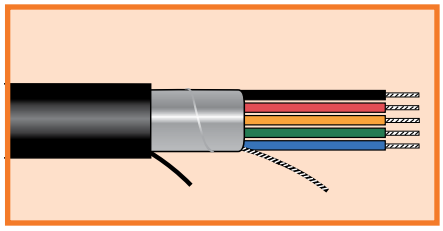
Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35462	2	0.211	5.36	0.032	0.81
35463	3	0.222	5.64	0.032	0.81
35464	4	0.240	6.10	0.032	0.81
35466	6	0.282	7.16	0.032	0.81
35468	8	0.304	7.72	0.032	0.81
35470	10	0.351	8.92	0.032	0.81
35470/15	15	0.393	9.98	0.032	0.81
35470/20	20	0.437	11.10	0.032	0.81
35470/25	25	0.491	12.47	0.032	0.81

RoHS Compliant

Xtra-Guard® 3

Direct Burial
300 V Foil Shield, Multiconductor



Operating Temperature

- –30°C to +80°C

Conductor Color Coding

- Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35382	2	0.229	5.82	0.032	0.81
35383	3	0.241	6.12	0.032	0.81
35384	4	0.262	6.65	0.032	0.81
35386	6	0.309	7.85	0.032	0.81
35388	8	0.334	8.48	0.032	0.81
35390	10	0.387	9.83	0.032	0.81
35390/15	15	0.434	11.02	0.032	0.81
35390/20	20	0.485	12.32	0.032	0.81
35390/25	25	0.587	14.91	0.053	1.35

16 AWG (1.23 mm²)

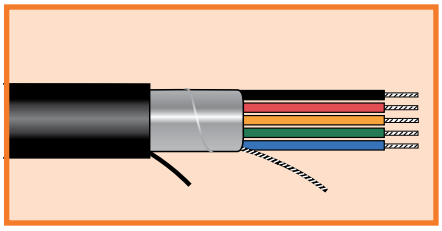
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35362	2	0.253	6.43	0.032	0.81
35363	3	0.267	6.78	0.032	0.81
35364	4	0.291	7.39	0.032	0.81
35366	6	0.345	8.76	0.032	0.81
35368	8	0.374	9.50	0.032	0.81
35370	10	0.435	11.05	0.032	0.81
35370/15	15	0.489	12.42	0.032	0.81
35370/20	20	0.589	14.96	0.053	1.35
35370/25	25	0.659	16.74	0.053	1.35

RoHS Compliant

Xtra-Guard® 3

Direct Burial
600 V Foil Shield, Multiconductor



Operating Temperature

- –30°C to +80°C

Conductor Color Coding

- Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35430/2	2	0.355	9.02	0.063	1.60
35430/3	3	0.372	9.45	0.063	1.60
35430/5	5	0.434	11.02	0.063	1.60
35430/7	7	0.468	11.89	0.063	1.60
35430/9	9	0.537	13.64	0.063	1.60
35430/12	12	0.594	15.09	0.063	1.60

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35440/2	2	0.379	9.63	0.063	1.60
35440/3	3	0.398	10.11	0.063	1.60
35440/5	5	0.466	11.84	0.063	1.60
35440/7	7	0.504	12.80	0.063	1.60
35440/9	9	0.581	14.76	0.063	1.60
35440/12	12	0.644	16.36	0.063	1.60

14 AWG (2.08 mm²)

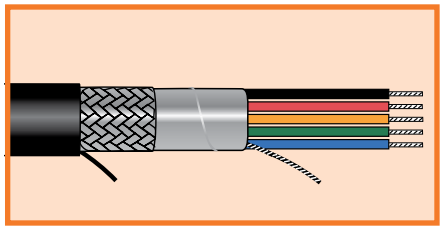
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35450/2	2	0.409	10.39	0.063	1.60
35450/3	3	0.431	10.95	0.063	1.60
35450/5	5	0.507	12.88	0.063	1.60
35450/7	7	0.549	13.94	0.063	1.60
35450/9	9	0.635	16.13	0.063	1.60
35450/12	12	0.706	17.93	0.063	1.60

RoHS Compliant

Xtra-Guard® 3

Direct Burial
300 V Supra-Shield® Foil/Braid, Multiconductor



Operating Temperature

- –30°C to +80°C

Conductor Color Coding

- 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

RoHS Compliant

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35102	2	0.195	4.95	0.032	0.81
35103	3	0.203	5.16	0.032	0.81
35104	4	0.216	5.49	0.032	0.81
35106	6	0.246	6.25	0.032	0.81
35108	8	0.261	6.63	0.032	0.81
35110	10	0.295	7.49	0.032	0.81
35110/15	15	0.325	8.26	0.032	0.81

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35152	2	0.235	5.97	0.032	0.81
35153	3	0.246	6.25	0.032	0.81
35154	4	0.264	6.71	0.032	0.81
35156	6	0.306	7.77	0.032	0.81
35158	8	0.328	8.33	0.032	0.81
35160	10	0.375	9.53	0.032	0.81
35160/15	15	0.417	10.59	0.032	0.81

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35162	2	0.253	6.43	0.032	0.81
35162/1*	2	0.253	6.43	0.032	0.81
35163	3	0.265	6.73	0.032	0.81
35163/1*	3	0.265	6.73	0.032	0.81
35164	4	0.286	7.26	0.032	0.81
35166	6	0.333	8.46	0.032	0.81
35168	8	0.358	9.09	0.032	0.81
35170	10	0.411	10.44	0.032	0.81
35170/15	15	0.458	11.63	0.032	0.81

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

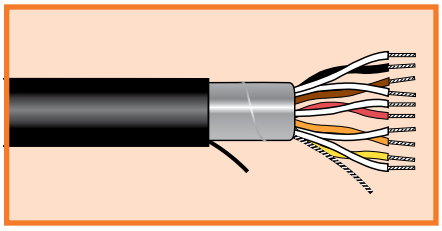
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35172	2	0.277	7.04	0.032	0.81
35172/1*	2	0.277	7.04	0.032	0.81
35173	3	0.291	7.39	0.032	0.81
35173/1*	3	0.291	7.39	0.032	0.81
35174	4	0.315	8.00	0.032	0.81
35176	6	0.369	9.37	0.032	0.81
35178	8	0.398	10.11	0.032	0.81
35180	10	0.459	11.66	0.032	0.81
35180/15	15	0.513	13.03	0.032	0.81

*Conductors color-coded per international standards: brown, blue, green/yellow.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 3

Direct Burial
300 V Foil Shield, Multipair



Operating Temperature

- –30°C to +80°C

Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35491	1	0.159	4.04	0.032	0.81
35492	2	0.215	5.46	0.032	0.81
35493	3	0.227	5.77	0.032	0.81
35494	4	0.246	6.25	0.032	0.81

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35481	1	0.171	4.34	0.032	0.81
35482	2	0.235	5.97	0.032	0.81
35483	3	0.248	6.30	0.032	0.81
35484	4	0.269	6.83	0.032	0.81
35485	5	0.293	7.44	0.032	0.81

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35452	2	0.301	7.65	0.032	0.81
35453	3	0.319	8.10	0.032	0.81

18 AWG (0.81 mm²)

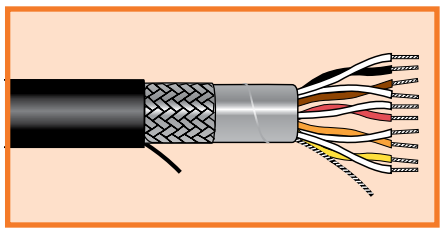
Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35372	2	0.330	8.38	0.032	0.81
35373	3	0.350	8.89	0.032	0.81
35376	6	0.462	11.73	0.032	0.81

RoHS Compliant

Xtra-Guard® 3

Direct Burial
300 V Supra-Shield® Foil/Braid, Multipair



Operating Temperature

- –30°C to +80°C

Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35272	2	0.239	6.07	0.032	0.81

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
35121	1	0.195	4.95	0.032	0.081
35122	2	0.259	6.58	0.032	0.081
35123	3	0.272	6.91	0.032	0.081
35124	4	0.293	7.44	0.032	0.081
35125	5	0.317	8.05	0.032	0.081
35126	6	0.342	8.69	0.032	0.081
35129	9	0.393	9.98	0.032	0.081

RoHS Compliant

Xtra-Guard® 4

Advanced Temperature and Chemical Performance

Features

- The preferred outdoor cable for advanced temperature and chemical performance
- Temperature range from -50°C to +125°C
- High-performance TPE insulation and jacket offering 3 times the low-temperature flexibility of conventional PVC
- Solvent and water resistant
- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- 300 V and 600 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- Outstanding ultraviolet light stability in all jacket colors
- Nylon ripcord for easy jacket stripping
- Approved by the US Mine Safety and Health Administration and The Pennsylvania Department of Environmental Protection
- Suitable for use in Class 1, Division 2 Locations under the applicable sections of the National Electric Code
- UL Types TC, PLTC, and WTTC
- CSA AWM I A/B II A/B FT1
- Passes UL 1685 Vertical Tray Flame Test

Applications

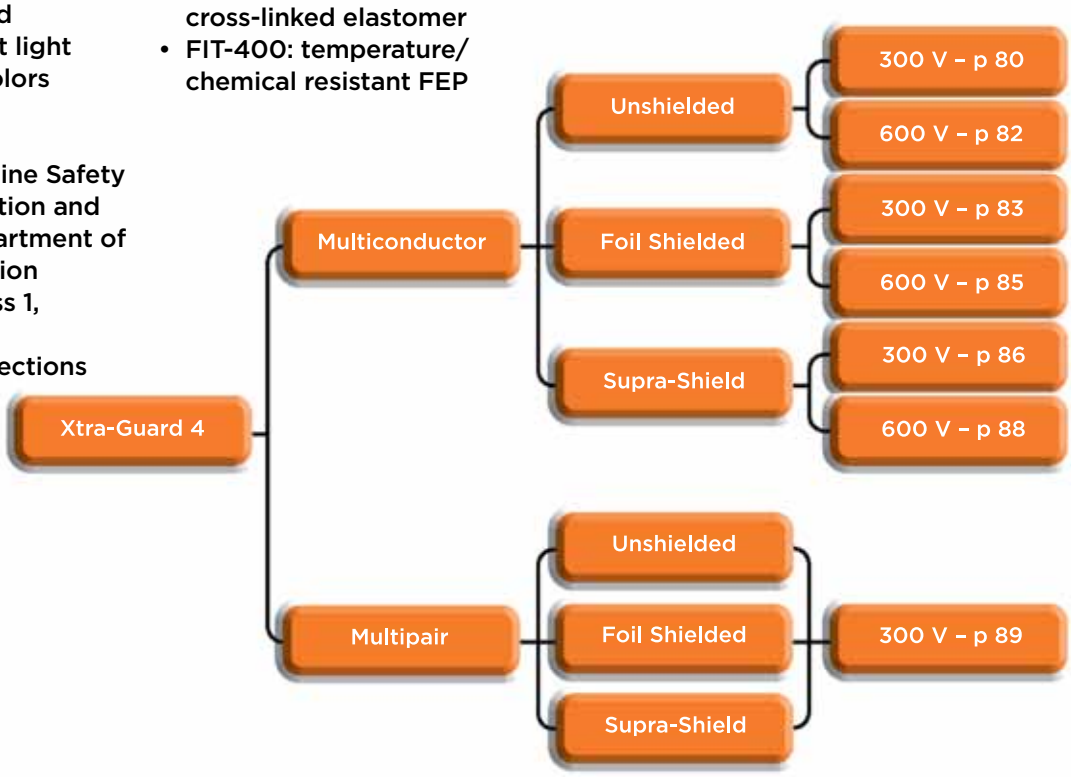
- Wood, paper, pulp, plant operations
- Mining instruments and controls
- Mass transit systems
- Military electronic applications
- Food and beverage plants
- Petrochemical process controls
- Arctic pipeline controls

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/ chemical resistant FEP

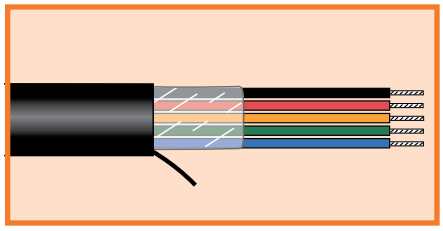
SLATE	BEIGE	WHITE
RED	BLACK	BLUE
GREEN	YELLOW	ORANGE

Xtra-Guard cables are available in a range of long-lasting colors for fast, easy identification, for safety reasons, and for matching the color of your system.



Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Unshielded, Multiconductor



UL AWM 20237
UL PLTC*
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2 (22 & 20 AWG)

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

24 AWG (0.23 mm²)*

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45012	2	0.200	5.08	0.042	1.07
45013	3	0.209	5.31	0.042	1.07
45014	4	0.224	5.69	0.042	1.07
45016	6	0.257	6.53	0.042	1.07
45018	8	0.275	6.99	0.042	1.07
45020	10	0.312	7.92	0.042	1.07
45020/15	15	0.347	8.81	0.042	1.07
45020/20	20	0.383	9.73	0.042	1.07
45020/25	25	0.424	10.77	0.042	1.07

* UL AWM 20237, CSA AWM I/II A/B FT1 only

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45002	2	0.218	5.54	0.045	1.14
45003	3	0.228	5.79	0.045	1.14
45004	4	0.244	6.20	0.045	1.14
45006	6	0.281	7.14	0.045	1.14
45008	8	0.301	7.65	0.045	1.14
45010	10	0.342	8.69	0.045	1.14
45010/15	15	0.380	9.65	0.045	1.14
45010/20	20	0.441	11.20	0.055	1.40
45010/25	25	0.486	12.34	0.055	1.40

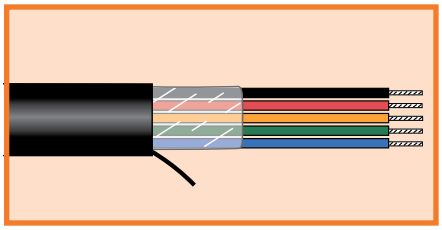
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45052	2	0.234	5.94	0.045	1.14
45053	3	0.245	6.22	0.045	1.14
45054	4	0.264	6.71	0.045	1.14
45056	6	0.306	7.77	0.045	1.14
45058	8	0.328	8.33	0.045	1.14
45060	10	0.374	9.50	0.045	1.14
45060/15	15	0.437	11.10	0.055	1.40
45060/20	20	0.483	12.27	0.055	1.40
45060/25	25	0.534	13.56	0.055	1.40

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Unshielded, Multiconductor



UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45062	2	0.252	6.40	0.045	1.14
45062/1*	2	0.252	6.40	0.045	1.14
45063	3	0.264	6.71	0.045	1.14
45063/1*	3	0.264	6.71	0.045	1.14
45064	4	0.285	7.24	0.045	1.14
45066	6	0.333	8.46	0.045	1.14
45068	8	0.358	9.09	0.045	1.14
45070	10	0.430	10.92	0.055	1.40
45070/15	15	0.479	12.17	0.055	1.40
45070/20	20	0.530	13.46	0.055	1.40
45070/25	25	0.588	14.94	0.055	1.40

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

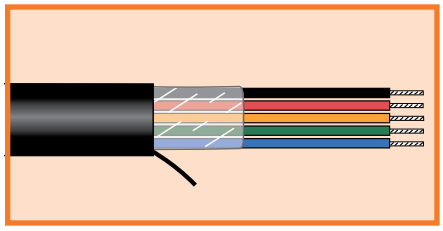
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45072	2	0.276	7.01	0.045	1.14
45072/1*	2	0.276	7.01	0.045	1.14
45073	3	0.290	7.37	0.045	1.14
45073/1*	3	0.290	7.37	0.045	1.14
45074	4	0.314	7.98	0.045	1.14
45076	6	0.369	9.37	0.045	1.14
45078	8	0.418	10.62	0.055	1.40
45080	10	0.478	12.14	0.055	1.40
45080/15	15	0.534	13.56	0.055	1.40
45080/20	20	0.593	15.06	0.055	1.40
45080/25	25	0.680	17.27	0.055	1.40

*Conductors color-coded per international standards: brown, blue, green/yellow.

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 600 V Unshielded, Multiconductor



UL AWM 20238
UL TC, WTTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45422	2	0.336	8.53	0.055	1.40
45423	3	0.353	8.97	0.055	1.40
45424	4	0.383	9.73	0.055	1.40
45425	5	0.416	10.57	0.055	1.40
45427	7	0.450	11.43	0.055	1.40
45429	9	0.519	13.18	0.055	1.40

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45432	2	0.360	9.14	0.055	1.40
45433	3	0.379	9.63	0.055	1.40
45434	4	0.412	10.46	0.055	1.40
45435	5	0.448	11.38	0.055	1.40
45437	7	0.486	12.34	0.055	1.40
45439	9	0.583	14.81	0.065	1.65

14 AWG (2.08 mm²)

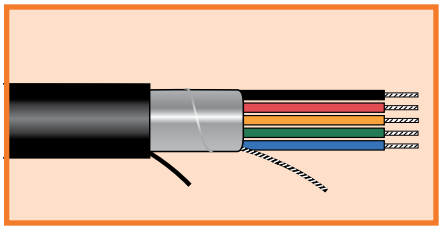
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45442	2	0.390	9.91	0.055	1.40
45443	3	0.412	10.46	0.055	1.40
45444	4	0.448	11.38	0.055	1.40
45445	5	0.489	12.42	0.055	1.40
45447	7	0.551	14.00	0.065	1.65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Foil Shielded, Multiconductor



UL AWM 20237
UL PLTC*
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2 (22 & 20 AWG)

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45092	2	0.204	5.18	0.042	1.07
45093	3	0.213	5.41	0.042	1.07
45094	4	0.228	5.79	0.042	1.07
45096	6	0.261	6.63	0.042	1.07
45098	8	0.279	7.09	0.042	1.07
45100	10	0.316	8.03	0.042	1.07
45100/15	15	0.351	8.92	0.042	1.07
45100/20	20	0.387	9.83	0.042	1.07
45100/25	25	0.428	10.87	0.042	1.07

* UL AWM 20237, CSA AWM I/II A/B FT1 only

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45192	2	0.222	5.64	0.045	1.14
45193	3	0.232	5.89	0.045	1.14
45194	4	0.248	6.30	0.045	1.14
45196	6	0.285	7.24	0.045	1.14
45198	8	0.305	7.75	0.045	1.14
45199/10	10	0.346	8.79	0.045	1.14
45199/15	15	0.404	10.26	0.055	1.40
45199/20	20	0.445	11.30	0.055	1.40
45199/25	25	0.490	12.45	0.055	1.40

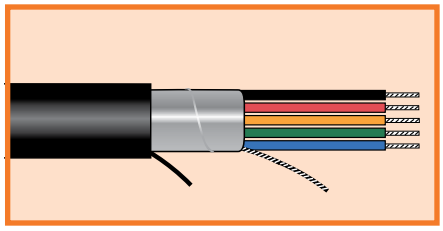
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45462	2	0.238	6.05	0.045	1.14
45463	3	0.249	6.32	0.045	1.14
45464	4	0.268	6.81	0.045	1.14
45466	6	0.310	7.87	0.045	1.14
45468	8	0.332	8.43	0.045	1.14
45470	10	0.378	9.60	0.045	1.14
45470/15	15	0.441	11.20	0.055	1.40
45470/20	20	0.487	12.37	0.055	1.40
45470/25	25	0.538	13.67	0.055	1.40
45470/40	40	0.650	16.51	0.065	1.65

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Foil Shielded, Multiconductor



UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45382	2	0.256	6.50	0.045	1.14
45382/1*	2	0.256	6.50	0.045	1.14
45383	3	0.268	6.81	0.045	1.14
45383/1*	3	0.268	6.81	0.045	1.14
45384	4	0.289	7.34	0.045	1.14
45386	6	0.337	8.56	0.045	1.14
45388	8	0.362	9.19	0.045	1.14
45390	10	0.434	11.02	0.055	1.40
45390/15	15	0.483	12.27	0.055	1.40
45390/20	20	0.534	13.56	0.055	1.40
45390/25	25	0.592	15.04	0.055	1.40
45390/30	30	0.645	16.38	0.065	1.65

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

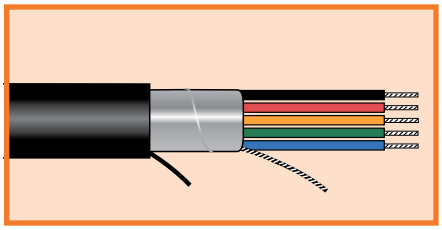
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45362	2	0.280	7.11	0.045	1.14
45362/1*	2	0.280	7.11	0.045	1.14
45363	3	0.294	7.47	0.045	1.14
45363/1*	3	0.294	7.47	0.045	1.14
45364	4	0.318	8.08	0.045	1.14
45366	6	0.373	9.47	0.045	1.14
45368	8	0.422	10.72	0.045	1.14
45370	10	0.482	12.24	0.055	1.40
45370/15	15	0.538	13.67	0.055	1.40
45370/20	20	0.597	15.16	0.055	1.40
45370/25	25	0.684	17.37	0.065	1.65

*Conductors color-coded per international standards: brown, blue, green/yellow.

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 600 V Foil Shielded, Multiconductor



UL AWM 20238
UL TC, WTTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2

Operating Temperature

- -50°C to +125°C

Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45430/2	2	0.340	8.64	0.055	1.40
45430/3	3	0.357	9.07	0.055	1.40
45430/4	4	0.387	9.83	0.055	1.40
45430/5	5	0.420	10.67	0.055	1.40
45430/7	7	0.454	11.53	0.055	1.40
45430/9	9	0.543	13.79	0.055	1.40
45430/12	12	0.599	15.21	0.065	1.65

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45440/2	2	0.364	9.25	0.055	1.40
45440/3	3	0.383	9.73	0.055	1.40
45440/5	5	0.452	11.48	0.055	1.40
45440/7	7	0.490	12.45	0.055	1.40
45440/9	9	0.587	14.91	0.065	1.65
45440/12	12	0.649	16.48	0.065	1.65

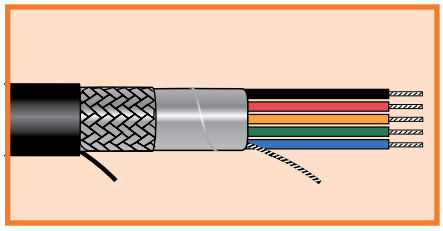
14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45450/2	2	0.394	10.01	0.055	1.40
45450/3	3	0.416	10.57	0.055	1.40
45450/5	5	0.493	12.52	0.055	1.40
45450/7	7	0.555	14.10	0.065	1.65
45450/15	15	0.775	19.69	0.065	1.65

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2 (22 & 20 AWG)

Operating Temperature

- -50°C to +125°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45112	2	0.228	5.79	0.042	1.07
45113	3	0.237	6.02	0.042	1.07
45114	4	0.252	6.40	0.042	1.07
45116	6	0.285	7.24	0.042	1.07
45118	8	0.303	7.70	0.042	1.07
45120	10	0.340	8.64	0.042	1.07
45120/15	15	0.375	9.53	0.042	1.07
45120/20	20	0.411	10.44	0.042	1.07
45120/25	25	0.452	11.48	0.042	1.07

* UL AWM 20237, CSA AWM I/II A/B FT1 only

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45102	2	0.246	6.25	0.045	1.14
45103	3	0.256	6.50	0.045	1.14
45104	4	0.272	6.91	0.045	1.14
45106	6	0.309	7.85	0.045	1.14
45108	8	0.329	8.36	0.045	1.14
45110	10	0.370	9.40	0.045	1.14
45110/15	15	0.428	10.87	0.055	1.40
45110/20	20	0.469	11.91	0.055	1.40
45110/25	25	0.514	13.06	0.055	1.40

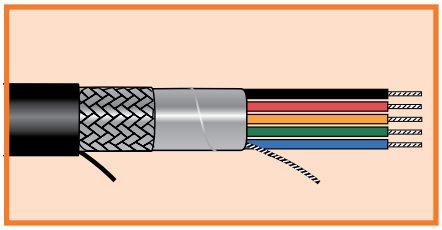
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45152	2	0.262	6.65	0.045	1.14
45153	3	0.273	6.93	0.045	1.14
45154	4	0.292	7.42	0.045	1.14
45156	6	0.334	8.48	0.045	1.14
45158	8	.0356	9.04	0.045	1.14
45160	10	0.422	10.72	0.055	1.40
45160/15	15	0.465	11.81	0.055	1.40
45160/20	20	0.511	12.98	0.055	1.40
45160/25	25	0.562	14.27	0.055	1.40

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45162	2	0.280	7.11	0.045	1.14
45162/1*	2	0.280	7.11	0.045	1.14
45163	3	0.292	7.42	0.045	1.14
45163/1*	3	0.292	7.42	0.045	1.14
45164	4	0.313	7.95	0.045	1.14
45166	6	0.361	9.17	0.045	1.14
45168	8	0.406	10.31	0.045	1.14
45170	10	0.458	11.63	0.055	1.40
45170/15	15	0.507	12.88	0.055	1.40
45170/20	20	0.558	14.17	0.055	1.40
45170/25	25	0.636	16.15	0.065	1.65
45170/30	30	0.675	17.15	0.065	1.65

*Conductors color-coded per international standards: brown, blue, green/yellow.

16 AWG (1.23 mm²)

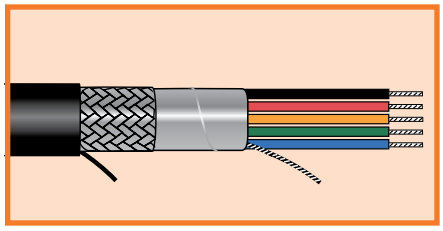
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45172	2	0.304	7.72	0.045	1.14
45172/1*	2	0.304	7.72	0.045	1.14
45173	3	0.318	8.08	0.045	1.14
45173/1*	3	0.318	8.08	0.045	1.14
45174	4	0.342	8.69	0.045	1.14
45176	6	0.417	10.59	0.055	1.40
45178	8	0.446	11.33	0.055	1.40
45180	10	0.506	12.85	0.055	1.40
45180/15	15	0.562	14.27	0.055	1.40
45180/20	20	0.641	16.28	0.065	1.65
45180/25	25	0.714	18.14	0.065	1.65

*Conductors color-coded per international standards: brown, blue, green/yellow.

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 600 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20238
UL TC, WTTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45522	2	0.364	9.25	0.055	1.40
45523	3	0.381	9.68	0.055	1.40
45524	4	0.411	10.44	0.055	1.40
45525	5	0.444	11.28	0.055	1.40
45527	7	0.478	12.14	0.055	1.40
45529	9	0.567	14.40	0.065	1.65
45529/12	12	0.623	15.82	0.065	1.65

16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45532	2	0.388	9.86	0.055	1.40
45533	3	0.407	10.34	0.055	1.40
45534	4	0.440	11.18	0.055	1.40
45535	5	0.476	12.09	0.055	1.40
45537	7	0.514	13.06	0.055	1.40
45539	9	0.611	15.52	0.065	1.65
45539/12	12	0.679	17.25	0.065	1.65

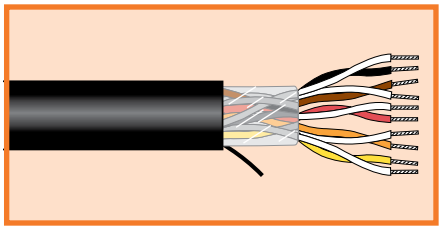
14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45542	2	0.418	10.62	0.055	1.40
45543	3	0.440	11.18	0.055	1.40
45544	4	0.476	12.09	0.055	1.40
45545	5	0.517	13.13	0.055	1.40
45547	7	0.579	14.71	0.065	1.65
45549	9	0.672	17.07	0.065	1.65

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Unshielded, Multipair



18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45031	1	0.252	6.40	0.045	1.14
45032	2	0.353	8.97	0.045	1.14

UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Nylon ripcord

Availability

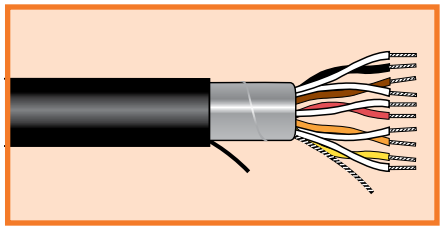
Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Foil Shield, Multipair



UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2 (22 AWG)

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45491	1	0.204	5.18	0.042	1.07
45492	2	0.276	7.01	0.042	1.07
45493	3	0.290	7.37	0.042	1.07
45494	4	0.314	7.98	0.042	1.07
45495	5	0.341	8.66	0.042	1.07
45496	6	0.370	9.40	0.042	1.07
45499	9	0.428	10.87	0.042	1.07
45499/11	11	0.459	11.66	0.042	1.07
45499/15	15	0.516	13.11	0.042	1.07
45499/27	27	0.679	17.25	0.053	1.35

* UL AWM 20237, CSA AWM I/II A/B FT1 only

22 AWG (0.35 mm²)

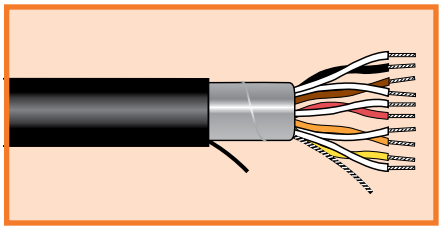
Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45481	1	0.222	5.64	0.045	1.14
45482	2	0.301	7.65	0.045	1.14
45483	3	0.317	8.05	0.045	1.14
45484	4	0.344	8.74	0.045	1.14
45485	5	0.374	9.50	0.045	1.14
45486	6	0.425	10.80	0.055	1.40
45489	9	0.489	12.42	0.055	1.40
45489/11	11	0.525	13.34	0.055	1.40
45489/15	15	0.588	14.94	0.055	1.40

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Foil Shield, Multipair



UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2 (22 AWG)

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45451	1	0.238	6.05	0.045	1.14
45452	2	0.328	8.33	0.045	1.14
45453	3	0.346	8.79	0.045	1.14
45454	4	0.376	9.55	0.045	1.14
45455	5	0.430	10.92	0.055	1.40
45456	6	0.465	11.81	0.055	1.40
45459	9	0.537	13.64	0.055	1.40
45459/11	11	0.577	14.66	0.055	1.40
45459/15	15	0.668	16.97	0.065	1.65
45459/19	19	0.713	18.11	0.065	1.65
45459/27	27	0.885	22.48	0.065	1.65

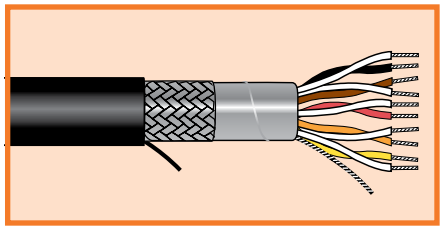
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45371	1	0.256	6.50	0.045	1.14
45372	2	0.357	9.07	0.045	1.14
45373	3	0.378	9.60	0.045	1.14
45374	4	0.432	10.97	0.055	1.40
45375	5	0.470	11.94	0.055	1.40
45376	6	0.510	12.95	0.055	1.40
45379	9	0.591	15.01	0.055	1.40
45379/11	11	0.656	16.66	0.065	1.65
45379/15	15	0.736	18.69	0.065	1.65
45379/19	19	0.787	19.99	0.065	1.65

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multipair



UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2 (22 AWG)

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45271	1	0.228	5.79	0.042	1.07
45272	2	0.300	7.62	0.042	1.07
45273	3	0.314	7.98	0.042	1.07
45274	4	0.338	8.59	0.042	1.07
45275	5	0.365	9.27	0.042	1.07
45276	6	0.394	10.01	0.042	1.07
45279	9	0.452	11.48	0.042	1.07
45279/11	11	0.483	12.27	0.042	1.07
45279/15	15	0.540	13.72	0.042	1.07
45279/19	19	0.598	15.19	0.053	1.35

* UL AWM 20237, CSA AWM I/II A/B FT1 only

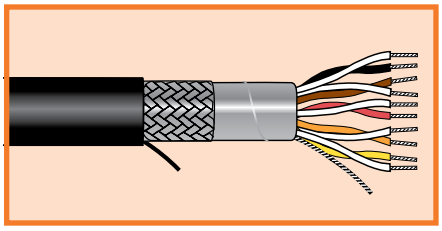
22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45121	1	0.246	6.25	0.045	1.14
45122	2	0.325	8.26	0.045	1.14
45123	3	0.341	8.66	0.045	1.14
45124	4	0.368	9.35	0.045	1.14
45125	5	0.418	10.62	0.055	1.40
45126	6	0.449	11.40	0.055	1.40
45129	9	0.513	13.03	0.055	1.40
45129/11	11	0.549	13.94	0.055	1.40
45129/15	15	0.632	16.05	0.065	1.65
45129/19	19	0.677	17.20	0.065	1.65

Xtra-Guard® 4

Advanced Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multipair



UL AWM 20237
UL PLTC
CSA AWM I/II A/B FT1
MSHA P-07-KA070017-MSHA
NEC Class 1, Div 2 (22 AWG)

Operating Temperature

- –50°C to +125°C

Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
45291	1	0.262	6.65	0.045	1.14
45292	2	0.352	8.94	0.045	1.14
45293	3	0.370	9.40	0.045	1.14
45294	4	0.420	10.67	0.055	1.40
45295	5	0.454	11.53	0.055	1.40
45296	6	0.489	12.42	0.055	1.40
45299	9	0.561	14.25	0.055	1.40
45299/11	11	0.621	15.77	0.065	1.65
45299/15	15	0.698	17.73	0.065	1.65

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket thickness	
		Inch	mm	Inch	mm
45131	1	0.280	7.11	0.045	1.14
45132	2	0.381	9.68	0.045	1.14
45133	3	0.422	10.72	0.055	1.40
45134	4	0.456	11.58	0.055	1.40
45135	5	0.494	12.55	0.055	1.40
45136	6	0.534	13.56	0.055	1.40
45139	9	0.635	16.13	0.065	1.65
45139/11	11	0.686	17.42	0.065	1.65
45139/15	15	0.766	19.46	0.065	1.65

Xtra-Guard® 5

Maximum Temperature and Chemical Performance

Features

- The preferred cable for unsurpassed maximum temperature and chemical performance
- Temperature range from -80°C to +200°C
- UL, CSA listed
- 100% impervious to all chemicals, solvents, acids, fuels, and water
- Suitable for Class 1 cleanrooms
- FDA food/medical grade (sterilizable)
- Low-friction FEP jacket for easy routing
- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- 300 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- Outstanding ultraviolet light stability in all jacket colors
- Aramid fiber ripcord for easy jacket stripping
- Excellent flame resistance and low smoke generation: Passes NFPA 262-2007

Applications

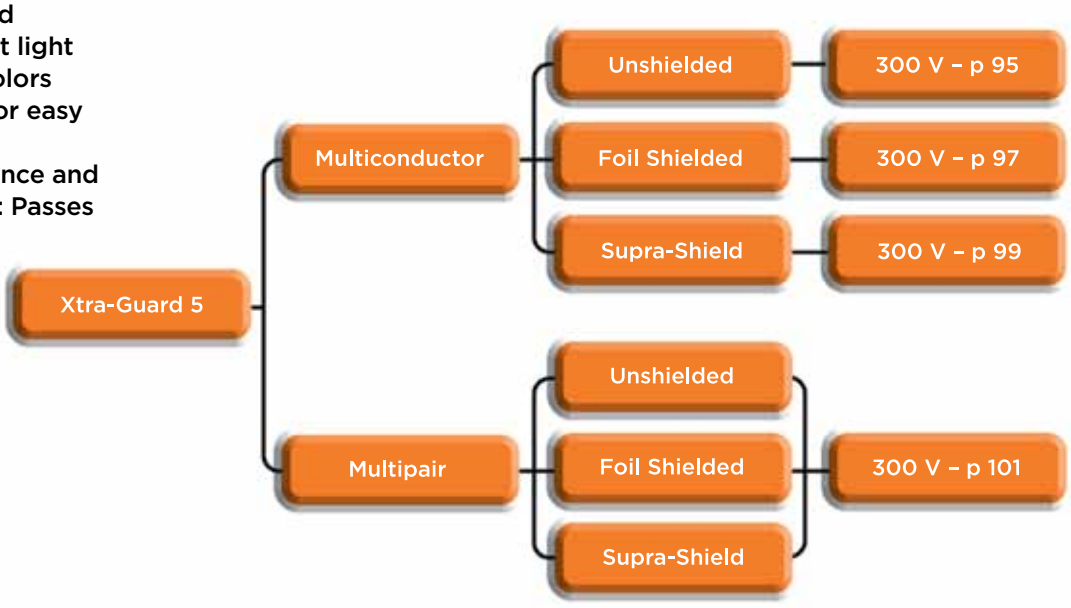
- Food and beverage wash-down
- Cleanroom environments
- Food/medical-grade applications
- Turbine generators
- Chemical processing
- Military electronics
- Mining instrumentation

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

TAN	BEIGE	WHITE
RED	BLACK	BLUE
GREEN	YELLOW	ORANGE

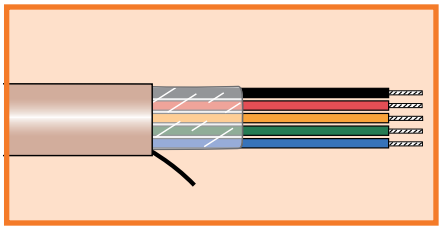
Xtra-Guard 5 cables are available in a range of long-lasting tints for fast, easy identification, for safety reasons, and for matching the color of your system.



Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Unshielded, Multiconductor



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55012	2	0.148	3.76	0.027	0.69
55013	3	0.155	3.94	0.027	0.69
55014	4	0.166	4.22	0.027	0.69
55016	6	0.193	4.90	0.027	0.69
55019	9	0.220	5.59	0.027	0.69
55020/12	12	0.243	6.17	0.027	0.69

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55002	2	0.160	4.06	0.027	0.69
55003	3	0.168	4.27	0.027	0.69
55004	4	0.181	4.60	0.027	0.69
55006	6	0.211	5.36	0.027	0.69
55009	9	0.242	6.15	0.027	0.69
55010/12	12	0.268	6.81	0.027	0.69

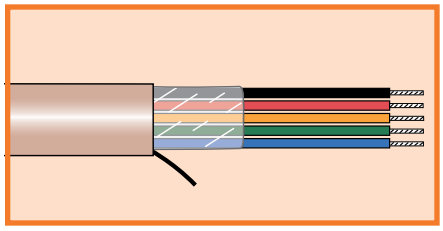
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55052	2	0.176	4.47	0.027	0.69
55053	3	0.185	4.70	0.027	0.69
55054	4	0.200	5.08	0.027	0.69
55056	6	0.235	5.97	0.027	0.69
55059	9	0.271	6.88	0.027	0.69
55060/12	12	0.301	7.65	0.027	0.69

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Unshielded, Multiconductor



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55062	2	0.196	4.98	0.027	0.69
55063	3	0.207	5.26	0.027	0.69
55064	4	0.225	5.72	0.027	0.69
55066	6	0.265	6.73	0.027	0.69
55069	9	0.307	7.80	0.027	0.69
55070/12	12	0.343	8.71	0.027	0.69

16 AWG (1.23 mm²)

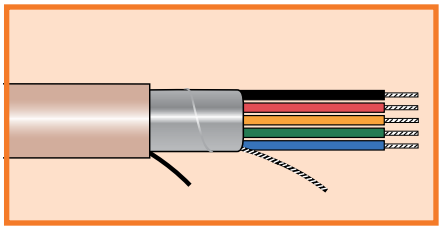
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55072	2	0.218	5.54	0.027	0.69
55073	3	0.230	5.84	0.027	0.69
55074	4	0.251	6.38	0.027	0.69
55076	6	0.298	7.57	0.027	0.69
55079	9	0.347	8.81	0.027	0.69
55080/12	12	0.388	9.86	0.027	0.69

RoHS Compliant CA PROP 65

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Foil Shielded, Multiconductor



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55092	2	0.154	3.91	0.027	0.69
55093	3	0.161	4.09	0.027	0.69
55094	4	0.172	4.37	0.027	0.69
55096	6	0.199	5.05	0.027	0.69
55099	9	0.226	5.74	0.027	0.69
55100/12	12	0.249	6.32	0.027	0.69

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55192	2	0.166	4.22	0.027	0.69
55193	3	0.174	4.42	0.027	0.69
55194	4	0.187	4.75	0.027	0.69
55196	6	0.217	5.51	0.027	0.69
55199	9	0.248	6.30	0.027	0.69
55199/12	12	0.274	6.96	0.027	0.69

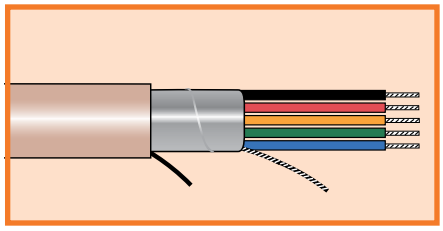
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55462	2	0.182	4.62	0.027	0.69
55463	3	0.191	4.85	0.027	0.69
55464	4	0.206	5.23	0.027	0.69
55466	6	0.241	6.12	0.027	0.69
55469	9	0.277	7.04	0.027	0.69
55470/12	12	0.307	7.80	0.027	0.69

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Foil Shielded, Multiconductor



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55382	2	0.202	5.13	0.027	0.69
55383	3	0.213	5.41	0.027	0.69
55384	4	0.231	5.87	0.027	0.69
55386	6	0.271	6.88	0.027	0.69
55389	9	0.313	7.95	0.027	0.69
55390/12	12	0.349	8.86	0.027	0.69

16 AWG (1.23 mm²)

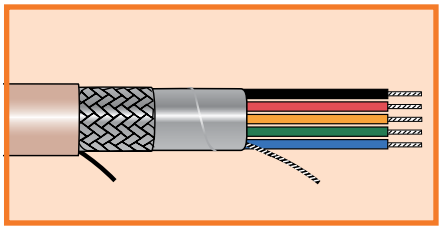
Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55362	2	0.224	5.69	0.027	0.69
55363	3	0.236	5.99	0.027	0.69
55364	4	0.257	6.53	0.027	0.69
55366	6	0.304	7.72	0.027	0.69
55369	9	0.353	8.97	0.027	0.69
55370/12	12	0.394	10.01	0.027	0.69

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55112	2	0.176	4.47	0.027	0.69
55113	3	0.183	4.65	0.027	0.69
55114	4	0.194	4.93	0.027	0.69
55116	6	0.221	5.61	0.027	0.69
55119	9	0.248	6.30	0.027	0.69
55120/12	12	0.271	6.88	0.027	0.69

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55102	2	0.188	4.78	0.027	0.69
55103	3	0.196	4.98	0.027	0.69
55104	4	0.209	5.31	0.027	0.69
55106	6	0.239	6.07	0.027	0.69
55109	9	0.270	6.86	0.027	0.69
55110/12	12	0.296	7.52	0.027	0.69

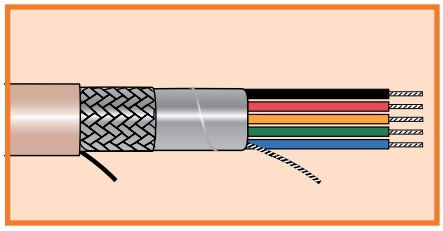
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55152	2	0.204	5.18	0.027	0.69
55153	3	0.213	5.41	0.027	0.69
55154	4	0.228	5.79	0.027	0.69
55156	6	0.263	6.68	0.027	0.69
55159	9	0.299	7.59	0.027	0.69
55160/12	12	0.329	8.36	0.027	0.69

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55162	2	0.224	5.69	0.027	0.69
55163	3	0.235	5.97	0.027	0.69
55164	4	0.253	6.43	0.027	0.69
55166	6	0.293	7.44	0.027	0.69
55169	9	0.335	8.51	0.027	0.69
55170/12	12	0.371	9.42	0.027	0.69

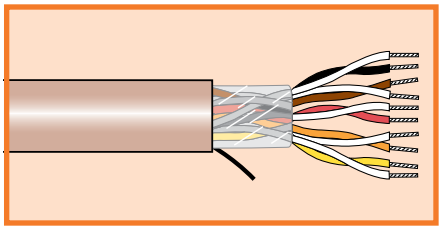
16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55172	2	0.246	6.25	0.027	0.69
55173	3	0.258	6.55	0.027	0.69
55174	4	0.279	7.09	0.027	0.69
55176	6	0.326	8.28	0.027	0.69
55179	9	0.375	9.53	0.027	0.69
55180/12	12	0.416	10.57	0.027	0.69

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Unshielded, Multipair



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart A (page 528)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

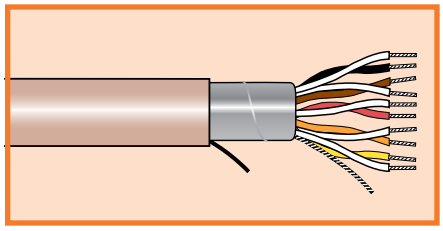
22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55021	1	0.160	4.06	0.027	0.69
55022	2	0.224	5.69	0.027	0.69
55023	3	0.237	6.02	0.027	0.69
55026	6	0.307	7.80	0.027	0.69
55029	9	0.358	9.09	0.027	0.69
55029/12	12	0.401	10.19	0.027	0.69

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Foil Shield, Multipair



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart A (page 528)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55491	1	0.154	3.91	0.027	0.69
55492	2	0.210	5.33	0.027	0.69
55493	3	0.222	5.64	0.027	0.69
55496	6	0.284	7.21	0.027	0.69
55499	9	0.329	8.36	0.027	0.69
55499/11	11	0.355	9.02	0.027	0.69

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55481	1	0.166	4.22	0.027	0.69
55482	2	0.230	5.84	0.027	0.69
55483	3	0.243	6.17	0.027	0.69
55486	6	0.313	7.95	0.027	0.69
55489	9	0.364	9.25	0.027	0.69
55489/12	12	0.407	10.34	0.027	0.69

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55451	1	0.182	4.62	0.027	0.69
55452	2	0.256	6.50	0.027	0.69
55453	3	0.271	6.88	0.027	0.69
55455	5	0.324	8.23	0.027	0.69
55456	6	0.353	8.97	0.027	0.69
55459	9	0.412	10.46	0.027	0.69
55459/12	12	0.461	11.71	0.027	0.69

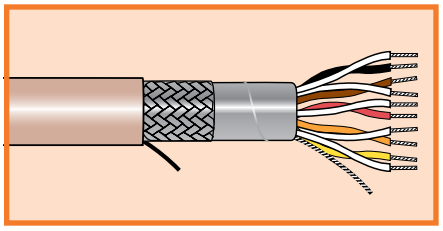
18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55371	1	0.202	5.13	0.027	0.69
55372	2	0.289	7.34	0.027	0.69
55373	3	0.306	7.77	0.027	0.69
55376	6	0.402	10.21	0.027	0.69
55379	9	0.472	11.99	0.027	0.69

Xtra-Guard® 5

Maximum Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multipair



UL AWM 20229
UL CMP
CSA CMP FT6

Operating Temperature

- –80°C to +200°C
- –80°C to +150°C (AWM, CMP)

Conductor Color Coding

- Chart A (page 528)
- Nine jacket tints (tan standard)
- Custom colors available

Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Aramid fiber ripcord

Availability

Made to order
1000 ft (305 m) minimum

FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55271	1	0.176	4.47	0.027	0.69
55272	2	0.232	5.89	0.027	0.69
55273	3	0.244	6.20	0.027	0.69
55276	6	0.306	7.77	0.027	0.69
55279	9	0.351	8.92	0.027	0.69
55279/12	12	0.388	9.86	0.027	0.69

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55121	1	0.188	4.78	0.027	0.69
55122	2	0.252	6.40	0.027	0.69
55123	3	0.265	6.73	0.027	0.69
55126	6	0.335	8.51	0.027	0.69
55129	9	0.386	9.80	0.027	0.69
55129/12	12	0.429	10.90	0.027	0.69

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55291	1	0.204	5.18	0.027	0.69
55292	2	0.278	7.06	0.027	0.69
55293	3	0.293	7.44	0.027	0.69
55296	6	0.375	9.53	0.027	0.69
55299	9	0.434	11.02	0.027	0.69
55299/12	12	0.483	12.27	0.027	0.69

18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

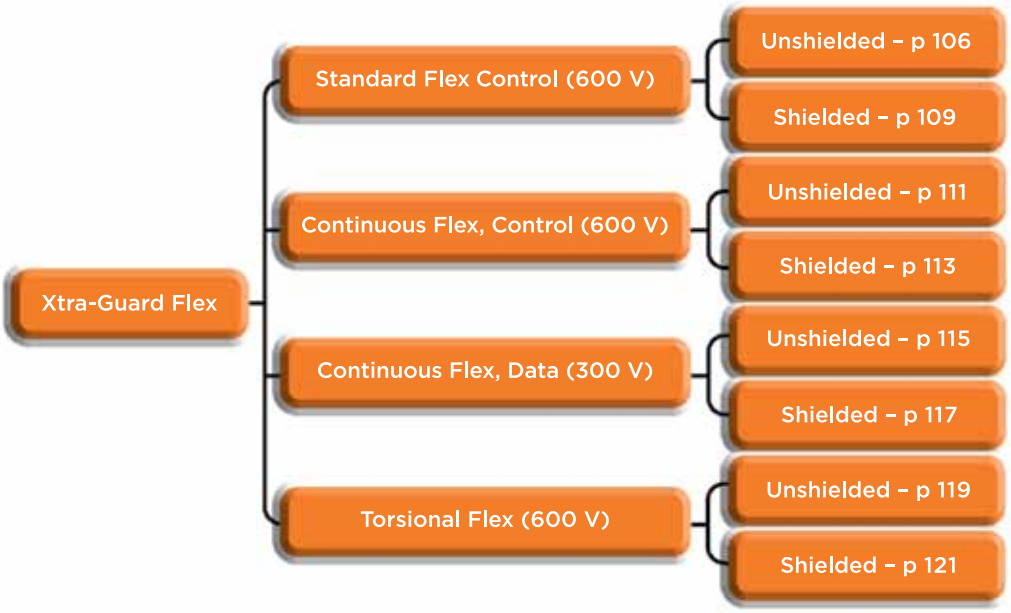
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
55131	1	0.224	5.69	0.027	0.69
55132	2	0.311	7.90	0.027	0.69
55133	3	0.328	8.33	0.027	0.69
55136	6	0.424	10.77	0.027	0.69
55139	9	0.504	12.80	0.032	0.81

Xtra-Guard® Flex Cables

Flexible/Flexing

Meet a wide range of flexing needs with Xtra-Guard Flex cables, from light flexing to continuous multiaxis flexing. These long-lasting flexible cables are designed to provide excellent performance in high-flex, high torsion, and continuous flex applications, such as motion control and robotics.

Application	Xtra-Guard Cable	Voltage Rating	Flex Cycles
Light to moderate flexing	Xtra-Guard Standard Flex Control	600	1 million
Continuous flex control	Xtra-Guard Continuous Flex Control	600	14 million
Continuous flex data	Xtra-Guard Continuous Flex Data	300	6 million
Torsional flex	Xtra-Guard Torsional Flex	600	1 million



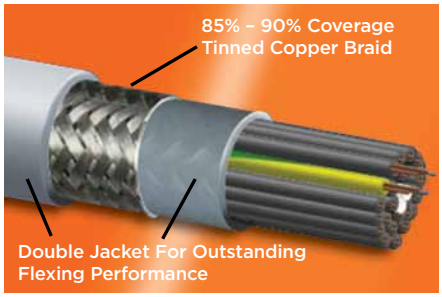
Xtra-Guard® Flex Cables

Flexible/Flexing

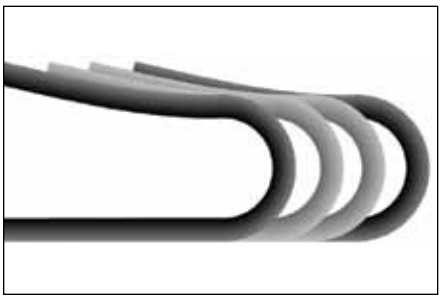
Xtra-Guard cables are available in a variety of configurations to allow exactly the right cable to be selected for your flexing application. There are four common types of cable flexing movements to consider when designing and applying a high-flexing cable and they are:

- **Rolling flex, such as C-track or Cartesian motions**
- **Bending flex or "tic-toc," such as hinged panels**
- **Torsional flex, such as twisting**
- **Variable/random motion flex**

Different cable construction methods and materials are used depending on the cable flexing movement. For example: torsional cables will have a different lay length and cabling from a rolling flex cable. The performance of a cable is evaluated using physical test data and statistical analysis to produce what is known as "flex life" and overall system reliability.

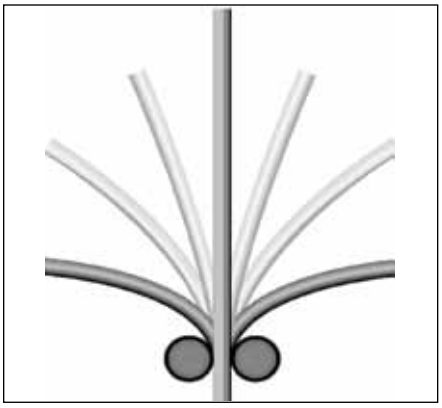


Our high-flex shielding options include a double-jacket configuration with 85% braid coverage to achieve high shielding effectiveness while maintaining the desired flexibility. For torsional flex applications, we offer spiral wound shielding with 90% coverage.



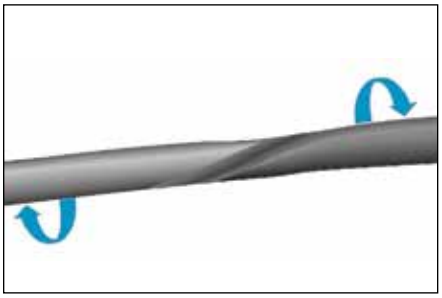
Rolling Flex

- **Xtra-Guard Continuous Flex Control Cable (600 V)**
- **Xtra-Guard Continuous Flex Data Cable (300 V)**



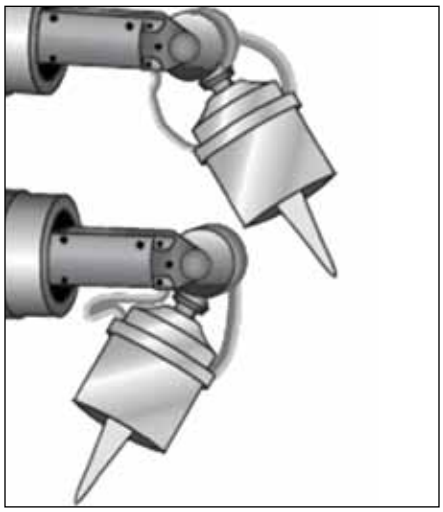
Bending Flex

- **Xtra-Guard Standard Flex Cable (600 V)**
- **Xtra-Guard Continuous Flex Control Cable (600 V)**
- **Xtra-Guard Continuous Flex Data Cable (300 V)**



Torsion Flex

- **Xtra-Guard Torsional Flex Cable (600 V)**



Variable/Random Flex

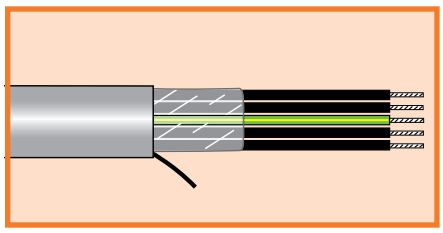
- **Xtra-Guard Standard Flex Cable (600 V)**
- **Xtra-Guard Continuous Flex Control Cable (600 V)**
- **Xtra-Guard Continuous Flex Data Cable (300 V)**

Applications

- **Cartesian robots**
- **Articulated multi-axis robots**
- **Automation networking**
- **Machine tools**
- **Automotive assembly equipment**
- **Conveyor systems**
- **Control panels**
- **Flex and static track**
- **Transfer shuttles**
- **Sensor/actuator-to-controller connections**
- **Material-handling equipment**

Xtra-Guard® Standard Flex Control Cable

Light to Moderate Flex Applications
600 V Unshielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- –5°C to +90°C (flexing)
- –40°C to +90°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor (3 conductor and greater)
- Jacket color: slate

Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65002	2	0.238	6.05	0.035	0.89
65003	3	0.251	6.38	0.035	0.89
65004	4	0.272	6.91	0.035	0.89
65005	5	0.305	7.75	0.038	0.97
65007	7	0.327	8.31	0.038	0.97
65009	9	0.416	10.57	0.040	1.02
65012	12	0.433	11.00	0.045	1.14
65018	18	0.527	13.39	0.055	1.40
65025	25	0.615	15.62	0.055	1.40

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65802	2	0.258	6.55	0.035	0.89
65803	3	0.272	6.91	0.035	0.89
65804	4	0.296	7.52	0.035	0.89
65805	5	0.326	8.28	0.035	0.89
65807	7	0.351	8.92	0.035	0.89
65809	9	0.445	11.30	0.035	0.89
65812	12	0.470	11.94	0.043	1.09
65818	18	0.567	14.40	0.050	1.27
65825	25	0.666	16.92	0.050	1.27
65834	34	0.769	19.53	0.060	1.52
65841	41	0.835	21.21	0.063	1.60
65850	50	0.967	24.56	0.083	2.11

16 AWG (1.32 mm²)

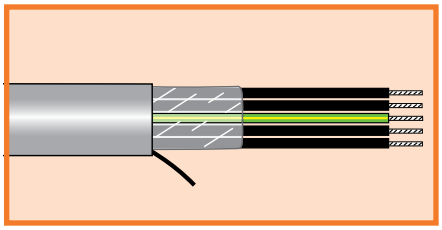
Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65602	2	0.284	7.21	0.035	0.89
65603	3	0.300	7.62	0.035	0.89
65604	4	0.328	8.33	0.035	0.89
65605	5	0.361	9.17	0.035	0.89
65607	7	0.390	9.91	0.035	0.89
65609	9	0.509	12.93	0.041	1.04
65612	12	0.536	13.61	0.049	1.24
65618	18	0.632	16.05	0.050	1.27
65625	25	0.756	19.20	0.055	1.40
65641	41	0.959	24.36	0.075	1.90
65650	50	1.079	27.41	0.083	2.11

RoHS Compliant CA PROP 65

Xtra-Guard® Standard Flex Control Cable

Light to Moderate Flex Applications
600 V Unshielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- –5°C to +90°C (flexing)
- –40°C to +90°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor (3 conductor and greater)
- Jacket color: slate

Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65402	2	0.330	8.38	0.044	1.12
65403	3	0.351	8.92	0.045	1.14
65404	4	0.404	10.26	0.055	1.40
65405	5	0.439	11.15	0.055	1.40
65407	7	0.479	12.17	0.058	1.47
65409	9	0.609	15.47	0.063	1.60
65412	12	0.667	16.94	0.085	2.16
65418	18	0.783	19.89	0.090	2.29
65425	25	0.953	24.21	0.110	2.79

12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65203	3	0.436	11.07	0.067	1.70
65204	4	0.500	12.70	0.080	2.03
65205	5	0.553	14.05	0.086	2.18
65207	7	0.592	15.04	0.086	2.18

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65103	3	0.516	13.11	0.080	2.03
65104	4	0.568	14.43	0.084	2.13
65105	5	0.629	15.98	0.090	2.29

8 AWG (8.32 mm²)

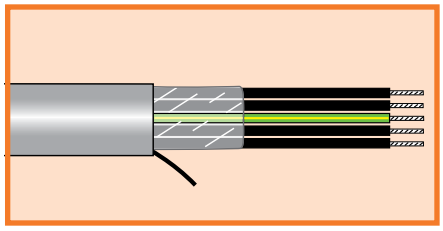
Stranding: 65/26 (65 x 0.40 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65904	4	0.691	17.55	0.085	2.16
65905	5	0.765	19.43	0.090	2.29

RoHS Compliant CA PROP 65

Xtra-Guard® Standard Flex Control Cable

Light to Moderate Flex Applications
600 V Unshielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- –5°C to +90°C (flexing)
- –40°C to +90°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: slate

Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

6 AWG (13.44 mm²)

Stranding: 105/26 (105 x 0.40 mm)
Insulation thickness: 0.047 (1.19 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65704	4	0.891	22.63	0.100	2.54
65705	5	0.985	25.02	0.105	2.67

4 AWG (21.5 mm²)

Stranding: 168/26 (168 x 0.40 mm)
Insulation thickness: 0.047 (1.19 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65504	4	1.080	27.43	0.100	2.54
65505	5	1.207	30.66	0.110	2.79

2 AWG (34.05 mm²)

Stranding: 266/26 (266 x 0.40 mm)
Insulation thickness: 0.047 (1.19 mm)

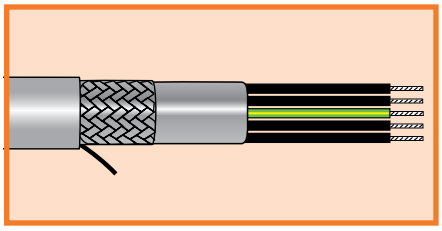
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65304	4	1.273	32.33	0.120	3.05
65305	5	1.428	36.27	0.135	3.43

RoHS Compliant CA PROP 65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® Standard Flex Control Cable

Light to Moderate Flex Applications
600 V Shielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- –5°C to +90°C (flexing)
- –40°C to +90°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: slate

Materials

- Finely stranded bare copper conductors
- Lubricated PVC Insulation
- Oil-resistant PVC jacket
- Tinned copper braid shield, 85% coverage

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65003CY	3	0.339	8.61	0.035	0.89
65007CY	7	0.409	10.39	0.035	0.89
65012CY	12	0.521	13.23	0.040	1.02
65025CY	25	0.712	18.08	0.050	1.27

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65803CY	3	0.360	9.14	0.035	0.89
65804CY	4	0.384	9.75	0.035	0.89
65805CY	5	0.414	10.52	0.035	0.89
65807CY	7	0.439	11.15	0.035	0.89
65812CY	12	0.568	14.43	0.045	1.14
65818CY	18	0.671	17.04	0.053	1.35
65825CY	25	0.776	19.71	0.053	1.35

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65603CY	3	0.388	9.86	0.035	0.89
65604CY	4	0.416	10.57	0.035	0.89
65605CY	5	0.449	11.40	0.035	0.89
65607CY	7	0.484	12.29	0.035	0.89
65612CY	12	0.640	16.26	0.052	1.32
65618CY	18	0.767	19.48	0.062	1.57
65625CY	25	0.901	22.89	0.067	1.70

14 AWG (2.08 mm²)

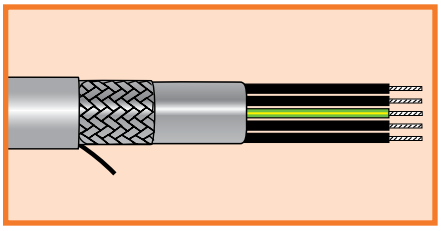
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65403CY	3	0.443	11.25	0.042	1.07
65404CY	4	0.486	12.34	0.047	1.19
65405CY	5	0.537	13.64	0.052	1.32
65407CY	7	0.581	14.76	0.057	1.45
65412CY	12	0.732	18.59	0.062	1.57
65418CY	18	0.890	22.61	0.083	2.11

RoHS Compliant CA PROP 65

Xtra-Guard® Standard Flex Control Cable

Light to Moderate Flex Applications
600 V Shielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- –5°C to +90°C (flexing)
- –40°C to +90°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: slate

Materials

- Finely stranded bare copper conductors
- Lubricated PVC Insulation
- PVC inner jacket
- Oil-resistant PVC jacket
- Tinned copper braid shield, 85% coverage

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

12 AWG (3.31 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65203CY	3	0.530	13.46	0.060	1.52
65204CY	4	0.616	15.65	0.066	1.68
65205CY	5	0.671	17.04	0.073	1.85

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65103CY	3	0.630	16.00	0.070	1.78
65104CY	4	0.684	17.37	0.070	1.78
65105CY	5	0.757	19.23	0.077	1.96
65107CY	7	0.823	20.90	0.083	2.11

8 to 2 AWG (8.32 to 34.05 mm²)

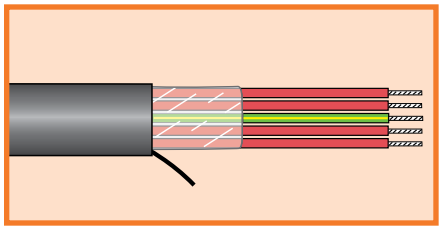
Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness		Insulation Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
65904CY	4	8	8.32	65/26	65 x 0.40	0.822	20.88	0.075	1.90	0.032	0.81
65704CY	4	6	13.44	105/26	105 x 0.40	1.062	26.97	0.100	2.54	0.047	1.19
65504CY	4	4	21.55	168/26	168 x 0.40	1.251	31.78	0.100	2.54	0.047	1.19
65304CY	4	2	34.05	266/26	266 x 0.40	1.453	36.91	0.110	2.79	0.047	1.19

RoHS Compliant CA PROP 65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® Continuous Flex Control

C-Track or High Flexing Applications Up to 14 Million Flex Life Cycles
600 V Unshielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Finely stranded tinned copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

20 AWG (0.51 mm²)

Stranding: 63/38 (63 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85003	3	0.272	6.91	0.035	0.89
85004	4	0.297	7.54	0.035	0.89
85005	5	0.323	8.20	0.035	0.89
85007	7	0.388	9.86	0.040	1.02
85012	12	0.460	11.68	0.045	1.14
85018	18	0.548	13.92	0.050	1.27
85025	25	0.691	17.55	0.065	1.65
85034	34	0.746	18.95	0.065	1.65

18 AWG (0.85 mm²)

Stranding: 105/38 (105 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85803	3	0.298	7.57	0.035	0.89
85804	4	0.326	8.28	0.035	0.89
85805	5	0.355	9.02	0.035	0.89
85807	7	0.438	11.13	0.045	1.14
85812	12	0.520	13.21	0.050	1.27
85815	15	0.577	14.66	0.050	1.27
85818	18	0.608	15.44	0.050	1.27
85825	25	0.767	19.48	0.065	1.65
85834	34	0.830	21.08	0.065	1.65

16 AWG (1.36 mm²)

Stranding: 168/38 (168 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85603	3	0.331	8.41	0.035	0.89
85604	4	0.362	9.19	0.035	0.89
85605	5	0.396	10.06	0.035	0.89
85607	7	0.478	12.14	0.040	1.02
85612	12	0.573	14.55	0.045	1.14
85618	18	0.674	17.12	0.045	1.14
85625	25	0.862	21.89	0.065	1.65
85634	34	0.936	23.77	0.065	1.65
85650	50	1.161	29.49	0.085	2.16

14 AWG (2.16 mm²)

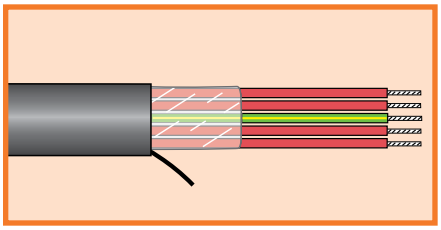
Stranding: 266/38 (266 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85404	4	0.424	10.77	0.050	1.27
85407	7	0.582	14.78	0.070	1.78

RoHS Compliant CA PROP 65

Xtra-Guard® Continuous Flex Control

C-Track or High Flexing Applications Up to 14 Million Flex Life Cycles 600 V Unshielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Finely stranded tinned copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

12 AWG (3.35 mm²)

Stranding: 413/38 (413 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85204	4	0.527	13.39	0.070	1.78
85207	7	0.729	18.52	0.100	2.54

10 AWG (5.34 mm²)

Stranding: 658/38 (658 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85104	4	0.590	14.99	0.070	1.78
85107	7	0.816	20.73	0.100	2.54

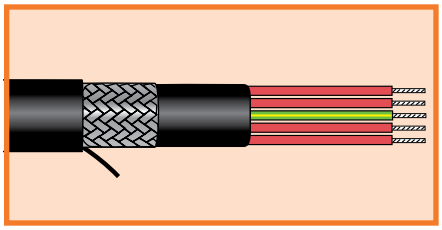
8 to 2 AWG (8.62 to 33.86 mm²)

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness		Insulation Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
85904	4	8	8.62	266/32	266 x 0.20	0.721	18.31	0.070	1.78	0.032	0.81
85704	4	6	13.38	413/32	413 x 0.20	0.935	23.75	0.085	2.16	0.047	1.19
85504	4	4	21.55	665/32	665 x 0.20	1.076	27.33	0.085	2.16	0.047	1.19
85304	4	2	33.86	1045/32	1045 x 0.20	1.250	31.75	0.085	2.16	0.047	1.19

RoHS Compliant CA PROP 65

Xtra-Guard® Continuous Flex Control

C-Track or High Flexing Applications Up to 14 Million Flex Life Cycles
600 V Shielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Tinned copper braid shield, 85% coverage
- PVC inner jacket
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

20 AWG (0.51 mm²)

Stranding: 63/38 (63 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85003CY	3	0.350	8.89	0.035	0.89
85004CY	4	0.375	9.53	0.035	0.89
85005CY	5	0.411	10.44	0.040	1.02
85007CY	7	0.482	12.24	0.040	1.02
85010CY	10	0.545	13.84	0.040	1.02
85012CY	12	0.564	14.33	0.050	1.27
85018CY	18	0.662	16.81	0.060	1.52
85025CY	25	0.812	20.62	0.070	1.78

18 AWG (0.85 mm²)

Stranding: 105/38 (105 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85803CY	3	0.376	9.55	0.035	0.89
85804CY	4	0.414	10.52	0.040	1.02
85805CY	5	0.453	11.51	0.040	1.02
85807CY	7	0.532	13.51	0.045	1.14
85812CY	12	0.634	16.10	0.060	1.52
85818CY	18	0.725	18.42	0.060	1.52
85825CY	25	0.908	23.06	0.080	2.03

16 AWG (1.36 mm²)

Stranding: 168/38 (168 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85603CY	3	0.419	10.64	0.035	0.89
85604CY	4	0.460	11.68	0.040	1.02
85605CY	5	0.500	12.70	0.040	1.02
85607CY	7	0.602	15.29	0.055	1.40
85612CY	12	0.700	17.78	0.060	1.52
85615CY	15	0.769	19.53	0.060	1.52
85618CY	18	0.805	20.45	0.060	1.52
85625CY	25	0.973	24.71	0.065	1.65
85634CY	34	1.087	27.61	0.085	2.16

14 AWG (2.16 mm²)

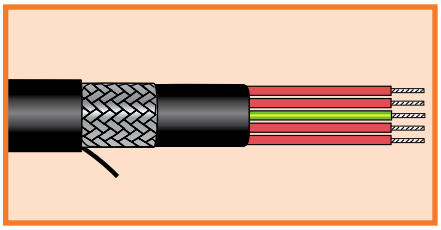
Stranding: 266/38 (266 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85404CY	4	0.528	13.41	0.050	1.27
85407CY	7	0.676	17.17	0.065	1.65

RoHS Compliant CA PROP 65

Xtra-Guard® Continuous Flex Control

C-Track or High Flexing Applications Up to 14 Million Flex Life Cycles 600 V Shielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE

Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Tinned copper braid shield, 85% coverage
- PVC inner jacket
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

12 AWG (3.35 mm²)

Stranding: 413/38 (413 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85204CY	4	0.641	16.28	0.075	1.90
85207CY	7	0.836	21.23	0.100	2.54

10 AWG (5.34 mm²)

Stranding: 658/38 (658 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85104CY	4	0.707	17.96	0.070	1.78
85107CY	7	0.947	24.05	0.100	2.54

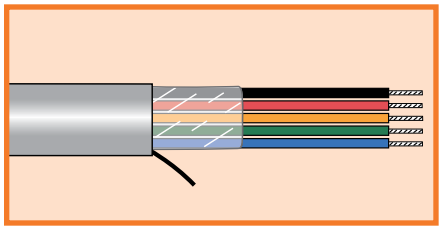
8 to 2 AWG (8.62 to 33.86 mm²)

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness		Insulation Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
85904CY	4	8	8.62	266/32	266 x 0.20	0.882	22.40	0.085	2.16	0.032	0.81
85704CY	4	6	13.38	413/32	413 x 0.20	1.066	27.08	0.085	2.16	0.047	1.19
85504CY	4	4	21.55	665/32	665 x 0.20	1.227	31.17	0.085	2.16	0.047	1.19
85304CY	4	2	33.86	1045/32	1045 x 0.20	1.431	36.35	0.095	2.41	0.047	1.19

RoHS Compliant CA PROP 65

Xtra-Guard® Continuous Flex Data

C-Track or High Flexing Applications Up to 6 Million Flex Life Cycles
300 V Unshielded, Multiconductor



UL CM
UL AWM 2661
CSA AWM I/II A/B FT4
CSA CMG
CE

Operating Temperature

- +5°C to +105°C (flexing)
- -10°C to +105°C (stationary)

Conductor Color Coding

- Chart D (page 531)
- Jacket color: slate

Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86002	2	0.154	3.91	0.040	1.02
86003	3	0.160	4.06	0.040	1.02
86004	4	0.170	4.32	0.040	1.02
86005	5	0.180	4.57	0.040	1.02
86007	7	0.203	5.16	0.040	1.02
86012	12	0.263	6.68	0.040	1.02
86018	18	0.262	6.65	0.040	1.02
86025	25	0.309	7.85	0.040	1.02

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86102	2	0.162	4.11	0.040	1.02
86103	3	0.168	4.27	0.040	1.02
86104	4	0.179	4.55	0.040	1.02
86105	5	0.191	4.85	0.040	1.02
86107	7	0.217	5.51	0.040	1.02
86112	12	0.283	7.19	0.040	1.02
86118	18	0.282	7.16	0.040	1.02
86125	25	0.335	8.51	0.040	1.02

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86202	2	0.172	4.37	0.040	1.02
86203	3	0.179	4.55	0.040	1.02
86204	4	0.191	4.85	0.040	1.02
86205	5	0.205	5.21	0.040	1.02
86207	7	0.233	5.92	0.040	1.02
86212	12	0.307	7.80	0.040	1.02
86218	18	0.307	7.80	0.040	1.02
86225	25	0.376	9.55	0.045	1.14

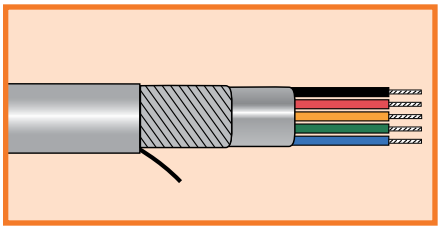
22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86302	2	0.188	4.78	0.040	1.02
86303	3	0.197	5.00	0.040	1.02
86304	4	0.211	5.36	0.040	1.02
86305	5	0.227	5.77	0.040	1.02
86307	7	0.260	6.60	0.040	1.02
86312	12	0.347	8.81	0.040	1.02
86318	18	0.347	8.81	0.040	1.02
86325	25	0.426	10.82	0.045	1.14

Xtra-Guard® Continuous Flex Data

C-Track or High Flexing Applications Up to 6 Million Flex Life Cycles
300 V Foil/Spiral Shield, Multiconductor



UL CM
UL AWM 2661
CSA AWM I/II A/B FT4
CSA CMG
CE

Operating Temperature

- +5°C to 105°C (flexing)
- -10°C to 105°C (stationary)

Conductor Color Coding

- Chart D (page 531)
- Jacket color: slate

Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Foil +spiral shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Tinned copper spiral shield, 90% coverage
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86002CY	2	0.174	4.42	0.040	1.02
86003CY	3	0.180	4.57	0.040	1.02
86004CY	4	0.190	4.83	0.040	1.02
86005CY	5	0.200	5.08	0.040	1.02
86007CY	7	0.223	5.66	0.040	1.02
86012CY	12	0.283	7.19	0.040	1.02
86018CY	18	0.282	7.16	0.040	1.02
86025CY	25	0.329	8.36	0.040	1.02

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86102CY	2	0.182	4.62	0.040	1.02
86103CY	3	0.188	4.78	0.040	1.02
86104CY	4	0.199	5.05	0.040	1.02
86105CY	5	0.211	5.36	0.040	1.02
86107CY	7	0.237	6.02	0.040	1.02
86112CY	12	0.303	7.70	0.040	1.02
86118CY	18	0.302	7.67	0.040	1.02
86125CY	25	0.355	9.02	0.040	1.02

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86202CY	2	0.192	4.88	0.040	1.02
86203CY	3	0.199	5.05	0.040	1.02
86204CY	4	0.211	5.36	0.040	1.02
86205CY	5	0.225	5.72	0.040	1.02
86207CY	7	0.253	6.43	0.040	1.02
86212CY	12	0.327	8.31	0.040	1.02
86218CY	18	0.327	8.31	0.040	1.02
86225CY	25	0.396	10.06	0.045	1.14

22 AWG (0.38 mm2)

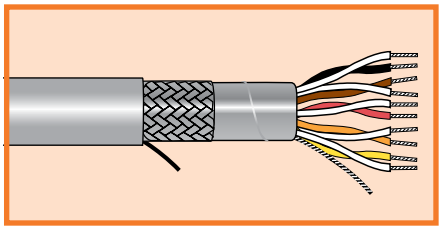
Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86302CY	2	0.208	5.28	0.040	1.02
86303CY	3	0.217	5.51	0.040	1.02
86304CY	4	0.231	5.87	0.040	1.02
86305CY	5	0.247	6.27	0.040	1.02
86307CY	7	0.280	7.11	0.040	1.02
86312CY	12	0.367	9.32	0.040	1.02
86318CY	18	0.367	9.32	0.040	1.02
86325CY	25	0.446	11.33	0.045	1.14

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® Continuous Flex Data

C-Track or High Flexing Applications Up to 6 Million Flex Life Cycles
300 V Foil/Braid Shield, Multipair



UL CM
UL AWM 2661
CSA AWM I/II A/B FT4
CSA CMG
CE

Operating Temperature

- +5°C to +105°C (flexing)
- -10°C to +105°C (stationary)

Conductor Color Coding

- Chart A (page 528)
- Jacket color: slate

Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Shield: Combination foil and braid
  Aluminum/polyester foil shield, with 25% overlap and tinned copper drain wire
  Tinned copper braid with 85% coverage
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86401CY	1	0.186	4.72	0.040	1.02
86402CY	2	0.231	5.87	0.040	1.02
86403CY	3	0.240	6.10	0.040	1.02
86404CY	4	0.256	6.50	0.040	1.02
86405CY	5	0.274	6.96	0.040	1.02
86406CY	6	0.293	7.44	0.040	1.02
86408CY	8	0.331	8.41	0.040	1.02
86410CY	10	0.365	9.27	0.045	1.14
86414CY	14	0.381	9.68	0.045	1.14

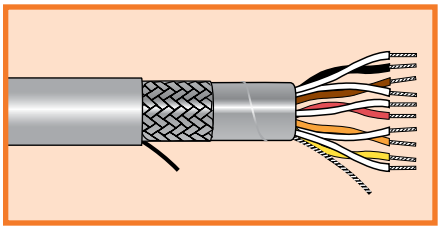
26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86501CY	1	0.194	4.93	0.040	1.02
86502CY	2	0.244	6.20	0.040	1.02
86503CY	3	0.254	6.45	0.040	1.02
86504CY	4	0.272	6.91	0.040	1.02
86505CY	5	0.292	7.42	0.040	1.02
86506CY	6	0.313	7.95	0.040	1.02
86508CY	8	0.355	9.02	0.040	1.02
86510CY	10	0.392	9.96	0.045	1.14
86514CY	14	0.426	10.82	0.053	1.35

Xtra-Guard® Continuous Flex Data

C-Track or High Flexing Applications Up to 6 Million Flex Life Cycles
300 V Foil/Braid Shield, Multipair



UL CM
UL AWM 2661
CSA AWM I/II A/B FT4
CSA CMG
CE

Operating Temperature

- +5°C to +105°C (flexing)
- -10°C to +105°C (stationary)

Conductor Color Coding

- Chart A (page 528)
- Jacket color: slate

Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Shield: Combination foil and braid
  Aluminum/polyester foil shield, with 25% overlap and tinned copper drain wire
  Tinned copper braid with 85% coverage
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86601CY	1	0.204	5.18	0.040	1.02
86602CY	2	0.260	6.60	0.040	1.02
86603CY	3	0.272	6.91	0.040	1.02
86604CY	4	0.292	7.42	0.040	1.02
86605CY	5	0.314	7.98	0.040	1.02
86606CY	6	0.337	8.56	0.040	1.02
86608CY	8	0.385	9.78	0.040	1.02
86610CY	10	0.427	10.85	0.045	1.14
86614CY	14	0.463	11.76	0.053	1.35

22 AWG (0.38 mm²)

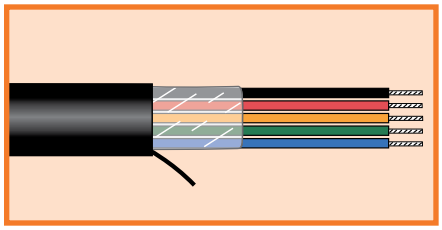
Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86701CY	1	0.220	5.59	0.040	1.02
86702CY	2	0.287	7.29	0.040	1.02
86703CY	3	0.301	7.65	0.040	1.02
86704CY	4	0.324	8.23	0.040	1.02
86705CY	5	0.350	8.89	0.040	1.02
86706CY	6	0.377	9.58	0.040	1.02
86708CY	8	0.443	11.25	0.045	1.14
86710CY	10	0.497	12.62	0.053	1.35
86714CY	14	0.527	13.39	0.053	1.35

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® Torsional Flex

Torsional Cable with 360° Twisting
600 V Unshielded, Multiconductor



UL AWM 20234
CSA AWM I/II A/B FT1
CE

Operating Temperature

- -10°C to +80°C (flexing)
- -30°C to +80°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Stranded bare copper conductors
- Thermoplastic elastomer insulation
- Oil-resistant polyurethane jacket

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87003	3	0.227	5.77	0.050	1.27
87004	4	0.242	6.15	0.050	1.27
87005	5	0.259	6.58	0.050	1.27
87007	7	0.294	7.47	0.050	1.27

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87103	3	0.244	6.20	0.050	1.27
87104	4	0.261	6.63	0.050	1.27
87105	5	0.281	7.14	0.050	1.27
87107	7	0.321	8.15	0.050	1.27

20 AWG (0.62 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87203	3	0.262	6.65	0.050	1.27
87204	4	0.281	7.14	0.050	1.27
87205	5	0.302	7.67	0.050	1.27
87207	7	0.347	8.81	0.050	1.27

18 AWG (0.96 mm²)

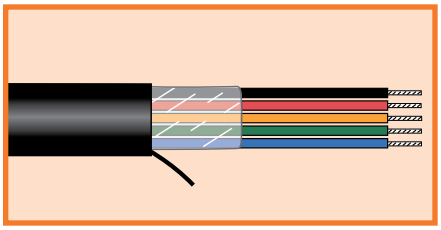
Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87303	3	0.283	7.19	0.050	1.27
87304	4	0.305	7.75	0.050	1.27
87305	5	0.329	8.36	0.050	1.27
87307	7	0.380	9.65	0.050	1.27

RoHS Compliant CA PROP 65

Xtra-Guard® Torsional Flex

Torsional Cable with 360° Twisting
600 V Unshielded, Multiconductor



UL AWM 20234
CSA AWM I/II A/B FT1
CE

Operating Temperature

- -10°C to +80°C (flexing)
- -30°C to +80°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Stranded bare copper conductors
- Thermoplastic elastomer insulation
- Oil-resistant polyurethane jacket

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87403	3	0.302	7.67	0.050	1.27
87404	4	0.327	8.31	0.050	1.27
87405	5	0.354	8.99	0.050	1.27
87407	7	0.410	10.41	0.050	1.27

14 AWG (2.07 mm²)

Stranding: 19/0.0147 (19 x 0.37 mm)
Insulation thickness: 0.027 (0.69 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87503	3	0.382	9.70	0.050	1.27
87504	4	0.417	10.59	0.050	1.27
87505	5	0.455	11.56	0.050	1.27
87507	7	0.535	13.59	0.050	1.27

12 AWG (3.29 mm²)

Stranding: 19/0.0185 (19 x 0.47 mm)
Insulation thickness: 0.027 (0.69 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87603	3	0.444	11.28	0.060	1.52
87604	4	0.483	12.27	0.060	1.52
87605	5	0.526	13.36	0.060	1.52
87607	7	0.618	15.70	0.060	1.52

10 AWG (5.22 mm²)

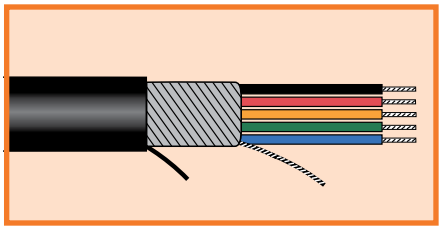
Stranding: 37/0.0167 (37 x 0.42 mm)
Insulation thickness: 0.030 (0.76 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87703	3	0.508	12.90	0.060	1.52
87704	4	0.555	14.10	0.060	1.52
87705	5	0.627	15.93	0.070	1.78
87707	7	0.737	18.72	0.070	1.78

RoHS Compliant CA PROP 65

Xtra-Guard® Torsional Flex

Torsional Cable with 360° Twisting
600 V Shielded, Multiconductor



UL AWM 20234
CSA AWM I/II A/B FT1
CE

Operating Temperature

- -10°C to +80°C (flexing)
- -30°C to +80°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Stranded bare copper conductors
- Thermoplastic elastomer insulation
- Tinned copper spiral shield, 90% coverage
- Oil-resistant polyurethane jacket

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87003CY	3	0.246	6.25	0.050	1.27
87004CY	4	0.261	6.63	0.050	1.27
87005CY	5	0.278	7.06	0.050	1.27
87007CY	7	0.313	7.95	0.050	1.27

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87103CY	3	0.263	6.68	0.050	1.27
87104CY	4	0.280	7.11	0.050	1.27
87105CY	5	0.300	7.62	0.050	1.27
87107CY	7	0.340	8.64	0.050	1.27

20 AWG (0.62 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87203CY	3	0.281	7.14	0.050	1.27
87204CY	4	0.300	7.62	0.050	1.27
87205CY	5	0.321	8.15	0.050	1.27
87207CY	7	0.366	9.30	0.050	1.27

18 AWG (0.96 mm²)

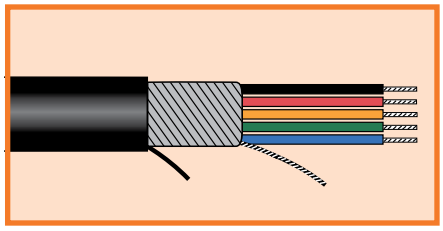
Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87303CY	3	0.302	7.67	0.050	1.27
87304CY	4	0.324	8.23	0.050	1.27
87305CY	5	0.348	8.84	0.050	1.27
87307CY	7	0.399	10.13	0.050	1.27

RoHS Compliant CA PROP 65

Xtra-Guard® Torsional Flex

Torsional Cable with 360° Twisting
600 V Shielded, Multiconductor



UL AWM 20234
CSA AWM I/II A/B FT1
CE

Operating Temperature

- -10°C to +80°C (flexing)
- -30°C to +80°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Stranded bare copper conductors
- Thermoplastic elastomer insulation
- Tinned copper spiral shield, 90% coverage
- Oil-resistant polyurethane jacket

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/ temperature resistant cross-linked fluoroelastomer

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87403CY	3	0.321	8.15	0.050	1.27
87404CY	4	0.346	8.79	0.050	1.27
87405CY	5	0.373	9.47	0.050	1.27
87407CY	7	0.429	10.90	0.050	1.27

14 AWG (2.07 mm²)

Stranding: 19/0.0147 (19 x 0.37 mm)
Insulation thickness: 0.027 (0.69 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87503CY	3	0.401	10.19	0.050	1.27
87504CY	4	0.436	11.07	0.050	1.27
87505CY	5	0.474	12.04	0.050	1.27
87507CY	7	0.554	14.07	0.050	1.27

12 AWG (3.29 mm²)

Stranding: 19/0.0185 (19 x 0.47 mm)
Insulation thickness: 0.027 (0.69 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87603CY	3	0.463	11.76	0.060	1.52
87604CY	4	0.502	12.75	0.060	1.52
87605CY	5	0.545	13.84	0.060	1.52
87607CY	7	0.637	16.18	0.060	1.52

10 AWG (5.22 mm²)

Stranding: 37/0.0167 (37 x 0.42 mm)
Insulation thickness: 0.030 (0.76 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87703CY	3	0.527	13.39	0.060	1.52
87704CY	4	0.574	14.58	0.060	1.52
87705CY	5	0.646	16.41	0.070	1.78
87707CY	7	0.756	19.20	0.070	1.78

RoHS Compliant CA PROP 65

Alpha Wire Industrial Series

Alpha Wire Industrial Series

Advanced cable products for industrial applications

From the factory floor to process control, the Alpha Wire Industrial Series (AWIS) cable line is well suited to the widest range of industrial applications. We offer a variety of cables for general needs such as control wiring in both stationary and moving components. We also offer application-specific configurations for use with drives, servo systems, and factory protocols.

AWIS cables are crafted for rugged, reliable performance in your industrial equipment. They are designed to handle even your toughest applications, whether your need is continuous flexing, superior oil and chemical resistance, or excellent mechanical and electrical performance.

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- **TC-ER, PLTC, MTW, and WTTC ratings**
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- **EMI protection**
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AWIS cables give reliable performance

Series F Continuous Flex Control Cables

Rated for up to 20 million rolling flex cycles

Series M Control Cable

Excellent mechanical and electrical performance for stationary cable trays

Series P Enhanced Stationary Control Cable

Superior oil and chemical resistance plus easier routing and installation

Series SF Servo Control Cable

Maximum flexibility in servo control and power

Series V VFD Cables

Double-shielded for superior EMI performance

Series XM Flexible Control Cable

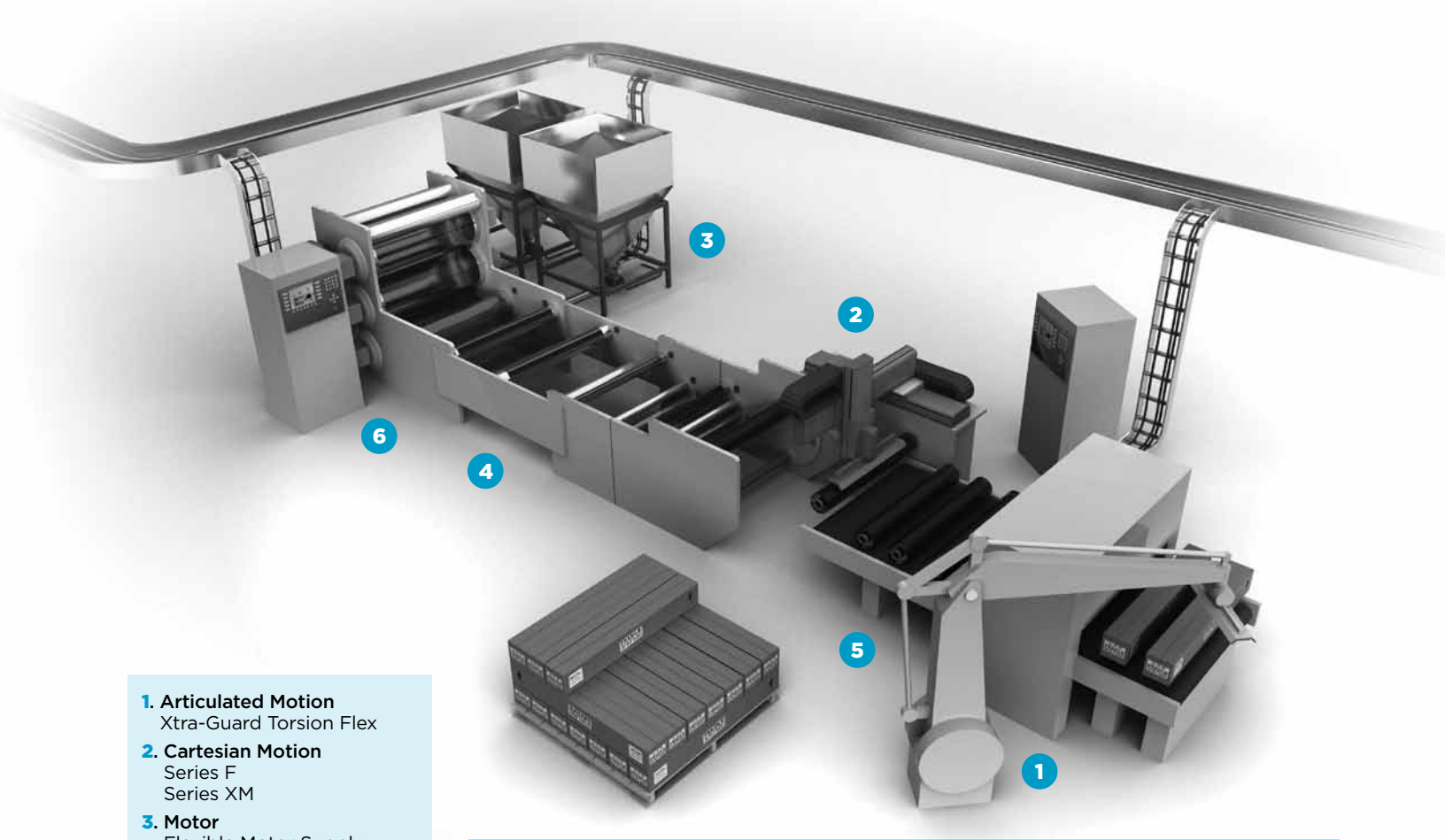
Tough PVC Cable for continuous flex control applications

Applications

- **Medium-to high-flex equipment**
- **Factory equipment interconnects**
- **Robotics**
- **Machine tools**
- **Automotive assembly equipment**
- **Conveyor systems**
- **Control panels**
- **Transfer shuttles**
- **Solar farms**
- **Automated pick-and-place systems**
- **PLC controlled equipment**
- **Automated handling systems**
- **Control/monitoring of speed and position**

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Reliable productivity from the factory floor to process controls



1. **Articulated Motion**
   Xtra-Guard Torsion Flex
2. **Cartesian Motion**
   Series F
   Series XM
3. **Motor**
   Flexible Motor Supply
4. **Static Control Cabling**
   Series M
   Series P
5. **Servomotors**
   Series SF
6. **VFD**
   Series V

Alpha Wire's industrial cables are well suited to the widest range of industrial applications from the factory floor to process controls to wind turbines. We offer a range of cables for general needs such as control wiring in both stationary and moving components. We also offer application-specific configurations for use with motors, drives, and servo systems.

General Application	Cable	Advantages
Stationary	Series M	PVC jacket Oil resistant (Oil Res. I)
Stationary/ Minimal Flex	Series P	TPE jacket Improved oil and chemical resistance (Oil Res. I/II)
Moderate Flexing	Xtra-Guard Standard Flex (65000 Series)	1 million flex cycles PVC jacket
High Flexing	Series XM	12 million flex cycles Oil resistant (Oil Res. I)
	Series F	20 million flex cycles Improved oil and chemical resistance (Oil Res. I/II)
	Xtra-Guard Continuous Flex Data (86000 Series)	6 million flex cycles PVC jacket
	Xtra-Guard Continuous Flex Control (85000 Series)	14 million flex cycles PVC jacket
	Xtra-Guard Torsional Flex (87000 Series)	1 million flex cycles TPE insulation, polyurethane jacket
Servomotors/ Drives	Series SF	TPE jacket Enhanced flexibility for easy installation and routing Improved oil and chemical resistance (Oil Res. I/II) With or without brake/ground pairs
VFD Systems	Series V	Oil resistant (Oil Res. I) Low capacitance for extended runs XLPE insulation for improved dielectric properties Excellent corona resistance Uniform geometry for reduced common-mode current
Motor Supply	Flexible Motor Supply	PVC jacket Oil resistant (Oil Res. I) Suited to light-duty flexing and VFD applications

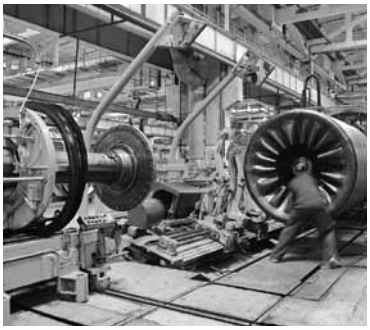
Superior Cable by Design

Alpha industrial cables are designed to perform better, providing consistent, reliable operation. The result is more uptime, fewer errors, and precise operation of equipment. Our cables are designed and built to uncompromising standards so you get consistency and uniformity in every cable.

Superior Service by Design

Beyond our well-earned reputation for high-quality, premium-grade products, our commitment to service aims to make specifying and getting the cable you need both fast and easy.

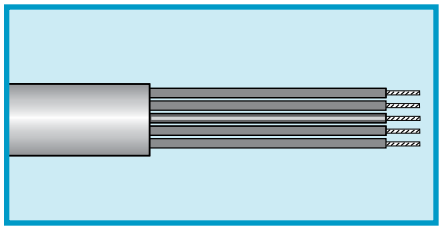
- **Global availability**
- **Large in-stock inventory**
- **Flexible ordering, with small and large put-ups available**
- **Fast shipping—usually the same day**
- **1500 distributor locations worldwide**
- **Engineering support**
- **Extensive on-line tools to select and specify cable**
- **Custom designs with on-line Cable Design Center™**
- **Fast turnarounds on custom designs**



Specific Application	Connection	Alpha Cable
Stationary	Control panel to machine	Series M, Series P
Cartesian Robots	Source power	Series M, Series P
	Flex track	Series XM, Series F, XG Flex 85000, Series SF
	Tool mechanism	XG Flex 8700 0Series
Transfer Shuttles	Source power	Series M, Series P
	Flex track	Series XM, Series F, XG Flex 85000, Series SF
	Robot	XG Flex 87000 Series for end of arm tool
	Servomotor	Series SF
Gantry	Source power	Series M, Series P
	Track	Series XM, Series F, XG Flex 85000, Series SF
	Robot	XG Flex 87000 Series for end of arm tool
	Servomotor	Series SF
Pick and Place	Source power	XG Flex 87000 Series for end of arm tool
	Flex track	Series XM, Series F, XG Flex 85000 Series
	Servomotor	Series SF
	End of arm tool	XG Flex 87000 Series
Machine Tools	Source power	Series M, Series P
	Internal XYZ axis	Series XM, Series F, XG Flex 85000, SF Series
	Automated tool changer	Series XM, Series F, XG Flex 85000/86000 Series
	Servomotor	Series SF
	Drive systems	Series V VFD
Conveying Systems	Source power	Series M, Series P, XG Flex 65000
	Drive systems	Series V VFD
	Servomotor	Series SF
	Motor supply	Flexible Motor Supply
Packaging/ Material Handling	Source power	Series M, Series P
	Drives	Series V VFD
	Servomotor	Series SF
	Motor power/control	Motor Supply, Series M, Series P

Series F Continuous Flex Control Cables

High-Flex Cable Track Applications
600 V Unshielded, Multiconductor



UL TC-ER, PLTC
UL TFFN (18 – 16 AWG)
UL THHN (14 – 8 AWG)
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amend. 93/68/EEC

Operating Temperature

- -25°C to +90°C (static)
- -5°C to +90°C (dynamic)

Conductor Color Coding

- Red, blue, or black insulation*, numbered
  1 green/yellow green conductor
  1 white-striped neutral
  (12 conductors or greater)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Black oil-resistant thermoplastic elastomer jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I/II
- 10x bend radius
- Over 20 million rolling flex cycles
- Tic-tock and twist test per MIL-C-13777G
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible, cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

18 AWG (0.83 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F18003KW	F18003LW	F18003RW	3	0.308	7.82	0.050	1.27
F18004KW	F18004LW	F18004RW	4	0.333	8.46	0.050	1.27
F18005KW	F18005LW	F18005RW	5	0.360	9.14	0.050	1.27
F18007KW	F18007LW	F18007RW	7	0.418	10.62	0.050	1.27
F18012KW	F18012LW	F18012RW	12	0.515	13.08	0.065	1.65
F18017KW	F18017LW	F18017RW	17	0.597	15.16	0.065	1.65
F18022KW	F18022LW	F18022RW	22	0.656	16.66	0.065	1.65
F18025KW	F18025LW	F18025RW	25	0.717	18.21	0.065	1.65
F18034KW	F18034LW	F18034RW	34	0.775	19.69	0.065	1.65
F18042KW	F18042LW	F18042RW	42	0.874	22.20	0.085	2.16
F18049KW	F18049LW	F18049RW	49	0.965	24.51	0.085	2.16
F18065KW	F18065LW	F18065RW	65	1.052	26.72	0.085	2.16

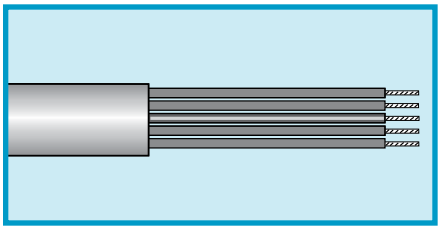
16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F16003KW	F16003LW	F16003RW	3	0.334	8.48	0.050	1.27
F16004KW	F16004LW	F16004RW	4	0.362	9.19	0.050	1.27
F16005KW	F16005LW	F16005RW	5	0.393	9.98	0.050	1.27
F16007KW	F16007LW	F16007RW	7	0.489	12.42	0.065	1.65
F16012KW	F16012LW	F16012RW	12	0.565	14.35	0.065	1.65
F16017KW	F16017LW	F16017RW	17	0.657	16.69	0.065	1.65
F16019KW	F16019LW	F16019RW	19	0.691	17.55	0.065	1.65
F16022KW	F16022LW	F16022RW	22	0.724	18.39	0.065	1.65
F16025KW	F16025LW	F16025RW	25	0.793	20.14	0.065	1.65
F16033KW	F16033LW	F16033RW	33	0.899	22.83	0.085	2.16
F16042KW	F16042LW	F16042RW	42	0.966	24.54	0.085	2.16
F16049KW	F16049LW	F16049RW	49	1.069	27.15	0.085	2.16
F16065KW	F16065LW	F16065RW	65	1.168	29.67	0.085	2.16

Series F Continuous Flex Control Cables

High-Flex Cable Track Applications
600 V Unshielded, Multiconductor



UL TC-ER, PLTC
UL TFFN (18 – 16 AWG)
UL THHN (14 – 8 AWG)
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amend. 93/68/EEC

Operating Temperature

- -25°C to +90°C (static)
- -5°C to +90°C (dynamic)

Conductor Color Coding

- Red, blue, or black insulation*, numbered
  1 green/yellow green conductor
  1 white-striped neutral
  (12 conductors or greater, except 14 AWG)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Black oil-resistant thermoplastic elastomer jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I/II
- 10x bend radius
- Over 20 million rolling flex cycles
- Tic-tock and twist test per MIL-C-13777G
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible, cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

14 AWG (2.11 mm²)

Stranding: 105/34 (105 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F14004KW	F14004LW	F14004RW	4	0.398	10.11	0.050	1.27
F14005KW	F14005LW	F14005RW	5	0.434	11.02	0.050	1.27
F14007KW	F14007LW	F14007RW	7	0.539	13.69	0.065	1.65
F14012KW	F14012LW	F14012RW	12	0.628	15.95	0.065	1.65

12 AWG (3.38 mm²)

Stranding: 168/34 (168 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F12004KW	F12004LW	F12004RW	4	0.501	12.73	0.065	1.65
F12005KW	F12005LW	F12005RW	5	0.545	13.84	0.065	1.65
F12007KW	F12007LW	F12007RW	7	0.640	16.26	0.065	1.65

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F10004KW	F10004LW	F10004RW	4	0.565	14.35	0.065	1.65
F10005KW	F10005LW	F10005RW	5	0.618	15.70	0.065	1.65
F10007KW	F10007LW	F10007RW	7	0.729	18.52	0.065	1.65

8 AWG (8.51 mm²)

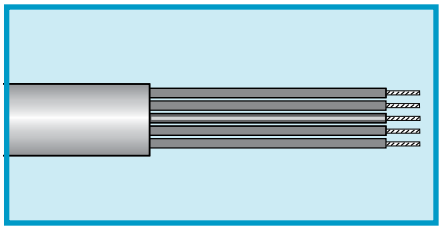
Stranding: 168/30 (168 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.006 (0.15 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F08004KW	F08004LW	F08004RW	4	0.740	18.80	0.065	1.65

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

Series M Control Cable

Stationary or Minimal Flex Applications
600 V Unshielded, Multiconductor



UL TC-ER
UL MTW
UL WTTC (1000 V)
UL PLTC (300 V)
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amend. 93/68/EEC

Operating Temperature

- -25°C to +90°C (static)
- -5°C to +90°C (dynamic)

Conductor Color Coding

- Red, blue, or black insulation*, numbered
  1 green/yellow green conductor
  1 white-striped neutral
  (12 conductors or greater)

Materials

- Finely stranded bare copper conductors
- PVC/nylon insulation
- Slate PVC jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I
- UL Direct Burial
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code
- 90°C Dry/75°C Wet

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined cross-linked polyolefin

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
M18103KW	M18103LW	M18103RW	3	0.301	7.65	0.050	1.27
M18104KW	M18104LW	M18104RW	4	0.326	8.28	0.050	1.27
M18105KW	M18105LW	M18105RW	5	0.353	8.97	0.050	1.27
M18107KW	M18107LW	M18107RW	7	0.381	9.68	0.050	1.27
M18112KW	M18112LW	M18112RW	12	0.515	13.08	0.065	1.65
M18117KW	M18117LW	M18117RW	17	0.594	15.09	0.065	1.65
M18122KW	M18122LW	M18122RW	22	0.651	16.54	0.065	1.65
M18125KW	M18125LW	M18125RW	25	0.699	17.75	0.065	1.65
M18134KW	M18134LW	M18134RW	34	0.777	19.74	0.065	1.65
M18142KW	M18142LW	M18142RW	42	0.874	22.20	0.085	2.15
M18149KW	M18149LW	M18149RW	49	0.923	23.44	0.085	2.15
M18165KW	M18165LW	M18165RW	65	1.029	26.14	0.085	2.15

16 AWG (1.32 mm²)

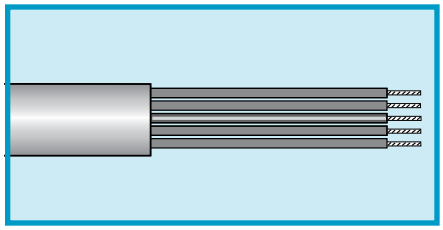
Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
M16103KW	M16103LW	M16103RW	3	0.323	8.20	0.050	1.27
M16104KW	M16104LW	M16104RW	4	0.350	8.89	0.050	1.27
M16105KW	M16105LW	M16105RW	5	0.380	9.65	0.050	1.27
M16107KW	M16107LW	M16107RW	7	0.421	10.69	0.055	1.39
M16112KW	M16112LW	M16112RW	12	0.557	14.14	0.065	1.65
M16117KW	M16117LW	M16117RW	17	0.644	16.35	0.065	1.65
M16119KW	M16119LW	M16119RW	19	0.644	16.35	0.065	1.65
M16122KW	M16122LW	M16122RW	22	0.707	17.95	0.065	1.65
M16125KW	M16125LW	M16125RW	25	0.761	19.32	0.065	1.65
M16133KW	M16133LW	M16133RW	33	0.857	21.76	0.085	2.15
M16142KW	M16142LW	M16142RW	42	0.950	24.13	0.085	2.15
M16149KW	M16149LW	M16149RW	49	1.005	25.52	0.085	2.15
M16165KW	M16165LW	M16165RW	65	1.122	28.49	0.085	2.15

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

Series M Control Cable

Stationary or Minimal Flex Applications
600 V Unshielded, Multiconductor



UL TC-ER
UL MTW
UL WTTC (1000 V)
UL PLTC (300 V)
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amend. 93/68/EEC

Operating Temperature

- -25°C to +90°C (static)
- -5°C to +90°C (dynamic)

Conductor Color Coding

- Red, blue, or black insulation*, numbered
  1 green/yellow green conductor
  1 white-striped neutral
  (12 conductors or greater, except 14 AWG)

Materials

- Finely stranded bare copper conductors
- PVC/nylon insulation
- Slate PVC jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I
- UL Direct Burial
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code
- 90°C Dry/75°C Wet

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined cross-linked polyolefin

14 AWG (2.09 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
M14104KW	M14104LW	M14104RW	4	0.384	9.75	0.050	1.27
M14105KW	M14105KW	M14105RW	5	0.428	10.87	0.055	1.39
M14107KW	M14107LW	M14107RW	7	0.483	12.26	0.065	1.65
M14112KW	M14112LW	M14112RW	12	0.615	15.62	0.065	1.65
M14125KW	M14125LW	M14125RW	25	0.887	22.52	0.085	2.15

12 AWG (3.31 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
M12104KW	M12104LW	M12104RW	4	0.44	11.17	0.055	1.39
M12105KW	M12105LW	M12105RW	5	0.499	12.67	0.065	1.65
M12107KW	M12107LW	M12107RW	7	0.540	13.71	0.065	1.65

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
M10104KW	M10104LW	M10104RW	4	0.549	13.94	0.065	1.65
M10105KW	M10105LW	M10105RW	5	0.600	15.24	0.065	1.65
M10107KW	M10107LW	M10107RW	7	0.652	16.56	0.065	1.65

8 AWG (8.52 mm²)

Stranding: 168/30 (168 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.006 (0.15 mm) nylon

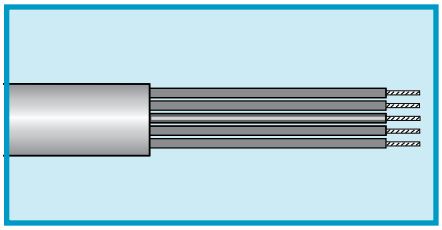
Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
M08104KW	M08104LW	M08104RW	4	0.724	18.38	0.065	1.65
M08105KW	M08105LW	M08105RW	5	0.795	20.19	0.065	1.65

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series P Enhanced Stationary Control Cable

Stationary or Minimal Flex Applications
600 V Unshielded, Multiconductor



UL TC-ER, PLTC
UL TFFN (18 – 16 AWG)
UL THHN (14 – 8 AWG)
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amend. 93/68/EEC

Operating Temperature
- -25°C to +90°C

Voltage Rating
- 600 V (TC-ER)
- 300 V (PLTC)

Conductor Color Coding
- Red, blue, or black insulation*, numbered
  1 green/yellow green conductor
  1 white-striped neutral
  (12 conductors or greater)

Materials
- Stranded bare copper conductors
- PVC/nylon insulation
- Oil-resistant thermoplastic elastomer jacket

Features
- UL Sunlight Resistant
- UL Oil Res. I/II
- 10x bend radius, static and dynamic
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability
Bulk, cut to length

FIT® Tubing Recommendations
- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical/temperature-resistant cross-linked fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP18103KW	MP18103LW	MP18103RW	3	0.313	7.95	0.050	1.27
MP18104KW	MP18104LW	MP18104LW	4	0.338	8.58	0.050	1.27
MP18105KW	MP18105LW	MP18105RW	5	0.365	9.27	0.050	1.27
MP18107KW	MP18107LW	MP18107RW	7	0.393	9.98	0.050	1.27
MP18112KW	MP18112LW	MP18112RW	12	0.527	13.39	0.065	1.65
MP18117KW	MP18117LW	MP18117RW	17	0.606	15.39	0.065	1.65
MP18122KW	MP18122LW	MP18122RW	22	0.663	16.84	0.065	1.65
MP18125KW	MP18125LW	MP18125RW	25	0.711	18.06	0.065	1.65
MP18134KW	MP18134LW	MP18134RW	34	0.789	20.04	0.065	1.65
MP18142KW	MP18142LW	MP18142RW	42	0.886	22.50	0.085	2.16
MP18149KW	MP18149LW	MP18149RW	49	0.935	23.75	0.085	2.16
MP18165KW	MP18165LW	MP18165RW	65	1.041	26.44	0.085	2.16

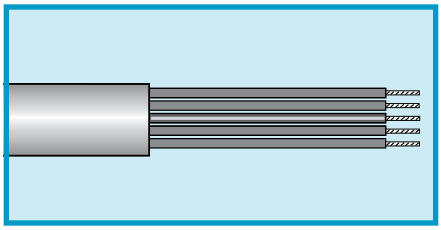
16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.016 (0.41mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP16103KW	MP16103LW	MP16103RW	3	0.335	8.51	0.050	1.27
MP16104KW	MP16104LW	MP16104RW	4	0.362	9.19	0.050	1.27
MP16105KW	MP16105LW	MP16105RW	5	0.392	9.96	0.050	1.27
MP16107KW	MP16107LW	MP16107RW	7	0.423	10.74	0.050	1.27
MP16112KW	MP16112LW	MP16112RW	12	0.569	14.45	0.065	1.65
MP16117KW	MP16117LW	MP16117RW	17	0.656	16.66	0.065	1.65
MP16122KW	MP16122LW	MP16122RW	22	0.719	18.26	0.065	1.65
MP16125KW	MP16125LW	MP16125RW	25	0.773	19.63	0.065	1.65
MP16133KW	MP16133LW	MP16133RW	33	0.869	22.07	0.085	2.16
MP16142KW	MP16142LW	MP16142RW	42	0.962	24.43	0.085	2.16
MP16149KW	MP16149LW	MP16149RW	49	1.017	25.83	0.085	2.16
MP16165KW	MP16165LW	MP16165RW	65	1.134	28.80	0.085	2.16

Series P Enhanced Stationary Control Cable

Stationary or Minimal Flex Applications
600 V Unshielded, Multiconductor



UL TC-ER, PLTC
UL TFFN (18 – 16 AWG)
UL THHN (14 – 8 AWG)
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amend. 93/68/EEC

Operating Temperature
- -25°C to +90°C

Voltage Rating
- 600 V (TC-ER)
- 300 V (PLTC)

Conductor Color Coding
- Red, blue, or black insulation*, numbered
  1 green/yellow green conductor
  1 white-striped neutral
  (12 conductors or greater)

Materials
- Stranded bare copper conductors
- PVC/nylon insulation
- Oil-resistant thermoplastic elastomer jacket

Features
- UL Sunlight Resistant
- UL Oil Res. I/II
- 10x bend radius, static and dynamic
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability
Bulk, cut to length

FIT® Tubing Recommendations
- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical/temperature-resistant cross-linked fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP14104KW	MP14104LW	MP14104RW	4	0.396	10.06	0.050	1.27
MP14105KW	MP14105LW	MP14105RW	5	0.430	10.92	0.050	1.27
MP14107KW	MP14107LW	MP14107RW	7	0.495	12.57	0.065	1.65
MP14112KW	MP14112LW	MP14112RW	12	0.627	15.93	0.065	1.65
MP14125KW	MP14125LW	MP14125RW	25	0.899	22.83	0.085	2.16

12 AWG (3.31 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP12104KW	MP12104LW	MP12104RW	4	0.472	11.99	0.065	1.65
MP12105KW	MP12105LW	MP12105RW	5	0.511	12.98	0.065	1.65
MP12107KW	MP12107LW	MP12107RW	7	0.552	14.02	0.065	1.65

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP10104KW	MP10104LW	MP10104RW	4	0.561	14.25	0.065	1.65
MP10105KW	MP10105LW	MP10105RW	5	0.612	15.54	0.065	1.65
MP10107KW	MP10107LW	MP10107RW	7	0.664	16.87	0.065	1.65

8 AWG (8.52 mm²)

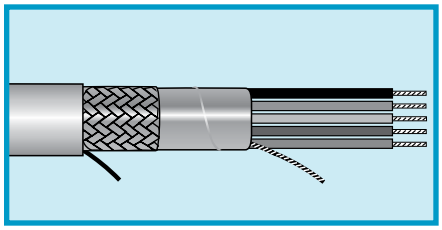
Stranding: 168/30 (105 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP08104KW	MP08104LW	MP08104RW	4	0.736	18.69	0.065	1.65
MP08105KW	MP08105LW	MP08105RW	5	0.807	20.50	0.065	1.65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series SF Flexible Servo Cable

600/1000 V, PVC/Nylon, TPE



UL TC-ER (600 V)
UL WTTC (1000 V)
CSA AWM I/II A/B FT4

Operating Temperature

- -25°C to +90°C (static)
- -5°C to +90°C (dynamic)

Conductor Color Coding

- Chart KX (page 534) for multiconductor
- Chart A (page 528) for pairs

Materials

- Stranded tinned copper conductors
- PVC/nylon insulation
- Foil + braid shielding Aluminum/polyester foil Tinned copper braid, 85% coverage
- Orange thermoplastic elastomer jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I/II
- 10x bend radius
- Two configurations
  1. Power cable
  2. Composite cable for power and control
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical/temperature-resistant cross-linked fluoroelastomer

Flexible Power Servo Cable

4 conductors for power/ground

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm
SF61118CY	4	18	0.96	19/30	19 x 0.25	0.382	9.70	0.055	1.40
SF61116CY	4	16	1.32	26/30	26 x 0.25	0.406	10.31	0.055	1.40
SF61114CY	4	14	2.09	41/30	41 x 0.25	0.440	11.18	0.055	1.40
SF61112CY	4	12	3.31	65/30	65 x 0.25	0.506	12.85	0.065	1.65
SF61110CY	4	10	5.32	105/30	105 x 0.25	0.603	15.32	0.065	1.65
SF61108CY	4	8	8.50	168/30	168 x 0.25	0.785	19.94	0.065	1.65

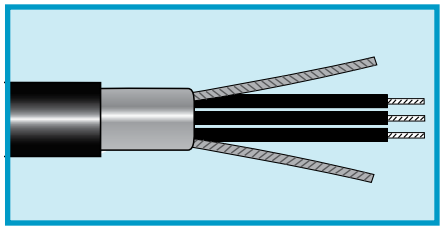
Flexible Composite Servo Cable

4 conductors for power/ground +2 individually shielded pairs for brake or temperature control

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm
SF61220CY	4 +2 pairs	16 pwr 18 pr	1.32 0.96	26/30 19/30	26 x 0.25 19 x 0.25	0.590	14.99	0.065	1.65
SF61221CY	4 +2 pairs	14 pwr 18 pr	2.09 0.96	41/30 19/30	41 x 0.25 19 x 0.25	0.618	15.70	0.065	1.65
SF61222CY	4 +2 pairs	12 pwr 16 pr	3.31 1.32	65/30 26/30	65 x 0.25 26 x 0.25	0.674	17.12	0.065	1.65
SF61223CY	4 +2 pairs	10 pwr 16 pr	5.37 1.32	105/30 26/30	105 x 0.25 26 x 0.25	0.757	19.23	0.065	1.65
SF61224CY	4 +2 pairs	8 pwr 16 pr	8.50 1.32	168/30 26/30	168 x 0.25 26 x 0.25	0.943	23.95	0.085	2.16

Series V VFD Control Cables

Enhanced Design for Superior Performance in Variable-Frequency Drives 600/1000 V Shielded



Series V cables for variable-frequency drives (VFD) set the standard in high-performance and reliable connectivity. Their specially formulated cross-linked polyethylene insulation provides superior corona resistance, low capacitance for longer runs, and excellent low-temperature properties.

A symmetrical design places the ground wires in the interstices of the conductors for uniform conductor-to-ground capacitance and impedance.

Smaller gauge cable feature a combination foil/braid shield to offer exceptional EMI/RFI protection in noisy environments. On larger gauge cable, a double copper tape is used to provide the same noise-free operation.

This uniformity reduces the probability of motor damage from common-mode current.

Alpha Series V VFD cables are compatible with drives from all major manufacturers.

UL RHW-2 (16 – 2 AWG)
UL XHHW-2
UL TC-ER
UL 1000V Flexible Motor Supply Cable
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amendment 93/68/EEC
Pennsylvania MHSA

Operating Temperature

- -40°C to +90°C

Conductor Color Coding

- Black, numbered

Materials

- Stranded tinned copper conductors
- Stranded tinned copper ground wires
- Cross-linked polyethylene insulation
- Shielding
  16 – 4 AWG:
  Aluminum/polyester/aluminum foil and tinned copper braid with 85% coverage
  2 – 4/0 AWG:
  Double-layer copper tape
- Black premium PVC jacket

Voltage

- 600 V (UL TC-ER)
- 1000 V (UL Motor Supply)

Features

- UL Direct Burial
- UL Sunlight Resistant
- 10x bend radius
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, made to order

FIT® Tubing Recommendations

- FIT-221: General-purpose cross-linked polyolefin
- FIT-321V: Low-shrink-temperature, flame-retardant cross-linked polyolefin

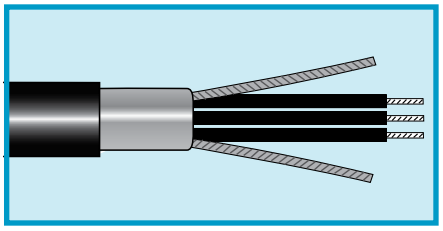
Three-Conductor VFD Cables

Part No.	Wire Size		Stranding		Shielding	Insulation Thickness		Jacket Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm		Inch	mm	Inch	mm	Inch	mm
V16316	16	1.32	26/30	26 x 0.25	Foil/Braid	0.046	1.17	0.050	1.27	0.468	11.89
V16314	14	2.09	41/30	41 x 0.25	Foil/Braid	0.046	1.17	0.065	1.65	0.538	13.67
V16312	12	3.31	65/30	65 x 0.25	Foil/Braid	0.046	1.17	0.065	1.65	0.578	14.68
V16310	10	5.37	105/30	105 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.642	16.31
V16308	8	8.53	133/29	133 x 0.28	Foil/Braid	0.061	1.55	0.065	1.65	0.798	20.27
V16306	6	13.57	133/27	133 x 0.36	Foil/Braid	0.061	1.55	0.085	2.15	0.924	23.47
V16304	4	21.58	133/25	133 x 0.45	Foil/Braid	0.061	1.55	0.085	2.15	1.050	26.67
V16302	2	34.32	133/23	133 x 0.57	Tape	0.061	1.55	0.085	2.15	1.157	29.39
V16001	1	43.28	133/22	133 x 0.64	Tape	0.056	1.42	0.085	2.15	1.197	30.48
V16000	1/0	54.58	133/21	133 x 0.72	Tape	0.056	1.42	0.085	2.15	1.294	32.77
V16020	2/0	68.85	133/20	133 x 0.81	Tape	0.056	1.42	0.085	2.15	1.399	35.56
V16030	3/0	86.9	133/19	133 x 0.91	Tape	0.056	1.42	0.085	2.15	1.517	38.53
V16040	4/0	109	133/18	133 x 1.02	Tape	0.056	1.42	0.085	2.15	1.653	41.98

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series V VFD Control Cables

Enhanced Design for Superior Performance in Variable-Frequency Drives 600/1000 V Shielded



Series V cables for variable-frequency drives (VFD) set the standard in high-performance and reliable connectivity. Their specially formulated cross-linked polyethylene insulation provides superior corona resistance, low capacitance for longer runs, and excellent low-temperature properties.

A symmetrical design places the ground wires in the interstices of the conductors for uniform conductor-to-ground capacitance and impedance.

Smaller gauge cable feature a combination foil/braid shield to offer exceptional EMI/RFI protection in noisy environments. On larger gauge cable, a double copper tape is used to provide the same noise-free operation.

This uniformity reduces the probability of motor damage from common-mode current.

Alpha Series V VFD cables are compatible with drives from all major manufacturers.

UL RHW-2 (16 – 2 AWG)
UL XHHW-2
UL TC-ER
UL 1000V Flexible Motor Supply Cable
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amendment 93/68/EEC
Pennsylvania MHSA

Operating Temperature

- -40°C to +90°C

Conductor Color Coding

- Black, numbered

Materials

- Stranded tinned copper conductors
- Stranded tinned copper ground wires
- Cross-linked polyethylene insulation
- Shielding
  16 – 4 AWG:
  Aluminum/polyester/aluminum foil and tinned copper braid with 85% coverage
  2 – 4/0 AWG:
  Double-layer copper tape
- Black premium PVC jacket

Voltage

- 600 V (UL TC-ER)
- 1000 V (UL Motor Supply)

Features

- UL Direct Burial
- UL Sunlight Resistant
- 10x bend radius
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, made to order

FIT® Tubing Recommendations

- FIT-221: General-purpose cross-linked polyolefin
- FIT-321V: Low-shrink-temperature, flame-retardant cross-linked polyolefin

Four-Conductor VFD Cable

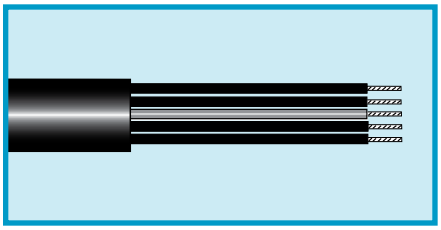
Part No.	Wire Size		Stranding		Shielding	Insulation Thickness		Jacket Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm		Inch	mm	Inch	mm	Inch	mm
V16016	16	1.32	26/30	26 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.547	13.89
V16014	14	2.09	41/30	41 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.584	14.83
V16012	12	3.31	65/30	65 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.633	16.08
V16010	10	5.37	105/30	105 x 0.25	Foil/Braid	0.047	1.19	0.085	2.15	0.746	18.95
V16008	8	8.53	133/29	133 x 0.28	Foil/Braid	0.061	1.55	0.086	2.15	0.920	23.37
V16006	6	13.57	133/27	133 x 0.36	Foil/Braid	0.061	1.55	0.086	2.15	1.017	25.83
V16004	4	21.58	133/25	133 x 0.45	Foil/Braid	0.061	1.55	0.086	2.15	1.157	29.39
V16002	2	34.32	133/23	133 x 0.57	Foil/Braid	0.061	1.55	0.088	2.15	1.308	33.22

Four-Conductor VFD Cable with 14 AWG (2.09) Brake Pair

Part No.	Wire Size		Stranding		Shielding	Insulation Thickness		Jacket Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm		Inch	mm	Inch	mm	Inch	mm
V16116	16	1.32	26/30	26 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.717	18.21
V16114	14	2.09	41/30	41 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.743	18.87
V16112	12	3.31	65/30	65 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.785	19.94
V16110	10	5.37	105/30	105 x 0.25	Foil/Braid	0.047	1.19	0.085	2.15	0.875	22.23
V16108	8	8.53	133/29	133 x 0.28	Foil/Braid	0.061	1.55	0.085	2.15	1.032	26.21

Series XM Flexible Control Cable

600/1000 V Unshielded, PVC/Nylon, PVC



Series XM Flexible Control Cable is the ideal choice for medium-to-high-flex applications. Featuring a premium-grade PVC jacket, Series XM offers a durable, oil-resistant construction that prevents contamination from hazardous fluids and protects against abrasion. Plus, its optimum flexibility and performance allows it to support a variety of industrial applications.

UL TC-ER (600 V)
UL WTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE compliant

Operating Temperature

-30°C to +90°C (static)
-5°C to +90°C (dynamic)

Conductor Color Coding

- Chart KW, RW, LW (pages 533-535)
- Black, blue, or red* numbered conductors with one green/yellow ground conductor

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Black PVC jacket

Features

- UL Oil Res. I
- UL Sunlight Resistant
- Suitable for NFPA 79 application

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

18 AWG (0.83 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1803R	XM1803L	XM1803K	3	0.308	7.82	0.050	1.27
XM1804R	XM1804L	XM1804K	4	0.333	8.46	0.050	1.27
XM1805R	XM1805L	XM1805K	5	0.360	9.14	0.050	1.27
XM1807R	XM1807L	XM1807K	7	0.418	10.62	0.050	1.27
XM1812R	XM1812L	XM1812K	12	0.485	12.32	0.050	1.27
XM1817R	XM1817L	XM1817K	17	0.597	15.16	0.065	1.65
XM1822R	XM1822L	XM1822K	22	0.656	16.66	0.065	1.65
XM1825R	XM1825L	XM1825K	25	0.717	18.21	0.065	1.65
XM1834R	XM1834L	XM1834K	34	0.775	19.69	0.065	1.65
XM1842R	XM1842L	XM1842K	42	0.874	22.20	0.085	2.16
XM1849R	XM1849L	XM1849K	49	0.965	24.51	0.085	2.16
XM1865R	XM1865L	XM1865K	65	1.052	26.72	0.085	2.16

16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1603R	XM1603L	XM1603K	3	0.334	8.48	0.050	1.27
XM1604R	XM1604L	XM1604K	4	0.362	9.19	0.050	1.27
XM1605R	XM1605L	XM1605K	5	0.393	9.98	0.050	1.27
XM1607R	XM1607L	XM1607K	7	0.459	11.66	0.050	1.27
XM1612R	XM1612L	XM1612K	12	0.565	14.35	0.065	1.65
XM1617R	XM1617L	XM1617K	17	0.657	16.69	0.065	1.65
XM1619R	XM1619L	XM1619K	19	0.691	17.55	0.065	1.65
XM1622R	XM1622L	XM1622K	22	0.724	18.39	0.065	1.65
XM1625R	XM1625L	XM1625K	25	0.793	20.14	0.065	1.65
XM1633R	XM1633L	XM1633K	33	0.899	22.83	0.085	2.16
XM1642R	XM1642L	XM1642K	42	0.966	24.54	0.085	2.16
XM1649R	XM1649L	XM1649K	49	1.069	27.15	0.085	2.16

14 AWG (2.11 mm²)

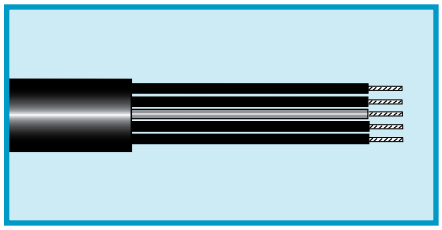
Stranding: 105/34 (105 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1403R	XM1403L	XM1403K	3	0.366	9.30	0.050	1.27
XM1404R	XM1404L	XM1404K	4	0.398	10.11	0.050	1.27
XM1405R	XM1405L	XM1405K	5	0.464	11.79	0.065	1.65
XM1407R	XM1407L	XM1407K	7	0.539	13.69	0.065	1.65
XM1412R	XM1412L	XM1412K	12	0.627	15.93	0.065	1.65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series XM Flexible Control Cable

600/1000 V Unshielded, PVC/Nylon, PVC



Series XM Flexible Control Cable is the ideal choice for medium-to-high-flex applications. Featuring a premium-grade PVC jacket, Series XM offers a durable, oil-resistant construction that prevents contamination from hazardous fluids and protects against abrasion. Plus, its optimum flexibility and performance allows it to support a variety of industrial applications.

UL TC-ER (600 V)
UL WTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE compliant

Operating Temperature

-30°C to +90°C (static)
-5°C to +90°C (dynamic)

Conductor Color Coding

- Chart KW, RW, LW (pages 533-535)
- Black, blue, or red* numbered conductors with one green/yellow ground conductor

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Black PVC jacket

Features

- UL Oil Res. I
- UL Sunlight Resistant
- Suitable for NFPA 79 application

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

12 AWG (3.38 mm²)

Stranding 168/34 (168 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1203R	XM1203L	XM1203K	3	0.431	10.95	0.050	1.27
XM1204R	XM1204L	XM1204K	4	0.501	12.73	0.065	1.65
XM1205R	XM1205L	XM1205K	5	0.545	13.84	0.065	1.65
XM1207R	XM1207L	XM1207K	7	0.640	16.26	0.065	1.65

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1003R	XM1003L	XM1003K	3	0.487	12.37	0.050	1.27
XM1004R	XM1004L	XM1004K	4	0.565	14.35	0.065	1.65
XM1005R	XM1005L	XM1005K	5	0.618	15.70	0.065	1.65
XM1007R	XM1007L	XM1007K	7	0.729	18.52	0.065	1.65

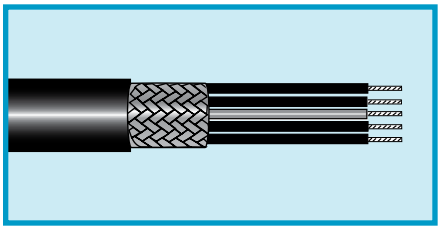
8 AWG (8.51 mm²)

Stranding: 168/30 (168 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.006 (0.15 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM0803R	XM0803L	XM0803K	3	0.671	17.04	0.065	1.65
XM0804R	XM0804L	XM0804K	4	0.737	18.72	0.065	1.65

Series XM Flexible Control Cable

600/1000 V Braid Shielded, PVC/Nylon, PVC



Series XM Flexible Control Cable is the ideal choice for medium-to-high-flex applications. Featuring a premium-grade PVC jacket, Series XM offers a durable, oil-resistant construction that prevents contamination from hazardous fluids and protects against abrasion. Plus, its optimum flexibility and performance allows it to support a variety of industrial applications.

UL TC-ER (600 V)
UL WTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE compliant

Operating Temperature

-30°C to +90°C (static)
-5°C to +90°C (dynamic)

Conductor Color Coding

- Chart KW, RW, LW (pages 533-535)
- Black, blue, or red* numbered conductors with one green/yellow ground conductor

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Tinned copper braid shield, 85% coverage
- Black PVC jacket

Features

- UL Oil Res. I
- UL Sunlight Resistant
- Suitable for NFPA 79 application

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

18 AWG (0.83 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1803RCY	XM1803LCY	XM1803KCY	3	0.336	8.53	0.050	1.27
XM1804RCY	XM1804LCY	XM1804KCY	4	0.361	9.17	0.050	1.27
XM1805RCY	XM1805LCY	XM1805KCY	5	0.388	9.86	0.050	1.27
XM1807RCY	XM1807LCY	XM1807KCY	7	0.446	11.33	0.050	1.27
XM1812RCY	XM1812LCY	XM1812KCY	12	0.549	13.94	0.050	1.27
XM1817RCY	XM1817LCY	XM1817KCY	17	0.631	16.03	0.065	1.65
XM1822RCY	XM1822LCY	XM1822KCY	22	0.697	17.70	0.065	1.65
XM1825RCY	XM1825LCY	XM1825KCY	25	0.758	19.25	0.065	1.65
XM1834RCY	XM1834LCY	XM1834KCY	34	0.856	21.74	0.065	1.65
XM1842RCY	XM1842LCY	XM1842KCY	42	0.915	23.24	0.085	2.16
XM1849RCY	XM1849LCY	XM1849KCY	49	1.006	25.55	0.085	2.16

16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1603RCY	XM1603LCY	XM1603KCY	3	0.362	9.19	0.050	1.27
XM1604RCY	XM1604LCY	XM1604KCY	4	0.390	9.91	0.050	1.27
XM1605RCY	XM1605LCY	XM1605KCY	5	0.421	10.69	0.050	1.27
XM1607RCY	XM1607LCY	XM1607KCY	7	0.517	13.13	0.050	1.27
XM1612RCY	XM1612LCY	XM1612KCY	12	0.599	15.21	0.065	1.65
XM1617RCY	XM1617LCY	XM1617KCY	17	0.698	17.73	0.065	1.65
XM1619RCY	XM1619LCY	XM1619KCY	19	0.732	18.59	0.065	1.65
XM1622RCY	XM1622LCY	XM1622KCY	22	0.765	19.43	0.065	1.65
XM1625RCY	XM1625LCY	XM1625KCY	25	0.874	22.20	0.065	1.65
XM1633RCY	XM1633LCY	XM1633KCY	33	0.940	23.88	0.085	2.16
XM1642RCY	XM1642LCY	XM1642KCY	42	1.007	25.58	0.085	2.16
XM1649RCY	XM1649LCY	XM1649KCY	49	1.110	28.19	0.085	2.16

14 AWG (2.11 mm²)

Stranding: 105/34 (105 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1403RCY	XM1403LCY	XM1403KCY	3	0.394	10.01	0.050	1.27
XM1404RCY	XM1404LCY	XM1404KCY	4	0.426	10.82	0.050	1.27
XM1405RCY	XM1405LCY	XM1405KCY	5	0.492	12.50	0.065	1.65
XM1407RCY	XM1407LCY	XM1407KCY	7	0.573	14.55	0.065	1.65
XM1412RCY	XM1412LCY	XM1412KCY	12	0.661	16.79	0.065	1.65

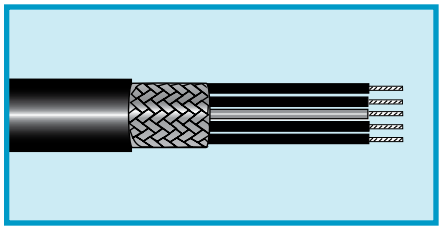
*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

RoHS Compliant CA PROP 65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series XM Flexible Control Cable

600/1000 V Braid Shielded, PVC/Nylon, PVC



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UL TC-ER (600 V)
UL WTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE compliant

Operating Temperature

-30°C to +90°C (static)
-5°C to +90°C (dynamic)

Conductor Color Coding

- Chart KW, RW, LW (pages 533-535)
- Black, blue, or red* numbered conductors with one green/yellow ground conductor

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Tinned copper braid shield, 85% coverage
- Black PVC jacket

Features

- UL Oil Res. I
- UL Sunlight Resistant
- Suitable for NFPA 79 application

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

12 AWG (3.38 mm²)

Stranding 168/34 (168 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1203RCY	XM1203LCY	XM1203KCY	3	0.459	11.66	0.050	1.27
XM1204RCY	XM1204LCY	XM1204KCY	4	0.529	13.44	0.065	1.65
XM1205RCY	XM1205LCY	XM1205KCY	5	0.579	14.71	0.065	1.65
XM1207RCY	XM1207LCY	XM1207KCY	7	0.674	17.12	0.065	1.65

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1003RCY	XM1003LCY	XM1003KCY	3	0.551	14.00	0.050	1.27
XM1004RCY	XM1004LCY	XM1004KCY	4	0.599	15.21	0.065	1.65
XM1005RCY	XM1005LCY	XM1005KCY	5	0.652	16.56	0.065	1.65
XM1007RCY	XM1007LCY	XM1007KCY	7	0.770	19.56	0.065	1.65

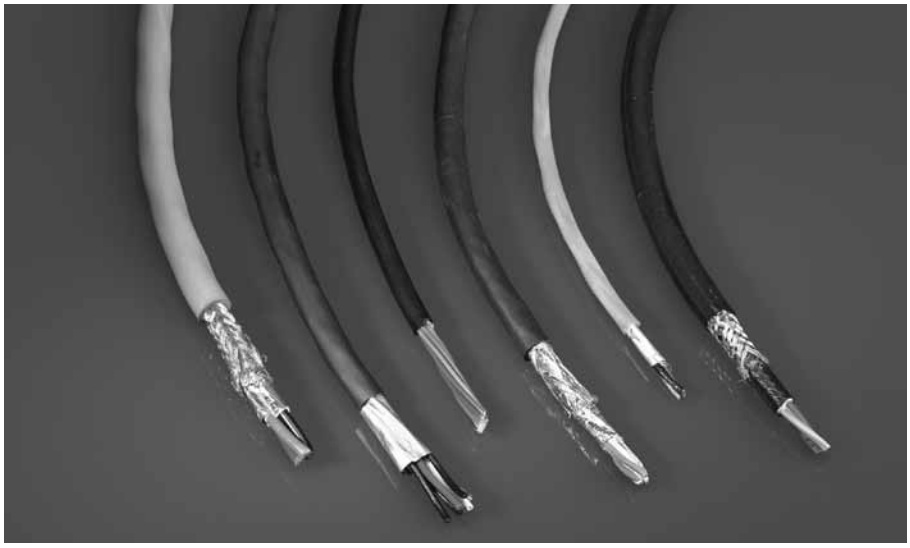
8 AWG (8.51 mm²)

Stranding: 168/30 (168 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.006 (0.15 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM0803RCY	XM0803LCY	XM0803KCY	3	0.712	18.08	0.065	1.65
XM0804RCY	XM0804LCY	XM0804KCY	4	0.778	19.76	0.065	1.65

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

The Right Cable . . . Just the Way You Want It



Custom Cable as Custom as Your Application!

Alpha Wire has a long heritage of supplying a wide range of wire, cable, tubing, and accessories for varying applications. We understand that despite the breadth and depth of our product portfolio, sometimes you require a cable as unique as the application. We make it easy to configure a custom cable.

We can also help you fashion the perfect cable to meet application parameters. The Alpha Wire Cable Design Center® allows you to quickly and easily modify any standard Alpha cable specification to your own application requirements. Count on the cable and application experts at Alpha Wire for guidance.

With our quick quotes and fast production turnaround, we will have your custom cable to you in no time.

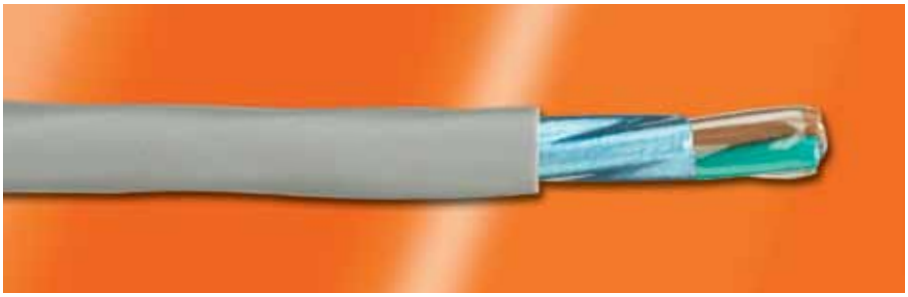
- **Meet special application requirements**
- **Increase system reliability with application-specific configurations**
- **Speed installation by reducing the number of different cables needed**
- **Get the best match of electrical, mechanical, and environmental properties**
- **Build composite cables with a mixture of conductor sizes, insulations, and shielding**
- **Spec your design fast with the on-line Cable Design Center™**
- **Receive quotes quickly**
- **Experience industry-leading turnarounds on custom cables**

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Electrical Cable

Manhattan™ Electrical Cable

Signal transmission made reliable



Alpha Wire's Manhattan brand has been a trusted and reliable source of cable for over 60 years. Whether you need something as simple as a power cord or a cable that can maintain audio-video signal integrity in a noisy environment, you'll find the breadth and depth of products to ensure an optimum solution to your application.

- **Audio/video**
- **Computer**
- **Thermocouple**
- **Control**
- **Plenum**
- **Coaxial**
- **Cords/cordage**
- **High temperature**
- **Security and data**
- **Instrumentation**

Audio/video cable

Choose the correct number of conductors, gauge, insulation, shielding, jacket material, UL/CSA/NEC approvals, and any other parameters to find the right cable for your application.

Computer cable

We offer the widest range of shielded and unshielded configurations to satisfy applications including traditional RS-232 and RS-422 interfaces, point-of-sale equipment, and modems and multiplexers. For extended distances, we offer cables with very low capacitance.

Instrumentation cable

Maintain the integrity of analog and digital signals with our broad product portfolio of single and multiple pair shielded and unshielded products.

Control cable

We offer UL style TC in a variety of conductor counts, gauges, and shielding options, all with durable PVC/nylon insulation and PVC jackets. We also offer MIL-DTL-16878 cables with 600 V and 1000 V ratings.

Plenum cable

We offer a full range of cables for control, computer interconnections, security, alarms, and building energy management systems in a variety of plenum-rated insulations and jackets.

Coaxial cable

For a complete range of 50, 75, 93, and 100 ohm coaxial, twinaxial, and triaxial cables, we offer a wide range of insulations and jackets meeting the requirements of military specifications and regulatory agencies such as UL and CSA.

Cords/cordsets

All our cords are UL Listed and CSA Certified; we also offer a wide range of CENELEC-approved products for international use. Options include two- and three-conductor cords, shielded or unshielded, stripped and terminated cable ends, straight or retractile cords, and all common plug and receptacle configurations.

High-temperature cable

Alpha Wire's Manhattan brand of high-temperature cables are available for temperatures ranging from 150°C to 540°C. We make it easy for you select the right cable to meet the demanding high-temperature requirements for control and power applications.

Security and data

Count on Alpha Wire for a complete product family of security and data cables, optimized for security video, data, and monitoring applications.

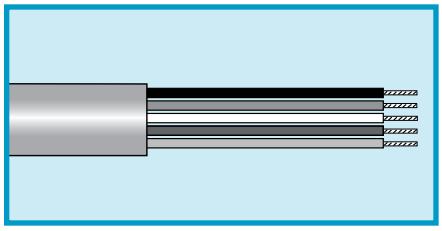
Thermocouple cable

You can find the perfect Manhattan brand thermocouple cable based on conductor combinations JX, KX, EX, and SX, as well as insulations suited for applications up to 200°C, for quality and accurate temperature measurement.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Audio/Video Cable

300 V Unshielded, Multiconductor, SR-PVC/PVC, PVC



UL AWM 2464, 2509, 2576,
UL CM, CMG
CSA CM, CMG FT4

Applications

- Unbalanced intercom and sound systems
- Remote circuit control
- Low-voltage circuits

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM, CMG)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC or semirigid PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

UL AWM 2509, UL CMG, PVC Insulation

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code J

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13302	2	0.174	4.42	0.025	0.64

UL AWM 2576, UL CM, PVC Insulation (150 V)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M13303	3	0.172	4.37	0.032	0.81	Black, Green, Red
M13304	4	0.185	4.70	0.032	0.81	O
M13305	5	0.200	5.08	0.032	0.81	O
M13306	6	0.215	5.46	0.032	0.81	O
M13307	7	0.215	5.46	0.032	0.81	O
M13308	8	0.230	5.84	0.032	0.81	O
M13309	9	0.246	6.25	0.032	0.81	O
M13310	10	0.264	6.71	0.032	0.81	O
M13312	12	0.272	6.91	0.032	0.81	O
M13315	15	0.310	7.87	0.040	1.02	F
M13320	20	0.342	8.69	0.040	1.02	F
M13325	25	0.380	9.65	0.040	1.02	F
M13330	30	0.401	10.19	0.040	1.02	F
M13340	40	0.445	11.30	0.040	1.02	F
M13350	50	0.498	12.65	0.045	1.14	F

UL AWM 2464, UL CM, PVC Insulation

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.013 (0.33 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M13404	4	0.219	5.56	0.032	0.81	O
M13405	5	0.238	6.05	0.032	0.81	O
M13407	7	0.257	6.53	0.032	0.81	O
M13409	9	0.303	7.70	0.035	0.89	O
M13412	12	0.336	8.53	0.035	0.89	O
M13415	15	0.374	9.50	0.040	1.02	F

UL AWM 2509, UL CMG, PVC Insulation

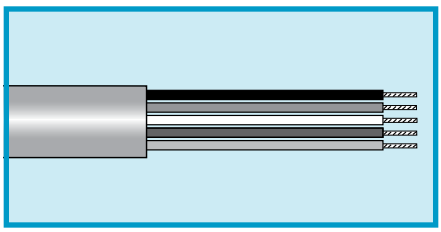
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code J

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13402	2	0.180	4.57	0.020	0.51

Manhattan™ Audio/Video Cable

300 V Unshielded, Multiconductor, SR-PVC, PVC



UL AWM 2463, 2464, 2509, 2576, 2598
UL CM, CMG
UL CL2, CL3
CSA CM, CMG FT4

Applications

- Unbalanced intercom and sound systems
- Remote circuit control
- Low-voltage circuits

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM, CMG, CL2, CL3)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC or semirigid PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

UL AWM 2509, UL CMG, PVC Insulation

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code J

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13502	2	0.198	5.03	0.020	0.51

UL AWM 2598, UL CM, PVC Insulation

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.018 (0.46 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M13503	3	0.249	6.32	0.032	0.81	O
M13504	4	0.272	6.91	0.032	0.81	O
M13505	5	0.297	7.54	0.032	0.81	O
M13507	7	0.333	8.46	0.037	0.94	O
M13509	9	0.387	9.83	0.037	0.94	O
M13512	12	0.437	11.10	0.040	1.02	F
M13515	15	0.485	12.32	0.045	1.14	F
M13519	19	0.520	13.21	0.045	1.14	F
M13525	25	0.636	16.15	0.060	1.52	F

UL AWM 2576, UL CM, PVC Insulation

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Color Code F

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Insulation Thickness	
		Inch	mm	Inch	mm	Inch	mm
M13572	2	0.274	6.96	0.032	0.81	0.023	0.58
M13574	4	0.378	9.60	0.045	1.14	0.030	0.76

UL AWM 2463, UL CL2 or CL3, PVC Insulation

14 AWG (2.08 mm²)

Stranding: 19/0.0147 (19 x 0.37 mm)
Insulation thickness: 0.032 (0.81 mm)
Color Code F

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approval
		Inch	mm	Inch	mm	
M13582	2	0.346	8.79	0.035	0.89	CL2
M13584	4	0.404	10.26	0.035	0.89	CL3

UL AWM 2463, UL CL3, PVC Insulation

12 AWG (3.29 mm²)

Stranding: 19/0.0185 (19 x 0.47 mm)
Insulation thickness: 0.032 (0.81 mm)
Color Code F

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13590	2	0.394	10.00	0.040	1.02

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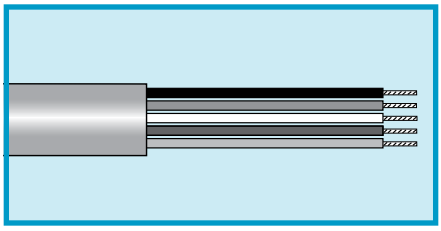
Manhattan™ Audio/Video Cable

300 V Unshielded, Multiconductor, PVC, PVC



UL AWM 2463 (600 V) VW-1

Applications

- Unbalanced intercom and sound systems
- Remote circuit control
- Low-voltage circuits

Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- Chart F (page 532)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

16 AWG (1.32 mm²)

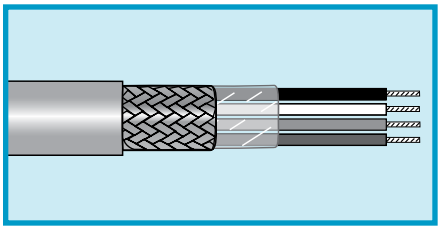
Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3704	4	0.392	9.96	0.047	1.19
M3705	5	0.428	10.87	0.047	1.19
M3707	7	0.465	11.81	0.047	1.19
M3709	9	0.574	14.58	0.063	1.60
M3712	12	0.637	16.17	0.063	1.60
M3715	15	0.691	17.55	0.063	1.60
M3719	19	0.742	18.85	0.063	1.60
M3725	25	0.904	22.96	0.083	2.11

UL LISTED CA PROP 65 RoHS Compliant

Manhattan™ Audio/Video Cable

300 V Braid Shield, Multiconductor, PE, PVC



UL AWM 2092, 2093, 2094
UL CM

Applications

- Sensing, recording, monitoring devices, and telemetry

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60°C (AWM)

Conductor Color Coding

- Chart H (page 533)

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Tinned copper braid shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M1102	2	0.177	4.50	0.020	0.51	2092
M1103	3	0.186	4.72	0.020	0.51	2093
M1104	4	0.200	5.08	0.020	0.51	2094
M1105	5	0.217	5.51	0.020	0.51	2094
M1106	6	0.234	5.94	0.020	0.51	2094

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M1112	2	0.193	4.90	0.020	0.51	2092
M1113	3	0.203	5.16	0.020	0.51	2093
M1114	4	0.220	5.59	0.020	0.51	2094
M1115	5	0.239	6.07	0.020	0.51	2094
M1116	6	0.258	6.55	0.020	0.51	2094
M1118	8	0.278	7.06	0.020	0.51	2094

20 AWG (0.52 mm²)

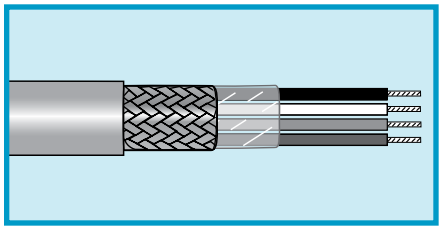
Stranding: 26/34 (26 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M1122	2	0.229	5.82	0.032	0.81	2092
M1123	3	0.246	6.25	0.035	0.89	2093
M1124	4	0.264	6.71	0.035	0.89	2094
M1125	5	0.285	7.24	0.035	0.89	2094
M1126	6	0.306	7.77	0.035	0.89	2094
M1128	8	0.328	8.33	0.035	0.89	2094
M1130	10	0.375	9.53	0.035	0.89	2094
M1132	12	0.386	9.80	0.035	0.89	2094
M1135	15	0.417	10.59	0.035	0.89	2094
M1140	20	0.464	11.79	0.035	0.89	2094

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Audio/Video Cable

300 V Braid Shield, Multiconductor, PE, PVC



UL AWM 2092, 2093, 2094
UL CM

Applications

- Sensing, recording, monitoring devices, and telemetry

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60°C (AWM)

Conductor Color Coding

- Chart H (page 533)

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Tinned copper braid shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.82 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M1142	2	0.253	6.43	0.035	0.89	2092
M1143	3	0.265	6.73	0.035	0.89	2093
M1144	4	0.286	7.26	0.035	0.89	2094
M1146	6	0.333	8.46	0.035	0.89	2094

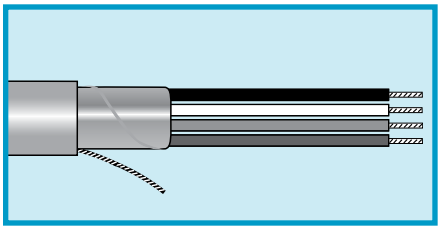
16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M1162	2	0.277	7.04	0.035	0.89	2092
M1163	3	0.291	7.39	0.035	0.89	2093
M1164	4	0.308	7.82	0.035	0.89	2094

Manhattan™ Audio/Video Cable

300 V Foil Shield, Overall, Multiconductor, PP, HDPE Direct Burial



UL AWM 2092, 2093, 2094
UL CM

Applications

- Direct burial audio and data transmission

Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- See table

Materials

- Solid tinned copper conductors
- Polypropylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  22 AWG (0.32 mm²) solid tinned copper drain wire
- Black high-density polyethylene jacket

Features

- Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk
(Minimums may apply)

20 AWG (0.51 mm²)

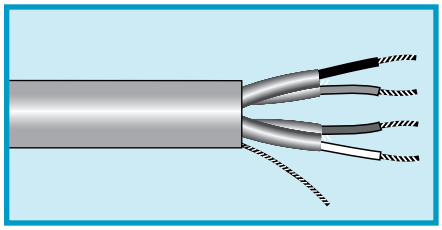
Stranding: : 10/30 (10 x 0.25 mm)
Insulation thickness: 0.013 (0.33 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M39047	2	0.193	4.90	0.035	0.89	O
M39048	3	0.202	5.13	0.035	0.89	O
M39049	10	0.319	8.10	0.040	1.02	O
M39050	15	0.363	9.22	0.045	1.14	F

Mutual capacitance: 22.2 pF/ft (72.8 pF/m)
Ground capacitance: 40 pF/ft (131.2 pF/m)
Except Part No. M39047:
Mutual capacitance: 24.5 pF/ft (80.3 pF/m)
Ground capacitance: 44 pF/ft (144.3 pF/m)

Manhattan™ Audio/Video Cable

350 V Individually Foil Shielded Pairs, Multipair, PP, HDPE Direct Burial



UL AWM 2092, 2093, 2094
UL CM

Applications

- Direct burial audio and data transmission

Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- Chart K (page 529)

Materials

- Stranded tinned copper conductors
- Polypropylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  22 AWG (0.35 mm²) stranded tinned copper drain wire
- Black high-density polyethylene jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25)
Insulation thickness: 0.013 (0.33 mm)

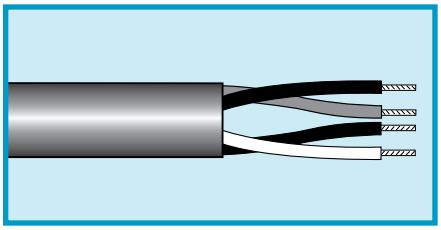
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39051	3	0.336	8.53	0.040	1.02
M39052	6	0.446	11.33	0.045	1.14

Mutual capacitance: 24.5 pF/ft (80.3 pF/m)
Ground capacitance: 44 pF/ft (144.3 pF/m)

RoHS Compliant

Manhattan™ Audio/Video Cable

300 V Unshielded, Multipair, PVC, PVC



UL AWM 2464, 2576 (150 V)
UL CMG
CSA CMG FT4 (150 V)

Applications

- Speakers and sound systems

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart K (page 529)

Materials

- Solid or stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

AWM 2576, CMG

22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13001	1	0.157	3.98	0.032	0.81
M13002	2	0.215	5.46	0.032	0.81
M13003	3	0.226	5.74	0.032	0.81
M13004	4	0.246	6.24	0.032	0.81
M13005	5	0.267	6.78	0.032	0.81
M13006	6	0.289	7.34	0.032	0.81
M13008	8	0.318	8.07	0.035	0.89
M13009	9	0.342	8.68	0.035	0.89
M13013	13	0.392	9.95	0.037	0.94
M13019	19	0.452	11.48	0.040	1.02
M13027	27	0.547	13.89	0.045	1.14

AWM 2576, CMG

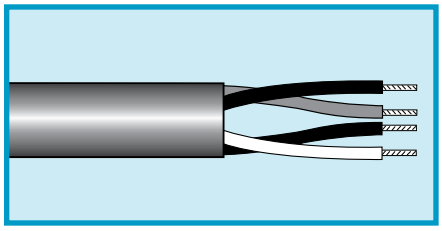
22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13032	2	0.231	5.86	0.032	0.81
M13033	3	0.244	6.19	0.032	0.81
M13034	4	0.265	6.73	0.032	0.81
M13036	6	0.320	8.13	0.035	0.89
M13039	9	0.375	9.52	0.037	0.94
M13042	12	0.424	10.76	0.040	1.02
M13045	15	0.460	11.68	0.040	1.02
M13049	19	0.493	12.52	0.040	1.02
M13057	27	0.598	15.18	0.045	1.14

Manhattan™ Audio/Video Cable

300 V Unshielded, Multipair, PVC, PVC



UL AWM 2464, 2576 (150 V)
UL CMG
CSA CMG FT4 (150 V)

Applications

- Speakers and sound systems

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart K (page 529)

Materials

- Solid or stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

AWM 2464, CMG

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13063	3	0.224	5.68	0.035	0.89
M13066	6	0.284	7.21	0.035	0.89
M13069	9	0.328	8.33	0.035	0.89
M13072	15	0.405	10.28	0.040	1.02

AWM 2464, CMG

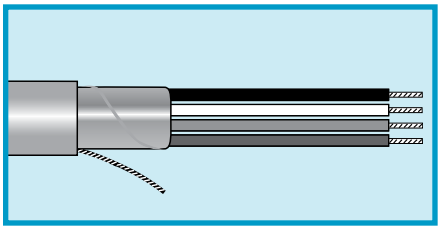
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13081	1	0.225	5.72	0.032	0.81
M13082	2	0.326	8.28	0.032	0.81
M13083	3	0.346	8.79	0.032	0.81
M13084	4	0.380	9.65	0.032	0.81
M13085	5	0.418	10.62	0.032	0.81
M13086	6	0.458	11.63	0.032	0.81
M13088	8	0.508	12.90	0.037	0.94
M13089	9	0.554	14.07	0.040	1.02
M13092	12	0.633	16.08	0.046	1.17
M13095	15	0.700	17.78	0.051	1.30
M13099	19	0.761	19.33	0.055	1.40

Manhattan™ Audio/Video Cable

300 V Foil Shield, Overall, Multiconductor, PE, PVC



UL AWM 2092, 2093, 2094
UL CMG
CSA CMG
CSA FT4

Applications

- Audio and sound systems requiring small-diameter cable with 100% shield coverage

Operating Temperature

- -20°C to +75°C (CMG)
- -20°C to +60°C (AWM)

Conductor Color Coding

- AWM 2092: 1 Black, 2 Red (except Part No. M3222: Black, Natural)
- AWM 2093: 1 Black, 2 Red, 3 Natural
- AWM 2094: 1 Black, 2 Red, 3 Natural, 4 Green

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire (see tables for size)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M3222	2	0.159	4.04	0.020	0.51	2092
M3223	3	0.168	4.27	0.020	0.51	2093
M3224	4	0.182	4.62	0.020	0.51	2094

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M3226	2	0.171	4.34	0.020	0.51	2092
M3227	3	0.181	4.60	0.020	0.51	2093
M3228	4	0.197	5.00	0.020	0.51	2094

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M3232	2	0.187	4.75	0.020	0.51	2092
M3233	3	0.198	5.03	0.020	0.51	2093
M3234	4	0.216	5.49	0.020	0.51	2094

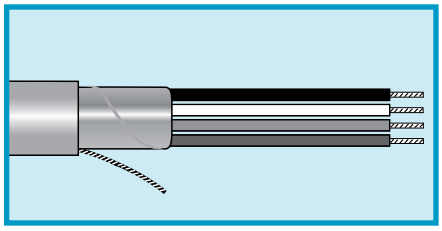
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M3242	2	0.205	5.21	0.020	0.51	2092
M3243	3	0.217	5.51	0.020	0.51	2093
M3244	4	0.238	6.05	0.020	0.51	2094

Manhattan™ Audio/Video Cable

300 V Foil Shield, Overall, Multiconductor, PE, PVC



UL AWM 2092, 2093, 2094
UL CMG
UL CL2 (150 V)
CSA CMG
CSA FT4

Applications

- Audio and sound systems requiring small-diameter cable with 100% shield coverage

Operating Temperature

- -20°C to +75°C (CMG)
- -20°C to +60°C (AWM)

Conductor Color Coding

- AWM 2092 and CL2: 1 Black, 2 Red
- AWM 2093: 1 Black, 2 Red, 3 Natural

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire (see tables for size)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)
18 AWG (0.81 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL AWM
		Inch	mm	Inch	mm	
M3247	2	0.229	5.82	0.020	0.51	2092
M3248	3	0.243	6.17	0.020	0.51	2093

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)
16 AWG (1.32 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL Style
		Inch	mm	Inch	mm	
M3249	2	0.288	7.32	0.030	0.76	CL2

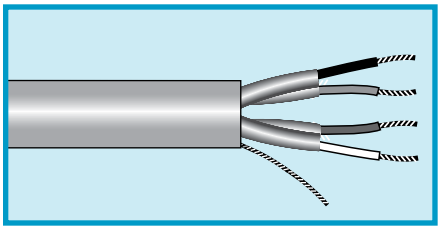
12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)
14 AWG (2.08 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL Style
		Inch	mm	Inch	mm	
M3250	2	0.326	8.28	0.030	0.76	CL2

Manhattan™ Audio/Video Cable

300 V Individually Foil Shielded Pairs, Multipair, PP/PE/SR-PVC, PVC



UL AWM 2464, 2493, 2919 (30 V)
UL CM
CSA CM

Applications

- Audio and sound systems

Operating Temperature

- -20°C to +80°C (AWM 2464)
- -20°C to +75°C (CM)
- -20°C to +60°C (AWM 2919, 2493)

Conductor Color Coding

- AWM 2919: Chart K (page 529)
- AWM 2493: Chart A (page 528)
- AWM 2464 and CM: Black/Red, Green/White

Materials

- Solid or stranded tinned copper conductors
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor (unless noted)
- Polyethylene, polypropylene, or semirigid PVC insulation (see tables)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

AWM 2493, UL CM, Polypropylene Insulation

22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39039	6	0.362	9.19	0.050	1.27
M39040	9	0.415	10.54	0.050	1.27
M39041	11	0.459	11.66	0.050	1.27
M39042	15	0.507	12.88	0.050	1.27

UL CM, Polypropylene Insulation

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.008 (0.20 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4473	2	0.150	3.81	0.19	0.48

AWM 2919, UL CM, Polypropylene Insulation

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13103	3	0.271	6.88	0.032	0.81
M13106	6	0.349	8.86	0.032	0.81
M13109	9	0.412	10.46	0.032	0.81
M13111	11	0.466	11.84	0.035	0.89
M13112	12	0.466	11.84	0.035	0.89
M13115	15	0.537	13.64	0.050	1.27
M13117	17	0.577	14.66	0.050	1.27
M13119	19	0.577	14.66	0.050	1.27
M13127	27	0.685	17.40	0.050	1.27
M13130	37	0.766	19.46	0.050	1.27

AWM 2464, UL CM, SR-PVC Insulation

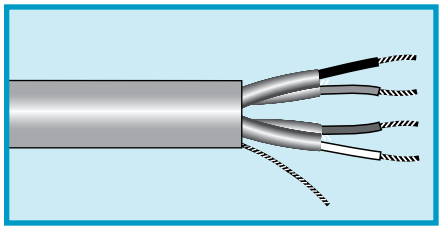
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13142	2	0.284	7.21	0.032	0.81

Manhattan™ Audio/Video Cable

300 V Individually Foil Shielded Pairs, Multipair, PP/PE/SR-PVC, PVC



UL AWM 2464, 2493, 2919 (30 V)
UL CM
CSA CM

Applications

- Audio and sound systems

Operating Temperature

- -20°C to +80°C (AWM 2464)
- -20°C to +75°C (CM)
- -20°C to +60°C (AWM 2919, 2493)

Conductor Color Coding

- AWM 2919: Chart K (page 529)
- AWM 2493: Chart A (page 528)
- AWM 2464 and CM: Black/Red, Green/White

Materials

- Solid or stranded tinned copper conductors
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor (unless noted)
- Polyethylene, polypropylene, or semirigid PVC insulation (see tables)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

AWM 2919, UL CM, Polyethylene Insulation

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.013 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13143	3	0.324	8.23	0.032	0.64
M13146	6	0.448	11.38	0.043	1.09
M13149	9	0.522	13.26	0.043	1.09
M13151	11	0.579	14.71	0.050	1.27
M13152	12	0.598	15.19	0.050	1.27
M13155	15	0.650	16.51	0.050	1.27

AWM 2919, UL CM, Polyethylene Insulation

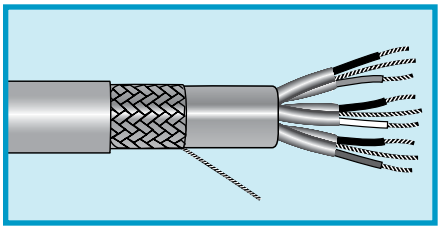
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
Drain wire: 20 AWG (0.56 mm²)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13173	3	0.380	9.65	0.032	0.81
M13176	6	0.541	13.74	0.050	1.27
M13179	9	0.632	16.05	0.050	1.27
M13182	12	0.737	18.72	0.065	1.65
M13185	15	0.817	20.75	0.065	1.65

Manhattan™ Audio/Video Cable

300 V Individually Foil Shielded Pairs, Multipair, PP, PVC



UL CMG VW-1
CSA CMG

Applications

- Communication and instrumentation systems requiring special wiring
- Audio process-control computer systems

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- 1 Black–Red, 2 Green–White, 3 White/Red–White/Black, 4 White/Yellow–White/Green

Materials

- Stranded tinned copper conductors
- Polypropylene insulation
- Aluminum/polyester foil shield, 25% overlap min
  Foil facing inward
  22 AWG (0.35 mm²) stranded tinned copper drain wire
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.56 mm²)

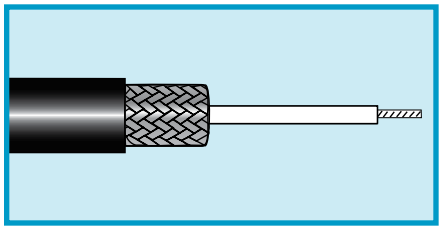
Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.015 (0.38 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M14604	4	0.365	9.27	0.030	0.76

Mutual capacitance: 23 pF/ft (75.5 pF/m)
Ground capacitance: 41 pF/ft (134.5 pF/m)

Manhattan™ Audio/Video Cable

Braid or Spiral Shield, Single Conductor, PE, PVC Microphone Cable



Applications

- High-impedance microphones
- Hi-fi interconnection systems
- Instruments and tape recorders

Operating Temperature

- –20°C to +60°C

Materials

- Stranded tinned copper conductors*
- Polyethylene insulation
- Braided tinned copper or spiral wrapped tinned copper shield
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

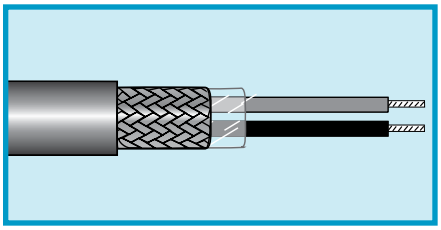
Part No.	Voltage	Wire Size		Stranding		Nominal Diameter		Shield	Jacket Thickness		Insulation Thickness		Capacitance	
		AWG	mm²	AWG	mm	Inch	mm		Inch	mm	Inch	mm	pF/ft	pF/m
M3601*	300	30	0.05	7/38*	7 x 0.10	0.086	2.18	Braid	0.016	0.41	0.012	0.30	32	105.0
M3633*	1000	26	0.14	7/34*	7 x 0. 16	0.101	2.57	Spiral	0.020	0.50	0.016	0.41	35	114.8
M3605	3500	24	0.20	10/34	10 x 0.16	0.146	3.71	Braid	0.030	0.76	0.020	0.50	36	118.1
M3635	1000	24	0.20	10/34	10 x 0. 16	0.106	2.69	Spiral	0.020	0.50	0.016	0.41	41	134.5
M3611	4000	20	0.52	26/34	26 x 0.16	0.180	4.57	Braid	0.030	0.76	0.030	0.76	39	128.0

*M3601 and M3633 have 3 strands of tinned copper and 4 strands of tinned Copperweld.

CA PROP 65 RoHS Compliant

Manhattan™ Audio/Video Cable

300 V Braid Shield, Multiconductor, PVC, PVC Microphone Cable



UL AWM 2095
UL CMG
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- –20°C to +75°C (CMG)

Conductor Color Code

- 1 Black, 2 Red

Materials

- Solid or stranded tinned copper conductors
- PVC insulation
- Tinned copper braid shield, 88% coverage
  Drain wire equivalent to conductors
- Black PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M14461	2	0.195	4.95	0.028	0.71

Mutual capacitance: 41 pF/ft (134.5 pF/m)
Ground capacitance: 74 pF/ft (242.8 pF/m)

22 AWG (0.35 mm²)

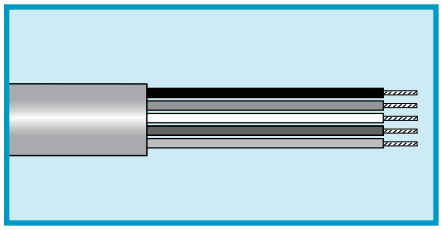
Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M14462	2	0.205	5.21	0.028	0.71

Mutual capacitance: 43 pF/ft (141.3 pF/m)
Ground capacitance: 77 pF/ft (252.6 pF/m)

Manhattan™ Audio/Video Cable

300 V Unshielded, Multiconductor, PVC, PVC



UL AWM 2509, 2576
UL CL2
UL CMG
CSA CMG FT4

Applications

- Unbalanced intercom and sound systems
- Remote circuit controls
- Telephones
- Low-voltage circuits

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG and CL2)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

UL AWM 2509, UL CMG

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code D

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33402	2	0.183	4.65	0.020	0.51
M33403	3	0.191	4.85	0.020	0.51
M33404	4	0.209	5.31	0.020	0.51
M33406	6	0.251	6.38	0.020	0.51
M33408	8	0.273	6.93	0.020	0.51
M33410	10	0.320	8.13	0.020	0.51
M33412	12	0.331	8.41	0.020	0.51
M33415	15	0.362	9.19	0.020	0.51
M33419	19	0.390	9.91	0.020	0.51

UL AWM 2509, UL CMG

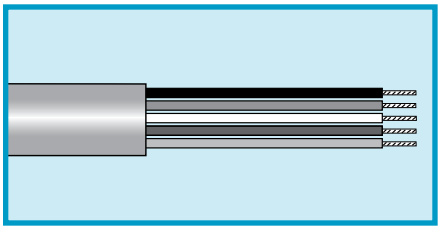
18 AWG (0.81 mm²)

Stranding: 16/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code D

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M33502	2	0.208	5.28	0.025	0.64
M33503	3	0.220	5.59	0.025	0.64
M33504	4	0.241	6.12	0.025	0.64
M33505	5	0.264	6.71	0.025	0.64
M33506	6	0.288	7.32	0.025	0.64
M33507	7	0.288	7.32	0.025	0.64
M33508	8	0.313	7.95	0.025	0.64
M33510	10	0.366	9.30	0.025	0.64
M33512	12	0.378	9.60	0.025	0.64
M33515	15	0.423	10.74	0.030	0.76
M33519	19	0.465	11.81	0.035	0.89
M33525	25	0.544	13.82	0.035	0.89

Manhattan™ Audio/Video Cable

300 V Unshielded, Multiconductor, PVC, PVC



UL AWM 2509, 2576
UL CL2
UL CMG
CSA CMG FT4

Applications

- Unbalanced intercom and sound systems
- Remote circuit controls
- Telephones
- Low-voltage circuits

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG and CL2)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

UL AWM 2509, UL CMG

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code D

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33572	2	0.232	5.89	0.025	0.64
M33573	3	0.246	6.25	0.025	0.64
M33574	4	0.273	6.93	0.025	0.64
M33576	6	0.327	8.31	0.025	0.64
M33578	8	0.356	9.04	0.025	0.64

UL AWM 2576, UL CL2

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33582	2	0.295	7.49	0.032	0.81
M33583	3	0.313	7.95	0.032	0.81

UL AWM 2576, UL CL2

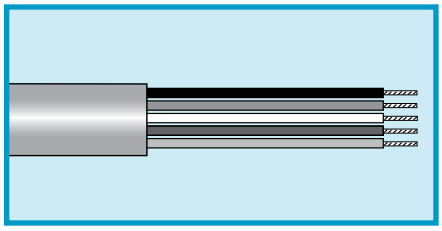
12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33590	2	0.333	8.45	0.032	0.81
M33591	3	0.354	8.99	0.032	0.81

Manhattan™ Audio/Video Cable

300 V Unshielded, Multiconductor, SR-PVC, PVC



UL AWM 2464, 2509, 2576
UL CMG
CSA CMG FT4

Applications

- Unbalanced intercom and sound systems
- Remote circuit controls
- Telephones
- Low-voltage circuits

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart E (page 532) for AWM 2464
- Chart D (page 531) for AWM 2576

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk
(Minimums may apply)

UL AWM 2464, UL CMG

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code E

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M38902	2	0.155	3.94	0.032	0.81
M38903	3	0. 162	4.11	0.032	0.81
M38904	4	0.173	4.39	0.032	0.81
M38906	6	0.200	5.08	0.032	0.81
M38908	8	0.213	5.41	0.032	0.81
M38910	10	0.243	6.17	0.032	0.81
M38915	15	0.269	6.83	0.032	0.81
M38920	20	0.297	7.54	0.032	0.81
M38925	25	0.331	8.41	0.032	0.81
M38930	30	0.349	8.86	0.032	0.81
M38940	40	0.389	9.88	0.032	0.81
M38950	50	0.426	10.82	0.032	0.81

UL AWM 2576, UL CMG

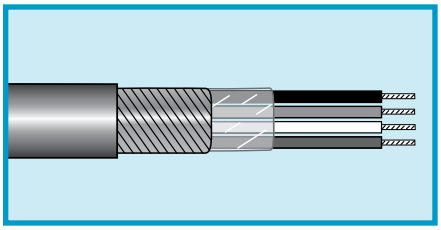
22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code D

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33302	2	0.164	4.16	0.032	0.81
M33303	3	0.175	4.45	0.032	0.81
M33304	4	0.188	4.78	0.032	0.81
M33305	5	0.203	5.16	0.032	0.81
M33306	6	0.218	5.54	0.032	0.81
M33308	8	0.233	5.92	0.032	0.81
M33310	10	0.267	6.78	0.032	0.81
M33312	12	0.275	6.99	0.032	0.81
M33315	15	0.297	7.54	0.032	0.81
M33320	20	0.329	8.36	0.032	0.81
M33325	25	0.367	9.32	0.032	0.81
M33330	30	0.388	9.86	0.032	0.81
M33340	40	0.432	10.97	0.032	0.81
M33350	50	0.481	12.22	0.035	0.89
M33360	60	0.523	13.28	0.035	0.89

Manhattan™ Audio/Video Cable

300 V Spiral Wrap Copper Shield, Multiconductor, PVC, PVC



UL AWM 2095
UL AWM 1108
(Single conductor)
UL CMG
CSA CMG FT4

Applications

- Audio and RF frequencies

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green, 5 Yellow, 6 Blue
- Part No. M13282: 1 Red, 2 White

Materials

- Stranded tinned copper conductors
- PVC insulation
- Spiral wrapped tinned copper shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3261	1	0.112	2.84	0.020	0.51
M3262	2	0.177	4.50	0.020	0.51
M3263	3	0.187	4.75	0.020	0.51
M3264	4	0.206	5.23	0.020	0.51
M3266	6	0.243	6.17	0.020	0.51

20 AWG (0.50 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3271	1	0.119	3.02	0.020	0.51
M3272	2	0.191	4.85	0.020	0.51
M3273	3	0.202	5.13	0.020	0.51
M3274	4	0.223	5.66	0.020	0.51
M3276	6	0.264	6.71	0.020	0.51

20 AWG (0.56 mm²)

Stranding: 7/28 (10 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13272	2	0.203	5.16	0.025	0.64

18 AWG (0.81 mm²)

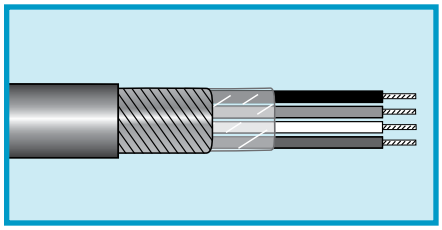
Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3281	1	0.129	3.28	0.020	0.51
M3282	2	0.214	5.44	0.020	0.51
M3283	3	0.226	5.74	0.020	0.51
M3284	4	0.247	6.27	0.020	0.51

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Audio/Video Cable

300 V Spiral Wrap Copper Shield, Multiconductor, PVC, PVC



UL AWM 2095
UL AWM 1108
(Single conductor)
UL CMG
CSA CMG FT4

Applications

- Audio and RF frequencies

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green, 5 Yellow, 6 Blue
- Part No. M13282: 1 Red, 2 White

Materials

- Stranded tinned copper conductors
- PVC insulation
- Spiral wrapped tinned copper shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.89 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13282	2	0.256	6.50	0.028	0.71
M13283	3	0.270	6.86	0.028	0.71

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3287	2	0.240	6.10	0.025	0.64
M3288	3	0.254	6.45	0.025	0.64

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.023 (0.58 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13287	2	0.286	7.26	0.030	0.76

14 AWG (2.08 mm²)

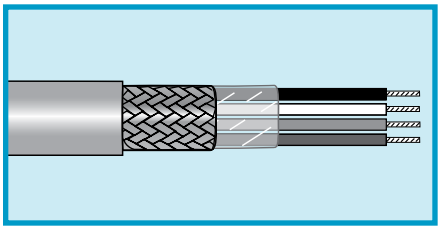
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3289*	2	0.295	7.49	0.025	0.64
M3290*	3	0.312	7.92	0.025	0.64

*450 V.

Manhattan™ Audio/Video Cable

300 V Braid Shield, Multiconductor, PVC, PVC



UL AWM 2095, 2464
CSA CMG FT4

Applications

- Audio and sound systems experiencing high flexing and needing additional tensile strength

Operating Temperature

- -20°C to +80°C (AMW)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart D (page 531), unless otherwise noted

Materials

- Stranded tinned copper conductors
- PVC insulation
- Tinned copper braid shield, 85% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

UL 2095

22 AWG (0.035mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3202	2	0.189	4.80	0.020	0.51
M13203	3	0.199	5.05	0.020	0.51
M3204	4	0.215	5.46	0.020	0.51

UL 2095

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3206	2	0.205	5.21	0.020	0.51
M3207	3	0.216	5.49	0.020	0.51
M3208	4	0.234	5.94	0.020	0.51
M13209*	6	0.300	7.62	0.032	0.81
M13210*	12	0.396	10.06	0.040	1.02

*UL AWM 2464. Conductor color code Chart F (page 532).

UL 2095

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3212	2	0.223	5.66	0.020	0.51
M3213	3	0.235	5.97	0.020	0.51
M3214	4	0.256	6.50	0.020	0.51

UL 2095

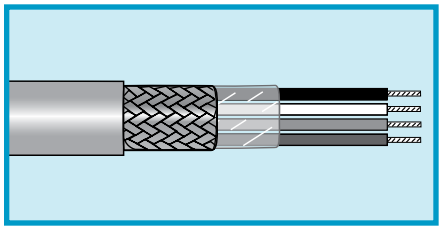
16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3216	2	0.247	6.27	0.020	0.51
M3217	3	0.261	6.63	0.020	0.51

Manhattan™ Audio/Video Cable

300 V Braid Shield, Multiconductor, PVC, PVC



UL AWM 2095, 2464
CSA CMG FT4

Applications

- Audio and sound systems experiencing high flexing and needing additional tensile strength

Operating Temperature

- -20°C to +80°C (AMW)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart D (page 531), unless otherwise noted

Materials

- Stranded tinned copper conductors
- PVC insulation
- Tinned copper braid shield, 85% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

450 V; Not UL Recognized

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33218	2	0.299	7.59	0.020	0.51
M33219	3	0.317	8.05	0.020	0.51

450 V; Not UL Recognized

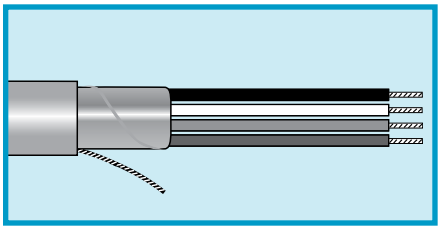
12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33220	2	0.337	8.56	0.020	0.51
M33221	3	0.358	9.09	0.020	0.51

Manhattan™ Audio/Video Cable

300 V Foil Shield, Multiconductor, PE or SR-PVC, PVC



UL AWM 2092, 2093, 2094, 2464, 20253
UL CM, CMG, CL2
CSA CMG FT4

Applications

- Lightweight, low-cost small-diameter cable for audio and sound systems

Operating Temperature

- -20°C to +80°C (AWM 2464, 20253)
- -20°C to +75°C (CM, CMG)
- -20°C to +60°C (AWM 2092, 2093, 2094)

Conductor Color Coding

(Unless noted)
- 2-conductor: Black, clear
- 3-conductor: Black, red, clear
- 4-conductor: Black, red, white, green

Materials

- Polyethylene or semirigid PVC insulation (see tables)
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire (see tables for size)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Polyethylene Insulation

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approval	Color Code
		Inch	mm	Inch	mm		
M13222	2	0. 166	4.22	0.025	0.64	2092, CM	Black, Clear

Mutual capacitance: 18 pF/ft (59 pF/m)
Ground capacitance: 32 pF/ft (105 pF/m)

Semi-Rigid PVC Insulation

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.51 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approval	Color Code
		Inch	mm	Inch	mm		
M39024	3	0.166	4.22	0.032	0.81	2464, CMG	O
M39025	4	0.174	4.42	0.032	0.81	2464, CMG	O
M39026	5	0.187	4.75	0.032	0.81	2464, CMG	O
M39027	6	0.201	5.11	0.032	0.81	2464, CMG	O
M39028	7	0.201	5.11	0.032	0.81	2464, CMG	O
M39029	8	0.214	5.44	0.032	0.81	2464, CMG	O
M39030	9	0.228	5.79	0.032	0.81	2464, CMG	O
M39031	10	0.247	6.27	0.032	0.81	2464, CMG	O
M39032	15	0.273	6.93	0.032	0.81	2464, CMG	F
M39033	20	0.301	7.65	0.032	0.81	2464, CMG	F
M39034	25	0.335	8.51	0.032	0.81	2464, CMG	F
M39035	30	0.369	9.37	0.040	1.02	2464, CMG	F
M39036	40	0.409	10.39	0.040	1.02	2464, CMG	F
M39037	50	0.456	11.58	0.045	1.14	2464, CMG	F

Mutual capacitance: 32 pF/ft (105 pF/m)
Ground capacitance: 58 pF/ft (190.3 pF/m)

Polyethylene Insulation

22 AWG (0.35 mm²)

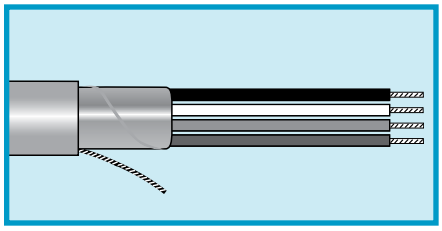
Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approvals
		Inch	mm	Inch	mm	
M13226	2	0.178	4.52	0.025	0.64	2092, CM
M13227	3	0.204	5.18	0.033	0.84	2093, CM

Mutual capacitance: 20 pF/ft (65.6 pF/m)
Ground capacitance: 36 pF/ft (118.1 pF/m)

Manhattan™ Audio/Video Cable

300 V Foil Shield, Multiconductor, PE or SR-PVC, PVC



UL AWM 2092, 2093, 2094, 2464, 20253
UL CM, CMG, CL2
CSA CMG FT4

Applications

- Lightweight, low-cost small-diameter cable for audio and sound systems

Operating Temperature

- -20°C to +80°C (AWM 2464, 20253)
- -20°C to +75°C (CM, CMG)
- -20°C to +60°C (AWM 2092, 2093, 2094)

Conductor Color Coding

(Unless noted)

- 2-conductor: Black, clear
- 3-conductor: Black, red, clear
- 4-conductor: Black, red, white, green

Materials

- Polyethylene or semirigid PVC insulation (see tables)
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire (see tables for size)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

PVC Insulation

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.013 (0.33 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approvals
		Inch	mm	Inch	mm	
M13229	2	0.189	4.80	0.035	0.64	2464, CMG

Mutual capacitance: 48 pF/ft (157.4 pF/m)
Ground capacitance: 86 pF/ft (282.1 pF/m)

Color code: black, red.

Polyethylene Insulation

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approvals
		Inch	mm	Inch	mm	
M13232	2	0.200	5.08	0.028	0.71	2092, CM
M13233	3	0.221	5.61	0.033	0.84	2093, CM

Mutual capacitance: 23 pF/ft (75.4 pF/m)
Ground capacitance: 41 pF/ft (134.5 pF/m)

Polyethylene Insulation

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.019 (0.48 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approvals
		Inch	mm	Inch	mm	
M13242	2	0.230	5.84	0.028	0.71	2092, CM
M13243	3	0.253	6.43	0.033	0.84	2093, CM

Mutual capacitance: 24.1 pF/ft (79.1 pF/m)
Ground capacitance: 43 pF/ft (141.1 pF/m)

SR-PVC Insulation

18 AWG (0.96 mm²)

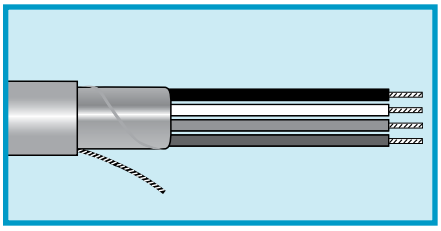
Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approvals
		Inch	mm	Inch	mm	
M13244	4	0.249	6.32	0.035	0.89	2464, CMG

Mutual capacitance: 47 pF/ft (154.2 pF/m)
Ground capacitance: 85 pF/ft (278.9 pF/m)

Manhattan™ Audio/Video Cable

300 V Foil Shield, Multiconductor, PE or SR-PVC, PVC



UL AWM 2092, 2093, 2094, 2464, 20253
UL CM, CMG, CL2
CSA CMG FT4

Applications

- Lightweight, low-cost small-diameter cable for audio and sound systems

Operating Temperature

- -20°C to +80°C (AWM 2464, 20253)
- -20°C to +75°C (CM, CMG)
- -20°C to +60°C (AWM 2092, 2093, 2094)

Conductor Color Coding

(Unless noted)
- 2-conductor: Black, clear
- 3-conductor: Black, red, clear
- 4-conductor: Black, red, white, green

Materials

- Polyethylene or semirigid PVC insulation (see tables)
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire (see tables for size)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Polyethylene Insulation

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.032 (0.81 mm)
18 AWG (0.81 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approvals
		Inch	mm	Inch	mm	
M13247	2	0.317	8.05	0.032	0.81	20253, CM, CL2
M13248	3	0.336	8.53	0.032	0.81	20253, CM, CL2

Mutual capacitance: 20.5 pF/ft (67.2 pF/m)
Ground capacitance: 37 pF/ft (121.4 pF/m)

Polyethylene Insulation

14 AWG (2.08 mm²)

Stranding: 19/0.0147 (19 x 0.37 mm)
Insulation thickness: 0.032 (0.81 mm)
16 AWG (1.31 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approvals
		Inch	mm	Inch	mm	
M13249	2	0.345	8.78	0.035	0.89	20253, CM, CL2

Mutual capacitance: 22.5 pF/ft (73.8 pF/m)
Ground capacitance: 40 pF/ft (131.2 pF/m)

Polyethylene Insulation

12 AWG (3.29 mm²)

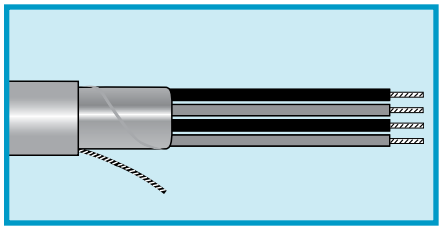
Stranding: 19/0.0185 (19 x 0.47 mm)
Insulation thickness: 0.037 (0.81 mm)
14 AWG (2.08 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Approvals
		Inch	mm	Inch	mm	
M13250	2	0.421	10.69	0.040	1.02	20253, CM, CL2

Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 44 pF/ft (144.3 pF/m)

Manhattan™ Audio/Video Cable

300 V Foil Shield, Multiconductor, PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- Audio, broadcast, and sound systems
- Instrumentation

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- 1 Black, 2 Red

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  22 AWG (0.35 mm²) stranded tinned copper drain wire
- Slate PVC jacket

Availability

Bulk, cut to length
(Minimums may apply)

20 AWG (0.56 mm²)

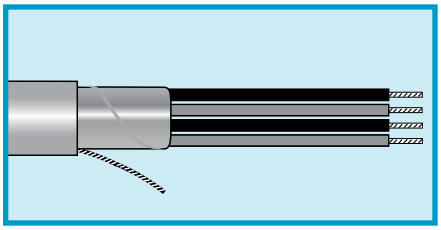
Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.013 (0.33 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M14429	2	0.199	5.05	0.032	0.81

Mutual capacitance: 54 pF/ft (177.2 pF/m)
Ground capacitance: 97 pF/ft (318.2 pF/m)

Manhattan™ Audio/Video Cable

300 V Foil Shield, Multiconductor, PP, PVC Miniature



UL CM
CSA CM

Applications

- Audio, broadcast, and sound systems
- Instrumentation

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- 1 Black, 2 Red

Materials

- Solid or stranded tinned copper conductors
- Polypropylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket (except black where noted)

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.008 (0.20 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M14328*	2	0.124	3.15	0.020	0.51

Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 45 pF/ft (147.6 pF/m)

*Black jacket.

22 AWG (0.35 mm²)

Stranding: Solid
Insulation thickness: 0.008 (0.20 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4325	2	0.122	3.10	0.018	0.46

Mutual capacitance: 28 pF/ft (91.8 pF/m)
Ground capacitance: 50 pF/ft 164 pF/m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.008 (0.20 mm)

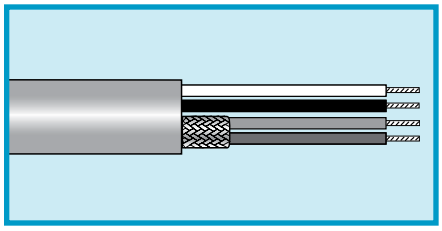
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4326 **M14327***	2	0.139	3.53	0.020	0.51

Mutual capacitance: 28 pF/ft (91.8 pF/m)
Ground capacitance: 50 pF/ft 164 pF/m)

*Black jacket.

Manhattan™ Audio/Video Cable

300 V Unshielded and Shielded, Multiconductor Composite, PVC/PE/PP, PVC



UL AWM 2717 (300 V)
UL AWM 2094, 2576 (150 V)
UL CM, CMG
CSA CMG, CMG

Operating Temperature

- -20°C to +80°C (AWM 2717)
- -20°C to +75°C (CM, CMG, except where noted)
- -20°C to +60°C (AWM 2094)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC insulation (polypropylene or polyethylene, as noted)
- Aluminum/polyester foil shield, 25% minimum overlap
  Stranded tinned copper drain wire (see tables for size)
- PVC jacket (see tables for colors)

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

22 AWG Composite Shielded and Unshielded, UL CM, Slate Jacket

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
22 AWG (0.035 mm²) drain wire (M4475)
24 AWG (0.22 mm²) drain wire (M4451)

Part No.	Conductors	Nominal Diameter		Insulation Thickness		Jacket Thickness		Configuration		Insulation
		Inch	mm	Inch	mm	Inch	mm	Shielded	Unshielded	
M4475	3	0.190	4.83	0.013	0.33	0.032	0.81	2 Black, White	1 Brown	PVC
M4451	4	0.161	4.09	0.008	0.20	0.019	0.48	2 Red, Black	2 Green, White	PP

20 AWG Composite Shielded and Unshielded, UL CMG, Slate Jacket

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation Thickness: 0.015 (0.38 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness		Configuration		Insulation
		Inch	mm	Inch	mm	Shielded	Unshielded	
M4452	4	0.226	5.74	0.028	0.71	2 Red, Black	2 Green, White	PVC

22 AWG Composite Shielded and Unshielded, AWM 2717 and UL CM, Polypropylene Insulation, Slate Jacket

22 AWG (0.35 mm²)

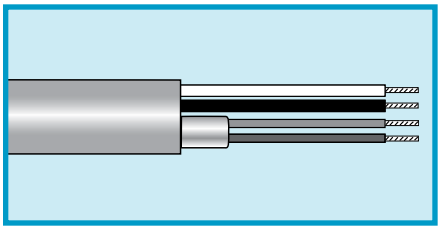
Stranding: 7/30 (7 x 0.25 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Insulation Thickness		Jacket Thickness		Configuration	
		Inch	mm	Inch	mm	Inch	mm	Shielded	Unshielded
M14474	2	0.243	5.17	0.010	0.25	0.028	0.71	2 Red, Black	—
M14476*	2	0.220	5.59	0.008	0.20	0.030	0.81	1 Red, Black	1 Green, White

*Not CMG

Manhattan™ Audio/Video Cable

300 V Unshielded and Shielded, Multiconductor Composite, PVC/PE/PP, PVC



UL AWM 2717 (300 V)
UL AWM 2094, 2576 (150 V)
UL CM, CMG
CSA CMG, CMG

Operating Temperature

- -20°C to +80°C (AWM 2717)
- -20°C to +75°C (CM, CMG, except where noted)
- -20°C to +60°C (AWM 2094)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC insulation (polypropylene or polyethylene, as noted)
- Aluminum/polyester foil shield, 25% minimum overlap
  Stranded tinned copper drain wire (see tables for size)
- PVC jacket (see tables for colors)

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

24/22 AWG Composite Shielded and Unshielded, UL CM, Slate Jacket

24 AWG (0.22 mm²)	22 AWG (0.35 mm²)
Stranding: 7/32 (7 x 0.20 mm) 22 AWG (0.35 mm²) drain wire (M14477) 24 AWG (0.22 mm²) drain wire (M14478)	Stranding: 7/30 (7 x 0.25 mm)

Part No.	Conductors	Nominal Diameter		Insulation Thickness		Jacket Thickness		Configuration		Insulation
		Inch	mm	Inch	mm	Inch	mm	Shielded	Unshielded	
M14477	4 (24 AWG)	0.239	6.07	0.016	0.41	0.028	0.71	4**	—	PVC
	2 (22 AWG)							—	2 Blue, White	PVC
M14478*	8 (24 AWG)	0.295	7.49	0.012	0.30	0.030	0.81	8†	—	PE
	2 (22 AWG)			0.015	0.38			—	2 White, Blue	PVC

*Cable has two quads of four shielded conductors, each quad individually shielded. One quad has a red shield; the other has a green shield. Not CMG.
**Conductor color coding: Black, green, red, yellow.
†Conductor color coding: Slate, white, blue, green, brown, red, yellow, orange.

22 AWG Shielded, UL CM, Brown Jacket

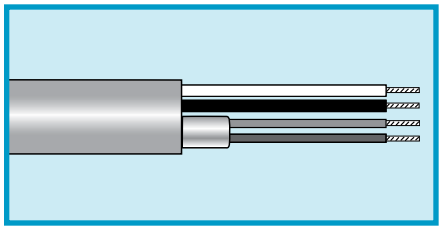
22 AWG (0.35 mm²)
Stranding: 7/30 (7 x 0.25 mm) Insulation Thickness 0.008 (0.20 mm) 22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Configuration		Insulation
		Inch	mm	Inch	mm	Shielded	Unshielded	
M14475	3	0.143	3.63	0.020	0.51	3*	—	PP

*Conductor color coding: Black, red, white.

Manhattan™ Audio/Video Cable

300 V Unshielded and Shielded, Multiconductor Composite, PVC/PE, PVC



UL AWM 2717 (300 V)
UL AWM 2094, 2576 (150 V)
UL CM, CMG
CSA CMG, CMG

Operating Temperature

- -20°C to +80°C (AWM 2717)
- -20°C to +75°C (CM, CMG, except where noted)
- -20°C to +60°C (AWM 2094)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC or PE insulation
- Aluminum/polyester foil shield, 25% minimum overlap
  Stranded tinned copper drain wire (see tables for size)
- PVC jacket (see tables for colors)

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

22 and 18 AWG Unshielded, UL CM Only, Slate Jacket

22 AWG (0.35 mm²)	18 AWG (0.81 mm²)
Stranding: 7/30 (7 x 0.25 mm) Insulation thickness: 0.010 (0.25 mm)	Stranding: 16/30 (16 x 0.25 mm) Insulation thickness: 0.018 (0.46 mm)

Part No.	Conductors*		Nominal Diameter		Jacket Thickness		Insulation
	22 AWG	18 AWG	Inch	mm	Inch	mm	
M4406	4	2	0.255	6.48	0.032	0.81	PVC

Conductor color coding:
22 AWG: Red, green, brown, blue.
18 AWG: Black, white.

20 Foil Shielded and 18 AWG Unshielded, AWM 2094, CM, Beige Jacket

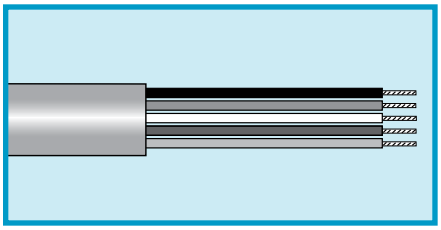
20 AWG (0.56 mm²)	18 AWG (0.81 mm²)
Stranding: 7/28 (7 x 0.32 mm) Insulation thickness: 0.20 (0.50 mm) 22 AWG (0.35 mm²) drain wire	Stranding: 16/30 (16 x 0.25 mm) Insulation thickness: 0.019 (0.48 mm)

Part No.	Conductors		Nominal Diameter		Jacket Thickness		Insulation
	20 AWG	18 AWG	Inch	mm	Inch	mm	
M13291	2	2	0.264	6.71	0.032	0.81	PE

Conductor color coding:
22 AWG: Black, red.
18 AWG: Green, white.

Manhattan™ Security and Data Cable

300 V Unshielded, Multiconductor, PVC, PVC



UL CMR
CSA CMR

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green, 5 Brown, 6 Blue, 7 Orange, 8 Yellow, 9 Violet, 10 Slate

Materials

- Stranded bare copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213302	2	0.130	3.30	0.015	0.38
M213303	3	0.138	3.51	0.015	0.38
M213304	4	0.151	3.84	0.015	0.38
M213305	5	0.166	4.22	0.015	0.38
M213308	8	0.196	4.98	0.015	0.38

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213402	2	0.146	3.71	0.015	0.38
M213403	3	0.155	3.94	0.015	0.38
M213404	4	0.170	4.32	0.015	0.38

18 AWG (0.89 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213502	2	0.166	4.22	0.015	0.38
M213503	3	0.177	4.50	0.015	0.38
M213504	4	0.195	4.95	0.015	0.38

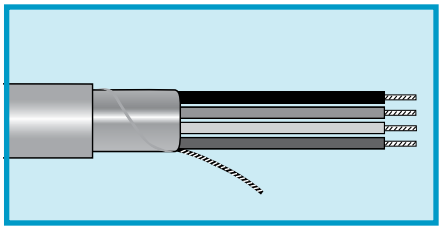
16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213572	2	0.188	4.77	0.015	0.38
M213573	3	0.200	5.08	0.015	0.38
M213574	4	0.221	5.61	0.015	0.38

Manhattan™ Security and Data Cable

300 V Foil Shielded, Multiconductor, PVC, PVC



UL CMR
CSA CMR

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green, 5 Brown, 6 Blue, 7 Orange, 8 Yellow, 9 Violet, 10 Slate

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire one even AWG size smaller than conductor (except 24 AWG, which is the same size as the conductors)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M239023	2	0.122	3.10	0.015	0.38
M239024	3	0.129	3.28	0.015	0.38
M239025	4	0.140	3.56	0.015	0.38

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M113226	2	0.134	3.40	0.015	0.38
M113227	3	0.142	3.61	0.015	0.38

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M113232	2	0.150	3.81	0.015	0.38
M113233	3	0.159	4.04	0.015	0.38

18 AWG (0.89 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M113242	2	0.170	4.32	0.015	0.38
M113243	3	0.181	4.60	0.015	0.38
M113244	4	0.199	5.05	0.015	0.38

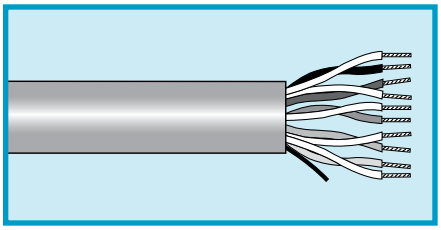
16 AWG (1.32 mm²)

Stranding: 19/0.0117 (7 x 0.30 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M113247	2	0.192	4.88	0.015	0.38
M113248	3	0.204	5.18	0.015	0.38

Manhattan™ Security and Data Cable

300 V Unshielded, Multipair, PVC, PVC



UL CMR
CSA CMR

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- Chart A1 (page 528)

Materials

- Stranded bare copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M2210	2	0.194	4.93	0.015	0.38
M2211	3	0.207	5.26	0.015	0.38
M2212	4	0.228	5.79	0.015	0.38

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M2222	2	0.220	5.59	0.015	0.38
M2223	3	0.235	5.97	0.015	0.38
M2224	4	0.260	6.60	0.015	0.38
M2226	6	0.317	8.05	0.015	0.38

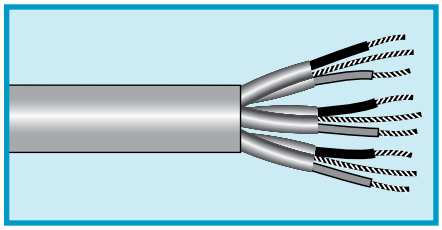
18 AWG (0.89 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M2215	2	0.253	6.43	0.015	0.38
M2216	3	0.270	6.86	0.015	0.38
M2217	4	0.300	7.62	0.015	0.38

Manhattan™ Security and Data Cable

300 V, Individually Foil Shielded Pairs, Multipair, PVC, PVC



UL CMR
CSA CMR

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- Chart A1 (page 528)

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213102	2	0.229	5.82	0.020	0.51
M213103	3	0.244	6.20	0.020	0.51
M213104	4	0.269	6.83	0.020	0.51
M213106	6	0.325	8.26	0.020	0.51

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213142	2	0.257	6.53	0.020	0.51
M213143	3	0.274	6.96	0.020	0.51
M213144	4	0.303	7.70	0.020	0.51
M213146	6	0.367	9.32	0.020	0.51

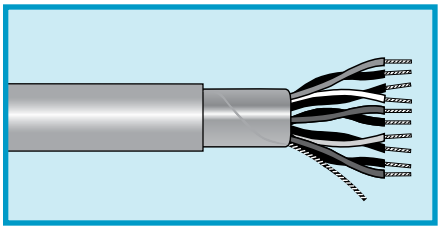
18 AWG (0.89 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213172	2	0.292	7.42	0.020	0.51
M213173	3	0.312	7.92	0.020	0.51
M213174	4	0.345	8.76	0.020	0.51
M213176	6	0.420	10.67	0.020	0.51

Manhattan™ Security and Data Cable

300 V Overall Foil Shield, Multipair, PVC, PVC



UL CMR
CSA CMR

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- Chart A1 (page 528)

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire one even AWG size smaller than conductor (except 24 AWG, which is the same size as the conductors)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213191	2	0.178	4.52	0.015	0.38
M213192	3	0.190	4.83	0.015	0.38
M213193	4	0.209	5.31	0.015	0.38

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213222	2	0.198	5.03	0.015	0.38
M213223	3	0.211	5.36	0.015	0.38
M213224	4	0.232	5.89	0.015	0.38

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213202	2	0.224	5.69	0.015	0.38
M213203	3	0.239	6.07	0.015	0.38
M213204	4	0.264	6.71	0.015	0.38
M213206	6	0.331	8.41	0.020	0.51

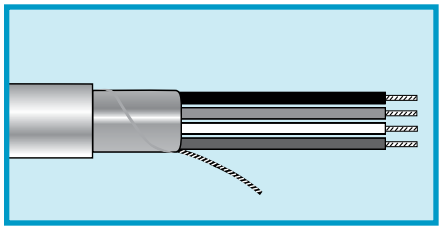
18 AWG (0.89 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M213182	2	0.257	6.53	0.015	0.38
M213183	3	0.274	6.96	0.015	0.38
M213184	4	0.304	7.72	0.015	0.38

Manhattan™ Plenum Cable

300 V Overall Foil Shield, Multiconductor, PVC, PVC, Plenum Rated



UL CMP
CSA CMP FT6

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green, 5 Brown, 6 Blue, 7 Orange, 8 Yellow, 9 Violet, 10 Slate

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see tables for size)
- White plenum-rated PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M244837	2	0.122	3.10	0.015	0.38
M244838	3	0.129	3.28	0.015	0.38
M244839	4	0.140	3.56	0.015	0.38

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M244800	2	0.134	3.40	0.015	0.38
M244801	3	0.142	3.61	0.015	0.38
M244802	4	0.155	3.94	0.015	0.38
M244804	6	0.178	4.52	0.015	0.38
M244806	8	0.200	5.08	0.015	0.38
M244808	10	0.234	5.94	0.015	0.38

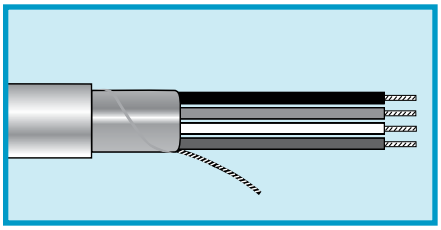
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M244816	2	0.150	3.81	0.015	0.38
M244817	3	0.159	4.04	0.015	0.38
M244818	4	0.174	4.42	0.015	0.38

Manhattan™ Plenum Cable

300 V Overall Foil Shield, Multiconductor, PVC, PVC, Plenum Rated



UL CMP
CSA CMP FT6

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green, 5 Brown, 6 Blue, 7 Orange, 8 Yellow, 9 Violet, 10 Slate

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see tables for size)
- White plenum-rated PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.89 mm²)

Stranding: 7/26 (16 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M244825	2	0.146	3.71	0.015	0.38
M244826	3	0.181	4.60	0.015	0.38
M244827	4	0.199	5.05	0.015	0.38

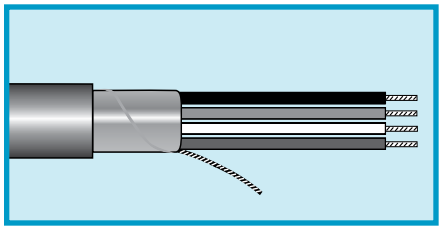
16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.010 (0.25 mm)
18 AWG (0.89 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M244834	2	0.192	4.88	0.015	0.38
M244835	3	0.204	5.18	0.015	0.38
M244836	4	0.225	5.71	0.015	0.38

Manhattan™ Plenum Cable

300 V Overall Foil Shield, Multiconductor, FEP, PVDF, Plenum Rated



UL CMR
CSA CMP FT6

Operating Temperature

- -40°C to +125°C

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see tables for size)
- Red PVDF jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M413226	2	0.118	3.00	0.015	0.38

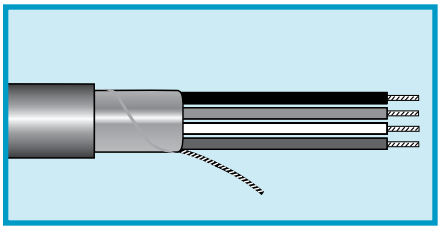
18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.007 (0.18 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M413242	2	0.162	4.11	0.015	0.38

Manhattan™ Plenum Cable

300 V Overall Foil Shield, Multiconductor, FEP, FEP, Plenum Rated



UL CMP
CSA CMP FT6

Operating Temperature

- -20°C to +150°C

Conductor Color Coding

- Chart F (page 532), unless noted

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see tables for size)
- Slate FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M64837	2	0.096	2.44	0.010	0.25
M64838	3	0.102	2.59	0.010	0.25
M64839	4	0.111	2.82	0.010	0.25
M64840	5	0.122	3.10	0.010	0.25
M64841	6	0.133	3.38	0.010	0.25
M64842	7	0.133	3.38	0.010	0.25
M64843	8	0.168	4.26	0.012	0.30
M64844	9	0.159	4.04	0.012	0.30
M64845	10	0.172	4.37	0.012	0.30
M64846	12	0.178	4.52	0.012	0.30
M64847	15	0.193	4.90	0.012	0.30

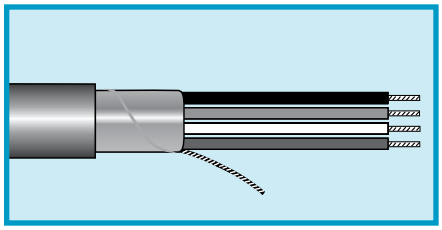
22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M64800	2	0.108	2.74	0.010	0.25
M64801	3	0.115	2.92	0.010	0.25
M64802	4	0.126	3.20	0.010	0.25
M64803	5	0.138	3.51	0.010	0.25
M64804	6	0.151	3.84	0.010	0.25
M64805	7	0.151	3.84	0.010	0.25
M64806	8	0.168	4.27	0.012	0.30
M64807	9	0.181	4.60	0.012	0.30
M64808	10	0.196	4.98	0.012	0.30
M64809	12	0.203	5.16	0.012	0.30
M64812	15	0.221	5.61	0.012	0.30

Manhattan™ Plenum Cable

300 V Overall Foil Shield, Multiconductor, FEP, FEP, Plenum Rated



UL CMP
CSA CMP FT6

Operating Temperature

- -20°C to +150°C

Conductor Color Coding

- Chart F (page 532), unless noted

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see tables for size)
- Slate FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

-80 to +150°C Temperature Rating, Color Code D

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M613226	**1**	0.118	2.99	0.015	0.38

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.006 (0.15 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M64816	2	0.124	3.15	0.010	0.25
M64817	3	0.132	3.35	0.010	0.25
M64818	4	0.145	3.68	0.010	0.25
M64820	6	0.175	4.45	0.010	0.25
M64822	8	0.194	4.93	0.012	0.30
M64824	10	0.228	5.79	0.012	0.30

-80 to +150°C Temperature Rating, Color Code D

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.007 (0.18 mm)
20 AWG (0.60 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M613242	2	0.162	4.11	0.015	0.38

18 AWG (0.89 mm²)

Stranding: 7/26 (16 x 0.40 mm)
Insulation thickness: 0.009 (0.23 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M64825	2	0.160	4.06	0.010	0.25
M64826	3	0.166	4.22	0.010	0.25
M64827	4	0.188	4.78	0.012	0.30
M64829	6	0.227	5.77	0.012	0.30
M64831	8	0.247	6.27	0.012	0.30

16 AWG (1.43 mm²)

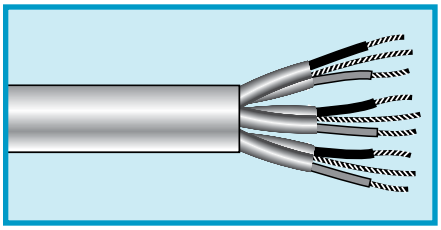
Stranding: 7/24 (7 x 0.51 mm)
Insulation thickness: 0.009 (0.23 mm)
18 AWG (0.89 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M64834	2	0.180	4.57	0.010	0.25
M64835	3	0.196	4.98	0.012	0.30
M64836	4	0.217	5.51	0.012	0.30

UL LISTED CSA RoHS Compliant

Manhattan™ Plenum Cable

300 V Individually Foil Shielded Pairs, Multipair, PVC, PVC Plenum Rated



UL CMP
CSA CMP

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- Chart A1 (page 528)
  (Part number M243473: Black, white, green/yellow)

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire (see tables for size)
- White plenum-rated PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.007 (0.18mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M44473	2	0.192	4.88	0.015	0.38
M43103	3	0.211	5.36	0.015	0.38
M43106	6	0.301	7.65	0.024	0.60

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M243473	2	0.219	5.56	0.015	0.38
M243103	3	0.227	5.77	0.015	0.38
M243106	6	0.316	8.03	0.020	0.51

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M243142	2	0.241	6.12	0.015	0.38
M243143	3	0.258	6.55	0.015	0.38
M243144	4	0.295	7.49	0.020	0.51

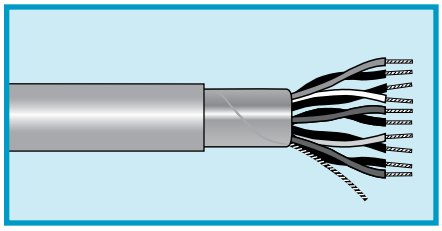
18 AWG (0.89 mm²)

Stranding: 7/26 (16 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M243172	2	0.276	7.01	0.015	0.38
M243173	3	0.295	7.49	0.015	0.38

Manhattan™ Plenum Cable

300 V Overall Foil Shield, Multipair, FEP, PVC, Plenum Rated



UL CMP
CSA CMP FT6

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- Chart K (page 529)

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire (see tables for size)
- Slate plenum-rated PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

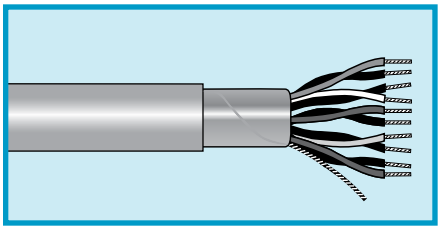
24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M52893	1	0.155	3.94	0.015	0.38
M52894	2	0.155	3.94	0.015	0.38
M52895	3	0.164	4.17	0.015	0.38
M52896	4	0.180	4.57	0.015	0.38
M52897	5	0.197	5.00	0.015	0.38
M52898	6	0.215	5.46	0.015	0.38
M52900	9	0.252	6.40	0.015	0.38
M52902	12.5	0.282	7.16	0.015	0.38

Manhattan™ Plenum Cable

300 V Overall Foil Shield, Multipair, FEP, FEP, Plenum Rated



UL CMP
CSA CMP

Operating Temperature

- -80°C to +150°C

Conductor Color Coding

- Chart K (page 529)

Materials

- Stranded bare copper pairs
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire sized the same as conductors
- Red FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

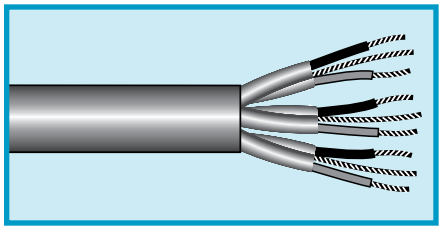
24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M613190	1	0.155	3.94	0.015	0.38
M613191	2	0.155	3.94	0.015	0.38
M613192	3	0.164	4.17	0.015	0.38
M613193	4	0.180	4.57	0.015	0.38
M613194	5	0.197	5.00	0.015	0.38

Manhattan™ Plenum Cable

300 V Individually Foil Shielded Pairs, Multipair, FEP, PVDF Plenum Rated



UL CMP
CSA CMP

Operating Temperature

- -20°C to +150°C
- -20°C to +75°C (CMP)

Conductor Color Coding

- Chart M (page 530)

Materials

- Stranded bare copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire sized the same as conductors
- Slate PVDF jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

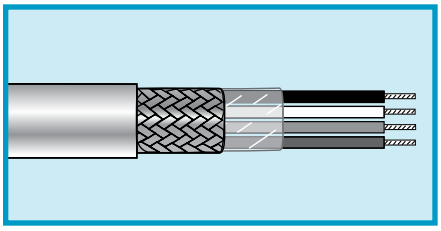
24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M42891	2	0.192	4.88	0.015	0.38
M42892	3	0.205	5.21	0.015	0.38
M42893	4	0.244	6.20	0.015	0.38
M42894	5	0.250	6.35	0.015	0.38
M42895	6	0.274	6.96	0.015	0.38
M42896	7	0.274	6.96	0.015	0.38
M42897	9	0.325	8.26	0.015	0.38
M42898	12	0.367	9.32	0.015	0.38
M42899	18	0.446	11.33	0.020	0.51

Manhattan™ Control Cable

600 V Braid Shield, Multiconductor, PVC, PVC



MIL-DTL-16878/1 and /17 Conductors (Types B and B/N)
UL VW-1

Operating Temperature

- -55°C to +105°C

Conductor Color Coding

- Chart P (page 535) unless otherwise noted

Materials

- Stranded tinned copper conductors
- PVC or PVC/nylon insulation
- Tinned copper braid shield, 90% coverage
- White PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

MIL-DTL-16878/1 Conductors

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M1411*	1	0.073	1.85	0.010	0.25	P
M1412	2	0.116	2.95	0.012	0.30	P
M1604	4	0.132	3.35	0.013	0.33	F
M1605	5	0.144	3.66	0.014	0.36	F
M1606	6	0.157	3.99	0.015	0.38	F
M1608	8	0.175	4.45	0.017	0.43	F
M1610	10	0.201	5.11	0.018	0.46	F
M1612	12	0.210	5.33	0.020	0.51	F

*Black jacket. All others slate.

MIL-DTL-16878/17 Conductors

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1421	1	0.083	2.11	0.010	0.25
M1422	2	0.140	3.56	0.014	0.36
M1423	3	0.147	3.73	0.014	0.36

MIL-DTL-16878/17 Conductors

24 AWG (0.24 mm²)

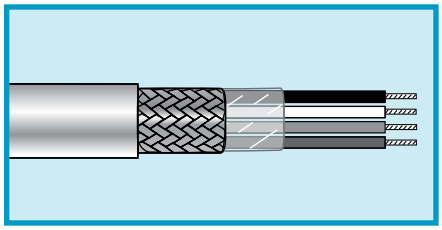
Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1431	1	0.093	2.36	0.010	0.25
M1432	2	0.156	3.96	0.016	0.41
M1433	3	0.164	4.17	0.016	0.41

RoHS Compliant

Manhattan™ Control Cable

600 V Braid Shield, Multiconductor, PVC, PVC



MIL-DTL-16878/1 and /17 Conductors (Types B and B/N)
UL VW-1

Operating Temperature

- -55°C to +105°C

Conductor Color Coding

- Chart P (page 535) unless otherwise noted

Materials

- Stranded tinned copper conductors
- PVC or PVC/nylon insulation
- Tinned copper braid shield, 90% coverage
- White PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

MIL-DTL-16878/17 Conductors

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M1441	1	0.100	2.54	0.010	0.25	P
M1442	2	0.178	4.52	0.020	0.51	P
M1443	3	0.187	4.75	0.020	0.51	P
M1444	4	0.202	5.13	0.020	0.51	P
M1644	4	0.203	5.16	0.019	0.48	F
M1645	5	0.222	5.64	0.020	0.51	F
M1646	6	0.240	6.10	0.020	0.51	F
M1648	8	0.268	6.81	0.025	0.64	F
M1650*	10	0.309	7.85	0.026	0.66	F

*Black jacket. All others slate.

MIL-DTL-16878/17 Conductors

20 AWG (0.62 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1451	1	0.108	2.74	0.010	0.25
M1452	2	0.194	4.93	0.020	0.51
M1453	3	0.214	5.44	0.025	0.64
M1454	4	0.232	5.89	0.025	0.64

MIL-DTL-16878/17 Conductors

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1461	1	0.122	3.10	0.012	0.30
M1462	2	0.216	5.49	0.021	0.53
M1463	3	0.230	5.84	0.022	0.56

MIL-DTL-16878/17 Conductors

16 AWG (1.23 mm²)

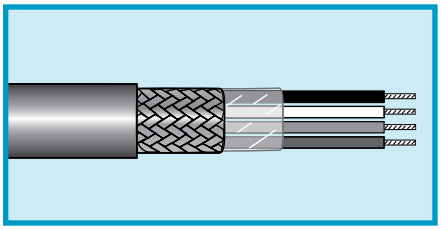
Stranding: 19/29 (19 x 0.29 mm)
Insulation thickness: 0.011 (0.28 mm) PVC/0.004 (0.10 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1471	1	0.144	3.66	0.018	0.46
M1472	2	0.240	6.10	0.023	0.58
M1473	3	0.257	6.53	0.025	0.64
M1474	4	0.280	7.11	0.025	0.64

RoHS Compliant

Manhattan™ Control Cable

1000 V Braid Shield, Multiconductor, PVC, PVC



MIL-DTL-16878/2 and /18 Conductors (Types C and C/N)
UL VW-1

Operating Temperature

- -55°C to +105°C

Conductor Color Coding

- Chart F (page 532)

Materials

- Stranded tinned copper conductors
- PVC or PVC/nylon insulation
- Tinned copper braid shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

MIL-DTL-16878/2 Conductors

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1704	4	0.269	6.83	0.023	0.58
M1705	5	0.297	7.54	0.025	0.64
M1706	6	0.332	8.43	0.030	0.76
M1708	8	0.362	9.19	0.032	0.81
M1710	10	0.423	10.74	0.035	0.89
M1712	12	0.442	11.23	0.035	0.89
M1714	14	0.473	12.01	0.040	1.02
M1716	16	0.509	12.93	0.046	1.17

MIL-DTL-16878/18 Conductors

16 AWG (1.23 mm²)

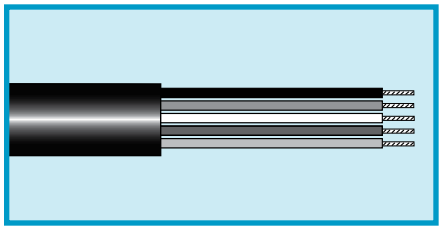
Stranding: 19/29 (19 x 0.29 mm)
Insulation thickness: 0.017 (0.43 mm) PVC/0.004 (0.10 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1764	4	0.324	8.23	0.031	0.79
M1765	5	0.357	9.07	0.033	0.84
M1766	6	0.390	9.91	0.035	0.89
M1768	8	0.431	10.95	0.040	1.02
M1772	12	0.532	13.51	0.047	1.19
M1776	16	0.598	15.19	0.053	1.35
M1779	19	0.636	16.15	0.057	1.45
M1787	27	0.768	19.51	0.067	1.70

CA PROP 65 RoHS Compliant

Manhattan™ Control Cable

600 V Unshielded, Multiconductor, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart J (page 533)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3800	2	0.185 x 0.273	4.70 x 6.93	0.047	1.19
M3801	3	0.287	7.29	0.047	1.19
M3802	4	0.310	7.87	0.047	1.19
M3803	5	0.336	8.53	0.047	1.19
M3804	6	0.362	9.19	0.047	1.19
M3805	7	0.362	9.19	0.047	1.19
M3806	8	0.390	9.91	0.047	1.19
M3807	9	0.417	10.59	0.047	1.19
M3808	10	0.449	11.40	0.047	1.19
M3810	12	0.463	11.76	0.047	1.19
M3815	15	0.533	13.54	0.063	1.60
M3819	19	0.569	14.45	0.063	1.60
M3822	24	0.646	16.41	0.063	1.60
M3821	25	0.657	16.69	0.063	1.60
M3823	30	0.694	17.63	0.063	1.60
M3825	37	0.745	18.92	0.063	1.60

16 AWG (1.31 mm²)

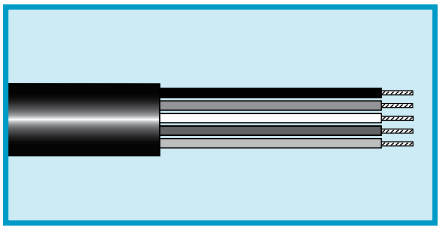
Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3826	2	0.197 x 0.297	5.00 x 7.54	0.047	1.19
M3828	3	0.310	7.87	0.047	1.19
M3829	4	0.339	8.61	0.047	1.19
M3830	5	0.368	9.35	0.047	1.19
M3831	6	0.398	10.11	0.047	1.19
M3832	7	0.398	10.11	0.047	1.19
M3833	8	0.429	10.90	0.047	1.19
M3834	9	0.461	11.71	0.047	1.19
M3835	10	0.497	12.62	0.047	1.19
M3837	12	0.545	13.84	0.063	1.60
M3838	15	0.588	14.94	0.063	1.60
M3839	19	0.630	16.00	0.063	1.60
M3840	24	0.717	18.21	0.063	1.60
M3843	25	0.729	18.52	0.063	1.60
M3841	30	0.770	19.56	0.063	1.60
M3842	37	0.869	22.07	0.083	2.11

UL LISTED CA PROP 65 RoHS Compliant

Manhattan™ Control Cable

600 V Unshielded, Multiconductor, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart J (page 533)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

14 AWG (2.08 mm²)

Stranding: 7/0.0242 (7 x 0.62 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3845	2	0.212 x 0.32	5.38 x 8.31	0.047	1.19
M3847	3	0.345	8.76	0.047	1.19
M3848	4	0.375	9.53	0.047	1.19
M3849	5	0.409	10.39	0.047	1.19
M3850	6	0.444	11.28	0.047	1.19
M3851	7	0.444	11.28	0.047	1.19
M3852	8	0.479	12.17	0.047	1.19
M3853	9	0.547	13.89	0.063	1.60
M3854	10	0.589	14.96	0.063	1.60
M3856	12	0.607	15.42	0.063	1.60
M3857	15	0.657	16.69	0.063	1.60
M3858	19	0.705	17.91	0.063	1.60
M3859	24	0.805	20.45	0.063	1.60
M3862	25	0.859	21.82	0.083	2.11
M3860	30	0.907	23.04	0.083	2.11
M3861	37	0.974	24.74	0.083	2.11

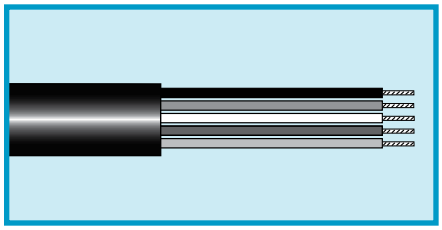
12 AWG (3.30 mm²)

Stranding: 7/0.0305 (7 x 0.78 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3865	2	0.231 x 0.365	5.87 x 9.27	0.047	1.19
M3867	3	0.386	9.80	0.047	1.19
M3868	4	0.421	10.69	0.047	1.19
M3869	5	0.460	11.68	0.047	1.19
M3870	6	0.501	12.73	0.047	1.19
M3871	7	0.501	12.73	0.047	1.19
M3872	8	0.575	14.61	0.063	1.60
M3873	9	0.617	15.67	0.063	1.60
M3874	10	0.665	16.89	0.063	1.60
M3876	12	0.686	17.42	0.063	1.60
M3877	15	0.744	18.90	0.063	1.60
M3878	16	0.759	19.28	0.063	1.60
M3879	19	0.800	20.32	0.063	1.60
M3880	24	0.957	24.31	0.083	2.11
M3883	25	0.973	24.71	0.083	2.11
M3881	30	1.029	26.14	0.083	2.11
M3882	37	1.107	28.12	0.083	2.11

Manhattan™ Control Cable

600 V Unshielded, Multiconductor, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart J (page 533)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

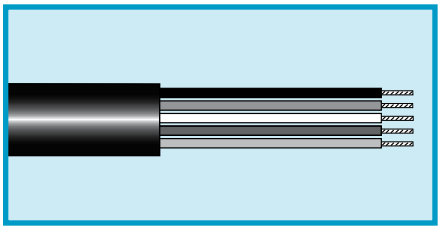
10 AWG (5.26 mm²)

Stranding: 7/0.0385 (7 x 0.98 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3902	2	0.267 x 0.365	6.78 x 9.27	0.047	1.19
M3903	3	0.464	11.79	0.047	1.19
M3904	4	0.540	13.72	0.063	1.60
M3905	5	0.590	14.99	0.063	1.60
M3906	6	0.641	16.28	0.063	1.60
M3907	7	0.641	16.28	0.063	1.60
M3908	8	0.694	17.63	0.063	1.60
M3910	9	0.748	19.00	0.063	1.60
M3911	10	0.809	20.55	0.063	1.60
M3913	12	0.875	22.23	0.083	2.11
M3915	14	0.920	23.37	0.083	2.11
M3916	15	0.950	24.13	0.083	2.11

Manhattan™ Control Cable

600 V Unshielded, Multiconductor, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC/nylon insulation
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39056	2	0.283	7.19	0.048	1.22

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39057	2	0.301	7.65	0.048	1.22

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39058	2	0.355	9.02	0.048	1.22

12 AWG (3.29 mm²)

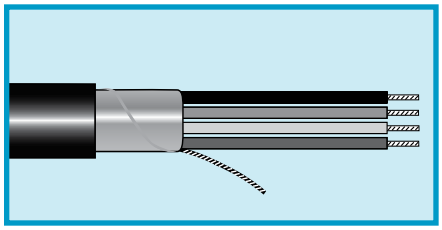
Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39059	2	0.393	9.98	0.048	1.22

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Control Cable

600 V Foil Shield, Multiconductor, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart J (page 533)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33800	2	0.277	7.04	0.047	1.19
M33801	3	0.291	7.39	0.047	1.19
M33802	4	0.314	7.98	0.047	1.19
M33803	5	0.340	8.64	0.047	1.19
M33805	7	0.366	9.30	0.047	1.19
M33807	9	0.421	10.69	0.047	1.19
M33810	12	0.467	11.86	0.047	1.19
M33815	15	0.537	13.64	0.063	1.60
M33819	19	0.573	14.55	0.063	1.60

16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33826	2	0.301	7.65	0.047	1.19
M33828	3	0.317	8.05	0.047	1.19
M33829	4	0.343	8.71	0.047	1.19
M33830	5	0.372	9.45	0.047	1.19
M33832	7	0.402	10.21	0.047	1.19
M33834	9	0.465	11.81	0.047	1.19
M33837	12	0.549	13.94	0.063	1.60
M33838	15	0.592	15.04	0.063	1.60
M33839	19	0.634	16.10	0.063	1.60

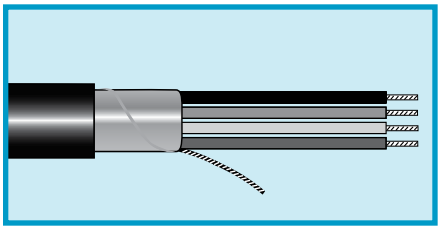
14 AWG (2.08 mm²)

Stranding: 7/0.0242 (7 x 0.62 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33845	2	0.331	8.41	0.047	1.19
M33847	3	0.349	8.86	0.047	1.19
M33848	4	0.379	9.63	0.047	1.19
M33849	5	0.413	10.49	0.047	1.19
M33851	7	0.448	11.38	0.047	1.19
M33853	9	0.551	14.00	0.063	1.60
M33856	12	0.611	15.52	0.063	1.60
M33857	15	0.661	16.79	0.063	1.60
M33858	19	0.709	18.01	0.063	1.60

Manhattan™ Control Cable

600 V Foil Shield, Multiconductor, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart J (page 533)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

12 AWG (3.30 mm²)

Stranding: 7/0.0305 (7 x 0.78 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33865	2	0.369	9.37	0.047	1.19
M33867	3	0.390	9.91	0.047	1.19
M33868	4	0.425	10.80	0.047	1.19
M33869	5	0.464	11.79	0.047	1.19
M33870	6	0.505	12.83	0.047	1.19
M33871	7	0.505	12.83	0.047	1.19
M33873	9	0.621	15.77	0.063	1.60
M33876	12	0.690	17.53	0.063	1.60
M33877	15	0.748	19.00	0.063	1.60
M33879	19	0.804	20.42	0.063	1.60

10 AWG (5.26 mm²)

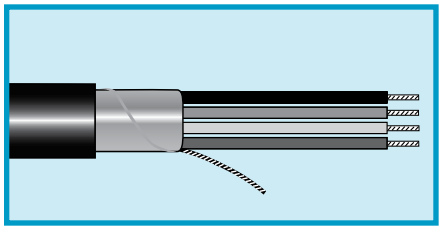
Stranding: 7/0.0385 (7 x 0.98 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M33902	2	0.441	11.20	0.047	1.19
M33903	3	0.468	11.89	0.047	1.19
M33904	4	0.544	13.82	0.063	1.60
M33905	5	0.594	15.09	0.063	1.60
M33906	6	0.645	16.38	0.063	1.60
M33907	7	0.645	16.38	0.063	1.60
M33910	9	0.752	19.10	0.063	1.60
M33912	12	0.879	22.33	0.083	2.11

UL LISTED CA PROP 65 RoHS Compliant

Manhattan™ Control Cable

600 V Foil Shield, Multiconductor, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39109	2	0.287	7.29	0.048	1.22

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39110	2	0.305	7.75	0.048	1.22

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39111	2	0.359	9.11	0.048	1.22

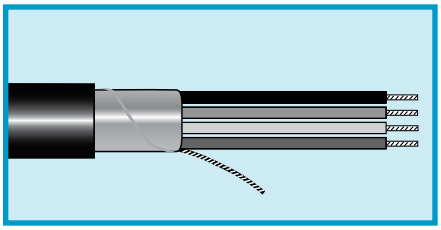
12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39112	2	0.397	10.08	0.048	1.22

Manhattan™ Control Cable

600 V Foil Shield, Multiconductor, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart J1 (page 533)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductors
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

Bulk, cut to length
(Minimums may apply)

16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7616/6	6	0.401	10.19	0.048	1.22

14 AWG (2.08 mm²)

Stranding: 7/0.0242 (41 x 0.62 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

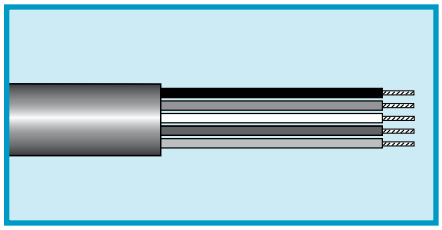
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7614/6	6	0.447	11.35	0.048	1.22

UL LISTED CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Control Cable

300 V Unshielded, Multiconductor, PVC, PVC



UL PLTC, ITC
UL CMG
CSA CMG FT4

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39071	2	0.203	5.16	0.038	0.97
M39072	3	0.213	5.41	0.038	0.97

20 AWG (0.61 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39073	2	0.223	5.66	0.038	0.97
M39074	3	0.234	5.94	0.038	0.97

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39075	2	0.243	6.17	0.038	0.97
M39076	3	0.256	6.50	0.038	0.97

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (7 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39077	2	0.261	6.63	0.038	0.97
M39078	3	0.275	6.99	0.038	0.97

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39079*	2	0.325	8.26	0.043	1.09
M39080*	3	0.343	8.71	0.043	1.09

*Not CMG approved.

12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

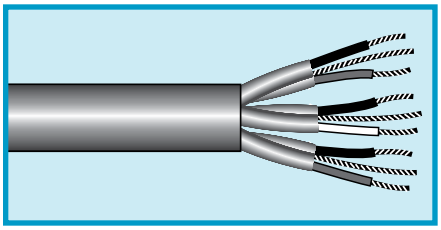
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39081*	2	0.423	10.74	0.053	1.35

*Not CMG approved.

c UL us RoHS Compliant

Manhattan™ Control Cable

300 V Foil Shield, Individual Pairs, Multipair, PVC, PVC



UL PLTC, ITC
UL CMG
CSA CMG

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Chart BR (page 529)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Slate PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39147	2	0.320	8.13	0.043	1.09
M39148	3	0.338	8.59	0.043	1.09
M39149	4	0.368	9.35	0.043	1.09
M39150	6	0.457	11.61	0.053	1.35
M39151	9	0.529	13.44	0.053	1.35
M39152	11	0.563	14.30	0.053	1.35
M39153	15	0.582	14.78	0.053	1.35
M39154	19	0.646	16.41	0.063	1.60
M39155	27	0.763	19.38	0.063	1.60
M39156	51	1.005	25.53	0.075	1.91

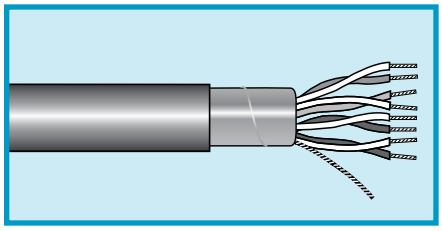
18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39157	2	0.410	10.41	0.053	1.35
M39158	3	0.434	11.02	0.053	1.35
M39159	4	0.473	12.01	0.053	1.35
M39160	6	0.563	14.30	0.053	1.35
M39161	9	0.677	17.20	0.063	1.60
M39162	11	0.731	18.57	0.063	1.60
M39163	15	0.820	20.83	0.063	1.60

Manhattan™ Control Cable

300 V Overall Foil Shield, Multipair, PVC, PVC



UL PLTC, ITC
UL CMG
CSA CMG

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Chart BR (page 529)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Slate PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39130	2	0.296	7.52	0.043	1.09
M39131	3	0.312	7.92	0.043	1.09
M39132	4	0.339	8.61	0.043	1.09
M39133	6	0.420	10.67	0.053	1.35
M39134	9	0.483	12.27	0.053	1.35
M39135	11	0.520	13.21	0.053	1.35
M39136	15	0.580	14.73	0.053	1.35
M39137	19	0.642	16.31	0.063	1.60
M39138	27	0.759	19.28	0.063	1.60
M39139	51	0.995	25.27	0.075	1.91

18 AWG (0.96 mm²)

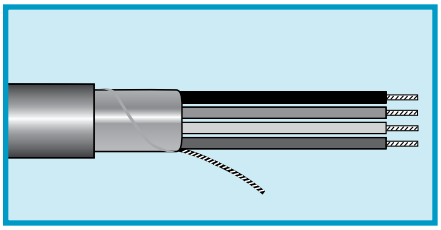
Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39140	2	0.362	9.19	0.043	1.09
M39141	3	0.403	10.24	0.053	1.35
M39142	4	0.438	11.13	0.053	1.35
M39143	6	0.518	13.16	0.053	1.35
M39144	9	0.622	15.80	0.063	1.60
M39145	11	0.671	17.04	0.063	1.60
M39146	15	0.751	19.08	0.063	1.60

c UL us RoHS Compliant

Manhattan™ Control Cable

300 V Overall Foil Shield, Multiconductor, PVC, PVC



UL PLTC, ITC
UL CMG
CSA CMG FT4

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester tape shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Slate PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39113	2	0.207	5.26	0.038	0.97
M39114	3	0.214	5.44	0.038	0.97

20 AWG (0.61 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39115	2	0.227	5.77	0.038	0.97
M39116	3	0.238	6.05	0.038	0.97

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39117	2	0.247	6.27	0.038	0.97
M39118	3	0.260	6.60	0.038	0.97

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (7 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39119	2	0.265	6.73	0.038	0.97
M39120	3	0.279	7.09	0.038	0.97

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39121*	2	0.329	8.36	0.043	1.09
M39122*	3	0.347	8.81	0.043	1.09

*Not CMG approved.

12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.032 (0.41 mm)

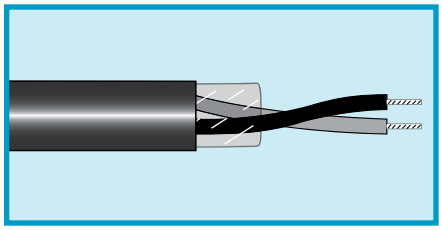
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39123*	2	0.427	10.85	0.053	1.35

*Not CMG approved.

RoHS Compliant

Manhattan™ Instrumentation Cable

300 V Unshielded Pairs, PVC, PVC



UL PLTC, ITC
UL CL3
CSA CMG FT4

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Black, white

Materials

- Stranded bare copper conductors
- PVC insulation
- Black PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.52 mm²)

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9500010	1	0.215	5.46	0.038	0.97

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9508010	1	0.235	5.97	0.038	0.97

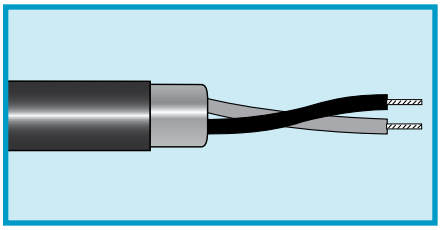
16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9506010	1	0.259	6.58	0.038	0.97

Manhattan™ Instrumentation Cable

300 V Overall Foil Shield, Pair, PVC, PVC



UL PLTC, ITC
UL CL3
CSA CMG FT4

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Black, white

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.013 (0.33 mm)
22 AWG (0.35 mm2) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5610B2201	1	0.192	4.88	0.038	0.97

20 AWG (0.52 mm²)

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9520010	1	0.219	5.56	0.038	0.97

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9528010	1	0.239	6.07	0.038	0.97

16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9526010	1	0.263	6.68	0.038	0.97

14 AWG (2.08 mm²)

Stranding: 7/0.0242 (7 x 0.62 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9524010*	1	0.303	7.70	0.043	1.09

*Not CMG approved.

12AWG (3.29 mm²)

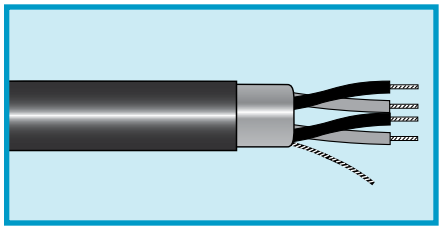
Stranding: 19/0.0185 (7 x 0.47 mm)
Insulation thickness: 0.022 (0.56 mm)
16 AWG (1.31 mm2) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5610B1201*	1	0.368	9.35	0.045	1.14

*Not CMG approved.

Manhattan™ Instrumentation Cable

600 V Pairs, Overall Foil Shield, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart BW (page 529)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.52 mm²)

Stranding: 7/0.0121 (7 x 0.51 mm)
Insulation thickness: 0.013 (0.33 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5616B2001	1	0.220	5.59	0.040	1.02

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8528010	1	0.279	7.09	0.048	1.22
M8708020	2	0.396	10.06	0.050	1.27
M8708040	4	0.456	11.58	0.050	1.27
M8708060	6	0.572	14.53	0.065	1.65
M8708080	8	0.617	15.67	0.065	1.65
M8708120	12	0.737	18.72	0.065	1.65
M8708160	16	0.856	21.74	0.085	2.16
M8708240	24	1.025	26.04	0.085	2.16
M8708360	36	1.188	30.18	0.085	2.16
M8708500	50	1.356	34.44	0.085	2.16

16 AWG (1.31 mm²)

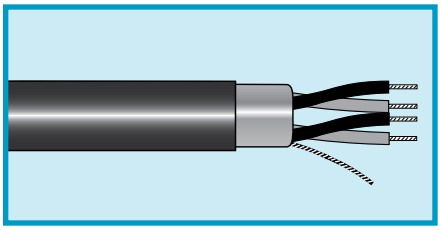
Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8526010	1	0.303	7.70	0.048	1.22
M8706020	2	0.435	11.05	0.050	1.27
M8706040	4	0.504	12.80	0.050	1.27
M8706060	6	0.631	16.03	0.065	1.65
M8706080	8	0.682	17.32	0.065	1.65
M8706120	12	0.858	21.79	0.085	2.16
M8706160	16	0.949	24.10	0.085	2.16
M8706240	24	1.141	28.98	0.085	2.16
M8706360	36	1.325	33.66	0.085	2.16
M8706500	50	1.517	38.53	0.085	2.16

UL LISTED RoHS Compliant

Manhattan™ Instrumentation Cable

600 V Pairs, Overall Foil Shield, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart BW (page 529)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

14 AWG (2.08 mm²)

Stranding: 7/0.0242 (7 x 0.61 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8524010	1	0.333	8.46	0.048	1.22
M8704020	2	0.484	12.29	0.050	1.27
M8704040	4	0.593	15.06	0.065	1.65
M8704060	6	0.706	17.93	0.065	1.65
M8704080	8	0.764	19.41	0.065	1.65
M8704120	12	0.961	24.41	0.085	2.16
M8704160	16	1.064	27.03	0.085	2.16
M8704240	24	1.286	32.66	0.085	2.16
M8704360	36	1.498	38.05	0.085	2.16
M8704500	50	1.778	45.16	0.115	2.92

12AWG (3.29 mm²)

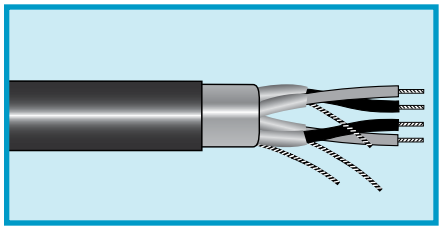
Stranding: 19/0.0185 (19 x 0.47 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5616B1201	1	0.374	9.50	0.050	1.27

UL LISTED RoHS Compliant

Manhattan™ Instrumentation Cable

600 V Pairs, Overall and Individually Foil Shielded Pairs, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Chart BW (page 529)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8748020	2	0.429	10.90	0.050	1.27
M8748040	4	0.497	12.62	0.050	1.27
M8748060	6	0.622	15.80	0.065	1.65
M8748080	8	0.672	17.07	0.065	1.65
M8748120	12	0.806	20.47	0.065	1.65
M8748160	16	0.935	23.75	0.085	2.16
M8748200	20	1.020	25.91	0.085	2.16
M8748240	24	1.123	28.52	0.085	2.16
M8748360	36	1.306	33.17	0.085	2.16
M8748500	50	1.497	38.02	0.085	2.16

16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8746020	2	0.471	11.96	0.050	1.27
M8746040	4	0.577	14.66	0.065	1.65
M8746060	6	0.686	17.42	0.065	1.65
M8746080	8	0.742	18.85	0.065	1.65
M8746120	12	9.33	23.70	0.085	2.16
M8746160	16	1.034	26.26	0.085	2.16
M8746200	20	1.130	28.70	0.085	2.16
M8746240	24	1.247	31.67	0.085	2.16
M8746360	36	1.454	36.93	0.085	2.16
M8746500	50	1.730	43.94	0.115	2.92

14 AWG (2.08 mm²)

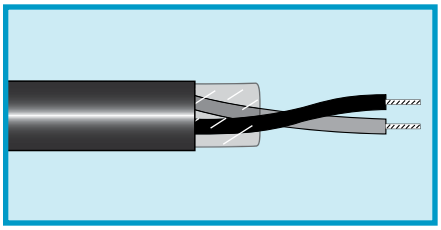
Stranding: 7/0.0242 (7 x 0.61 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8744020	2	0.523	13.28	0.050	1.27
M8744040	4	0.641	16.28	0.065	1.65
M8744060	6	0.765	19.43	0.065	1.65
M8744080	8	0.869	22.07	0.085	2.16
M8744120	12	1.043	26.49	0.085	2.16
M8744160	16	1.158	29.41	0.085	2.16
M8744200	20	1.267	32.18	0.085	2.16
M8744240	24	1.401	35.59	0.085	2.16
M8744360	36	1.638	41.61	0.085	2.16
M8744500	50	1.945	49.40	0.115	2.92

UL LISTED RoHS Compliant

Manhattan™ Instrumentation Cable

600 V Unshielded Pairs, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Black, white

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5606B1801	1	0.276	7.01	0.050	1.27

16 AWG (1.31 mm²)

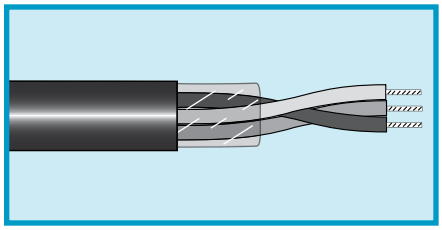
Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5606B1601	1	0.300	7.62	0.050	1.27

UL LISTED CA PROP 65 RoHS Compliant

Manhattan™ Instrumentation Cable

300 V Unshielded Triads, PVC, PVC



UL PLTC, ITC
UL CL3
CSA CMG FT4

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Black, white, red

Materials

- Stranded bare copper conductors
- PVC insulation
- Black PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.52 mm²)

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9600010	1	0.226	5.74	0.038	0.97

18 AWG (0.81 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9608010	1	0.247	6.27	0.038	0.97

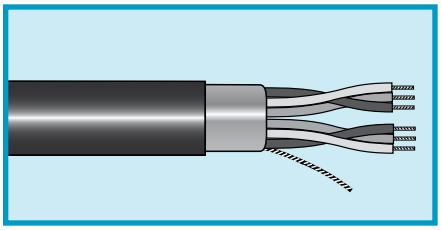
16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9606010	1	0.293	7.44	0.038	0.97

Manhattan™ Instrumentation Cable

300 V Foil Shield, Triads, PVC, PVC



UL PLTC, ITC
UL CL3
CSA CMG FT4

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Black, white, red

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.013 (0.33 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5640B2201	1	0.201	5.11	0.038	0.96

20 AWG (0.52 mm²)

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9620010	1	0.230	5.84	0.038	0.97
5640B2004	4	0.410	10.41	0.055	1.39
5640B2012	12	0.640	16.28	0.065	1.65

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9628010	1	0.251	6.38	0.038	0.97

16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9626010	1	0.287	7.29	0.043	1.09

14 AWG (2.08 mm²)

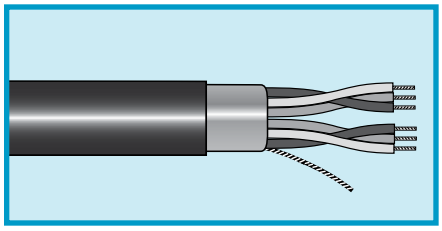
Stranding: 7/0.0242 (7 x 0.61 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9624010*	1	0.319	8.10	0.043	1.09

*Not CMG approved.

Manhattan™ Instrumentation Cable

300 V Overall and Individually Foil Shielded Triads, PVC, PVC



UL PLTC
CSA CMG FT4

Operating Temperature

- -20°C to +105°C
- -20°C to +60°C (CMG)

Conductor Color Coding

- Black, white, red
- White conductors are numbered

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant

Availability

1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

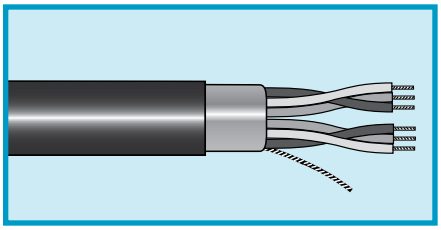
20 AWG (0.51 mm²)

Stranding: 7/0.0121 (7 x 0.54 mm)
Insulation thickness: 0.013 (0.33 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5650B2004	4	0.458	11.63	0.055	1.39
5650B2008	8	0.586	14.88	0.055	1.39
5650B2012	12	0.723	18.36	0.065	1.65

Manhattan™ Instrumentation Cable

600 V Overall Foil Shield, Triads, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Black, white, red
- White conductors are numbered

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8628010	1	0.293	7.44	0.048	1.22
M8808020	2	0.450	11.43	0.050	1.27
M8808040	4	0.552	14.02	0.065	1.65
M8808080	8	0.708	17.98	0.065	1.65
M8808120	12	0.890	22.61	0.085	2.16
M8808240	24	1.186	30.12	0.085	2.16

16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8626010	1	0.319	8.10	0.048	1.22
M8806020	2	0.497	12.62	0.050	1.27
M8806040	4	0.609	15.47	0.065	1.65
M8806080	8	0.785	19.94	0.065	1.65
M8806120	12	0.987	25.07	0.085	2.16
M8806240	24	1.323	33.60	0.085	2.16

14 AWG (2.08 mm²)

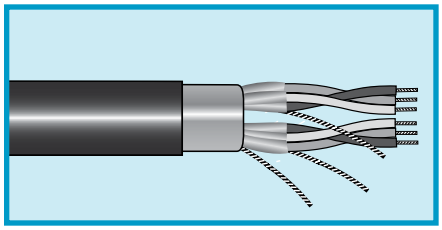
Stranding: 7/0.0242 (7 x 0.62 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8624010	1	0.351	8.92	0.048	1.22
M8804020	2	0.585	14.86	0.065	1.65
M8804040	4	0.680	17.27	0.065	1.65
M8804080	8	0.923	23.44	0.085	2.16
M8804120	12	1.109	28.17	0.085	2.16
M8804240	24	1.495	37.97	0.085	2.16

UL LISTED RoHS Compliant

Manhattan™ Instrumentation Cable

600 V Overall and Individually Foil Shielded Multitriads, PVC/Nylon, PVC



UL TC

Operating Temperature

- -25°C to +90°C

Conductor Color Coding

- Black, white, red
- White conductors are numbered

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min., on both individual triads and overall cable
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant
- UL Direct Burial

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.81 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8848020	2	0.501	12.73	0.050	1.27
M8848040	4	0.614	15.60	0.065	1.65
M8848080	8	0.832	21.13	0.085	2.16
M8848120	12	0.996	25.30	0.085	2.16
M8848240	24	1.336	33.93	0.065	2.16

16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8846020	2	0.583	14.81	0.065	1.65
M8846040	4	0.677	17.20	0.065	1.65
M8846080	8	0.918	23.32	0.085	2.16
M8846120	12	1.104	28.04	0.085	2.16
M8846240	24	1.488	37.80	0.085	2.16

14 AWG (2.08 mm²)

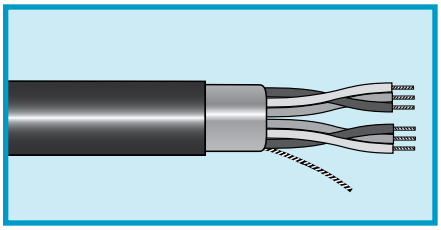
Stranding: 7/0.0242 (7 x 0.61 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Triads	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M8844020	2	0.648	16.46	0.065	1.65
M8844040	4	0.755	19.18	0.065	1.65
M8844080	8	1.026	26.06	0.085	2.16
M8844120	12	1.238	31.45	0.085	2.16
M8844240	24	1.738	44.15	0.115	2.92

UL LISTED RoHS Compliant

Manhattan™ Instrumentation Cable

300 V Overall Foil Shield, Composite, PVC/Nylon, PVC



UL PLTC, ITC
UL CL3
CSA CMG FT4

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Chart BW (page 529)

Materials

- Stranded bare copper conductors
- PVC insulation
- Communications wire is 22 AWG (0.35 mm²), 7/30 (7 x 0.25 mm) sttranding, bare copper with 0.016 (0.41 mm) thick insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG smaller than conductor
- Black PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.52 mm²) Pairs

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9700020	2	0.321	8.15	0.045	1.14
M9700040	4	0.400	10.16	0.053	1.35
M9700060	6	0.451	11.46	0.053	1.35
M9700080	8	0.511	12.98	0.053	1.35
M9700120	12	0.581	14.76	0.053	1.35
M9700160	16	0.660	16.76	0.063	1.60
5610B2020*	20	0.677	17.20	0.065	1.65
M9700240	24	0.791	20.09	0.063	1.60
M9700360	36	0.925	23.50	0.073	1.85
M9700500	50	1.069	27.15	0.073	1.85

*No communication wire.

18 AWG (0.81 mm²) Pairs

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9708020	2	0.353	8.97	0.045	1.14
M9708040	4	0.431	10.95	0.053	1.35
M9708060	6	0.499	12.67	0.053	1.35
M9708080	8	0.558	14.17	0.053	1.35
M9708120	12	0.664	16.87	0.063	1.60
M9708160	16	0.735	18.67	0.063	1.60
M9708240	24	0.905	22.99	0.073	1.85
M9708360	36	1.049	26.64	0.073	1.85
M9708500	50	1.199	30.45	0.073	1.85

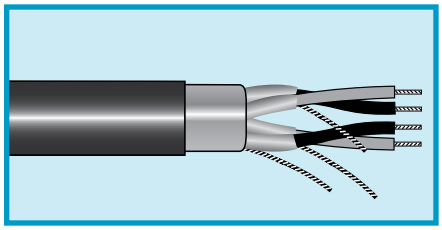
16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9706020	2	0.409	10.39	0.053	1.35
M9706040	4	0.471	11.96	0.053	1.35
M9706060	6	0.559	14.20	0.053	1.35
M9706080	8	0.639	16.23	0.063	1.60
M9706120	12	0.747	18.97	0.063	1.60
M9706160	16	0.829	21.06	0.063	1.60
M9706240	24	1.023	25.98	0.073	1.85
M9706360	36	1.189	30.20	0.073	1.85
M9706500	50	1.382	35.10	0.083	2.11

Manhattan™ Instrumentation Cable

300 V Overall and Individually Foil Shielded Pairs, Composite PVC/Nylon, PVC



UL PLTC, ITC
UL CL3
CSA CMG FT4

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- Chart BW (page 529)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire one even AWG size smaller than conductors
- Black PVC jacket

Features

- UL Sunlight Resistant

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.52 mm²)*

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9740020	2	0.349	8.86	0.045	1.14
M9740040	4	0.427	10.85	0.053	1.35
M9740060	6	0.493	12.52	0.053	1.35
M9740080	8	0.539	13.69	0.053	1.35
M9740120	12	0.643	16.33	0.063	1.60
M9740160	16	0.724	18.39	0.063	1.60
5620B2020**	20	0.752	19.10	0.065	1.65
M9740240	24	0.882	22.40	0.073	1.85
M9740360	36	1.011	25.68	0.073	1.85
M9740500	50	1.169	29.69	0.073	1.85

*Communications wire is 22 AWG (0.35 mm²), 7/30 (7 x 0.25 mm) stranding, bare copper with 0.016 (0.41 mm) thick insulation.
**0.013 (0.33 mm) insulation thickness.

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.016 (0.41 mm) PVC

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9748020	2	0.401	10.19	0.053	1.35
M9748040	4	0.463	11.76	0.053	1.35
M9748060	6	0.547	13.89	0.053	1.35
M9748080	8	0.616	15.65	0.063	1.60
M9748120	12	0.712	18.08	0.063	1.60
M9748160	16	0.805	20.45	0.063	1.60
5620B1820	20	0.921	23.36	0.075	1.91
M9748240	24	0.983	24.97	0.073	1.85
M9748360	36	1.130	28.70	0.073	1.85
M9748500	50	1.349	34.26	0.083	2.11

*Communications wire is 22 AWG (0.35 mm²), 7/30 (7 x 0.25 mm) stranding, bare copper with 0.016 (0.41 mm) thick insulation.

16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.016 (0.41 mm) PVC

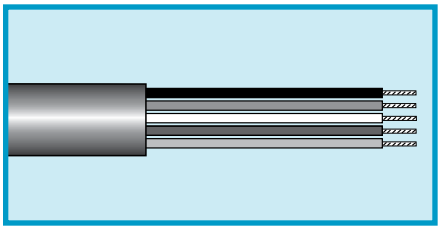
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M9746020	2	0.441	11.20	0.053	1.35
M9746040	4	0.512	13.00	0.053	1.35
M9746060	6	0.630	16.00	0.063	1.60
M9746080	8	0.690	17.53	0.063	1.60
M9746120	12	0.819	20.80	0.063	1.60
M9746160	16	0.929	23.60	0.073	1.85
M9746240	24	1.123	28.52	0.073	1.85
M9746360	36	1.328	33.73	0.083	2.11
M9746500	50	1.521	38.63	0.083	2.11

*Communications wire is 22 AWG (0.35 mm²), 7/30 (7 x 0.25 mm) stranding, bare copper with 0.016 (0.41 mm) thick insulation.

UL LISTED CSA CA PROP 65 RoHS Compliant

Manhattan™ Computer Cable

300 V Unshielded, Multiconductor, PVC, PVC



UL AWM 2464
UL CL2
CSA AWM I/II A/B FT4

Applications

- Control and signal wiring
- Computers
- Instrumentation

Operating Temperature

- -20°C to +105°C (CSA)
- -20°C to +90°C (CL2)
- -20°C to +80°C (AWM)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

20 AWG (0.50 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
882002	2	0.202	5.13	0.032	0.81	R
882003	3	0.213	5.41	0.032	0.81	R
882004	4	0.231	5.87	0.032	0.81	R
882005	5	0.251	6.38	0.032	0.81	R
882006	6	0.272	6.91	0.032	0.81	R
882007	7	0.272	6.91	0.032	0.81	R
882008	8	0.293	7.44	0.032	0.81	R
882010	10	0.318	8.08	0.032	0.81	R
882012	12	0.338	8.59	0.032	0.81	R
882015	15	0.389	9.88	0.032	0.81	F
882020	20	0.430	10.92	0.032	0.81	R
882025	25	0.471	11.96	0.032	0.81	R

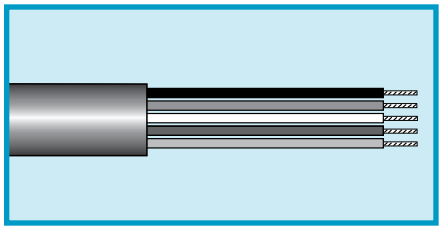
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
881802	2	0.222	5.64	0.032	0.81	R
881803	3	0.234	5.94	0.032	0.81	F
881804	4	0.255	6.48	0.032	0.81	R
881805	5	0.278	7.06	0.032	0.81	R
881806	6	0.289	7.34	0.032	0.81	R
881807	7	0.302	7.67	0.032	0.81	R
881808	8	0.341	8.66	0.032	0.81	R
881809	9	0.379	9.63	0.032	0.81	R
881812	12	0.408	10.36	0.032	0.81	F
881815	15	0.465	11.81	0.032	0.81	F
881820	20	0.511	12.98	0.032	0.81	R
881825	25	0.600	15.24	0.032	0.81	F

Manhattan™ Computer Cable

300 V Unshielded, Multiconductor, PVC, PVC



UL AWM 2464
UL CL2
CSA AWM I/II A/B FT4

Applications

- Control and signal wiring
- Computers
- Instrumentation

Operating Temperature

- -20°C to +105°C (CSA)
- -20°C to +90°C (CL2)
- -20°C to +80°C (AWM)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
881602	2	0.312	7.92	0.032	0.81	F
881603	3	0.329	8.36	0.032	0.81	F
881604	4	0.375	9.53	0.045	1.14	F
881605	5	0.405	10.29	0.045	1.14	F
881606	6	0.410	10.41	0.045	1.14	R
881607	7	0.455	11.56	0.045	1.14	F
881610	10	0.578	14.68	0.045	1.14	R

14 AWG (2.08 mm²)

Stranding: 41/30 (65 x 0.25 mm)
Insulation thickness: 0.031 (0.78 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
881403	3	0.378	9.60	0.035	0.89	F
881404	4	0.434	11.02	0.045	1.14	F
881405	5	0.485	12.32	0.060	1.52	F

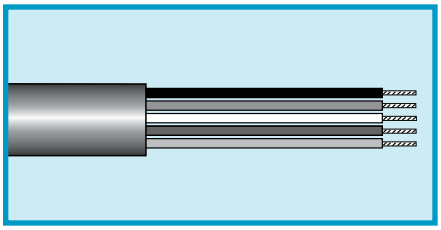
12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.031 (0.78 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
881202	2	0.396	10.06	0.032	0.81	F
881203	3	0.423	10.74	0.032	0.81	F

Manhattan™ Computer Cable

300 V Unshielded, Multiconductor, SR-PVC, PVC



UL AWM 2464
UL CL2
CSA AWM I/II A/B FT4

Applications

- Control and signal wiring
- Computers
- Instrumentation

Operating Temperature

- -20°C to +105°C (CSA)
- -20°C to +90°C (CL2)
- -20°C to +80°C (AWM)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
882402	2	0.152	3.86	0.032	0.81	E
882403	3	0.159	4.04	0.032	0.81	E
882404	4	0.170	4.32	0.032	0.81	E
882406	6	0.197	5.00	0.032	0.81	E

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

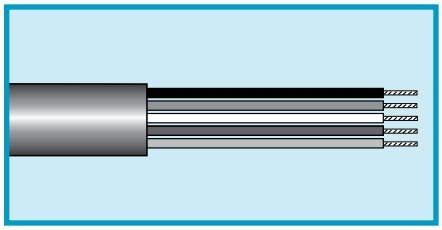
Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
882202	2	0.164	4.17	0.032	0.81	R
882203	3	0.172	4.37	0.032	0.81	R
882204	4	0.185	4.70	0.032	0.81	R
882205	5	0.200	5.08	0.032	0.81	R
882206	6	0.215	5.46	0.032	0.81	R
882207	7	0.215	5.46	0.032	0.81	R
882208	8	0.230	5.84	0.032	0.81	R
882209	9	0.246	6.25	0.032	0.81	R
882210	10	0.264	6.71	0.032	0.81	R
882212	12	0.272	6.91	0.032	0.81	R
882215	15	0.294	7.47	0.032	0.81	F
882220	20	0.326	8.28	0.032	0.81	F
882225	25	0.364	9.25	0.032	0.81	F
882230	30	0.385	9.78	0.032	0.81	F
882240	40	0.429	10.90	0.032	0.81	F
882250	50	0.478	12.14	0.035	0.89	F
882260	60	0.520	13.21	0.035	0.89	F

RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Computer Cable

300 V Unshielded, Multiconductor, SR-PVC, PVC



UL AWM 2343
UL CMG
CSA CMG FT4

Applications

- Control and signal wiring
- Computers
- Instrumentation

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart E (page 532)

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (10 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4501	7	0.262	6.65	0.063	1.60
M4502	12	0.312	7.92	0.063	1.60
M4503	15	0.332	8.43	0.063	1.60
M4504	19	0.349	8.86	0.063	1.60
M4506	37	0.437	11.10	0.063	1.60

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4508	2	0.229	5.82	0.063	1.60
M4510	7	0.280	7.11	0.063	1.60
M4511	12	0.337	8.56	0.063	1.60
M4512	15	0.360	9.14	0.063	1.60
M4513	19	0.379	9.63	0.063	1.60
M4514	27	0.437	11.10	0.063	1.60
M4515	37	0.479	12.17	0.063	1.60

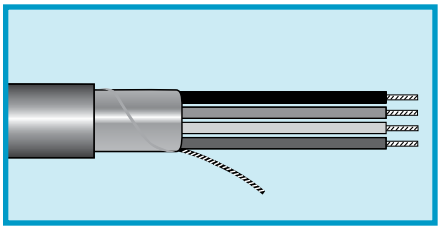
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4517	2	0.245	6.22	0.063	1.60
M4518	5	0.287	7.29	0.063	1.60
M4519	7	0.304	7.72	0.063	1.60
M4520	12	0.370	9.40	0.063	1.60
M4522	19	0.419	10.64	0.063	1.60
M4523	27	0.486	12.34	0.063	1.60
M4524	37	0.535	13.59	0.063	1.60

Manhattan™ Computer Cable

300 V Foil Shield, Multiconductor, PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- Control and signal wiring
- Computers
- Instrumentation

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.56 mm²)

Stranding: 7/28 (10 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code D

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4660	2	0.211	5.36	0.032	0.81
M4661	3	0.222	5.64	0.032	0.81
M4662	4	0.240	6.10	0.032	0.81
M4664	6	0.282	7.16	0.032	0.81
M4665	8	0.304	7.72	0.032	0.81
M4666	10	0.351	8.92	0.032	0.81
M4668	15	0.393	9.98	0.032	0.81
M4670	20	0.437	11.10	0.032	0.81
M4672	25	0.491	12.47	0.032	0.81
M4673	30	0.520	13.21	0.032	0.81
M4675	40	0.625	15.88	0.053	1.35
M4677	50	0.685	17.40	0.053	1.35

18 AWG (0.81 mm²)

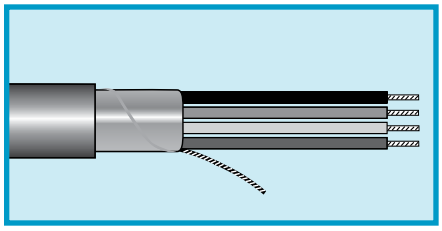
Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code D

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4690	2	0.229	5.82	0.032	0.81
M4691	3	0.241	6.12	0.032	0.81
M4692*	2	0.229	5.82	0.032	0.81
M4693*	3	0.241	6.12	0.032	0.81
M4694	4	0.262	6.65	0.032	0.81
M4696	6	0.309	7.85	0.032	0.81
M4697	8	0.334	8.48	0.032	0.81
M4698	10	0.387	9.83	0.032	0.81
M4700	15	0.436	11.07	0.032	0.81
M4702	20	0.485	12.32	0.032	0.81
M4704	25	0.545	13.84	0.032	0.81
M4706	30	0.620	15.75	0.053	1.35
M4708	40	0.690	17.53	0.053	1.35

*Conductor color coding: 1 Brown, 2 Blue, 3 Green/Yellow.

Manhattan™ Computer Cable

300 V Foil Shield, Multiconductor, PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- Control and signal wiring
- Computers
- Instrumentation

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

16 AWG (1.32 mm²)

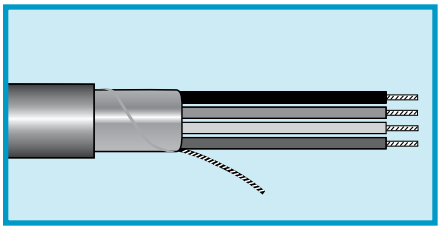
Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)
Color Code R

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4720	2	0.253	6.43	0.032	0.81
M4721	3	0.267	6.78	0.032	0.81
M4722*	2	0.253	6.43	0.032	0.81
M4723*	3	0.267	6.78	0.032	0.81
M4724	4	0.291	7.39	0.032	0.81
M4726	6	0.345	8.76	0.032	0.81
M4728	8	0.374	9.50	0.032	0.81
M4730	10	0.435	11.05	0.032	0.81
M4732	15	0.489	12.42	0.032	0.81
M4734	20	0.547	13.89	0.032	0.81
M4736	30	0.697	17.70	0.053	1.35

*Conductor color coding: 1 Brown, 2 Blue, 3 Green/Yellow.

Manhattan™ Computer Cable

300 V Foil Shield, Multiconductor, PVC, PVC



UL AWM 2464
UL CL2
CSA AWM I/II A/B FT4

Applications

- Sound broadcast
- Instrumentation

Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- Chart R (page 535)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

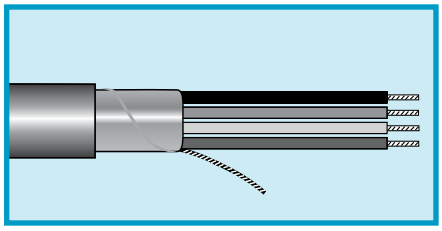
24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1012405	5	0.190	4.83	0.035	0.89
1012407	7	0.205	5.21	0.035	0.89
1012409	9	0.236	5.99	0.035	0.89

Manhattan™ Computer Cable

300 V Foil Shield, Multiconductor, SR-PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- Computer and control applications

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart E (page 532)

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4602	2	0.159	4.04	0.032	0.81
M4603	3	0.166	4.22	0.032	0.81
M4604	4	0.178	4.52	0.032	0.81
M4606	6	0.204	5.18	0.032	0.81
M4607	8	0.217	5.51	0.032	0.81
M4608	10	0.247	6.27	0.032	0.81
M4610	15	0.273	6.93	0.032	0.81
M4612	20	0.301	7.65	0.032	0.81
M4614	25	0.335	8.51	0.032	0.81
M4616	30	0.353	8.97	0.032	0.81
M4618	40	0.393	9.98	0.032	0.81
M4620	50	0.430	10.92	0.032	0.81

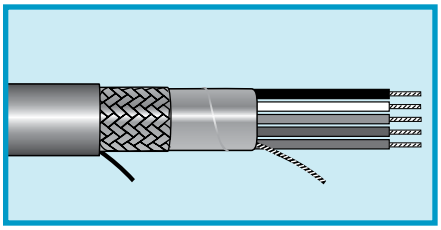
22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4633	2	0.171	4.34	0.032	0.81
M4634	3	0.179	4.55	0.032	0.81
M4635	4	0.192	4.88	0.032	0.81
M4636	6	0.222	5.64	0.032	0.81
M4638	8	0.237	6.02	0.032	0.81
M4640	10	0.271	6.88	0.032	0.81
M4642	15	0.301	7.65	0.032	0.81
M4644	20	0.333	8.46	0.032	0.81
M4646	25	0.371	9.42	0.032	0.81
M4648	30	0.392	9.96	0.032	0.81
M4650	40	0.436	11.07	0.032	0.81
M4652	50	0.479	12.17	0.032	0.81

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Multiconductor, SR-PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- RS-232
- Modems
- Multiplexers
- Serial data interfaces

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% or 70% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

65% Braid Coverage

28 AWG (0.08 mm²)

Stranding: 7/36 (7 x 0.12 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code D

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M2403	3	0.165	4.19	0.032	0.81
M2404	4	0.175	4.45	0.032	0.81
M2405	5	0.185	4.70	0.032	0.81
M2406	6	0.196	4.98	0.032	0.81
M2407	7	0.196	4.98	0.032	0.81
M2408	8	0.206	5.23	0.032	0.81
M2409	9	0.217	5.51	0.032	0.81
M2410	10	0.230	5.84	0.032	0.81
M2412	15	0.251	6.38	0.032	0.81
M2414	25	0.300	7.62	0.032	0.81
M2416	37	0.335	8.51	0.032	0.81
M2420	50	0.376	9.55	0.032	0.81

Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 45 pF/ft (147.6 pF/m)

70% Braid Coverage

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code E

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5302	2	0.181	4.60	0.032	0.81
M5303	3	0.188	4.78	0.032	0.81
M5304	4	0.199	5.05	0.032	0.81
M5306	6	0.226	5.74	0.032	0.81
M5307	8	0.239	6.07	0.032	0.81
M5308	10	0.269	6.83	0.032	0.81
M5310	15	0.295	7.49	0.032	0.81
M5312	20	0.323	8.20	0.032	0.81
M5314	25	0.357	9.07	0.032	0.81
M5316	30	0.375	9.53	0.032	0.81
M5318	40	0.415	10.54	0.032	0.81
M5320	50	0.452	11.48	0.032	0.81

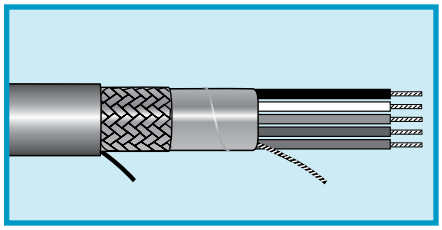
Mutual capacitance: 32 pF/ft (105 pF/m)
Ground capacitance: 58 pF/ft (190.3 pF/m)

Part No. M5302:
Mutual capacitance: 35 pF/ft (114.8 pF/m)
Ground capacitance: 63 pF/ft (206.7 pF/m)

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Multiconductor, SR-PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- RS-232
- Modems
- Multiplexers
- Serial data interfaces

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% or 70% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

65% Braid Coverage

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M2438	3	0.185	4.70	0.032	0.81	O
M2439	4	0.196	4.98	0.032	0.81	O
M2440	5	0.209	5.31	0.032	0.81	O
M2441	6	0.223	5.66	0.032	0.81	O
M2442	7	0.223	5.66	0.032	0.81	O
M2443	8	0.236	5.99	0.032	0.81	O
M2444	9	0.250	6.35	0.032	0.81	O
M2445	10	0.266	6.76	0.032	0.81	O
M2447	15	0.292	7.42	0.032	0.81	F
M2449	25	0.354	8.99	0.032	0.81	F
M2452	37	0.398	10.11	0.032	0.81	F
M2455	50	0.449	11.40	0.032	0.81	F

Mutual capacitance: 32 pF/ft (105 pF/m)
Ground capacitance: 58 pF/ft (190 pF/m)

70% Braid Coverage

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code E

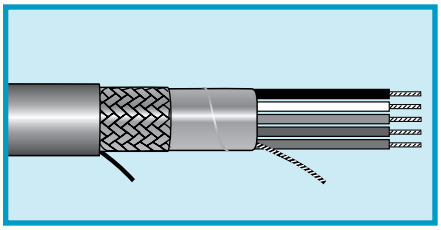
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5333	2	0.193	4.90	0.032	0.81
M5334	3	0.201	5.11	0.032	0.81
M5335	4	0.214	5.44	0.032	0.81
M5336	6	0.244	6.20	0.032	0.81
M5338	8	0.259	6.58	0.032	0.81
M5340	10	0.293	7.44	0.032	0.81
M5342	15	0.323	8.20	0.032	0.81
M5344	20	0.355	9.02	0.032	0.81
M5346	25	0.393	9.98	0.032	0.81
M5348	30	0.414	10.52	0.032	0.81
M5350	40	0.458	11.63	0.032	0.81
M5352	50	0.501	12.73	0.032	0.81

Mutual capacitance: 36 pF/ft (118.1 pF/m)
Ground capacitance: 65 pF/ft (213.3 pF/m)

Part No. M5333:
Mutual capacitance: 39 pF/ft (128 pF/m)
Ground capacitance: 70 pF/ft (229.7 pF/m)

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Multiconductor, SR-PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- RS-232
- Modems
- Multiplexers
- Serial data interfaces

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- See table

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% or 70% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

65% Braid Coverage

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

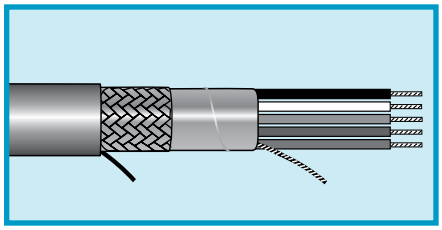
Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M2473	3	0.198	5.03	0.032	0.81	O
M2474	4	0.211	5.36	0.032	0.81	O
M2475	5	0.226	5.74	0.032	0.81	O
M2476	6	0.241	6.12	0.032	0.81	O
M2477	7	0.241	6.12	0.032	0.81	O
M2478	8	0.256	6.50	0.032	0.81	O
M2479	9	0.272	6.91	0.032	0.81	O
M2480	10	0.290	7.37	0.032	0.81	O
M2481	15	0.320	8.13	0.032	0.81	F
M2482	25	0.390	9.91	0.032	0.81	F
M2483	37	0.440	11.18	0.032	0.81	F
M2485	50	0.504	12.80	0.035	0.86	F

Mutual capacitance: 36 pF/ft (118.1 pF/m)
Ground capacitance: 65 pF/ft (213.3 pF/m)

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Multiconductor, SR-PVC, PVC



UL AWM 2343
UL CMG
CSA CMG FT4

Applications

- Computer and control applications

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart E (page 532)

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 70% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5500	5	0.274	6.96	0.063	1.60
M5501	7	0.288	7.32	0.063	1.60
M5502	12	0.338	8.59	0.063	1.60
M5503	15	0.357	9.07	0.063	1.60
M5504	19	0.375	9.53	0.063	1.60
M5505	27	0.426	10.82	0.063	1.60
M5506	37	0.463	11.76	0.063	1.60
M5507	48	0.514	13.06	0.063	1.60
M5508	60	0.551	14.00	0.063	1.60

Mutual capacitance: 32 pF/ft (105 pF/m)
Ground capacitance: 58 pF/ft (190 pF/m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5509	5	0.291	7.39	0.063	1.60
M5510	7	0.306	7.77	0.063	1.60
M5511	12	0.363	9.22	0.063	1.60
M5512	15	0.385	9.78	0.063	1.60
M5513	19	0.405	10.29	0.063	1.60
M5514	27	0.463	11.76	0.063	1.60
M5515	37	0.505	12.83	0.063	1.60
M5516	48	0.563	14.30	0.063	1.60
M5517	60	0.605	15.37	0.063	1.60

Mutual capacitance: 36 pF/ft (118.1 pF/m)
Ground capacitance: 65 pF/ft (213.3 pF/m)

20 AWG (0.56 mm²)

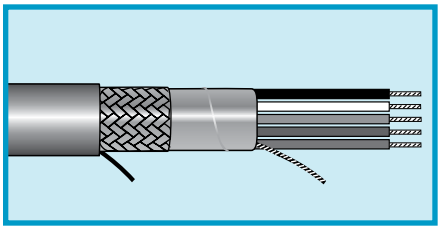
Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5518	5	0.312	7.92	0.063	1.60
M5519	7	0.330	8.38	0.063	1.60
M5520	12	0.396	10.06	0.063	1.60
M5521	15	0.421	10.69	0.063	1.60
M5522	19	0.445	11.30	0.063	1.60
M5523	27	0.512	13.00	0.063	1.60
M5524	37	0.561	14.25	0.063	1.60
M5525	48	0.628	15.95	0.063	1.60
M5526	60	0.683	17.35	0.063	1.60

Mutual capacitance: 40 pF/ft (131.2 pF/m)
Ground capacitance: 72 pF/ft (236.2 pF/m)

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Low Capacitance, Multiconductor, FPE, PVC



UL AWM 2919 (30 V)
UL CM VW-1
CSA CM FT4

Applications

- RS-232, RS-422
- Modems
- Multiplexers
- Serial data interfaces

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)

Conductor Color Coding

- See table

Materials

- Stranded tinned copper conductors
- Foam polyethylene insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

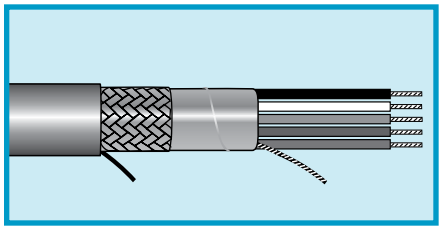
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
M2456	3	0.217	5.51	0.035	0.89	O
M2457	4	0.231	5.87	0.035	0.89	O
M2458	5	0.248	6.30	0.035	0.89	O
M2459	6	0.265	6.73	0.035	0.89	O
M2460	7	0.265	6.73	0.035	0.89	O
M2461	8	0.282	7.16	0.035	0.89	O
M2462	9	0.300	7.62	0.035	0.89	O
M2463	10	0.320	8.13	0.035	0.89	O
M2465	15	0.353	8.97	0.035	0.89	F
M2467	25	0.432	10.97	0.035	0.89	F
M2470	37	0.488	12.40	0.035	0.89	F

Mutual capacitance: 11.9 pF/ft (39 pF/m)
Ground capacitance: 21.4 pF/ft (70.2 pF/m)

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Multiconductor, PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- Computer and control

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 70% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5360	2	0.233	5.92	0.032	0.81
M5361	3	0.241	6.12	0.032	0.81
M5362	4	0.262	6.65	0.032	0.81
M5364	6	0.304	7.72	0.032	0.81
M5365	8	0.326	8.28	0.032	0.81
M5366	10	0.373	9.47	0.032	0.81
M5368	15	0.415	10.54	0.032	0.81
M5370	20	0.459	11.66	0.032	0.81
M5372	25	0.513	13.03	0.032	0.81
M5375	40	0.653	16.59	0.053	1.35
M5377	50	0.713	18.11	0.053	1.35

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5390	2	0.251	6.38	0.032	0.81
M5391	3	0.263	6.68	0.032	0.81
M5392*	2	0.251	6.38	0.032	0.81
M5393*	3	0.263	6.68	0.032	0.81
M5394	4	0.284	7.21	0.032	0.81
M5396	6	0.328	8.33	0.032	0.81
M5397	8	0.356	9.04	0.032	0.81
M5398	10	0.409	10.39	0.032	0.81
M5400	15	0.456	11.58	0.032	0.81
M5402	20	0.507	12.88	0.032	0.81
M5404	25	0.609	15.47	0.053	1.35
M5406	30	0.648	16.46	0.053	1.35

*Conductor color coding: 1 Brown, 2 Blue, 3 Green/Yellow.

16 AWG (1.32 mm²)

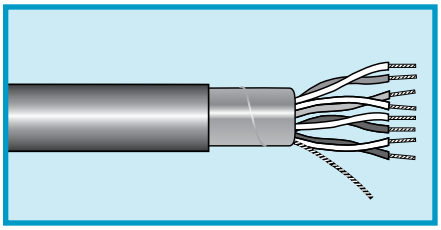
Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5420	2	0.275	6.99	0.032	0.81
M5421	3	0.289	7.34	0.032	0.81
M5422*	2	0.275	6.99	0.032	0.81
M5423*	3	0.289	7.34	0.032	0.81
M5424	4	0.313	7.95	0.032	0.81
M5426	6	0.367	9.32	0.032	0.81
M5428	8	0.396	10.06	0.032	0.81
M5430	10	0.457	11.61	0.032	0.81
M5432	15	0.511	12.98	0.032	0.81
M5434	20	0.611	15.52	0.053	1.35
M5436	25	0.687	17.45	0.053	1.35

*Conductor color coding: 1 Brown, 2 Blue, 3 Green/Yellow.

Manhattan™ Computer Cable

300 V Foil Shield, Multipair, PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- Modems
- Multiplexers
- General data interfaces

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart A (page 528)

Materials

- Solid or stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

22 AWG (0.35 mm²)

Stranding: Solid
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3191	51	0.710	18.03	0.050	1.27
M3192	102	1.120	28.45	0.085	2.16

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4785	2	0.301	7.65	0.032	0.81
M4786	3	0.319	8.10	0.032	0.81
M4789	12	0.548	13.92	0.032	0.81
M4791	19	0.688	17.48	0.053	1.35

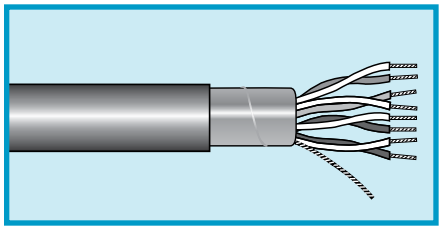
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4799	2	0.330	8.38	0.032	0.81
M4793	3	0.350	8.89	0.032	0.81
M4794	6	0.462	11.73	0.032	0.81

Manhattan™ Computer Cable

300 V Foil Shield, Multipair, SR-PVC or PP, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- RS-232
- Modems
- Multiplexers
- Serial data interfaces

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- See tables

Materials

- Solid or stranded tinned copper conductors
- Semirigid PVC or polypropylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

SR-PVC Insulation

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code K

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M13190	1	0.159	4.04	0.032	0.81
M13191	2	0.215	5.46	0.032	0.81
M13192	3	0.227	5.77	0.032	0.81
M13193	4	0.246	6.25	0.032	0.81
M13194	5	0.267	6.78	0.032	0.81
M13195	6	0.289	7.34	0.032	0.81
M13196	7	0.289	7.34	0.032	0.81
M13197	8	0.311	7.90	0.032	0.81
M13198	9	0.334	8.48	0.032	0.81
M13199	10	0.360	9.14	0.032	0.81
M4758*	11	0.360	9.14	0.032	0.81
M13200	15	0.402	10.21	0.032	0.81
M3189	19	0.432	10.97	0.032	0.81
M13201	25	0.510	12.95	0.035	0.89
M4761*	27	0.515	13.08	0.032	0.89
M13202**	50	0.666	16.92	0.035	0.89

*Color code Chart B (page 528)
**Color code Chart A1 (page 528)

SR-PVC Insulation

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code B

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M4770	2	0.235	5.97	0.032	0.81
M4771	3	0.248	6.30	0.032	0.81
M4772	4	0.269	6.83	0.032	0.81
M4773	5	0.293	7.44	0.032	0.81
M4774	6	0.318	8.08	0.032	0.81
M4775	9	0.369	9.37	0.032	0.81
M4776	11	0.399	10.13	0.032	0.81
M4777	15	0.448	11.38	0.032	0.81
M4778	19	0.481	12.22	0.032	0.81
M4779	27	0.618	15.70	0.053	1.35

Polypropylene Insulation

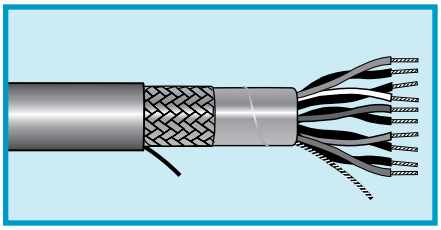
22 AWG (0.35 mm²)

Stranding: Solid
Insulation thickness: 0.008 (0.20 mm)
Color Code K

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3190	38	0.610	15.49	0.045	1.14

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Multipair, SR-PVC, PVC



UL AWM 1061
UL AWM 2343
UL CMG
CSA CMG FT4

Applications

- Control, signal, and data transmission computers
- Industrial and electronic equipment

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- Chart B (page 528)

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 70% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5650	5	0.351	8.92	0.063	1.60
M5651	7	0.373	9.47	0.063	1.60
M5652	12	0.455	11.56	0.063	1.60
M5653	15	0.486	12.34	0.063	1.60
M5654	19	0.516	13.11	0.063	1.60
M5655	27	0.599	15.21	0.063	1.60
M5656	37	0.666	16.92	0.063	1.60

Mutual capacitance: 23.1 pF/ft (75.8 pF/m)
Ground capacitance: 42 pF/ft (137.8 pF/m)

Part No. M5650
Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 45 pF/ft (147.6 pF/m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M5660	5	0.377	9.58	0.063	1.60
M5661	7	0.402	10.21	0.063	1.60
M5662	12	0.496	12.60	0.063	1.60
M5665	27	0.666	16.92	0.063	1.60
M5666	37	0.735	18.67	0.063	1.60

Ground capacitance: 49 pF/ft (160.8 pF/m)

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M5670	5	0.413	10.49	0.063	1.60
M5671	7	0.442	11.23	0.063	1.60
M5673	15	0.592	15.04	0.063	1.60
M5674	19	0.631	16.03	0.063	1.60
M5675	27	0.746	18.95	0.063	1.60

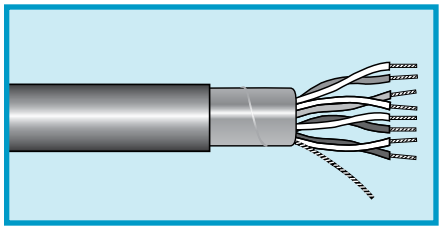
Mutual capacitance: 27 pF/ft (88.6 pF/m)
Ground capacitance: 49 pF/ft (160.8 pF/m)

Part No. M5670
Mutual capacitance: 29 pF/ft (95.1 pF/m)
Ground capacitance: 52 pF/ft (170.6pF/m)

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Computer Cable

300 V Foil Shield, Low Capacitance, 100 ohm, Multipair, FPP, PVC



UL AWM 2493
UL CM
CSA CM FT4

Applications

- RS-232
- RS-422

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60°C (AWM)

Conductor Color Coding

- Chart K (page 529)

Materials

- Stranded tinned copper conductors
- Foam polypropylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.0185 (0.47 mm)

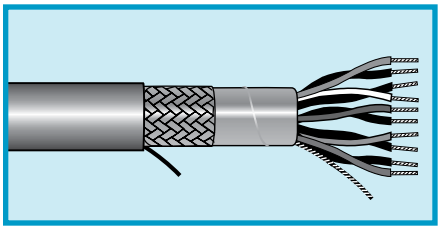
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M39249	2	0.323	8.20	0.048	1.22
M39250	3	0.340	8.64	0.048	1.22
M39251	4	0.369	9.37	0.048	1.22
M39252	6	0.436	11.07	0.048	1.22
M39254	9	0.506	12.85	0.048	1.22
M39256	11	0.580	14.73	0.065	1.65
M39257	12	0.597	15.16	0.065	1.65
M39259	15	0.646	16.41	0.065	1.65
M39260	17	0.682	17.32	0.065	1.65
M39262	19	0.693	17.60	0.065	1.65
M39268	27	0.821	20.85	0.065	1.65

Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 23 pF/ft (75.5 pF/m)

Part No. 39256
Mutual capacitance: 11.9 pF/ft (39 pF/m)
Ground capacitance: 21.4 pF/ft (70.2 pF/m)

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Multipair, FPP, PVC



UL AWM 2919 (30 V)
UL CM
CSA CM

Applications

- RS-422
- Modems
- Multiplexers

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)

Conductor Color Coding

- Chart M (page 530)

Materials

- Stranded tinned copper conductors
- Foam polypropylene insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.0145 (0.37 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M2487	2	0.240	6.10	0.035	0.89
M2488	3	0.252	6.40	0.035	0.89
M2489	4	0.271	6.88	0.035	0.89
M2490	5	0.292	7.42	0.035	0.89
M2492	7	0.314	7.98	0.035	0.89
M2493	8	0.336	8.53	0.035	0.89
M2494	10	0.385	9.78	0.035	0.89
M2495*	12.5	0.395	10.03	0.035	0.89
M2496	15	0.427	10.85	0.035	0.89
M2497	18	0.457	11.61	0.035	0.89
M2498	25	0.555	14.10	0.048	1.22

Mutual capacitance: 11 pF/ft (36.1 pF/m)
Ground capacitance: 20 pF/ft (65.6 pF/m)

*Discrete conductor is polyethylene insulated.

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.0125 (0.32 mm)

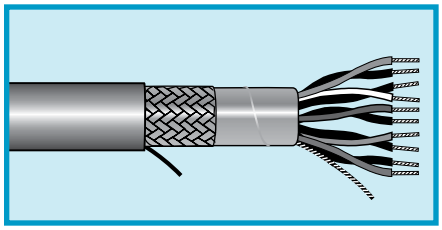
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3420	2	0.257	6.53	0.035	0.89
M3421	3	0.269	6.83	0.035	0.89
M3422	4	0.290	7.37	0.035	0.89
M3423	5	0.314	7.98	0.035	0.89
M3424	6	0.338	8.59	0.035	0.89
M3425	7	0.338	8.59	0.035	0.89
M3426	8	0.363	9.22	0.035	0.89
M3427	10	0.417	10.59	0.035	0.89
M3428*	12.5	0.429	10.90	0.035	0.89
M3429	15	0.475	12.07	0.040	1.02
M3430	18	0.524	13.31	0.048	1.22
M3431	25	0.608	15.44	0.050	1.27

Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 22 pF/ft (72.2 pF/m)

*Discrete conductor is polyethylene insulated.

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Low Capacitance, Multipair, FPP, PVC



UL AWM 2343
UL CM
CSA CM

Applications

- RS-422
- Modems
- Multiplexers

Operating Temperature

- -20°C to +75°C (AWM)
- -20°C to +75°C (CM)

Conductor Color Coding

- Chart K (page 529)

Materials

- Stranded tinned copper conductors
- Foam polypropylene insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.0185 (0.47 mm)

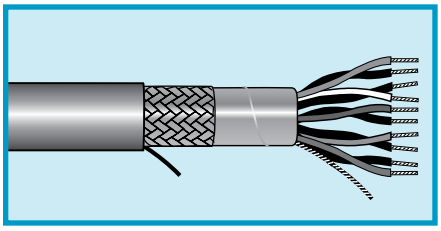
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3475	2	0.346	8.79	0.048	1.22
M3476	3	0.363	9.22	0.048	1.22
M3477	4	0.392	9.96	0.048	1.22
M3478	5	0.425	10.80	0.048	1.22
M3479	6	0.459	11.66	0.048	1.22
M3480	7	0.459	11.66	0.048	1.22
M3481	8	0.494	12.55	0.048	1.22
M3482	10	0.603	15.32	0.065	1.65
M3483	15	0.669	16.99	0.065	1.65
M3484	18	0.716	18.19	0.065	1.65
M3485	25	0.832	21.13	0.065	1.65

Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 23 pF/ft (23 pF/m)

Part No. M3484 and 3485:
Mutual capacitance: 11.9 pF/ft (39 pF/m)
Ground capacitance: 21.4 pF/ft (21.4 pF/m)

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Low Capacitance, 100 Ohm, Multipair, PE, PVC



UL AWM 2960 (30 V)
UL 2919 (30 V)
UL CM
CSA CM

Applications

- RS-422
- Modems
- Multiplexers

Operating Temperature

- -20°C to +80°C (AWM 2919)
- -20°C to +75°C (CM)
- -20°C to +60°C (AWM 2960)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 90% coverage (65% where noted)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

UL AWM 2960, CM

28 AWG (0.08 mm²)

Stranding: 7/36 (7 x 0.12 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code K

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3970	2	0.205	5.21	0.032	0.81
M3971	3	0.214	5.44	0.032	0.81
M3972	4	0.229	5.82	0.032	0.81
M3973	5	0.246	6.25	0.032	0.81
M3974	7	0.263	6.68	0.032	0.81
M3975	9	0.299	7.59	0.032	0.81
M3977	12	0.329	8.36	0.032	0.81
M3931	13	0.335	8.51	0.032	0.81
M3978	18	0.377	9.58	0.032	0.81
M3979	25	0.440	11.18	0.032	0.81
M3932	31	0.470	11.94	0.032	0.81

Mutual capacitance: 15.5 pF/ft (50.9 pF/m)
Ground capacitance: 27.5 pF/ft (90.2 pF/m)

UL AWM 2919, CM

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.25 mm)
Color Code M

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M3993†	1	0.208	5.28	0.035	0.89
M3980*	2	0.274	6.96	0.032	0.81
M3990†	2	0.280	7.11	0.035	0.89
M3981*	3	0.288	7.32	0.032	0.81
M3991†	3	0.294	7.47	0.035	0.89
M3982*	4	0.312	7.92	0.032	0.81
M3992†	4	0.318	8.08	0.035	0.89
M3983*	5	0.339	8.61	0.032	0.81
M3940*	6	0.367	9.32	0.032	0.81
M3984*	7	0.367	9.32	0.032	0.81
M3985*	9	0.424	10.77	0.032	0.81
M3986*	10	0.457	11.61	0.032	0.81
M3987*	12	0.482	12.24	0.037	0.94
M3988*	18	0.560	14.22	0.047	1.19
M3989*	25	0.671	17.04	0.047	1.19

Mutual capacitance: 15.5 pF/ft (50.9 pF/m)
Ground capacitance: 27.5 pF/ft (90.2 pF/m)

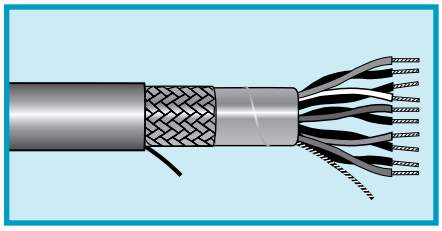
†120-ohm impedance
Mutual capacitance: 12.8 pF/ft (42 pF/m)
Ground capacitance: 23 pF/ft (75 pF/m)

*65% braid coverage.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Computer Cable

300 V Foil/Braid Shield, Multipair, SR-PVC, PVC



UL AWM 2464
UL CMG
CSA CMG FT4

Applications

- RS-422
- Modems
- Multiplexers

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CMG)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire, 24 AWG (0.22 mm²), 7/32 (7 x 0.20 mm) stranding
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code M

Part No.	Pairs	Nominal Diameter		Jacket Thickness		Capacitance			
						Mutual		Ground	
		Inch	mm	Inch	mm	pF/ft	pF/m	pF/ft	pF/m
M3446	2	0.234	5.94	0.032	0.81	28	92	50	164
M3447	3	0.246	6.25	0.032	0.81	25	82	45	147.6
M3448	4	0.265	6.73	0.032	0.81	25	82	45	147.6
M3449	5	0.286	7.26	0.032	0.81	25	82	45	147.6
M3450	6	0.308	7.82	0.032	0.81	23.1	75.8	42	137.8
M3451	7	0.308	7.82	0.032	0.81	23.1	75.8	42	137.8
M3452	8	0.330	8.38	0.032	0.81	23.1	75.8	42	137.8
M3453	10	0.379	9.63	0.032	0.81	23.1	75.8	42	137.8
M3454	12	0.389	9.88	0.032	0.81	23.1	75.8	42	137.8
M3455	15	0.421	10.69	0.032	0.81	23.1	75.8	42	137.8

22 AWG (0.35 mm²)

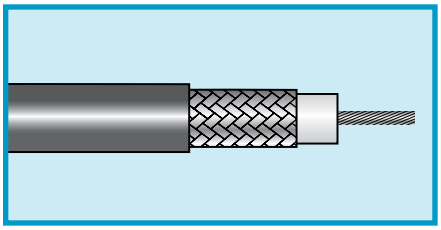
Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Color Code A

Part No.	Pairs	Nominal Diameter		Jacket Thickness		Capacitance			
						Mutual		Ground	
		Inch	mm	Inch	mm	pF/ft	pF/m	pF/ft	pF/m
M3433	2	0.254	6.45	0.032	0.81	31	101.7	56	183.7
M3434	3	0.267	6.78	0.032	0.81	27	88.6	49	160.8
M3435	4	0.288	7.32	0.032	0.81	27	88.6	49	160.8
M3436	5	0.312	7.92	0.032	0.81	27	88.6	49	160.8
M3437	6	0.337	8.56	0.032	0.81	27	88.6	49	160.8
M3438	7	0.337	8.56	0.032	0.81	24.9	81.7	45	147.6
M3439	8	0.363	9.22	0.032	0.81	24.9	81.7	45	147.6
M3440	10	0.418	10.62	0.032	0.81	24.9	81.7	45	147.6
M3441	12	0.430	10.92	0.032	0.81	24.9	81.7	45	147.6
M3442	15	0.473	12.01	0.035	0.81	24.9	81.7	45	147.6
M3443	18	0.506	12.85	0.035	0.81	24.9	81.7	45	147.6
M3444	25	0.588	14.94	0.035	0.81	24.9	81.7	45	147.6

Manhattan™ Coaxial Cable

Coaxial and Twinax Cable

For a complete range of 50, 75, 93, and 100 ohm coaxial and twinaxial, we offer a wide range of insulations and jackets meeting the requirements of military specifications and regulatory agencies such as UL and CSA.



For broadcast-quality video transmission, our precision video cables use FEP dielectrics to achieve low capacitance, high velocities of propagation, and tight tolerances for maximum signal integrity.

Availability

A. 100 ft (30.5 m)
B. 500 ft (152 m)
C. 500 ft (152 m) boxed
D. 1000 ft (305 m)
E. 1000 ft (305 m) boxed
F. 2000 ft (610 m)
G. Bulk, cut to length
(Minimums may apply)

50-Ohm Transmission and Computer Cables

RG-55B/U, RG-58/U, RG-58A/U, and RG-58C/U Coaxial Cables

Part No.	Center Conductor			Dielectric		Shield Material, Coverage	Jacket	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9058	20 (0.52)	Solid	BC	PE	0.116 (2.95)	TC Braid, 80%	Black Type I PVC	0.195 (4.95)
9058A	20 (0.48)	19/0.0071 (19 x 0.18)	TC	PE	0.116 (2.95)	TC Braid, 95%	Black Type I PVC	0.195 (4.95)
9058AC	20 (0.48)	19/0.0071 (19 x 0.18)	TC	PE	0.116 (2.95)	TC Braid, 95%	Black Type I PVC	0.195 (4.95)
9058C	20 (0.48)	19/0.0072 (19 x 0.18)	TC	PE	0.116 (2.95)	TC Braid, 95%	Black Type IIA PVC	0.195 (4.95)
9058X	20 (0.52)	Solid	BC	PE	0.116 (2.95)	TC Braid, 95%	Black Type I PVC	0.195 (4.95)
9158S	20 (0.52)	Solid	BC	FEP	0.107 (2.72)	TC Braid, 95%	Black FEP	0.159 (4.04)
M4210	20 (0.62)	19/32 (19 x 0.20)	TC	Foam PE	0.116 (2.95)	TC Braid, 93%	Black or White Type I PVC	0.193 (4.90)
M4213	20 (0.48)	19/0.0072 (19 x 0.18)	TC	PE	0.116 (2.95)	TC Braid, 94%	Black Type IIA PVC	0.195 (4.95)
M4219	20 (0.48)	19/0.0071 (19 x 0.18)	TC	PE	0.117 (2.97)	TC Braid, 91%	Black Type I PVC	0.203 (5.16)
M44209	20 (0.52)	Solid	BC	FEP	0.107 (2.72)	TC Braid, 95%	White Plenum PVC	0.159 (4.04)
9848	18 (0.82)	Solid	BC	Foam PE	0.116 (2.95)	TC Braid, 95%	Black Type I PVC	0.195 (4.95)

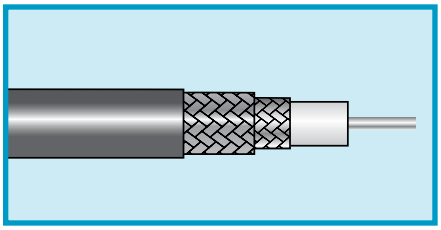
RoHS Compliant

Manhattan™ Coaxial Cable

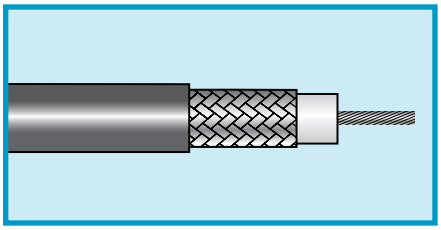
50-Ohm Transmission and Computer Cables RG-55B/U, RG-58/U, RG-58A/U, and RG-58C/U Coaxial Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9058	53	66	28.5 (93.5)	UL AWM 1354 JAN-C-17A/RG-58/U	A, B, D
9058A	50	66	30.8 (101.1)	JAN-C-17A/RG-58A/U Type	A, B, C, D, E
9058AC	50	66	30.8 (101.1)	CL2 JAN-C-17A/RG-58A/U Type	A, B, D, E
9058C	50	66	30.8 (101.1)	MIL-DTL-17/28B RG 58C/U	A, B, D, E
9058X	53.5	66	28.5 (93.5)	UL AWM 1354 UL CL2 JAN-C-17A/RG-58/U	A, B, C, D, E
9158S	50	70	30 (98.4)	UL CL2P CSA CMP FT6 MIL-DTL-17/28 RG-58/U Type	B, D
M4210	52	76	26 (85.3)	UL AWM 1354 UL CM CSA CM JAN-C-17A/RG-58/U	A, B, D
M4213	50	66	30.8 (101.1)	MIL-DTL-17/28B RG-58C/U	A, B, D
M4219	50	66	30.8 (101.1)	UL CM CSA CM JAN-C-17A/RG-58A/U Type	A, B, D
M44209	53	69.5	26.4 (86.6)	UL CMP CSA CMP FT6 MIL-DTL-17/RG-58/U Type	A, B, D, G
9848	50	78	26 (85.3)	UL AWM 1354 MIL-DTL-17/28B RG-58/U Type	A, B, D, E

RoHS Compliant

Manhattan™ Coaxial Cable



50-Ohm Transmission and Computer Cables								
RG-55B/U Coaxial Cables								
Part No.	Center Conductor			Dielectric		Shield Material, Coverage	Jacket	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9055B	20 (0.52)	Solid	SPC	PE	0.116 (2.95)	Dbl TC Braid, 95%	Black PE	0.201 (5.11)



50-Ohm Transmission and Computer Cables								
RG-8/U and RG-8A/U Type Coaxial Cables								
Part No.	Center Conductor			Dielectric		Shield Material, Coverage	Jacket	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9008	13 (2.90)	7/21 (7 x 0.72)	BC	PE	0.285 (7.24)	BC Braid, 94%	Black Type I PVC	0.405 (10.29)
M4201	13 (2.90)	7/21 (7 x 0.72)	BC	PE	0.285 (7.24)	BC Braid, 95%	Black Type IIA PVC	0.405 (10.29)
M4206	11 (4.60)	7/19 (7 x 0.91)	BC	Foam PE	0.285 (7.24)	BC Braid, 96%	Black PVC	0.403 (10.24)

RoHS Compliant

Manhattan™ Coaxial Cable

50-Ohm Transmission and Computer Cables					
RG-55B/U Coaxial Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9055B	53.5	66	28.8 (94.5)	MIL-DTL-17D/26A RG-55B/U	A, B, D

50-Ohm Transmission and Computer Cables					
RG-8/U and RG-8A/U Type Coaxial Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9008	52	66	29.5 (96.8)	JAN-C-17A/RG-8/U	A, B, D
M4201	52	66	28.5 (93.5)	UL AWM 1354 UL CMX CSA CMX MIL-DTL-17D/3A RG-8A/U	A, B, D
M4206	50	78	26 (85.3)	UL AWM 1354 UL CM CSA CM MIL-DTL-17/RG-8/U Type	A, B, D

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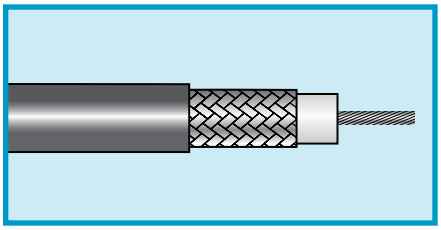

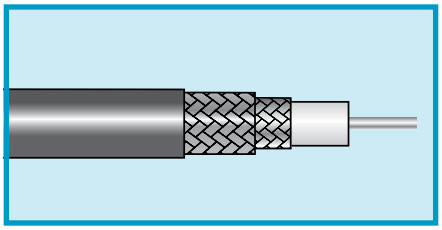

50-Ohm Transmission and Computer Cables								
RG-142B/U, RG-174 Type, RG-178B/U, RG-188A/U, RG-196A/U, RG-213 Type, RG-214 Type, RG-217/U, RG-223/U, RG-316/U Coaxial Cables								
Part No.	**Center Conductor**		**Dielectric**			**Shield Material, Coverage**	**Jacket**	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9178B	30 (0.05)	7/38 (7 x 0.10)	SCW	PTFE	0.034 (0.86)	SPC Braid, 94%	Natural Tan FEP	0.071 (1.80)
9196A	30 (0.05)	7/38 (7 x 0.10)	SCW	PTFE	0.034 (0.86)	SPC Braid, 94%	Natural PTFE Tape	0.075 (1.91)
9174	26 (0.14)	7/34 (7 x 0.16)	BCW	PE	0.060 (1.52)	TC Braid, 85%	Black or Red Type I PVC	0.102 (2.59)
9188A	25 (0.16)	7/0.0067 (7 x 0.17)	SCW	PTFE	0.060 (1.52)	SPC Braid, 94%	White PTFE Tape	0.105 (2.67)
9316	25 (0.16)	7/0.0067 (7 x 0.17)	SCW	PTFE	0.060 (1.52)	SPC Braid, 94%	Natural Tan FEP	0.098 (2.49)
9223	19 (0.62)	Solid	SPC	PE	0.116 (2.95)	Dbl SPC Braid, 95%	Black Type IIA PVC	0.212 (5.38)
M4251	19 (0.69)	Solid	SCW	PTFE	0.116 (2.95)	Dbl SPC Braid, 95%	Natural Tan FEP	0.195 (4.95)
9213	13 (3.11)	7/0.0296 (7 x 0.75)	BC	PE	0.285 (7.24)	BC Braid, 96%	Black Type IIA PVC	0.405 (10.29)
9214	13 (3.11)	7/0.0296 (7 x 0.75)	SPC	PE	0.285 (7.34)	Dbl SPC Braid, 95%	Black Type IIA PVC	0.425 (10.80)
9217	10 (5.70)	Solid	BC	PE	0.370 (9.40)	Dbl BC Braid, 95%	Black Type IIA PVC	0.545 (13.84)

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Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Coaxial Cable

50-Ohm Transmission and Computer Cables					
RG-142B/U, RG-174 Type, RG-178B/U, RG-188A/U, RG-196A/U, RG-213 Type, RG-214 Type, RG-217/U, RG-223/U, RG-316/U Coaxial Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9178B	50	70	29.3 (96.1)	MIL-DTL-17/RG-178B/U	A, B, D, G
9196A	50	70	29.3 (96.1)	MIL-DTL-17/RG-196A/U	A, B, D, G
9174	50	66	30.8 (101.1)	UL AWM 1354 MIL-DTL-17D/119F RG-174/U	A, B, D
9188A	50	70	29.3 (96.1)	MIL-DTL-17/69B RG-188A/U	A, B, D, G
9316	50	70	29.3 (96.1)	AWM 1971 CSA CMX FT4 MIL-DTL-17 M17/113 RG-316	A, B, D, G
9223	50	66	30.8 (101.1)	MIL-DTL-17D/84B RG-223/U	A, B, D
M4251	50	70	29 (95.1)	MIL-DTL-17/RG-142B/U	A, B, D, G
9213	50	66	30.8 (101.1)	MIL-DTL-17/74A RG-213 Type	A, B, D
9214	50	66	30.8 (101.1)	AWM 1354 MIL-DTL-17/75D RG-214/U	A, B, D, G
9217	50	66	30.8 (101.1)	MIL-DTL-17D/78A RG-217/U	A, B, D, G

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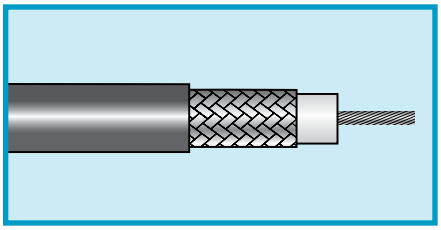
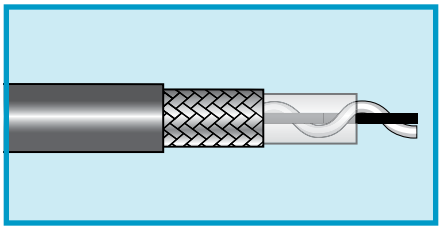
Manhattan™ Coaxial Cable



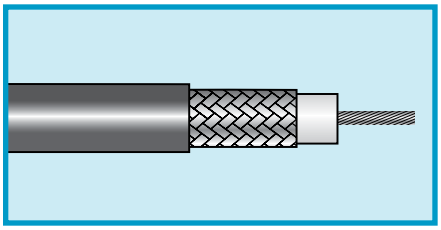


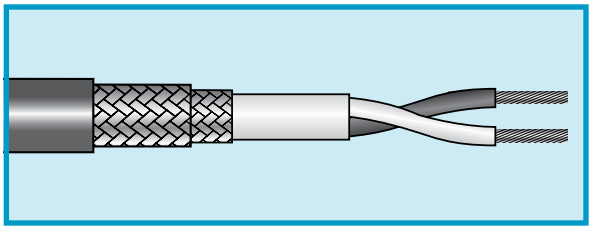
93-Ohm Coaxial Cables

RG-62A/U, RG-22B/U Coaxial Cables

Part No.	Center Conductor			Dielectric		Shield Material, Coverage	Jacket	
	AWG (mm²)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9062A	22 (0.32)	Solid	BCW	Semisolid PE	0.146 (3.71)	BC Braid, 95%	Black Type IIA PVC	0.242 (6.15)
9062AC	22 (0.32)	Solid	BCW	Semisolid PE	0.146 (3.71)	BC Braid, 95%	Black Type IIA PVC*	0.242 (6.15)
M4276	22 (0.32)	Solid	BCW	Semisolid PE	0.146 (3.71)	BC Braid, 95%	Black Type IIA PVC	0.239 (6.07)
M44276	22 (0.32)	Solid	BCW	Semisolid FEP	0.142 (3.61)	BC Braid, 94%	White Plenum PVC	0.202 (5.13)
M44276F	22 (0.32)	Solid	BCW	Foam FEP	0.146 (3.71)	BC Braid, 94%	White Plenum PVC	0.204 (5.18)

*Also available in white, green, blue, orange, yellow, and slate.





95-Ohm Coaxial Cables

RG-180B/U Coaxial, RG-22B/U Twinax Cables

Part No.	Center Conductor			Dielectric		Shield Material, Coverage	Jacket	
	AWG (mm²)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9180B	30 (0.05)	7/38 (7 x 0.10)	SCW	PTFE	0.102 (2.59)	SPC Braid, 91%	Natural Tan FEP	0.141 (3.58)
M4203	18 (0.87)	7/0.0152 (7 x 0.39)	BC*	PE	0.090 (2.85)	Dbl TC Braid, 95%	Black Type IIA PVC	0.420 (10.67)

*For identification, one conductor includes a single tinned copper strand.

RoHS Compliant

Manhattan™ Coaxial Cable

93-Ohm Coaxial Cables					
RG-62A/U, RG-22B/U Coaxial Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9062A	93	83	13.2 (43.3)	UL AWM 1478 MIL-DTL-17/30B RG-62A/U	A, B, D, E, F
9062AC	93	83	13.5 (44.3)	UL AWM 1478 UL CL2 CSA CMH MIL-DTL-17/30B RG-62A/U	A, B, D, E, F
M4276	93	84	13.5 (44.3)	UL AWM 1478 UL CL2 UL CM CSA CM MIL-DTL-17/RG-62A/U Type	A, B, D, G
M44276	93	85	12.8 (42)	UL CMP CSA CMP MIL-DTL-17/RG-62A/U Type	A, B, D, G
M44276F	93	85	12.5 (41)	UL CMP CSA CMP MIL-DTL-17/RG-62U Type	A, B, D, G

95-Ohm Coaxial Cables					
RG-180B/U Coaxial, RG-22B/U Twinax Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9180B	95	70	15.4 (50.5)	MIL-DTL-17/RG-180B/U	A, B, D, G
M4203	95	66	16 (52.5)	UL AWM 2498 MIL-DTL-17/RG-22B/U Type	A, B, D, G

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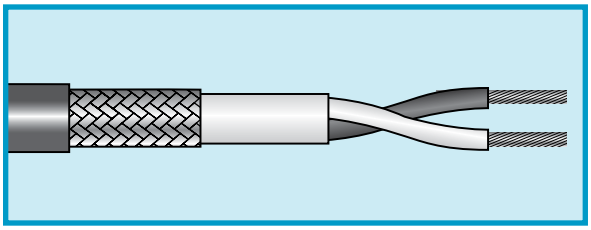
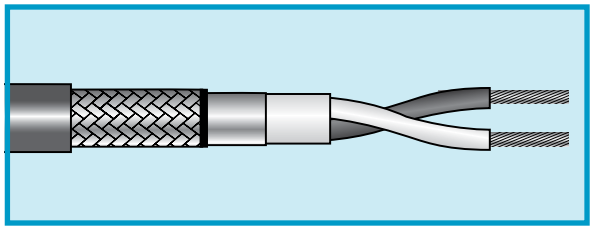
Manhattan™ Coaxial Cable

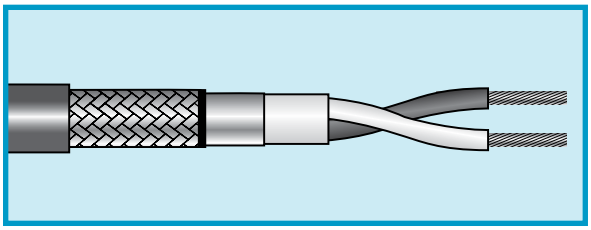




Twinax Cables								
78-Ohm Twinax Cables								
Part No.	**Center Conductor**			**Dielectric**		**Shield Material, Coverage**	**Jacket**	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9888C	22 (0.35)	7/30 (7 x 0.25)	TC	White and Blue HDPE	0.056 (1.42)	TC Braid, 85%	Apple Smoke Slate PVC	0.184 (4.67)
9108	20 (0.56)	7/28 (7 x 0.32)	TC	Blue and Clear FEP	0.074 (1.88)	TC Braid, 95%	Blue FEP	0.198 (5.03)
M4154	20 (0.56)	7/28 (7 x 0.32)	TC	Blue and Clear PE	0.076 (1.93)	A/P Tape TC Braid, 55%	Blue PVC	0.238 (6.05)
M4220	20 (0.56)	7/28 (7 x 0.32)	TC*	Natural PE	0.079 (2.01)	TC Braid, 85%	Black Type II PVC	0.235 (5.97)

*For identification, one conductor includes a bare copper strand Type IIA.

Twinax Cables								
100-Ohm Twinax Cables								
Part No.	**Center Conductor**			**Dielectric**		**Shield Material, Coverage**	**Jacket**	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9109	20 (0.56)	7/28 (7 x 0.32)	BC TC	FEP	0.072 (1.83)	TC Braid, 95%	Slate PVDF	0.252 (6.40)
9817	20 (0.56)	7/28 (7 x 0.32)	BC TC	PE	0.083 (2.11)	TC Braid, 85%	Black PVC	0.330 (8.38)
M4271	20 (0.56)	7/28 (7 x 0.32)	BC TC	PE	0.083 (2.11)	A/P/A Tape TC Braid, 85%	Black PVC	0.330 (8.38)



Twinax Cables								
124- and 150-Ohm Twinax Cables								
Part No.	**Center Conductor**			**Dielectric**		**Shield Material, Coverage**	**Jacket**	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9823	22 (0.38)	19/34 (19 x 0.16)	TC	Black and Yellow Foam PE	0.120 (3.05)	A/P/A Tape	Black PVC	0.329 (8.36)
M4158	16 (1.31)	Solid	BC	Blue and Clear Foam PE	0.161 (4.09)	A/P/A Tape TC Braid, 90%	Black PVC	0.440 (11.18)

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Twinax Cables					
78-Ohm Twinax Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9888C	78	66	19.7 (64.6)	UL AWM 2726 UL CM CSA CMG FT4	D, E
9108	78	69.5	18.4 (60.4)	UL CMP CSA CMP	B, D
M4154	78	66	19.7 (64.6)	UL AWM 2464 UL CM CSA CM	A, B, D, G
M4220	78	66	19.7 (64.6)	MIL-DTL-17/RG-108 Type	A, B, D, G

Twinax Cables					
100-Ohm Twinax Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9109	100	69	13.3 (43.6)	UL CMP UL CL2P CSA CMP	D
9817	100	66	14.5 (47.6)	UL AWM 2498	A, B, D
M4271	100	66	14.5 (47.6)	UL CMG UL CL2 CSA CMG	A, B, D, G

Twinax Cables					
124- and 150-Ohm Twinax Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9823	150	78	8.8 (28.9)	UL AWM 2668	A, B, D, G
M4158	124	78	10.9 (35.8)	UL AWM 2448 UL CMX CSA CMX	A, B, D, G

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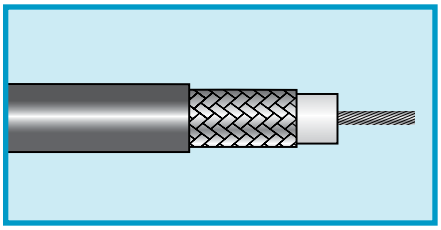

Miniature Coaxial Cables								
Part No.	Center Conductor			Dielectric		Shield Material, Coverage	Jacket	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
M4243	30 (0.05)	7/38 (7 x 0.10)	TC	Foam HDPE	0.058 (1.47)	TC Braid, 89%	Black PVC	0.097 (2.46)
M4242	28 (0.08)	Solid	TC	PP	0.023 (0.58)	TC Braid, 90%	Black PVC	0.054 (1.37)
M4244	27 (0.11)	7/35 (7 x 0.142)	BCW	PE	0.100 (2.54)	TC Braid, 93%	Black PVC	0.150 (3.81)

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Miniature Coaxial Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
M4243	75	78	17.3 (56.8)	UL AWM 1375	A, B, D, G
M4242	32	66	55.2 (181.1)	UL CMH CSA CMH	A, B, D, G
M4244	75	66	20.5 (67.3)	UL AWM 1354	A, B, D, G

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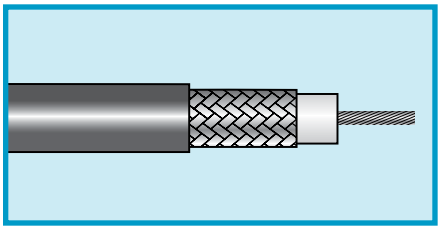
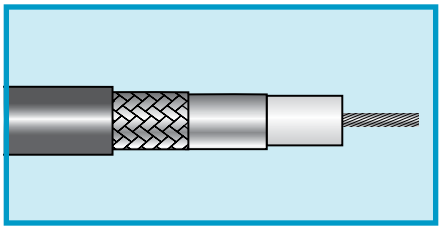
Manhattan™ Coaxial Cable





75-Ohm Video Cable RG-59/U, RG-59B/U Coaxial Cables								
Part No.	Center Conductor		Dielectric			Shield Material, Coverage	Jacket	
	AWG (mm²)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9059B	23 (0.26)	Solid	BCW	PE	0.146 (3.71)	BC Braid, 94%	Black Type IIA PVC	0.242 (6.15)
9159	23 (0.26)	Solid	BCW	FEP	0.132 (3.35)	BC Braid, 95%	Black PVDF	0.190 (4.83)
9810	23 (0.26)	Solid	BC	PE	0.146 (3.71)	A/P/A Tape TC Braid, 95%	Black Type IIIA PE	0.220 (5.59)
M4223	23 (0.26)	Solid	BCW	PE	0.146 (3.71)	BC Braid, 94%	Black Type IIA PVC	0.241 (6.12)
9059	22 (0.32)	Solid	BCW	PE	0.146 (3.71)	BC Braid, 95%	Black, White, Slate Type I PVC	0.242 (6.15)
9059C	22 (0.32)	Solid	BCW	PE	0.146 (3.71)	BC Braid, 95%	Black, Red, Blue, Green, Slate Type I PVC	0.242 (6.15)
9830	22 (0.32)	Solid	BCW	PE	0.146 (3.71)	BC Braid, 85%	Black Type I PVC	0.242 (6.15)
M4212	22 (0.32)	Solid	BCW	Foam PE	0.146 (3.71)	BC Braid, 85%	Black Type I PVC	0.242 (6.15)
M4237	22 (0.35)	7/30 (7 x 0.25)	BC	Foam PE	0.146 (3.71)	BC Braid, 95%	Black Type I PVC	0.240 (6.10)
M44212F	20 (0.52)	Solid	BCW	Foam FEP	0.140 (3.56)	A/P/A Tape TC Braid, 94%	White Plenum PVC	0.202 (5.13)
9102	20 (0.52)	Solid	BCW	Foam FEP	0.140 (3.56)	A/P/A Tape TC Braid, 94%	Black PVDF	0.212 (5.38)

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Manhattan™ Coaxial Cable

75-Ohm Video Cable					
RG-59/U, RG-59B/U Coaxial Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9059B	75	66	20.5 (67.3)	UL CL2X CSA CMH FT1 MIL-DTL-17D/29B RG-59B/U	A, B, C, D, E
9159	75	69.5	19.5 (64)	UL CL2P UL CMP CSA CMP FT6 MIL-DTL-17/RG-59B/U Type	D
9810	75	66	21 (68.9)	MIL-DTL-17/RG-59/U Type	A, D
M4223	75	66	20.5 (67.3)	UL AWM 1354 UL CMX CSA CMX MIL-DTL-17D/29B RG-59B/U	A, B, D
9059	73	66	21 (68.9)	UL AWM 1354 JAN-C-17A/RG-59/U	A, B, D
9059C	73	66	21 (68.9)	UL AWM 1354 UL CL2 CSA CMG FT4 JAN-C-17A /RG-59/U	A, B, C, D, E
9830	75	66	21.5 (70.5)	UL AWM 1354 UL CMX CSA CMX JAN-C-17A/RG-59/U	A, B, D
M4212	80	78	16.3 (53.5)	UL AWM 1354 UL CM CSA CM JAN-C-17A/RG-59/U	A, B, D
M4237	75	78	17.3 (56.8)	UL AWM 1354 UL CM CSA CM MIL-DTL-17/RG-59/U Type	A, B, D
M44212F	75	82	16.5 (54.1)	UL CMP UL CATVP CSA CMP FT6 MIL-DTL-17/RG-59/U Type	A, B, D, G
9102	75	82	16.5 (54.1)	UL CMP UL CL2P CSA CMP FT6 MIL-DTL-17/RG-59U Type	B, D

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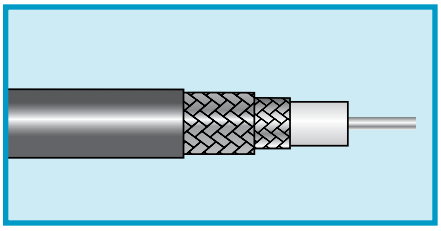
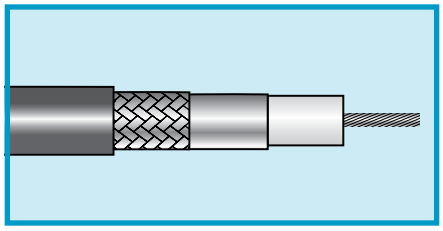
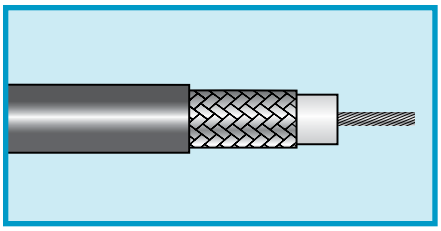
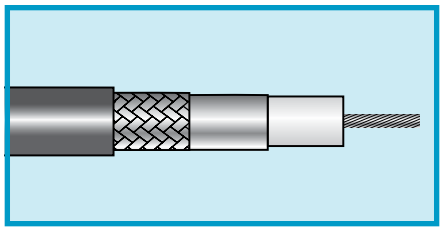
Manhattan™ Coaxial Cable





75-Ohm Video Cable RG-6U Type, RG-6A/U Type								
Part No.	Center Conductor			Dielectric		Shield Material, Coverage	Jacket	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
M4204	21 (0.41)	Solid	BCW	PE	0.185 (4.70)	Dbl BC Braid, 95%	Black PE	0.332 (8.43)
9104	18 (0.82)	Solid	BCW	Foam FEP	0.170 (4.32)	A/P Tape TC Braid, 95%	Black PVDF	0.232 (5.89)
M4182	18 (0.82)	Solid	BC	Foam PE	0.180 (4.57)	A/P/A Tape TC Braid, 60%	Black Type I PVC	0.270 (6.86)





75-Ohm Video Cable RG-11/U, RG-11/U Type, RG-11A/U								
Part No.	Center Conductor			Dielectric		Shield Material, Coverage	Jacket	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9011A	18 (0.89)	7/26 (7 x 0.40)	TC	PE	0.285 (7.24)	BC Braid, 95%	Black Type IIA PVC	0.405 (10.29)
M4207	18 (0.89)	7/26 (7 x 0.40)	TC	PE	0.285 (7.24)	BC Braid, 95%	Black Type I PVC	0.405 (10.29)
9105	14 (2.08)	Solid	BC	Foam FEP	0.274 (6.96)	A/P/A Tape TC Braid, 60%	Black FEP	0.346 (8.79)
M4208	14 (2.08)	Solid	BC	Foam PE	0.285 (7.24)	BC Braid, 95%	Black PE	0.405 (10.29)

RoHS Compliant

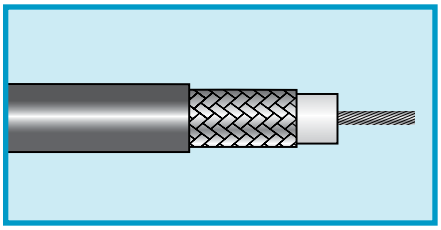
Manhattan™ Coaxial Cable

75-Ohm Video Cable RG-6U Type, RG-6A/U Type					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
M4204	75	66	20.5 (67.3)	MIL-DTL-17/RG-6A/U Type	
9104	75	82	16.5 (54.1)	UL CMP UL CATVP CSA CMP FT6 MIL-DTL-17/RG-6U Type	B, D
M4182	75	82	16.2 (53.1)	UL AWM 1354 UL CM CSA CM MIL-DTL-17/ RG 6/U Type	A, B, D

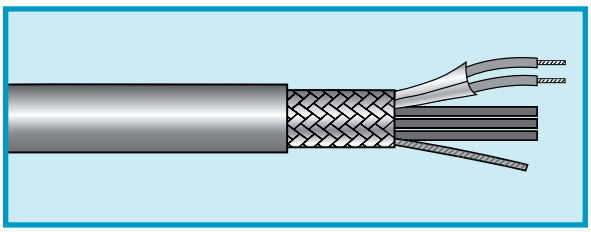
75-Ohm Video Cable RG-11/U, RG-11/U Type, RG-11A/U					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9011A	75	66	20.5 (67.3)	UL CL2X CSA CMH FT1 MIL-DTL-17D/6B RG 11A/U	A, B, D
M4207	75	66	20.5 (67.3)	UL CM CSA CM JAN-C-17A/ RG 11/U	A, B, D
9105	75	83	16.3 (53.5)	UL CMP UL CL2P UL CATVP CSA CMP FT6 MIL-DTL-17/RG-11/U Type	B, D
M4208	75	84	16.1 (52.8)	MIL-DTL-17/RG-11A/U Type	A, B, D

RoHS Compliant

Manhattan™ Coaxial Cable



75-Ohm Video Cables RG-179B/U and RG-187A/U Coaxial Cables								
Part No.	Center Conductor		Dielectric			Shield Material, Coverage	Jacket	
	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)		Material	Dia., In. (mm)
9179B	30 (0.05)	7/38 (7 x 0.10)	SCW	PTFE	0.063 (1.60)	SPC Braid, 93%	Natural Tan FEP	0.100 (2.54)
9187A	30 (0.05)	7/38 (7 x 0.10)	SCW	PTFE	0.063 (1.60)	SPC Braid, 93%	Natural PTFE Tape	0.105 (2.67)



Ethernet Transceiver Cables							
Part No.	Pairs				Dielectric		Shield Material, Coverage
	Type	AWG (mm^2)	Stranding (mm)	Material	Material	Dia., In. (mm)	
9852C	Data (3)	22 (0.35)	7/30 (7 x 0.25)	TC	Foam HDPE	0.064 (1.63)	A/P (pairs) A/P/A (overall) TC Braid, 95%
	Power (1)	20 (0.56)	7/28 (7 x 0.32)	TC	SR-PVC	0.058 (1.47)	
9853C	Data (3)	20 (0.56)	7/28 (7 x 0.32)	TC	Foam HDPE	0.077 (1.96)	A/P (pairs) A/P (overall) TC Braid, 95%
	Power (1)	20 (0.56)	7/28 (7 x 0.32)	TC	SR-PVC	0.058 (1.47)	
9854C	Data (3)	28 (0.08)	7/36 (7 x 0.12)	TC	PP	0.033 (0.84)	A/P (pairs) A/P/A (overall) TC Braid, 90%
	Power (1)	24 (0.23)	7/32 (7 x 0.20)	TC	SR-PVC	0.044 (1.12)	

Key to Abbreviations

A/P	Aluminum/polyester
A/P/A	Aluminum/polyester/aluminum
BC	Bare copper
BCW	Bare copper-coated steel
FEP	Fluorinated ethylene propylene
HDPE	High-density polyethylene
PE	Polyethylene
PP	Polypropylene
PTFE	Polytetrafluoroethylene
PVC	Polyvinyl chloride
PVDF	Polyvinylidene fluoride
SCW	Silver-coated, copper-coated steel
SPC	Silver-plated copper
SR-PVC	Semirigid PVC
TC	Tinned copper

Color Coding

Conductor	Color Code	
	9852C, 9853C	**9854C**
Data 1	Green-Blue	White-Gray
Data 2	Yellow-Orange	Yellow-Orange
Data 3	White-Brown	Green-Blue
Power	Blue-Red	Black-Red

RoHS Compliant

Manhattan™ Coaxial Cable

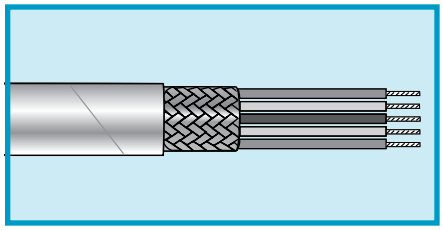
75-Ohm Video Cables RG-179B/U and RG-187A/U Coaxial Cables					
Part No.	**Nom. Impedance (Ω)**	**Vp (%)**	**Capacitance, pF/ft (pF/m)**	**Specifications**	**Availability**
9179B	75	70	19.5 (64)	MIL-DTL-17/RG-179B/U	A, B, D, G
9187A	75	70	19.5 (64)	MIL-DTL-17/RG-187A/U	A, B, D, G

Ethernet Transceiver Cables							
Part No.	**Jacket**		**Electrical Characteristics—Data Pairs**			**Specifications**	**Availability**
	Material	Dia., In. (mm)	Nom. Impedance (Ω)	Vp (%)	Capacitance, pF/ft (pF/m)		
9852C	Slate PVC	0.375 (9.53)	78	78	16.7 (54.8)	UL AWM 2919 UL CM CSA CMG FT4	D
9853C	Slate PVC	0.401(10.19)	78	78	16.7 (54.8)	UL CM CSA CMG FT4	D
9854C	Slate PVC	0.250 (6.35)	78	66	19.7 (64.6)	UL AWM 2919 UL CM CSA CMG FT4	D

RoHS Compliant

Manhattan™ High-Temperature Wire and Cable

600 V, Multiconductor, PTFE, PTFE, Braid Shield
High Temperature



NEMA WC27500 Type RC
SAE AS22759/11

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Per SAE AS22759/11

Materials

- Stranded silver-plated conductors
- PTFE insulation
- Silver-plated braid shield, 85% coverage
- Natural PTFE jacket

Availability

100 ft (30.5 m)
Bulk, cut to length
Spools may contain multiple lengths
(Minimums may apply)

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.009 (0.24 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
24RC2S06	2	0.124	3.15	0.010	0.25
24RC3S06	3	0.130	3.30	0.010	0.25
24RC4S06	4	0.142	3.61	0.010	0.25

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.009 (0.24 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
22RC2S06	2	0.136	3.45	0.010	0.25
22RC3S06	3	0.143	3.63	0.010	0.25
22RC4S06	4	0.156	3.96	0.010	0.25

20 AWG (0.61 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
20RC2S06	2	0.154	3.91	0.010	0.25
20RC3S06	3	0.163	4.14	0.010	0.25
20RC4S06	4	0.184	4.67	0.010	0.25

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.011 (0.28 mm)

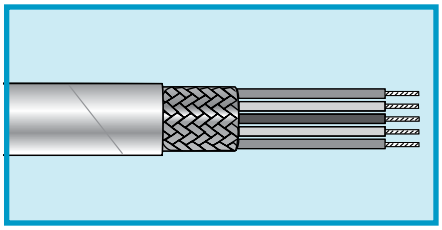
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
18RC2S06	2	0.180	4.57	0.010	0.25

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ High-Temperature Wire and Cable

600 V, Multiconductor, ETFE, ETFE, Braid Shield
High Temperature



NEMA WC27500 Type TE
SAE AS22759/16

Operating Temperature

- -55°C to +150°C

Conductor Color Coding

- Per SAE AS22759/16

Materials

- Stranded tinned copper conductors
- ETFE insulation
- Tinned copper braid shield, 85% coverage
- Natural ETFE jacket

Availability

100 ft (30.5 m)
Bulk, cut to length
Spools may contain multiple lengths
(Minimums may apply)

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.011 (0.28 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
275002402	2	0.132	3.35	0.010	0.25

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.011 (0.28 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
275002201	1	0.088	2.24	0.010	0.25
275002202	2	0.146	3.71	0.010	0.25
275002203	3	0.154	3.91	0.010	0.25
275002204	4	0.168	4.27	0.010	0.25

20 AWG (0.61 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.011 (0.28 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
275002001	1	0.096	2.44	0.010	0.25
275002002	2	0.162	4.11	0.010	0.25
275002003	3	0.171	4.34	0.010	0.25
275002004	4	0.187	4.75	0.010	0.25

18 AWG (0.96 mm²)

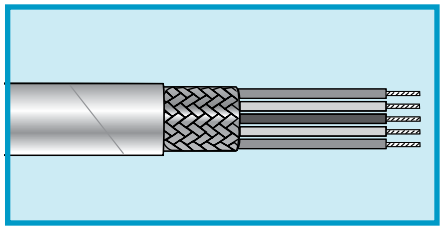
Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.012 (0.30 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
275001801	1	0.107	2.72	0.010	0.25
275001802	2	0.182	4.62	0.010	0.25

CA PROP 65 RoHS Compliant

Manhattan™ High-Temperature Wire and Cable

600 V, Multiconductor, PTFE, PTFE, Braid Shield



MIL-W-16878/4 (Type E)
NEMA HP3

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Chart P (page 535)

Materials

- Silver-plated copper conductors
- PTFE insulation
- Silver-plated copper braid shield, 85% coverage
- White PTFE jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
Spools may contain multiple lengths
(Minimums may apply)

NEMA HP3-EXBEE

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1201	1	0.081	2.06	0.010	0.25
M1202	2	0.124	3.15	0.012	0.30
M1203	3	0.130	3.30	0.012	0.30
M1204	4	0.140	3.56	0.012	0.30

NEMA HP3-EXBEE

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1211	1	0.087	2.21	0.010	0.25
M1212	2	0.136	3.45	0.012	0.30
M1213	3	0.143	3.63	0.012	0.30
M1214	4	0.155	3.94	0.012	0.30

NEMA HP3-EXBFE

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.009 (0.23 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1221	1	0.092	2.34	0.010	0.25
M1222	2	0.146	3.71	0.012	0.30
M1223	3	0.154	3.91	0.012	0.30
M1224	4	0.167	4.24	0.012	0.30

NEMA HP3-EXBGE

20 AWG (0.61 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.009 (0.23 mm)

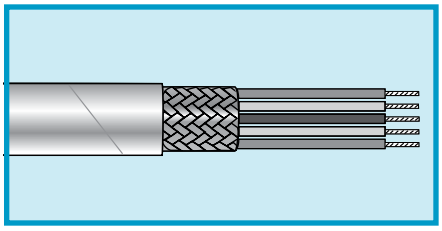
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1231	1	0.100	2.54	0.010	0.25
M1232	2	0.158	4.01	0.012	0.30
M1233*	3	0.171	4.34	0.010	0.25
M1234	4	0.186	4.72	0.012	0.30

*NEMA HP3-EXBJE.

CA PROP 65 RoHS Compliant

Manhattan™ High-Temperature Wire and Cable

600 V, Multiconductor, PTFE, PTFE, Braid Shield



MIL-W-16878/14 (Type E)
NEMA HP3

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Chart P (page 535)

Materials

- Silver-plated copper conductors
- PTFE insulation
- Silver-plated copper braid shield, 85% coverage
- White PTFE jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

NEMA HP3-EXBHE

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1241*	1	0.112	2.84	0.010	0.25
M1242	2	0.186	4.72	0.012	0.30
M1243	3	0.197	5.00	0.012	0.30
M1244	4	0.215	5.46	0.012	0.30

*NEMA HP3-EXBGE.

NEMA HP3-EXBJE

16 AWG (1.23 mm²)

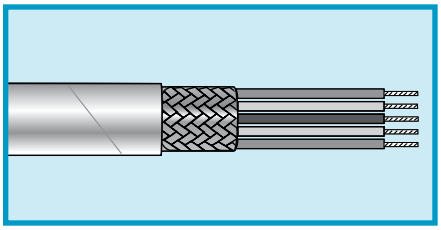
Stranding: 19/29 (19 x 0.29 mm)
Insulation thickness: 0.012 (0.30 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M1251	1	0.122	3.10	0.010	0.25
M1252	2	0.206	5.23	0.012	0.30
M1253	3	0.219	5.56	0.012	0.30
M1254	4	0.240	6.10	0.012	0.30

CA PROP 65 RoHS Compliant

Manhattan™ High-Temperature Wire and Cable

600 V, Multiconductor, PTFE, FEP, Braid Shield



MIL-W-16878/4 (Type E) Components

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Chart P (page 535)

Materials

- Silver-plated copper conductors
- PTFE insulation
- Silver-plated copper braid shield, 85% coverage
- White FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
Bulk, cut to length
Spools may contain multiple lengths
(Minimums may apply)

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.0095 (0.24 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
72402	2	0.136	3.45	0.012	0.30

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.0095 (0.24 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
72203	3	0.154	3.91	0.012	0.30

20 AWG (0.61 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.0095 (0.24 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
72001	1	0.100	2.54	0.010	0.25

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
71801	1	0.112	2.84	0.010	0.25
71802	2	0.186	4.72	0.012	0.30

16 AWG (1.23 mm²)

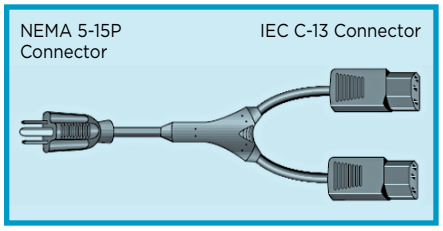
Stranding: 19/29 (19 x 0.29 mm)
Insulation thickness: 0.012 (0.030 mm)

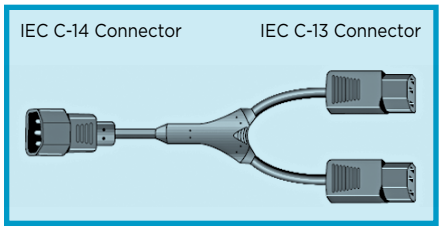
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
71602	2	0.206	5.23	0.012	0.30

CA PROP 65 RoHS Compliant

Manhattan™ Cordsets

125 and 250 V M.A.P. Multiple Application Power Cords
Twin-End Jumper and Power Cords





SJT
UL Standard 817
CSA C22.2 No. 21

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Black, white, green (NEC)

Materials

- Stranded bare copper conductors
- PVC insulation
- Black PVC jacket

Availability

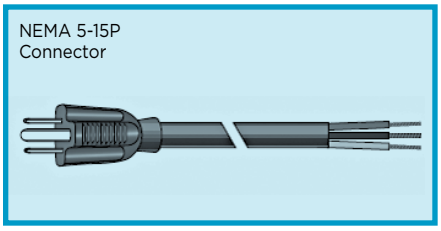
25-piece packages
(Minimums may apply)

6-ft (1.8 m) Overall Length; Individual Leg Length Is 2 ft (0.6 m)

Part No.		Wire Size		Stranding		Nominal Diameter		Power Rating		
Jumper	Power	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	Volts
468	**472**	18	0.82	41/34	41 x 0.16	0.300	7.62	1250	10	125
470	**474**	16	1.32	65/34	65 x 0.16	0.325	8.26	3250	13	250

Manhattan™ Cordsets

125 V Power Cords
3-Conductor



SJ, SJT, SVT
UL 62 and 817
CSA C22.2 No. 21 and 49

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Black, white, green or green/yellow (NEC)
- Blue, brown, green/yellow (ICC)

Materials

- Stranded bare copper conductors
- PVC or rubber insulation
- Aluminum/polyester foil shield (where specified)
  Foil facing inward
  22 AWG (0.35 mm²) tinned copper drain wire
- Black PVC, rubber, or neoprene jacket (slate where marked)

Availability

25-piece packages
B suffix = 100-piece packages
(Minimums may apply)

PVC Jacket, PVC Insulation, Unshielded, SJT
Leads: Jacket Stripped 1.5" (38 mm). Leads Stripped 5/8" (16 mm)

Part No.		Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
25 pc	100 pc	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
501	**501B**	6' 7"	2	18	0.82	41/34	41 x 0.16	0.330	8.38	1250	10	ICC
502	**502B**	9' 10"	3	18	0.82	41/34	41 x 0.16	0.330	8.38	1250	10	ICC
780*	**780B***	6' 0"	1.8	18	0.81	16/30	16 x 0.25	0.330 (0.300)**	8.38 (7.62)**	1250	10	NEC
779*	**779B***	8' 0"	2.4	18	0.81	16/30	16 x 0.25	0.300 (0.330)†	7.62 (8.38)†	1250	10	NEC
503	**—**	6' 7"	2	16	1.32	65/34	65 x 0.16	0.331	8.41	1625	13	ICC
505	**505B**	6' 7"	2	14	2.08	41/30	41 x 0.25	0.380	9.65	1875	15	ICC
506	**—**	9' 10"	3	14	2.08	41/30	41 x 0.25	0.380	9.65	1875	15	ICC

*Slate jacket
**Diameter for part no. 780B
†Diameter for part no. 779B

PVC Jacket, PVC Insulation, Shielded, SVT
Leads: Jacket Stripped 1.5" (38 mm). Leads Stripped 5/8" (16 mm)

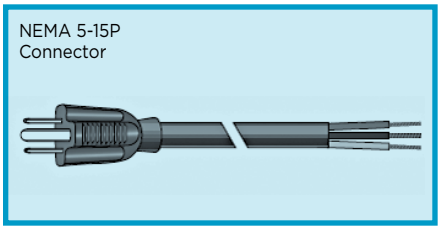
Part No.		Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
25 pc	100 pc	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
777*	**777B***	6' 0"	1.8	18	0.82	41/34	41 x 0.16	0.250	6.35	1250	10	NEC
787*	**787B***	8' 0"	2.4	18	0.82	41/34	41 x 0.16	0.250	6.35	1250	10	NEC
507F	**—**	6' 7"	2	18	0.82	41/34	41 x 0.16	0.260	6.60	1250	10	ICC
508F	**—**	9' 10"	3	18	0.82	41/34	41 x 0.16	0.260	6.60	1250	10	ICC

*Slate jacket

UL LISTED CSA RoHS Compliant

Manhattan™ Cordsets

125 V Power Cords
3-Conductor



SJ, SJT, SVT
UL 62 and 817
CSA C22.2 No. 21 and 49

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Black, white, green or green/yellow (NEC)
- Blue, brown, green/yellow (ICC)

Materials

- Stranded bare copper conductors
- PVC or rubber insulation
- Aluminum/polyester foil shield (where specified)
  Foil facing inward
  22 AWG (0.35 mm²) tinned copper drain wire
- Black PVC, rubber, or neoprene jacket (slate where marked)

Availability

25-piece packages
(Minimums may apply)

Rubber Jacket, Rubber Insulation, Unshielded, SJ
Leads: Jacket Stripped 1.5" (38 mm). Leads Stripped 5/8" (16 mm)

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
615	6' 0"	1.8	18	0.81	16/30	16 x 0.25	0.320	7.13	1250	10	NEC
616	9' 0"	2.7	18	0.81	16/30	16 x 0.25	0.320	8.13	1250	10	NEC
778	8' 0"	2.4	18	0.81	16/30	16 x 0.25	0.320	8.13	1250	10	NEC
782	12' 0"	3.7	18	0.81	16/30	16 x 0.25	0.320	8.13	1250	10	NEC
783	9' 0"	2.7	16	1.31	26/30	26 x 0.25	0.340	8.64	1625	13	NEC
784	12' 0"	3.7	16	1.31	26/30	26 x 0.25	0.340	8.64	1625	13	NEC
788	9' 0"	2.7	14	2.08	41/30	41 x 0.25	0.380	9.65	1875	15	NEC
789	15' 0"	4.5	14	2.08	41/30	41 x 0.25	0.380	9.65	1875	15	NEC

Neoprene Jacket, Rubber Insulation, Unshielded, SJO
Leads: Jacket Stripped 1.5" (38 mm). Leads Stripped 5/8" (16 mm)

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
781	8' 0"	2.4	18	0.81	16/30	16 x 0.25	0.330	8.38	1250	10	NEC

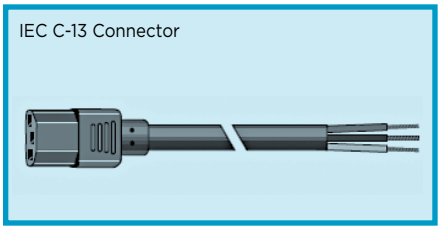
Rubber Jacket, Rubber Insulation, Unshielded, SV
Leads: Jacket Stripped 1.5" (38 mm). Leads Stripped 5/8" (16 mm)

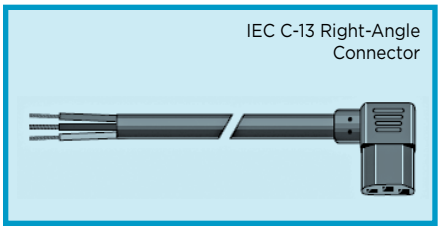
Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
775	6' 0"	1.8	18	0.82	41/34	41 x 0.16	0.260	6.60	1250	10	NEC
776	8' 0"	2.4	18	0.82	41/34	41 x 0.16	0.260	6.60	1250	10	NEC

UL LISTED CSA RoHS Compliant

Manhattan™ Cordsets

125 V Electronic Line Cords
3-Conductor





SJT, SVT
UL 62 and 817
CSA C22.2 No. 21 and 49

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Blue, brown, green/yellow (ICC)

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield (where specified)
  Foil facing inward
  20 AWG (0.56 mm²) tinned copper drain wire
- PVC jacket, black
  (slate where marked)

Availability

25-piece packages
(Minimums may apply)

PVC, Unshielded, Type SJT
Leads: Jacket Stripped 1.5" (38 mm). Leads Stripped 5/8" (16 mm)

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating	
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps
511	6' 7"	2	18	0.82	41/34	41 x 0.16	0.300	7.62	1250	10
512	9' 10"	3	18	0.82	41/34	41 x 0.16	0.300	7.72	1250	10
513	6' 7"	2	16	1.32	65/34	65 x 0.16	0.331	8.41	1625	13
514	9' 10"	3	16	1.32	65/34	65 x 0.16	0.331	8.41	1625	13

PVC, Shielded, Right Angle, Type SJT
Leads: Jacket Stripped 1.5" (38 mm). Leads Stripped 5/8" (16 mm)

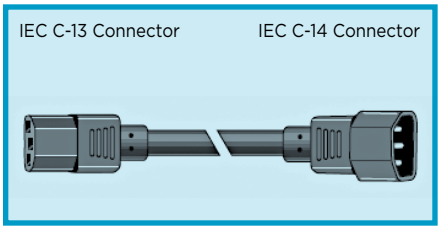
Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating	
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps
521F	6' 7"	2	14	2.08	41/30	41 x 0.25	0.380	9.65	1825	15

PVC, Shielded, Type SVT
Leads: Jacket Stripped 1.5" (38 mm). Leads Stripped 5/8" (16 mm)

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating	
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps
523	7' 5"	2.3	18	0.82	41/34	41 x 0.16	0.250	6.35	1250	10

Manhattan™ Cordsets

125 V Jumper Cords
NEMA and IEC Connectors



Jumper Cords

SJ, SJT, SVT, SPT-1
UL 62 and 817
CSA C22.2 No. 21 and 49

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Blue, brown, green/yellow (ICC)
- Black, white, green (NEC)

Materials

- Stranded bare copper conductors
- PVC or rubber insulation
- Aluminum/polyester foil shield (where specified)
  Foil facing inward
  22 AWG (0.35 mm²) tinned copper drain wire
- Black PVC or rubber jacket (Part 601B available in white or slate jacket)

Availability

25-piece packages
(Minimums may apply)

PVC, Unshielded, Type SJT

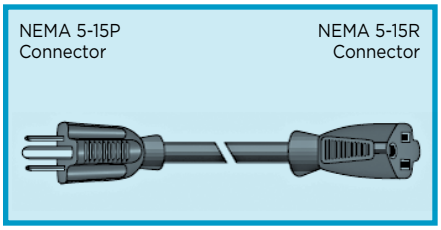
Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
551	3' 3"	1	18	0.82	41/34	41 x 0.16	0.300	7.62	1250	10	ICC

PVC, Shielded, Type SVT

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
560F	3' 3"	1	18	0.82	41/34	41 x 0.16	0.260	6.60	1250	10	ICC

Manhattan™ Cordsets

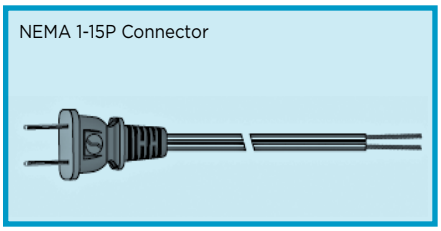
125 V Jumper Cords
NEMA and IEC Connectors



Extension Cords

Rubber, Unshielded, Type SJ

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
633	10' 0"	3.1	16	1.32	26/30	26 x 0.25	0.340	8.64	1625	13	NEC
640	15' 0"	4.6	16	1.32	26/30	26 x 0.25	0.340	8.64	1625	13	NEC



Parallel Lamp Cords

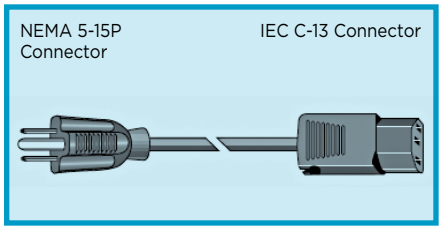
PVC, Unshielded, Type SPT-1
Leads: Conductors Split 1" (25.4 mm) and Stripped 5/8" (16 mm)

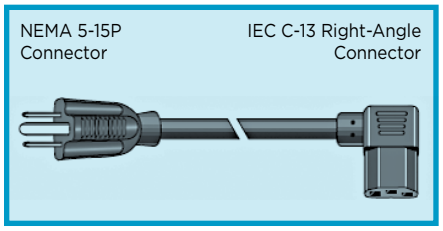
Part No.	Cord Length		Wire Size		Stranding		Nominal Dimension		Power Rating	
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps
601B*	6' 0"	1.8	18	0.82	41/34	41 x 0.16	0.110 x 0.220	2.79 x 5.69	1250	10

*100-piece packages.

Manhattan™ Cordsets

125 V Detachable Power Supply Cords
3-Conductor





SJT, SVT
UL 62 and 817
CSA C22.2 No. 21 and 49

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Blue, brown, green/yellow (ICC)
- Black, white, green or green/yellow (NEC)

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield
  Foil facing inward
  Tinned copper drain wire
  (see tables for size)
- Black PVC jacket

Availability

25-piece packages
B suffix = 100-piece packages
(Minimums may apply)

Unshielded, Straight, Types SVT and SJT

Part No.		Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
25 pc	100 pc	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
						Type SVT						
545	545B	7' 5"	2.3	18	0.82	41/34	41 x 0.16	0.250	6.35	1250	10	NEC
535	535B	7' 5"	2.3	18	0.82	41/34	41 x 0.16	0.250	6.35	1250	10	NEC
						Type SJT						
531	531B	6' 7"	2	18	0.82	41/34	41 x 0.16	0.330	8.38	1250	10	NEC
532	532B	9' 10"	3	18	0.82	41/34	41 x 0.16	0.330	8.38	1250	10	NEC
533	—	6' 7"	2	16	1.32	65/34	65 x 0.16	0.350	8.89	1625	13	ICC
546	—	7' 5"	2.3	16	1.32	65/34	65 x 0.16	0.350	8.89	1625	13	ICC
534	534B	9' 10"	3	16	1.32	65/34	65 x 0.16	0.331	8.41	1625	13	NEC

Shielded, Straight, Types SVT and SJT

Part No.	Cord Length		Wire Size		Stranding		Drain Wire*	Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm		Inch	mm	Watts	Amps	
					Type SVT							
547F	6' 7"	2	18	0.82	41/34	41 x 0.16	A	0.260	6.60	1250	10	ICC
548F	9' 10"	3	18	0.82	41/34	41 x 0.16	A	0.260	6.60	1250	10	ICC
					Type SJT							
531F	6' 7"	2	18	0.82	41/34	41 x 0.16	B	0.317	8.05	1250	10	ICC
532F	9' 10"	3	18	0.82	41/34	41 x 0.16	B	0.317	8.05	1250	10	ICC
536F	9' 10"	3	14	2.08	41/30	41 x 0.25	C	0.400	10.16	1875	15	ICC

*Drain Wire:
A = 22 AWG (mm2), 7/30 (7 x 0.25 mm) stranding.
B = 18 AWG (0.82 mm2), 41/34 (41 x 0.16 mm) stranding.
C = 14 AWG (2.08 mm2), 41/30 (41 x 0.25 mm) stranding.

UL LISTED CSA RoHS Compliant

Manhattan™ Cordsets

125 V Detachable Power Supply Cords
3-Conductor

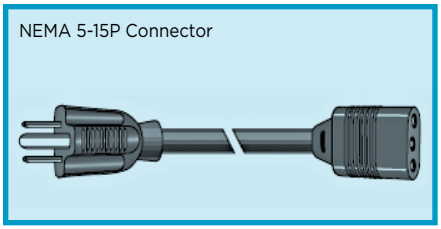
Unshielded, Right Angle, Type SJT

Part No.		Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
25 pc	100 pc	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
537	**537B**	6' 7"	2	18	0.82	41/34	41 x 0.16	0.330	8.38	1250	10	ICC
538		9' 10"	3	18	0.82	41/34	41 x 0.16	0.330	8.38	1250	10	ICC
540	**—**	9' 10"	3	16	1.32	65/34	65 x 0.16	0.331	8.41	1625	13	ICC

Shielded, Right Angle, Type SVT

Part No.	Cord Length		Wire Size		Stranding		Drain Wire*	Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm		Inch	mm	Watts	Amps	
550F	9' 10"	3	18	0.82	41/34	41 x 0.16	A	0.260	6.60	1250	10	ICC

*Drain Wire:
A = 22 AWG (mm²), 7/30 (7 x 0.25 mm) stranding.



Unshielded, Straight, Type SVT

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating		Color Code
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	
543*	7' 5"	2.3	18	0.82	41/34	41 x 0.16	0.240	6.09	1250	7	ICC

*Also available with slate jacket.

Manhattan™ Cordsets

125 V Medical-Grade Power Supply Cordsets
3-Conductor

SJT
UL 62 and 817
CSA C22.2 No. 21 and 49
CSA FT2

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

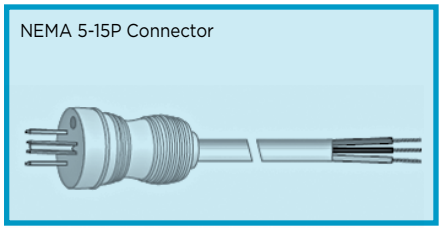
- Black, white, green

Materials

- Stranded bare copper conductors
- PVC insulation
- Black or slate PVC jacket

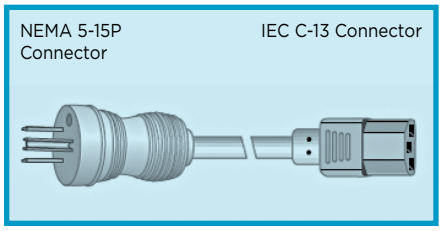
Availability

25-piece packages
(Minimums may apply)



Leads: Jacket Stripped 2" (50 mm). Leads Stripped 5/8" (16 mm)

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Ratings		Colors	
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	Jacket	Plug
801	10' 0"	3.0	18	1.20	43/34	43 x 0.16	0.31	7.8	1250	10	Black	Clear
802	10' 0"	3.0	18	1.20	43/34	43 x 0.16	0.31	7.8	1250	10	Slate	Slate

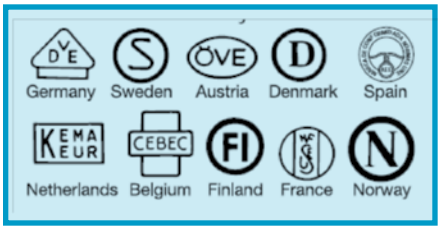


Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Ratings		Colors		
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps	Jacket	Plug	Recept.
820	10' 0"	3.0	18	1.20	43/34	43 x 0.16	0.31	7.8	1250	10	Black	Clear	Black
821	10' 0"	3.0	18	1.20	43/34	43 x 0.16	0.31	7.8	1250	10	Slate	Slate	Slate
822	10' 0"	3.0	18	1.20	43/34	43 x 0.16	0.31	7.8	1250	10	Slate	Clear	Clear
830	10' 0"	3.0	16	1.50	68/34	68 x 0.16	0.33	8.5	1625	13	Black	Clear	Black
831	10' 0"	3.0	16	1.50	68/34	68 x 0.16	0.33	8.5	1625	13	Slate	Slate	Slate
832	10' 0"	3.0	16	1.50	68/34	68 x 0.16	0.33	8.5	1625	13	Slate	Clear	Clear

UL LISTED CSA RoHS Compliant

Manhattan™ Cordsets

250 V Internationally Approved Power Supply Cordsets



CE
ENEC-11
T-Mark
JET
UL
CSA
C-Tick

Operating Temperature

- -15°C to +70°C

Conductor Color Coding

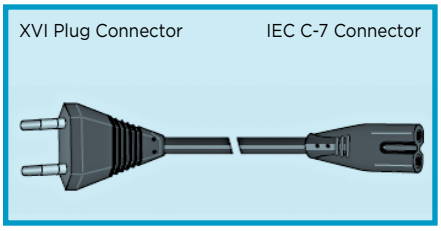
- Blue, brown, yellow/green

Materials

- Stranded bare copper conductors
- PVC insulation
- Black PVC jacket

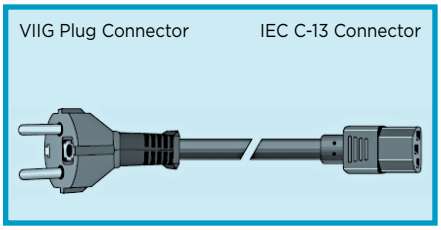
Availability

25-piece packages
(Minimums may apply)



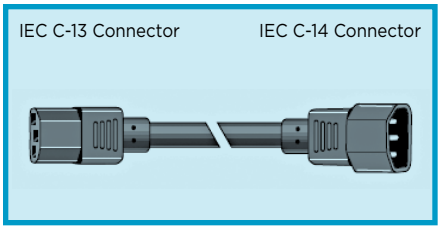
2-Conductor Unshielded. Cordage Type HO3VVH2F2XO.75

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating	
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps
952	5' 6"	1.7	18	0.75	23/32	23 x 0.20	0.133 x 0.22	4.00 x 5.60	625	2.5



3-Conductor Unshielded. Cordage Type HO5VVF3G1.00

	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps
	8' 2"	2.5	16	1.00	31/32	31 x 0.20	0.268	6.81	2500	2.5



3-Conductor Unshielded. Cordage Type HARSJT3X18AWG

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating	
	Ft	m	AWG	mm²	AWG	mm	Inch	mm	Watts	Amps
953	8' 2"	2.5	18	1.00	56/34	56 x 0.15	0.314	8.0	2500	10

RoHS Compliant

Manhattan™ Cordsets

250 V Power Supply Cords, 3-Conductor
Australia

SAA

Operating Temperature

- -15°C to +70°C

Conductor Color Coding

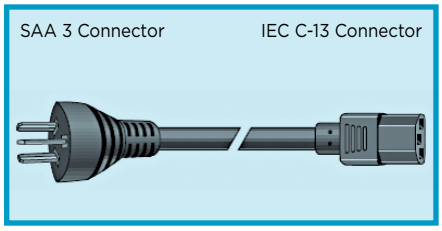
- Blue, brown, yellow/green

Materials

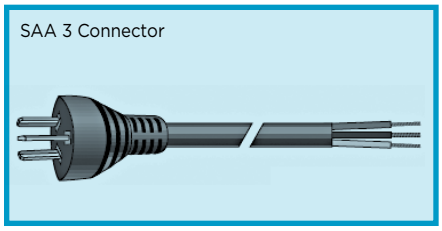
- Stranded bare copper conductors
- PVC insulation
- Black PVC jacket
- Cord Type: HO5VVF3G1.00

Availability

25-piece packages
(Minimums may apply)



Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating	
	Ft	m	AWG	mm²	AWG	Mm	Inch	mm	Watts	Amps
910	8.2	2.5	16	1.00	31/32	31 x 0.20	0.270	6.80	2500	10



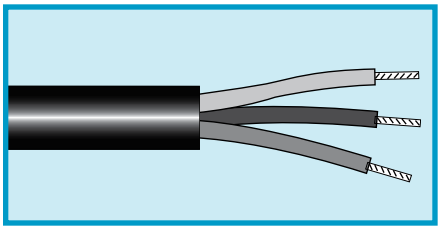
Leads: Jacket Stripped 30 mm (1.2”). Leads Stripped 6 mm (0.24”)

Part No.	Cord Length		Wire Size		Stranding		Nominal Diameter		Power Rating	
	Ft	m	AWG	mm²	AWG	Mm	Inch	mm	Watts	Amps
911	8.2	2.5	16	1.00	31/32	31 x 0.20	0.270	6.80	2500	10

RoHS Compliant

Manhattan™ Cordsets

300 V and 600 V Conductor Cordage
CPE



SVO, SJOW, SOOW
UL 62
CSA C22.2 No. 49
CSA FT2

Operating Temperature

- -40°C to +90°C

Conductor Color Coding

- Black, white (2 conductors)
- Black, white, green (3 conductors)
- Black, white, green, red (4 conductors)

Materials

- Stranded bare copper conductors
- Rubber insulation
- Black chlorinated polyethylene (CPE) jacket

Availability

250 ft (76.2 m)
(Minimums may apply)

CPE Jacket, 2-Conductor Cords, Types SVO, SJOW, and SOOW

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension	
	AWG	mm²	AWG	Mm	Inch	mm	Inch	mm	Inch	mm
Type SVO, 300 V										
1931	18	0.82	41/34	41 x 0.16	0.017	0.43	0.034	0.86	0.236	5.99
Type SJOW, 300 V										
1932	18	0.81	16/30	16 x 0.25	0.032	0.81	0.034	0.86	0.294	7.47
1933	16	1.32	26/30	26 x 0.25	0.032	0.81	0.034	0.86	0.320	8.13
Type SOOW, 600 V										
1934	18	0.81	16/30	16 x 0.25	0.031	0.79	0.065	1.65	0.356	9.04
1935	16	1.32	26/30	26 x 0.25	0.031	0.79	0.065	1.65	0.382	9.70
1936	14	2.08	41/30	41 x 0.25	0.048	1.22	0.085	2.16	0.516	13.11
1937	12	3.29	65/30	65 x 0.25	0.050	1.27	0.100	2.54	0.592	15.04

CPE Jacket, 3-Conductor Cords, Types SJOW and SOOW

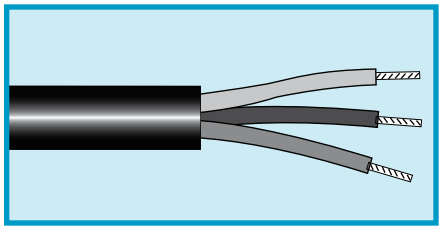
Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
Type SJOW, 300 V										
1932/3	18	0.81	16/30	16 x 0.25	0.032	0.81	0.034	0.86	0.330	7.85
1933/3	16	1.32	26/30	26 x 0.25	0.032	0.81	0.034	0.86	0.358	8.64
Type SOOW, 600 V										
1934/3	18	0.81	16/30	16 x 0.25	0.031	0.79	0.065	1.65	0.373	9.47
1935/3	16	1.32	26/30	26 x 0.25	0.031	0.79	0.065	1.65	0.401	10.19
1936/3	14	1.08	41/30	41 x 0.25	0.048	1.22	0.085	2.16	0.543	13.79
1937/3	12	3.29	65/30	65 x 0.25	0.050	1.27	0.100	2.54	0.623	15.82
1938/3	10	5.32	105/30	105 x 0.25	0.050	1.27	0.100	2.54	0.642	16.31

CPE Jacket, 4-Conductor Cords, Type SOOW, 600 V

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
1934/4	18	0.81	16/30	16 x 0.25	0.031	0.79	0.065	1.65	0.400	10.16
1935/4	16	1.32	26/30	26 x 0.25	0.031	0.79	0.065	1.65	0.437	11.10
1936/4	14	2.08	41/30	41 x 0.25	0.048	1.22	0.085	2.16	0.589	14.96
1937/4	12	3.29	65/30	65 x 0.25	0.050	1.27	0.100	2.54	0.674	17.12
1938/4	10	5.32	105/30	105 x 0.25	0.050	1.27	0.100	2.54	0.735	18.67

Manhattan™ Cordsets

300 V 3-Conductor Cordage
PVC



SJT, SVT
UL 62
CSA C22.2 No. 49

Operating Temperature

- -30°C to +105°C

Conductor Color Coding

- Black, white, green/yellow (NEC)
- Blue, brown, green/yellow (IEC 60446)

Materials

- Stranded bare copper conductors
- PVC insulation
- Aluminum/polyester foil shield
  Foil facing inward
  Tinned copper drain wire one even AWG size smaller than conductor
- Black or slate PVC jacket

Availability

250 ft (76.2 m)
(Minimums may apply)

3-Conductor Cords (Unshielded)

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension		Color Code
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm	
					Type SJT						
1952/3T	18	0.82	41/34	41 x 0.16	0.032	0.81	0.032	0.81	0.309	7.85	NEC
1953/3T	16	1.32	65/34	65 x 0.16	0.032	0.81	0.032	0.81	0.335	8.51	NEC
					Type SVT						
1951/3T	18	0.82	41/34	41 x 0.16	0.016	0.41	0.032	0.81	0.241	6.12	NEC
					Type SJT						
1941/3*	18	0.82	41/34	41 x 0.16	0.032	0.81	0.032	0.81	0.310	7.87	IEC
1942/3*	16	1.32	65/34	65 x 0.16	0.032	0.81	0.032	0.81	0.336	8.53	IEC
1943/3*	14	2.08	41/30	41 x 0.25	0.032	0.81	0.032	0.81	0.368	9.35	IEC

*Black jacket only.

3-Conductor Cords (Foil Shield)

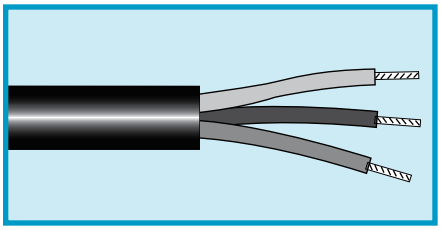
Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension		Color Code
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm	
					Type SJT						
1941/3F*	18	0.82	41/34	41 x 0.16	0.032	0.81	0.032	0.81	0.314	7.98	IEC
1942/3F*	16	1.32	65/34	65 x 0.16	0.032	0.81	0.032	0.81	0.340	8.64	IEC
1943/3F*	14	2.08	41/30	41 x 0.25	0.032	0.81	0.032	0.81	0.372	9.45	IEC

*Black jacket only.

UL LISTED CSA RoHS Compliant

Manhattan™ Cordsets

300 V 3-Conductor Cordage
Rubber



SJ, SV
UL 62
CSA C22.2 No. 49

Operating Temperature

- -30°C to +90°C

Conductor Color Coding

- Black, white, green

Materials

- Stranded bare copper conductors
- Rubber insulation
- Black chlorinated polyethylene jacket

Availability

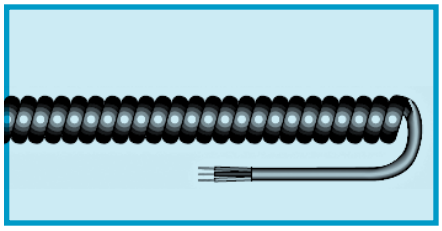
250 ft (76.2 m)
(Minimums may apply)

3-Conductor Cords (Unshielded)

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm	Inch	mm
					Type SJ					
1952/3	18	0.81	16/30	16 x 0.25	0.032	0.81	0.034	0.86	0.309	7.85
1953/3	16	1.32	26/30	26 x 0.25	0.032	0.81	0.034	0.86	0.340	8.64
					Type SV					
1951/3	18	0.82	41/34	41 x 0.16	0.017	0.43	0.036	0.91	0.256	6.50

Manhattan™ Cordsets

300 V Retractile Communications Cords



UL AWM 2464

Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- See table

Materials

- Stranded tinned copper conductors
- Polypropylene insulation
- Black PVC Jacket

Availability

1-piece packages
(Minimums may apply)

Unshielded, 1 A
Cord Length: 1 ft (0.30 m) Retracted, 5 ft (1.5 m) Extended

23 AWG (0.27 mm²)

Stranding: 21/36 (21 x 0.13 mm)
Insulation thickness: 0.012 (0.30 mm)
Lead length, each end: 12" (304 mm)

Part No.	Conductors	Coil Diameter		Jacket Diameter	
		Inch	mm	Inch	mm
702R	2	0.688	17.48	0.190	4.83
703R	3	0.688	17.48	0.200	5.08
704R	4	0.750	19.05	0.220	5.59
705R	5	0.875	22.23	0.230	5.84
706R	6	0.875	22.23	0.230	5.84
707R	7	0.875	22.23	0.250	6.35

Unshielded, 1 A
Cord Length: 2 ft (0.61 m) Retracted, 10 ft (3.0 m) Extended

23 AWG (0.27 mm²)

Stranding: 21/36 (21 x 0.13 mm)
Insulation thickness: 0.012 (0.30 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Jacket Diameter	
		Inch	mm	Inch	mm
702/2R	2	0.625	15.88	0.180	4.57
703/2R	3	0.688	17.48	0.190	4.83
704/2R	4	0.688	17.48	0.200	5.08
705/2R	5	0.750	19.05	0.215	5.46
706/2R	6	0.875	22.23	0.230	5.84
707/2R	7	0.875	22.23	0.230	5.84

Unshielded, 1 A
Cord Length: 3 ft (0.91 m) Retracted, 15 ft (4.5 m) Extended

23 AWG (0.27 mm²)

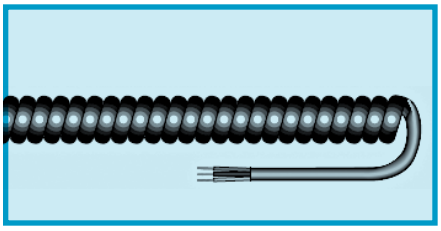
Stranding: 21/36 (21 x 0.13 mm)
Insulation thickness: 0.012 (0.30 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Jacket Diameter	
		Inch	mm	Inch	mm
704/3R	4	0.688	17.48	0.200	5.08
705/3R	5	0.750	19.05	0.210	5.33
706/3R	6	0.875	22.23	0.230	5.84
707/3R	7	0.875	22.23	0.230	5.84

RoHS Compliant

Manhattan™ Cordsets

300 V Retractile Communications Cords



UL AWM 2464

Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- See table

Materials

- Stranded tinned copper conductors
- Polypropylene insulation
- Black PVC Jacket

Availability

1-piece packages
(Minimums may apply)

Unshielded, 1 A
Cord Length: 4 ft (1.2 m) Retracted, 20 ft (6.1 m) Extended

23 AWG (0.27 mm²)

Stranding: 21/36 (21 x 0.13 mm)
Insulation thickness: 0.012 (0.30 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Jacket Diameter	
		Inch	mm	Inch	mm
703/4R	3	0.688	17.48	0.190	4.83
704/4R	4	0.688	17.48	0.200	5.08
705/4R	5	0.750	19.05	0.220	5.59
706/4R	6	0.875	22.23	0.230	5.84
707/4R	7	0.875	22.23	0.230	5.84
708/4R	8	0.875	22.23	0.250	6.35
710/4R	10	0.938	23.83	0.280	7.11
712/4R	12	1.000	25.40	0.290	7.37
715/4R	15	1.063	27.00	0.310	7.87

Shielded: Spiral Wrapped Tinned Copper, 1A
Cord Length: 2 ft (0.61 m) Retracted, 10 ft (3.0 m) Extended

23 AWG (0.27 mm²)

Stranding: 21/36 (21 x 0.13 mm)
Insulation thickness: 0.012 (0.30 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter		Shielding
		Inch	mm	Inch	mm	
722/2R	2	0.750	19.05	0.210	5.33	Individual conductors
723/2R	3	0.750	19.05	0.200	5.08	2 unshielded 1 shielded

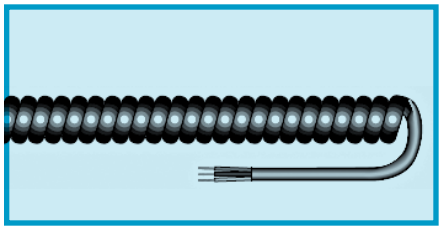
Conductor Color Coding

1 Black	6 Blue	11 Violet
2 White	7 Yellow	12 Tan
3 Red	8 Brown	13 White/Black
4 Green	9 Slate	14 Red/Black
5 Orange	10 Pink	15 Green/Black

RoHS Compliant

Manhattan™ Cordsets

300 V Retractile Communications Cords



UL AWM 4182, 4194, 4195, 4196, 4197, 4198

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- See table

Materials

- Stranded tinned copper conductors
- Rubber insulation
- Black neoprene jacket

Availability

1-piece packages
(Minimums may apply)

Unshielded, 1 A
Cord Length: 2 ft (0.61 m) Retracted, 10 ft (3.0 m) Extended

23 AWG (0.27 mm²)

Stranding: 21/36 (21 x 0.13 mm)
Insulation thickness:
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter		AWM
		Inch	mm	Inch	mm	
680/2	2	0.750	19.05	0.220	5.59	4194
681/2	3	0.813	20.65	0.220	5.59	4195
682/2	4	0.938	23.83	0.250	6.35	4196
683/2	5	1.063	27.00	0.290	7.37	4197
684/2	6	1.125	28.58	0.310	7.87	4198
685/2	7	1.250	31.75	0.320	8.13	4182

Unshielded, 1 A
Cord Length: 4 ft (1.2 m) Retracted, 20 ft (6.1 m) Extended

23 AWG (0.27 mm²)

Stranding: 21/36 (21 x 0.13 mm)
Insulation thickness:
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter		AWM
		Inch	mm	Inch	mm	
680/4	2	0.743	18.87	0.215	5.46	4194
681/4	3	0.753	19.13	0.220	5.59	4195
682/4	4	0.875	22.23	0.250	6.35	4196
683/4	5	1.008	25.60	0.285	7.24	4197
684/4	6	1.110	28.19	0.305	7.75	4198
685/4	7	1.140	28.96	0.320	8.13	4182

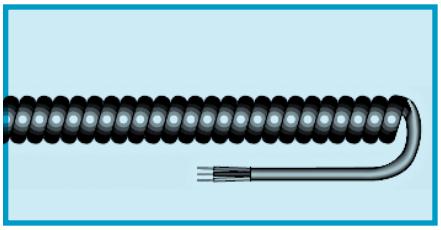
Conductor Color Coding

1 Black	5 Blue
2 White	6 Yellow
3 Red	7 Brown
4 Green	

RoHS Compliant

Manhattan™ Cordsets

300 V Retractile Communications Cords



SO, SVO, SJO
UL 62
CSA C22.2 No. 49

Operating Temperature

- -20°C to +90°C

Conductor Color Coding

- 1 Black, 2 White, 3 Red, 4 Green

Materials

- Stranded bare copper conductors
- Rubber insulation
- Black rubber jacket

Availability

1-piece packages
(Minimums may apply)

Types SV and SJO
Cord Length: 1 ft (0.30 m) Retracted, 5 ft (1.5 m) Extended

18 AWG (0.82 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.015 (0.38 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter	
		Inch	mm	Inch	mm
		Type SVO			
725	2	0.895	22.73	0.220	5.59
		Type SJO			
727	3	1.263	32.08	0.33	9.4

Type SVO
Cord Length: 2 ft (0.61 m) Retracted, 10 ft (3.0 m) Extended

18 AWG (0.82 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.015 (0.38 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter	
		Inch	mm	Inch	mm
760/2	3	1.000	25.40	0.27	7.0

Type SVO
Cord Length: 4 ft (1.2 m) Retracted, 20 ft (6.1 m) Extended

18 AWG (0.82 mm²)

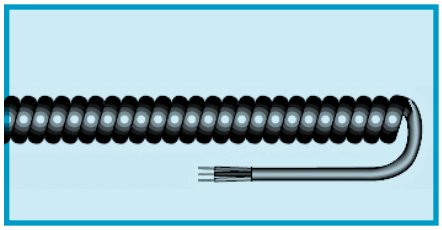
Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.015 (0.38 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter	
		Inch	mm	Inch	mm
760/4	3	1.000	25.40	0.27	7.0

UL LISTED RoHS Compliant

Manhattan™ Cordsets

300 V/600 V Retractile Communications Cords



SO, SVO, SJO
UL 62
CSA C22.2 No. 49

Operating Temperature

- -20°C to +90°C

Conductor Color Coding

- 1 Black, 2 White, 3 Red, 4 Green

Materials

- Stranded bare copper conductors
- Rubber insulation
- Black rubber jacket

Availability

1-piece packages
(Minimums may apply)

Type SJO, 300 V
Cord Length: 4 ft (1.2 m) Retracted, 20 ft (6.1 m) Extended

16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.030 (0.76 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter	
		Inch	mm	Inch	mm
665/4	3	1.335	33.91	0.385	9.78

Type SO, 600 V
Cord Length: 2 ft (0.61 m) Retracted, 10 ft (3.0 m) Extended

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.030 (0.76 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter	
		Inch	mm	Inch	mm
674/2	4	2.055	52.20	0.610	15.49

Type SO, 600 V
Cord Length: 4 ft (1.2 m) Retracted, 20 ft (6.1 m) Extended

14 AWG (2.08 mm²)

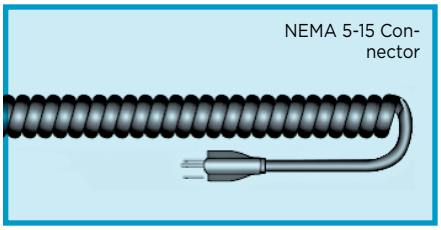
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.030 (0.76 mm)
Lead length, each end: 6" (152 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter	
		Inch	mm	Inch	mm
674/4	4	2.055	52.20	0.610	15.49

UL LISTED RoHS Compliant

Manhattan™ Cordsets

300 V Retractile Power Cords



SVO, SJO
UL 62 and 817

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- 1 Black, 2 White, 3 Green or Green/Yellow

Materials

- Stranded bare copper conductors
- Rubber insulation
- Black neoprene jacket
- Molded NEMA 5-15P male plug, one end

Availability

1-piece packages
(Minimums may apply)

Types SVO and SJO
Cord Length: 1 ft (0.30 m) Retracted, 5 ft (1.5 m) Extended

18 AWG (0.82 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.015 (0.38 mm)
Jacket stripped 1.5" (38.1 mm); insulation stripped 0.5" (12.7 mm)

Part No.	Conductors	Coil Diameter		Cord Diameter		Power Rating	
		Inch	mm	Inch	mm	Watts	Amps
		Type SVO					
654	2	0.875	22.23	0.240	6.10	1250	10
		Type SJO					
656	3	1.375	34.93	0.330	8.38	1250	10

Type SJO
Cord Length: 2 ft (0.61 m) Retracted, 10 ft (3.0 m) Extended

16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.015 (0.38 mm)
Jacket stripped 1.5" (38.1 mm); insulation stripped 0.5" (12.7 mm)

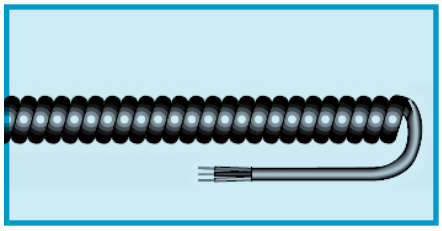
Part No.	Conductors	Coil Diameter		Cord Diameter		Power Rating	
		Inch	mm	Inch	mm	Watts	Amps
659	3	1.333	33.86	0.350	8.89	1625	13

UL LISTED RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Manhattan™ Cordsets

30 V Miniature Retractile Communications Cords



UL AWM 20013

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- 1 Black, 2 White, 3 Red, 4 Green

Materials

- Stranded tinned copper conductors
- PVC insulation
- Black PVC Jacket

Availability

1-piece packages

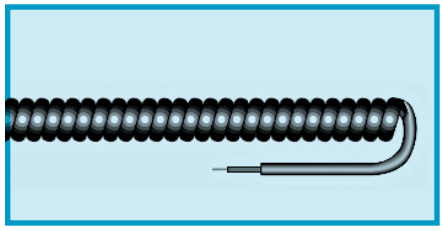
Cord length: 2 ft (0.61 m) retracted, 10 ft (3.0 m) extended

28 AWG (0.09 mm²)					
Stranding: 19/40 (19 x 0.08 mm) Insulation thickness: 0.012 (0.30 mm) Lead length, each end: 6 (152 mm)					
Part No.	**Conductors**	**Coil Diameter**		**Cord Diameter**	
		Inch	mm	Inch	mm
651	**2**	0.471	11.96	0.135	3.43
652	**4**	0.592	15.04	0.150	3.81

RoHS Compliant

Manhattan™ Cordsets

5000 V Retractile Test Lead Wire



Operating Temperature

- -30°C to +60°C

Conductor Color Coding

- Black or red

Materials

- Stranded tinned copper conductors
- Rubber insulation
- Black jacket

Availability

1-piece packages
(Minimums may apply)

20 AWG (0.53 mm²)

Stranding: 41/36 (41 x 0.13 mm)
Insulation thickness: 0.050 (1.52 mm)
Jacket stripped 1.5" (38.1 mm); insulation stripped 0.50" (12.7 mm)

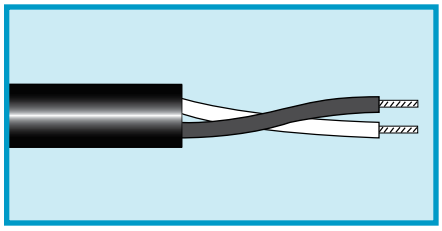
Part No.	Conductors	Coil Diameter		Cord Diameter		Power Rating	
		Inch	mm	Inch	mm	Watts	Amps
650*	1	0.580	14.73	0.165	4.19	1250	10

*Not UL Listed

RoHS Compliant

Manhattan™ Cordsets

2000 V Portable Power Cable



Type W
ICEA Accepted
NEMA Accepted

Operating Temperature

- -30°C to +90°C

Conductor Color Coding

- See tables

Materials

- Stranded bare copper conductors
- Thermoset insulation
- Black chlorinated polyethylene (CPE) jacket

Availability

Cut to specific length
(Minimums may apply)

1-Conductor Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Nominal Diameter		Current-Carrying Capacity*
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm	Amps
7431	6	13.57	133/27	133 x 0.36	0.063	1.60	0.080	2.03	0.510	12.95	85
7432	4	21.55	133/25	133 x 0.45	0.063	1.60	0.080	2.03	0.570	14.48	110
7434	2	34.45	133/23	133 x 0.57	0.063	1.60	0.080	2.03	0.660	16.76	150
7436	1/0	53.1	259/24	259 x 0.51	0.078	1.98	0.080	2.03	0.770	19.56	200
7437	2/0	67.08	259/23	259 x 0.57	0.078	1.98	0.080	2.03	0.820	20.83	235
7439	4/0	107	259/21	259 x 0.72	0.078	1.98	0.080	2.03	0.930	23.62	315

Conductor color coding: black.
*Single conductor at 40°C ambient.

2-Conductor Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Nominal Diameter		Current-Carrying Capacity*
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm	Amps
7680	8	8.61	133/29	133 x 0.28	0.063	1.60	0.095	2.41	0.810	20.57	50
7681	6	13.57	133/27	133 x 0.36	0.063	1.60	0.095	2.41	0.930	23.62	65
7682	4	21.55	133/25	133 x 0.45	0.063	1.60	0.110	2.79	1.080	27.43	90
7684	2	34.45	133/23	133 x 0.57	0.063	1.60	0.140	3.56	1.270	32.26	125

Conductor color coding: black, white.
*Single conductor at 40°C ambient.

3-Conductor Cable

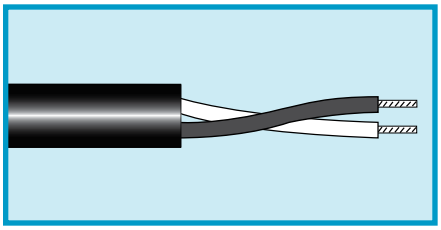
Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Nominal Diameter		Current-Carrying Capacity*
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm	Amps
7700	8	8.61	133/29	133 x 0.28	0.063	1.60	0.140	3.56	0.910	23.11	50
7701	6	13.57	133/27	133 x 0.36	0.063	1.60	0.140	3.56	1.010	25.65	65
7702	4	21.6	133/25	133 x 0.45	0.063	1.60	0.140	3.56	1.170	29.72	85

Conductor color coding: black, white, green.
*Single conductor at 40°C ambient.

RoHS Compliant

Manhattan™ Cordsets

2000 V Portable Power Cable



Type W
ICEA Accepted
NEMA Accepted

Operating Temperature

- -30°C to +90°C

Conductor Color Coding

- See tables

Materials

- Stranded bare copper conductors
- Thermoset insulation
- Black chlorinated polyethylene (CPE) jacket

Availability

Cut to specific length
(Minimums may apply)

4-Conductor Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Nominal Diameter		Current-Carrying Capacity*
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm	Amps
7800	8	8.61	133/29	133 x 0.28	0.063	1.60	0.110	2.79	0.990	25.15	40
7801	6	13.57	133/27	133 x 0.36	0.063	1.60	0.110	2.79	1.010	25.65	50

Conductor color coding: black, white, green, red.
*Single conductor at 40°C ambient.

4-Conductor Cable with Ground

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Current-Carrying Capacity*	Ground Wire**	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Amps	AWG	mm²
7760	8	8.61	133/29	133 x 0.28	0.063	1.60	0.990	25.15	55	12	3.08
7761	6	13.6	133/0.0140	133 x 0.36	0.063	1.60	1.100	27.94	55	12	3.08
7762	4	21.6	133/0.0177	133 x 0.45	0.063	1.60	1.270	32.26	75	10	5.32
7764	2	34.4	133/0.0223	133 x 0.57	0.063	1.60	1.480	37.59	100	9	7.00
7765	1	42.4	133/0.0251	133 x 0.64	0.078	1.98	1.680	42.67	110	8	8.63
7766	1/0	53.0	259/24	259 x 0.51	0.078	1.98	1.790	45.47	130	7	10.5

Conductor color coding: black, white, red, orange.
*Single conductor at 40°C ambient.
**Ground wire is stranded bare copper with insulation.

RoHS Compliant

Manhattan™ Thermocouple Cable

Temperature Measurement and Control

The measurement of temperature is one of the most vital functions in the control of manufacturing and processing operations. As demands for greater quality, reliability, and economy increase, the demands for more precise measurement and control increase. Newer and more sophisticated electronic circuitry is employed creating stringent demands on the wire and cable used to sense and transmit temperature measurements. To meet these ever-increasing demands, Alpha has a full line of thermocouple-grade wire and thermocouple extension wire and cable.

The Thermocouple

At the heart of all temperature measurements is the thermocouple. Although involving very complex design parameters, the fundamental concept of all thermocouples is the same. Two wires of dissimilar metal are joined together at one end. An increase in temperature creates an electromotive force (EMF) or signal, which is transmitted through these wires to a monitoring device which "reads" this signal and displays it on a previously calibrated meter or digital device.

The monitoring device is usually at a location some distance away from the actual thermocouple. To connect the thermocouple to the monitor requires wire or cable (for multiple thermocouple installations) that will maintain the integrity of the temperature-EMF signal generated by the primary wires in the thermocouple.

Conductor Materials

The range and accuracy of temperature measurement are dependent on the conductor materials employed. Pairs of various metal alloys will react differently with changes in temperature.

The following tables give the temperature range and tolerances for the most popular alloy combinations. All Alpha thermocouple wire and cable is tested and calibrated to the standard limits of error as indicated. Where situations require closer tolerances, wire and cable calibrated to the special error limits is available under special order.

Limits of Error for Thermocouple Grade

ANSI Type	Material	Temperature Range (°C)	Standard Limits (±)	Special Limits (±)
J	Iron/Constantan	0 to 277	2.22°C	1.11°C
		277 to 760	0.75%	0.375%
K	Chromel/Alumel	0 to 277	2.22°C	1.11°C
		277 to 1260	0.75%	0.375%
T	Copper/Constantan	-184 to -101	—	1%
		-101 to -59	2%	1%
		-59 to 93	0.83°C	0.42°C
		93 to 371	0.75%	0.375%
E	Chromel/Constantan	0 to 316	1.67°C	1.25°C
		316 to 871	0.5%	0.375%
R	Platinum 13% Rhodium/ Platinum	0 to 538	1.39°C	—
		538 to 1482	0.25%	—
S	Platinum 10% Rhodium/ Platinum	0 to 538	1.39°C	—
		538 to 1482	0.25%	—

Manhattan™ Thermocouple Cable

Limits of Error for Thermocouple Extension Wire

ANSI Type	Material	Temperature Range (°C)	Standard Limits (±)	Special Limits (±)
JX	Iron/Constantan	-18 to 204	2.22°C	1.11°C
KX	Chromel/Alumel	-18 to 204	2.22°C	1.11°C
TX	Copper/Constantan	-59 to 93	0.83°C	0.42°C
EX	Chromel/Constantan	-18 to 204	2.22°C	1.11°C
RSX	Copper/Copper Alloy 11	24 to 204	6.67°C	—

Insulation and Jacket Material Properties

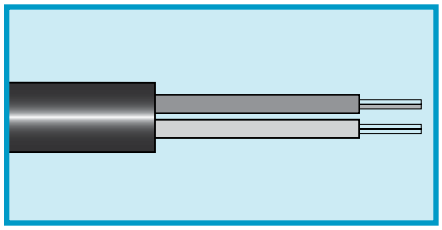
Material	Temperature (°C)		Mechanical			Chemical Resistance			
	Continuous	Intermittent	Flame	Abrasion	Flexibility	Solvents	Acids	Bases	Moisture
PVC	105	—	G	G	G	F	G	G	G
FEP	200	—	E	E	G	E	E	E	E
TFE Tape	260	—	E	E	E	E	E	E	E
Glass Braid	510	650	E	F/G	G	E	E	E	F/G
High-Temp Glass Braid	700	870	E	F/G	G	E	E	E	F/G

E = Excellent, G = Good, F = Fair

ISA/ANSI Thermocouple Color Coding

ANSI Type	Positive Wire		Negative Wire		Jacket Color		
	Material	Insul. Color	Material	Insul. Color	Grade	Tracer	Extension
J, JX	Iron	White	Constantan	Red	Brown	Black	Black
K, KX	Chromel	Yellow	Alumel	Red	Brown	Yellow	Yellow
T, TX	Copper	Blue	Constantan	Red	Brown	Blue	Blue
E, EX	Chromel	Violet	Constantan	Red	Brown	Violet	Violet
RX, SX	Copper	Black	Alloy 11	Red	—	—	Green

Manhattan™ Thermocouple Grade Wire



ISA MC 96.1

Operating Temperature

- -20°C to +510°C

Conductor Color Coding

- ISA color-coded insulation and jacket

Materials

- Solid or stranded alloy wire
- Braided fiberglass or FEP insulation
- Braided fiberglass or FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Duplex Parallel: Glass Braid Insulation, Glass Braid Jacket

Part No.	Conductor Size		Outer Dimension	
	AWG	mm^2	Inch	mm
Type J: Iron/Constantan				
5769/1	30	0.05	0.030 x 0.048	0.76 x 1.22
5766	24	0.20	0.040 x 0.068	1.02 x 1.73
5767H*	24	0.20	0.064 x 0.102	1.63 x 2.59
5763H*	20	0.51	0.084 x 0.142	2.13 x 3.61
5762S**	20	0.56	0.090 x 0.154	2.29 x 3.91
M9180012	20	0.51	0.060 x 0.106	1.53 x 2.69
Type K: Chromel/Alumel				
5776	24	0.20	0.040 x 0.068	1.02 x 1.73
5772S**	20	0.56	0.060 x 0.108	1.53 x 2.74
5773H *	20	0.51	0.084 x 0.142	2.13 x 3.61
M9180013	20	0.51	0.060 x 0.106	1.53 x 2.69
Type T: Copper/Constantan				
M9180014	20	0.51	0.060 x 0.106	1.53 x 2.69

*High temperature
**7/28 (7 x 0.32 mm) stranding

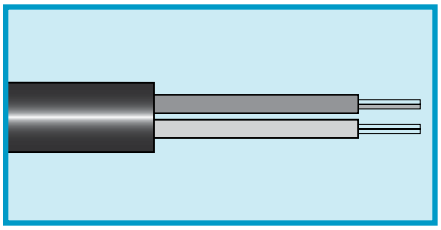
Duplex Parallel: FEP Insulation, FEP Jacket

Part No.	Conductor Size		Outer Dimension	
	AWG	mm^2	Inch	mm
Type J: Iron/Constantan				
M9160012	20	0.5	0.072 x 0.124	1.83 x 3.15
Type K: Chromel/Alumel				
M9160013	20	0.5	0.072 x 0.124	1.83 x 3.15
Type T: Copper/Constantan				
M9160014	20	0.5	0.072 x 0.124	1.83 x 3.15

RoHS Compliant

Manhattan™ Thermocouple Extension Wire

Duplex Parallel, Unshielded



ISA MC 96.1

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- ISA color-coded insulation and jacket

Materials

- Solid or stranded alloy wire
- PVC, glass braid, or FEP insulation
- PVC, glass braid, or FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Part No.	Conductor Size		Outer Dimension	
	AWG	mm²	Inch	mm
Type JX: Iron/Constantan				
5716	20	0.51	0.092 x 0.154	2.34 x 3.91
5710	14	2.08	0.124 x 0.218	3.15 x 5.54
Type KX: Chromel/Alumel				
5724	20	0.51	0.092 x 0.154	2.34 x 3.91
5724S*	20	0.56	0.098 x 0.166	2.49 x 4.22
5721	16	1.31	0.111 x 0.192	2.82 x 4.88
Type TX: Copper/Constantan				
5731	20	0.51	0.092 x 0.154	2.34 x 3.91
5731S*	20	0.56	0.098 x 0.166	2.49 x 4.22
5730	16	1.31	0.111 x 0.192	2.82 x 4.88
Type RSX: Copper/Copper Alloy 11				
5740	16	1.31	0.111 x 0.192	2.82 x 4.88

*7/28 (7 x 0.32 mm) stranding

Glass Braid Insulation, Glass Braid Jacket

Part No.	Conductor Size		Outer Dimension	
	AWG	mm²	Inch	mm
Type JX: Iron/Constantan				
5714	16	1.31	0.085 x 0.150	2.16 x 3.81
Type SX: Copper/Copper Alloy 11				
5741H*	16	1.31	0.085 x 0.150	2.16 x 3.81

*High temperature

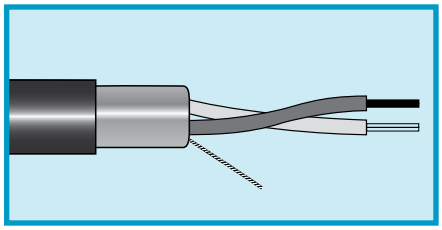
FEP Insulation, FEP Jacket

Part No.	Conductor Size		Outer Dimension	
	AWG	mm²	Inch	mm
Type JX: Iron/Constantan				
5715	16	1.31	0.087 x 0.154	2.21 x 3.91

RoHS Compliant

Manhattan™ Thermocouple Extension Wire

300 V, Single and Multipair, Unshielded and Foil Shield



ISA MC 96.1
UL PLTC, ITC

Operating Temperature

- -20°C to +105°C
- -80°C to +200°C (High-temperature versions)

Conductor Color Coding

- ISA color-coded insulation and jacket

Materials

- Solid alloy wire
- PVC or FEP insulation
- Aluminum/polyester shield, 25% overlap min.
  Foil facing inward
  Tinned copper drain wire
- PVC or FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Unshielded Single Pair, PVC Insulation, PVC Jacket
UL PLTC/ITC, 300 V, 105°C

Part No.	Conductor Size		Outer Dimension	
	AWG	mm²	Inch	mm
Type EX: Chromel/Constantan				
M9000011	20	0.51	0.205	5.21
M9006011	16	1.31	0.235	5.97
Type JX: Iron/Constantan				
M9000012	20	0.51	0.205	5.21
M9006012	16	1.31	0.235	5.97
Type KX: Chromel/Alumel				
M9000013	20	0.51	0.205	5.21
M9006013	16	1.31	0.235	5.97
Type TX: Copper/Constantan				
M9000014	20	0.51	0.205	5.21
M9006014	16	1.31	0.235	5.97

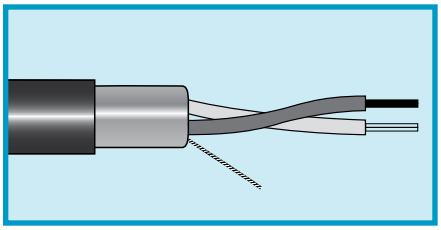
Foil Shielded Individual and Overall, Twisted Pairs, PVC Insulation, PVC Jacket
UL PLTC/ITC, 300 V, 105°C

Part No.	Conductor Size		Pairs	Outer Dimension	
	AWG	mm²		Inch	mm
Type EX: Chromel/Constantan					
M9020011	20	0.51	1	0.205	5.21
M9240041	20	0.51	4	0.440	11.18
M9240081	20	0.51	8	0.550	13.97
M9240121	20	0.51	12	0.665	16.89
M9240241	20	0.51	24	0.875	22.23
M9026011	16	1.31	1	0.235	5.97
Type JX: Iron/Constantan					
M9020012	20	0.51	1	0.205	5.21
M9240042	20	0.51	4	0.440	11.18
M9240082	20	0.51	8	0.550	13.97
M9240122	20	0.51	12	0.665	16.89
M9240162	20	0.51	16	0.740	18.80
M9240242	20	0.51	24	0.875	22.23
M9240362	20	0.51	36	1.010	25.65
M9026012	16	1.31	1	0.235	5.97
Type KX: Chromel/Alumel					
M9020013	20	0.51	1	0.205	5.21
M9240043	20	0.51	4	0.440	11.18
M9240083	20	0.51	8	0.550	13.97
M9240123	20	0.51	12	0.665	16.89
M9240243	20	0.51	24	0.875	22.23
M9026013	16	1.31	1	0.235	5.97
Type TX: Copper/Constantan					
M9020014	20	0.51	1	0.205	5.21
M9240044	20	0.51	4	0.440	11.18
M9240084	20	0.51	8	0.550	13.97
M9240124	20	0.51	12	0.665	16.89
M9240244	20	0.51	24	0.875	22.23
M9026014	16	1.31	1	0.235	5.97

UL LISTED RoHS Compliant

Manhattan™ Thermocouple Extension Wire

300 V, Single and Multipair, Unshielded and Foil Shield



ISA MC 96.1
UL PLTC, ITC

Operating Temperature

- -20°C to +105°C
- -80°C to +200°C (High-temperature versions)

Conductor Color Coding

- ISA color-coded insulation and jacket

Materials

- Solid alloy wire
- PVC or FEP insulation
- Aluminum/polyester shield, 25% overlap min.
  Foil facing inward
  Tinned copper drain wire
- PVC or FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Foil Shielded Overall, Twisted Pairs, Solid Conductors, PVC Insulation, PVC Jacket
UL PLTC, 300 V, 105°C

Part No.	Conductor Size		Pairs	Outer Dimension	
	AWG	mm²		Inch	mm
Type JX: Iron/Constantan					
5711/2004	20	0.51	4	0.369	9.37
5711/2008	20	0.51	8	0.480	12.19
5711/2012	20	0.51	12	0.557	14.15
Type KX: Chromel/Alumel					
5712/2002	20	0.51	2	0.325	8.26
5712/2004	20	0.51	4	0.369	9.37
5712/2008	20	0.51	8	0.480	12.19
5712/2024	20	0.51	24	0.828	21.03
5712/2036	20	0.51	36	0.956	24.28
Type TX: Copper/Constantan					
5713/2004	20	0.51	4	0.369	9.37
5713/2012	20	0.51	12	0.557	14.15
5713/2024	20	0.51	24	0.828	21.03
Type RSX: Copper/Copper Alloy					
5714/1601	16	1.31	2	0.256	6.50

Foil Shielded Twisted Pairs, FEP Insulation, FEP Jacket
High Temperature: -80°C to 200°C

Part No.	Conductor Size		Pairs	Outer Dimension	
	AWG	mm²		Inch	mm
Type JX: Iron/Constantan					
5717/2001	20	0.51	1	0.150	3.81
5717/1601	16	1.31	1	0.188	4.78
Type KX: Chromel/Alumel					
5718/2001	20	0.51	1	0.150	3.81
5718/1601	16	1.31	1	0.188	4.78

UL LISTED RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication, Control, and Industrial Cable

Get control of demanding applications

The broad range of communication and control cables from Alpha Wire means you can find the right cable for your application. Our cables meet special needs, such as low-capacitance cables for extended transmission of digital signals, such as the extra flexibility of rubber insulation and jackets, or excellent shielding for electrically noisy environments.

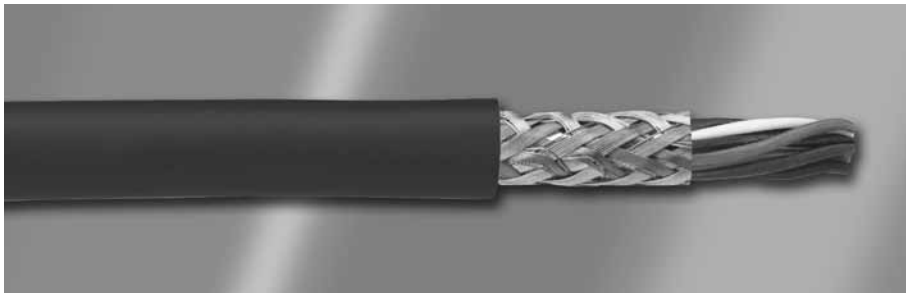
We combine a wide range of insulation materials, shielding variations, conductor counts and gauges, as well as other options to create cables suited to any application. From traditional RS-232 connections to high-speed telemetry and data recording to high-fidelity microphone systems, our experience in materials and expertise in manufacturing means cable built to perform electrically, mechanically, and environmentally.

Our communication and control line includes six main categories:

- **Solar cable:** a full range of solar cables for power and control.
- **Industrial automation cable:** cable for common automation protocols such as ControlNet, DeviceNet, and PROFIBUS.
- **Flexible motor supply cable:** four-conductor double-shielded cable suited for light-duty flexing.
- **Communication and control:** round multiconductor and multipair cable in configurations suited to nearly any application.
- **Low-smoke, zero-halogen cable:** minimizes the effects from smoke and harmful corrosive gases in the event of combustion.
- **Flat cable:** planar multiconductor cable used primarily inside cabinets or equipment.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Solar Cable



From residential rooftops to solar farms harvesting energy, our solar cables and photovoltaic wire are designed for the harsh environments of solar energy applications—the hot and cold of climate extremes, ozone and UV radiation, moisture, oil, and direct burial. Our specially formulated PVC jackets provide years of reliable service by withstanding the potential environments without failing or degrading.

A full range for power and control

No matter what your need in connecting solar power to the grid, we have wire and cable in a range of gauges and conductor counts to satisfy it.

Our cables meet regulatory and industry requirements for photovoltaic applications.

Applications

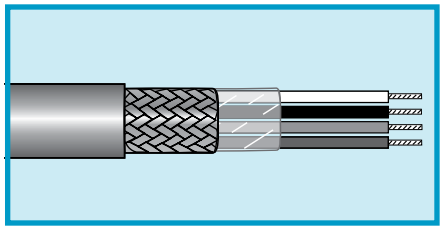
- **Panel monitoring and control**
- **Panel to junction box**
- **Panel to collector**
- **Collector to inverter**
- **Grounding**
- **Motor supply**

Photovoltaic Wire

For single-conductor needs, see page 417 for our line of photovoltaic wires.

Solar Cable

1000 V Braid Shield, Multiconductor, PVC/Nylon, PVC



UL TC-ER
UL WTTC (1000 V)
UL MTW
CSA AWM I/II A/B FT1

Operating Temperature

- -40°C to +90°C (static)
- -30°C to +90°C (dynamic)
- +105°C (CSA)

Conductor Color Coding

- Chart F (page 532)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Clear polyester wrap
- Tinned copper braid shield, 85% coverage
- Green PVC jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I
- UL Direct Burial
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-260: Cross-linked polyolefin for ground identification
- FIT-300: Dual-wall polyolefin with meltable inner wall
- FIT-750: Bonding adhesive-lined cross-linked polyolefin

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.12 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
SPM1803CY	3	0.329	8.36	0.050	1.27
SPM1804CY	4	0.354	8.99	0.050	1.27
SPM1805CY	5	0.381	9.68	0.050	1.27
SPM1807CY	7	0.409	10.39	0.050	1.27
SPM1809CY	9	0.466	11.84	0.050	1.27

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.12 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
SPM1603CY	3	0.351	8.92	0.050	1.27
SPM1604CY	4	0.378	9.60	0.050	1.27
SPM1605CY	5	0.408	10.36	0.050	1.27
SPM1607CY	7	0.439	11.15	0.050	1.27
SPM1609CY	9	0.509	12.93	0.050	1.27

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.12 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
SPM1403CY	3	0.381	9.68	0.050	1.27
SPM1404CY	4	0.412	10.46	0.050	1.27
SPM1405CY	5	0.446	11.33	0.050	1.27
SPM1407CY	7	0.481	12.22	0.050	1.27
SPM1409CY	9	0.590	14.99	0.065	1.65

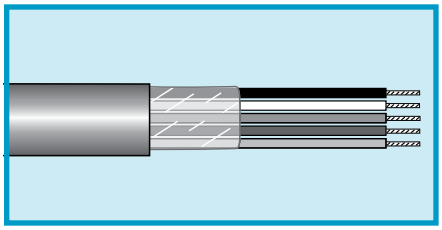
12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.12 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
SPM1203CY	3	0.422	10.72	0.050	1.27
SPM1204CY	4	0.458	11.63	0.050	1.27
SPM1205CY	5	0.497	12.62	0.050	1.27
SPM1207CY	7	0.574	14.58	0.065	1.65
SPM1209CY	9	0.659	16.74	0.065	1.65

Solar Cable

1000 V Unshielded, Multiconductor, PVC/Nylon, PVC



UL TC-ER
UL WTTC (1000 V)
UL MTW
CSA AWM I/II A/B FT1

Operating Temperature

- -40°C to +90°C (static)
- -30°C to +90°C (dynamic)
- +105°C (CSA)

Conductor Color Coding

- Chart F (page 532)

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Clear polyester wrap
- Green PVC jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I
- UL Direct Burial
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-260: Cross-linked polyolefin for ground identification
- FIT-300: Dual-wall polyolefin with meltable inner wall
- FIT-750: Bonding adhesive-lined cross-linked polyolefin

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.12 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
SPM1803	3	0.301	7.65	0.050	1.27
SPM1804	4	0.326	8.28	0.050	1.27
SPM1805	5	0.353	8.97	0.050	1.27
SPM1807	7	0.381	9.68	0.050	1.27
SPM1809	9	0.438	11.13	0.050	1.27

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.12 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
SPM1603	3	0.323	8.20	0.050	1.27
SPM1604	4	0.350	8.89	0.050	1.27
SPM1605	5	0.380	9.65	0.050	1.27
SPM1607	7	0.411	10.44	0.050	1.27
SPM1609	9	0.475	12.07	0.050	1.27

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.12 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
SPM1403	3	0.353	8.97	0.050	1.27
SPM1404	4	0.384	9.75	0.050	1.27
SPM1405	5	0.418	10.62	0.050	1.27
SPM1407	7	0.453	11.51	0.050	1.27
SPM1409	9	0.556	14.12	0.065	1.65

12 AWG (3.29 mm²)

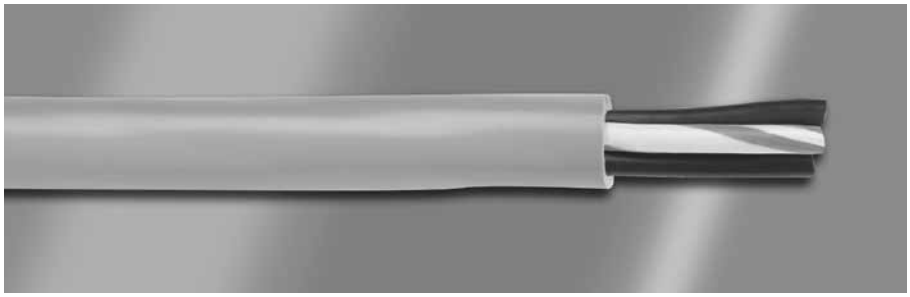
Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.12 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
SPM1203	3	0.394	10.01	0.050	1.27
SPM1204	4	0.430	10.92	0.050	1.27
SPM1205	5	0.469	11.91	0.050	1.27
SPM1207	7	0.510	12.95	0.050	1.27
SPM1209	9	0.625	15.88	0.065	1.65

RoHS Compliant

Industrial Automation Cable

Seamless communication for robust industrial environments



Whether you are designing a device for error proofing to increase quality or motion sensing to improve safety, trust Alpha Wire for all your Industrial Automation needs.

As industrial automation systems continue to increase in complexity, we understand the challenges that engineers and manufacturers face in designing and interconnecting system components from sensors to top-level controllers. Our range of industrial automation cables combines the industry-leading quality and exceptional reliability you expect with Alpha Wire with the performance to meet the rigorous requirements of the major automation communication architectures.

ControlNet™

Low-loss RG-6/U coax designed to meet the high-speed, time-critical requirements of modern ControlNet factory-floor automation systems.

RS-485

Bringing proven data transmission protocol to the factory floor, rugged RS-485 cables reduce electrical noise sensitivity to keep reliability and performance at world-class levels.

DeviceNet™

Meeting ODVA thick and thin specifications, the cables comply with Allen-Bradley 1485 CPI-A and 1485 CPI-C, and support high data rates (500 kb/s at 100 m and 125 kb/s at 500 m).

Fieldbus and PROFIBUS®

A complete family meets ruggedness, performance, and quality requirements of almost any fieldbus and PROFIBUS application environment.

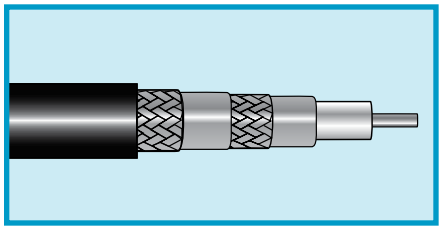
Industrial Twinax

A robust physical media for the transmission of PLC/DCS signals in real-time, high-throughput applications, including Allen-Bradley Data Highway networks. The cables may be installed in the same tray or conduit as 600-volt power cable.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

ControlNet

300 V, RG-6/U Coaxial Cable, Double Braid and Foil Shielded



Part No.	Nominal Diameter		Center Conductor		Nominal Impedance (ohms)
	Inch	mm	AWG	mm²	
6458	0.298	7.57	18	0.82	75

UL CL2R
UL CMR
CSA CMG FT4

Operating Temperature

- -30°C to +75°C

Materials

- Solid bare Copperweld conductor
- Foam polyethylene insulation
- Shielding: double braid and foil Foil +60% aluminum braid + foil +40% aluminum braid
- Black PVC jacket

Features

- UL Sunlight Resistant
- 75-ohm nominal impedance
- 82% velocity of propagation
- 16.2 pF/ft (53.1 pF/m) nominal capacitance

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

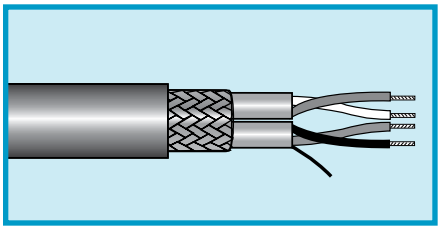
FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin

Nominal Attenuation		
Frequency (MHz)	Attenuation, Nom.	
	dB/100 ft	dB/100 m
1	0.35	1.1
2	0.38	1.2
5	0.45	1.5
10	0.59	1.9
20	0.86	2.8
50	1.37	4.5
100	1.97	6.5
200	2.82	9.3
300	3.48	11.4
400	4.04	13.3

DeviceNet

300 V Power and Data, Class 2, ODVA Thick and Thin Trunks



Part No.	Type	Pairs	Nominal Diameter	
			Inch	mm
6451	Thick	1 Power: 15 AWG (1.75 mm²), 19/0.0135 (19 x 0.35 mm) stranding 1 Data: 18 AWG (0.96 mm²), 19/30 (19 x 0.25 mm) stranding	0.480	12.19
6452	Thin	1 Power: 22 AWG (0.38 mm²), 19/34 (19 x 0.16 mm) stranding 1 Data: 24 AWG (0.24 mm²), 19/36 (19 x 0.13 mm) stranding	0.280	7.11

UL CMG
UL PLTC-ER (Thick)
UL CL2 (Thin)
CSA CMG FT4
CSA AWM I/II A/B FT4

Operating Temperature

- -20°C to +75°C (static)
- 0°C to +80°C (dynamic)

Conductor Color Coding

- Black-red power
- Blue-white data

Materials

- Tinned copper conductors
- Each pair individually foil shielded
- PVC insulation (power pair)
- Foam HDPE insulation (data pair)
- 65% tinned copper braid overall
- Slate PVC jacket

Features

- Oil resistant
- UL Sunlight Resistant
- 120-ohm nominal impedance (data pair)
- Compliant with Allen-Bradley part numbers 1485 CPI-A and 1485 CPI-C

Availability

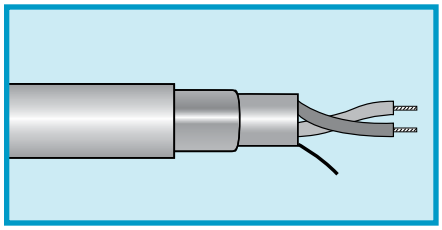
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin

Fieldbus

300 V Single-Pair Cable, Fieldbus Types A and B



Part No.	Fieldbus Type	Pairs	Conductor		Stranding		Nominal Diameter	
			AWG	mm^2	AWG	mm	Inch	mm
6459	A	1	18	0.90	7/26	7 x 0.40	0.253	6.43
6460	B	1	22	0.33	7/0.0096	7 x 0.24	0.196	4.97

UL PLTC-ER
UL CM
UL ITC
CSA CM

Operating Temperature

- -30°C to +105°C

Conductor Color Coding

- Blue-orange

Materials

- Tinned copper conductors
- Polyolefin insulation
- Foil shield
- Orange PVC jacket

Features

- UL Sunlight Resistant
- 100-ohm nominal impedance

Availability

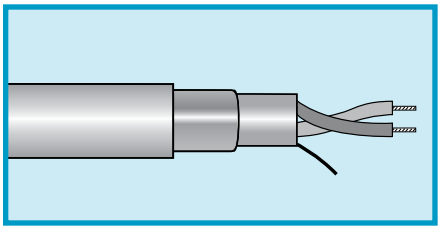
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin

High-Speed Fieldbus

300 V Single-Pair Cable



Part No.	Pairs	Conductor		Stranding		Nominal Diameter	
		AWG	mm^2	AWG	mm	Inch	mm
6461	1	22	0.35	7/30	7 x 0.25	0.351	8.92

UL PLTC
UL CM
CSA CM

Operating Temperature

- -40°C to +75°C

Conductor Color Coding

- Blue-orange

Materials

- Tinned copper conductors
- Foam high-density polyethylene insulation
- Foil shield
- Orange PVC jacket

Features

- UL Sunlight Resistant
- 150-ohm nominal impedance

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

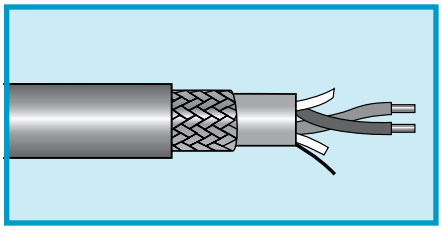
FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

PROFIBUS-DP

300 V Single-Pair Cable



Part No.	Pairs	Conductor		Stranding		Nominal Diameter	
		AWG	mm^2	AWG	mm	Inch	mm
6462	1	22	0.32	Solid		0.315	8.00
6463	1	22	0.35	7/30	7 x 0.25	0.315	8.00

UL AWM 20201 (6462 only)
UL PLTC
UL CMG
CSA CMG FT4

Operating Temperature

- -30°C to +75°C (PLTC, CMG)
- -30°C to +60°C (AWM)

Conductor Color Coding

- Red-green

Materials

- Tinned solid or stranded copper conductors
- Foam high-density polyethylene insulation
- Foil + 65% tinned copper braid shield
- Purple PVC jacket

Features

- UL Sunlight Resistant
- 150-ohm nominal impedance

Availability

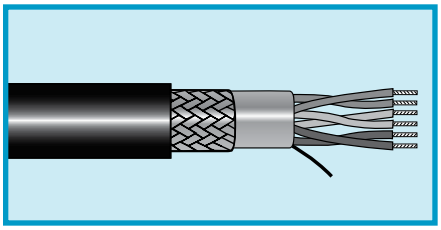
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin

RS-485 Cable

300 V Foil + Braid, Multipair



UL CM, CMG
UL TC, PLTC
CSA CM, CMG FT1

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Chart M (page 530), except 6454

Materials

- Tinned copper conductors
- Foam high-density polyethylene insulation
- Foil + 65% tinned copper braid shield
- Black PVC jacket

Features

- UL Sunlight Resistant
- 120-ohm nominal impedance

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin

22 AWG (0.35 mm²)

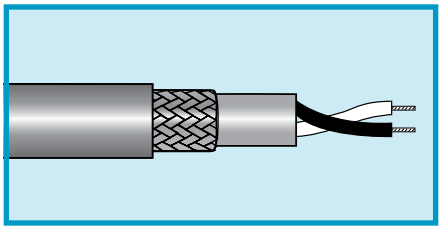
Stranding: 7/30 (7 x 0.25 mm)

Part No.	Pairs	Nominal Diameter		Insulation Thickness		Jacket Thickness	
		Inch	mm	Inch	mm	Inch	mm
6453	1	0.284	7.21	0.028	0.71	0.042	1.07
6454*	1.5	0.300	7.62	0.032	0.81	0.042	1.07
6455	2	0.408	10.36	0.024	0.61	0.053	1.35
6456	3	0.414	10.52	0.022	0.56	0.053	1.35
6457	4	0.448	11.38	0.022	0.56	0.053	1.35

*Conductor color coding: white/orange-orange/white pair, white-blue single conductor.

Industrial Twinax

600 V Foil + Braid Shield, Single Pair



Part No.	Pairs	Conductor		Stranding		Nominal Diameter	
		AWG	mm^2	AWG	mm	Inch	mm
6450	1	18	0.90	7/26	7 x 0.40	0.324	8.23

UL TC, PLTC, ITC
UL CMG
CSA CMG FT4

Operating Temperature

- -40°C to +75°C

Conductor Color Coding

- Blue-white

Materials

- Tinned stranded copper conductors
- Flame-resistant polypropylene insulation
- Foil + 55% tinned copper braid shield
- Blue PVC jacket

Features

- UL Sunlight Resistant
- 78-ohm nominal impedance
- Meets the requirements of Allen-Bradley Data Highway Networks

Availability

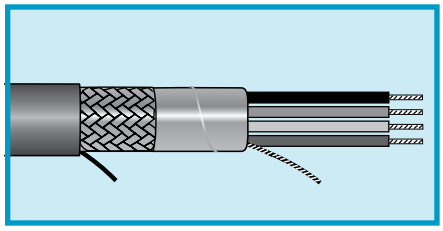
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin

Flexible Motor Supply Cable

Light Duty Flexing
600 V Foil/Braid, Four Conductor



UL TC-ER
UL MTW
UL WTTC
CSA AWM I/II A/B FT4
CE

Operating Temperature

- -5°C to +90°C (flexing)
- -20°C to +90°C (stationary)

Conductor Color Coding

- One yellow/green and three numbered black

Materials

- Finely stranded bare copper conductors
- PVC/nylon insulation
- Foil + braid shield Aluminum/polyester/aluminum foil shield, with 25% overlap and four tinned copper drain wires Tinned copper braid with 70% coverage
- Black PVC jacket

Voltage

- 600 V (UL TC-ER, MTW)
- 1000 V (UL WTTC)

Availability

Bulk, cut to length

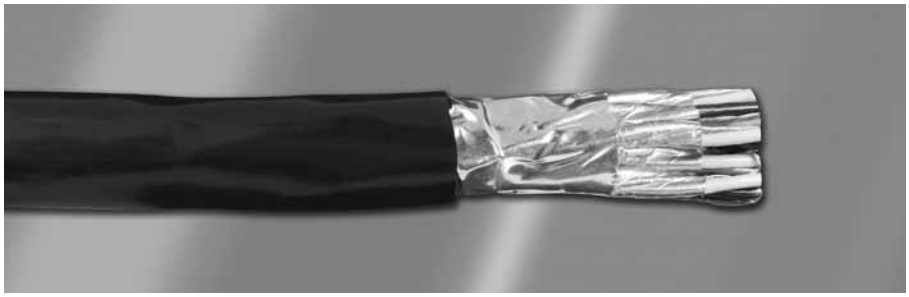
FIT® Tubing Recommendations

- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin
- FIT-600: Highly flexible, cross-linked elastomer

16 to 6 AWG (1.49 to 5.33 mm²)											
Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness		Insulation Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
5660	4	16	1.32	26/30	26 x 0.25	0.381	9.67	0.050	1.27	0.016	0.40
5661	4	14	2.08	41/30	41 x 0.25	0.418	10.61	0.050	1.27	0.016	0.40
5662	4	12	3.30	65/30	65 x 0.25	0.464	11.78	0.050	1.27	0.016	0.40
5663	4	10	5.32	105/30	105 x 0.25	0.579	14.70	0.063	1.60	0.022	0.55
5664	4	8	8.52	168/30	168 x 0.25	0.760	19.30	0.063	1.60	0.032	0.81
5665	4	6	13.49	266/30	266 x 0.25	0.901	22.88	0.083	2.10	0.032	0.81

RoHS Compliant

A Full Range of Communication and Control



Our line-up of standard communication and control cables gives you maximum choice and fewer tradeoffs. By offering you a comprehensive collection of insulation/jacketing materials, shielding options, and conductor counts, you can easily select the cable that meets your most demanding needs. We have cables that go beyond the ordinary to satisfy rigorous requirements of EMI performance, transmission distances, flexibility, and temperature extremes.

Communication and control typical applications:

- Audio systems: speakers, microphones, intercoms
- Broadcast and studio
- Data transmission: RS-232, 422, 485
- CAD/CAM
- Computer peripherals
- Business machines
- Security systems: alarms, cameras, sensors
- Control systems
- Instrumentation systems
- Point-of-sale systems
- Banking systems

Communication and control key features:

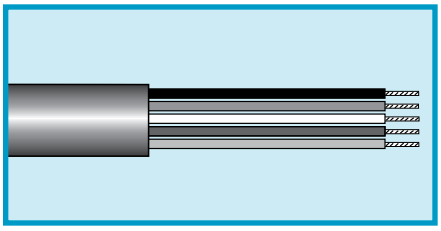
- 1 – 50 conductors, 1 – 50 pairs
- Wide range of insulation/ jacket materials:
  - PVC
  - Irradiated PVC
  - Plenum-rated PVC
  - Semirigid PVC
  - Rubber
  - Polyethylene
  - Polypropylene
  - Foam PP and PE
  - PTFE/FEP
  - LSZH
- Low-capacitance cables for improved transmission distances and signal integrity

Flexible shielding options:

- Unshielded
- Overall foil shield
- Overall foil/braid
- Individual foil-shielded pairs
- Individual foil-shielded pairs with overall foil/braid

Communication and Control Cable

300 V Unshielded, Multiconductor, LSZH



Alpha Wire's LSZH communication and control cable combines LSZH-rated insulation and jackets with the rugged performance you expect from Alpha. The specially formulated LSZH material minimizes the effects from smoke and harmful corrosive gases in the event of combustion. Low smoke means easier visibility in exiting the area and reduced danger of smoke inhalation, while low toxicity means no harm to people from halogenated gases.

UL CM VW-1
CSA CMG FT4

Operating Temperature

- -20°C to +75°C

Materials

- Stranded tinned copper conductors
- LSZH insulation
- Slate LSZH jacket

LSZH Properties

- LSZH Flammability: Passes IEC 60332-1
- LSZH Acid Gas Generation: Passes IEC 60754-1 and 60754-2
- LSZH Smoke Emission: Passes IEC 61034-2

LSZH Unshielded Multiconductor
Conductor Color Coding: Chart D

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1172L	2	0.161	4.09	0.028	0.71
1173L	3	0.169	4.29	0.028	0.71
1174L	4	0.189	4.80	0.028	0.71
1175L	5	0.201	5.11	0.028	0.71
1176L	6	0.209	5.31	0.030	0.76
1177L	7	0.209	5.31	0.030	0.76
1178L	8	0.220	5.59	0.030	0.76
1179L	9	0.249	6.32	0.032	0.81
1180L	10	0.260	6.60	0.035	0.88

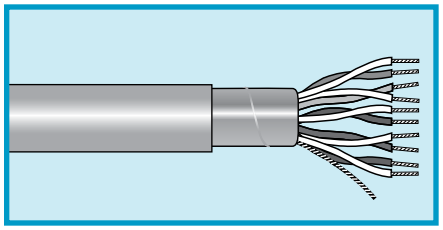
20 AWG (0.56 mm²)

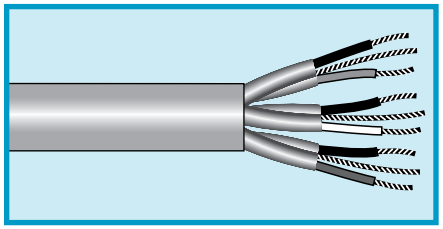
Stranding: 7/28 (0.32 mm)
Insulation thickness: 0.016 (0.40 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1895L	2	0.181	4.60	0.018	0.45
1896L	3	0.189	4.80	0.020	0.50
1896/4L	4	0.209	5.31	0.020	0.50
1896/5L	5	0.232	5.89	0.020	0.50
1896/6L	6	0.276	7.01	0.020	0.50

Communication and Control Cable

300 V Foil Shielded, Multipair, LSZH





Alpha Wire's LSZH communication and control cable combines LSZH-rated insulation and jackets with the rugged performance you expect from Alpha. The specially formulated LSZH material minimizes the effects from smoke and harmful corrosive gases in the event of combustion. Low smoke means easier visibility in exiting the area and reduced danger of smoke inhalation, while low toxicity means no harm to people from halogenated gases.

UL CM VW-1
CSA CMG FT4

Operating Temperature

- -20°C to +75°C

Materials

- Stranded tinned copper conductors
- LSZH insulation (Polypropylene insulation for individually foil shielded pairs)
- Aluminum/polyester shielding, with 25% overlap min.
  Foil facing inward
  Tinned copper drain wire sized the same as the conductors
- Slate LSZH jacket

LSZH Properties

- LSZH Flammability: Passes IEC 60332-1
- LSZH Acid Gas Generation: Passes IEC 60754-1 and 60754-2
- LSZH Smoke Emission: Passes IEC 61034-2

LSZH Overall Foil Shielded Multipair
Conductor Color Coding: Chart A

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5471L	1	0.161	4.09	0.028	0.71
5472L	2	0.209	5.31	0.028	0.71
5473L	3	0.228	5.79	0.028	0.71
5474L	4	0.240	6.10	0.028	0.71
5475L	5	0.272	6.91	0.030	0.76
5476L	6	0.299	7.59	0.030	0.76
5477L	7	0.299	7.59	0.030	0.76
5478L	8	0.319	8.10	0.032	0.81
5479L	9	0.339	8.61	0.032	0.81
5480L	10	0.378	9.60	0.032	0.81

LSZH Individually Foil-Shielded Pair
Conductor Color Coding: Chart A

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

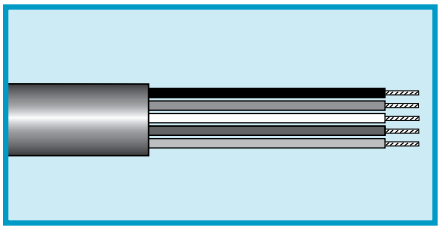
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2466L*†	2	0.161	4.09	0.014	0.35
6010L	3	0.299	7.59	0.047	1.19
2463L*††	4	0.242	6.15	0.020	0.50
6012L	6	0.386	9.80	0.040	1.01
6014L	9	0.441	11.20	0.040	1.01
6017L	12	0.492	12.50	0.040	1.01

*Conductor color coding: 1 Red-Black, 2 Green-White, White/Red-White/Black, 4 White/Green-White/Yellow.
†0.009 (0.23) insulation thickness.
††0.008 (0.20) insulation thickness.

UL LISTED CSA CA PROP 65 RoHS Compliant

Communication and Control

300 V Unshielded, Multiconductor, PVC, PVC



UL AWM 2576 (150 V) VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded or solid tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1172C	2	0.164	4.17	0.032	0.81
1173C	3	0.172	4.37	0.032	0.81
1174C	4	0.185	4.70	0.032	0.81
1175C	5	0.200	5.08	0.032	0.81
1176C	6	0.215	5.46	0.032	0.81
1177C	7	0.215	5.46	0.032	0.81
1178C	8	0.230	5.84	0.032	0.81
1179C	9	0.246	6.25	0.032	0.81
1180C	10	0.264	6.71	0.032	0.81
1181C	12	0.272	6.91	0.032	0.81
1181/15C	15	0.294	7.47	0.032	0.81
1181/20C	20	0.326	8.28	0.032	0.81
1181/25C	25	0.364	9.25	0.032	0.81
1181/30C	30	0.385	9.78	0.032	0.81
1181/40C	40	0.429	10.90	0.032	0.81
1181/50C	50	0.478	12.14	0.035	0.89
1181/60C	60	0.520	13.21	0.035	0.89

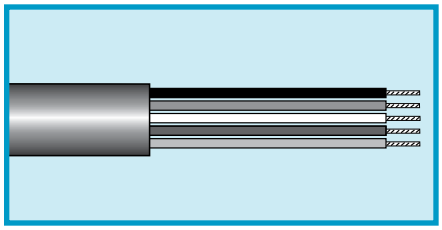
22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1793C	2	0.157	3.99	0.032	0.81

Communication and Control

300 V Unshielded, Multiconductor, PVC, PVC



UL AWM 2509 VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1895C	2	0.180	4.57	0.020	0.51
1896C	3	0.191	4.85	0.020	0.51
1896/4C	4	0.209	5.31	0.020	0.51
1896/5C	5	0.230	5.84	0.020	0.51
1896/6C	6	0.251	6.38	0.020	0.51
1896/7C	7	0.251	6.38	0.020	0.51
1896/8C	8	0.273	6.93	0.020	0.51
1896/9C	9	0.301	7.65	0.023	0.58
1896/10C	10	0.320	8.13	0.020	0.51
1896/12C	12	0.331	8.41	0.020	0.51
1896/15C	15	0.382	9.70	0.030	0.76

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1897C	2	0.198	5.03	0.020	0.51
1898C	3	0.210	5.33	0.020	0.51
1898/4C	4	0.231	5.87	0.020	0.51
1898/5C	5	0.254	6.45	0.020	0.51
1898/6C	6	0.278	7.06	0.020	0.51
1898/7C	7	0.278	7.06	0.020	0.51
1898/8C	8	0.313	7.95	0.025	0.64
1898/9C	9	0.337	8.56	0.025	0.64
1898/10C	10	0.366	9.30	0.025	0.64
1898/12C	12	0.378	9.60	0.025	0.64
1898/15C	15	0.423	10.74	0.030	0.76
1898/19C	19	0.455	11.56	0.030	0.76
1898/25C	25	0.544	13.82	0.035	0.89

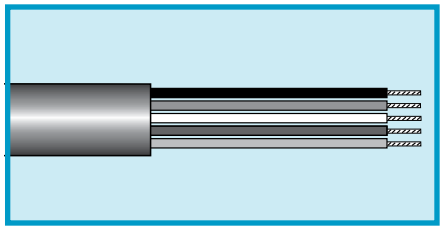
16 AWG (1.32 mm²)

Stranding 19/0.0117 (19 x 0.29 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1899C	2	0.222	5.64	0.020	0.51
1899/3C	3	0.236	5.99	0.020	0.51
1899/4C	4	0.260	6.60	0.020	0.51

Communication and Control

300 V Unshielded, Multiconductor, PVC, PVC



UL CL2 VW-1
CSA AWM I/II A/B FT1

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CL2)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

14 AWG (2.09 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1891C	2	0.268	6.81	0.020	0.51
1891/3C	3	0.286	7.26	0.020	0.51

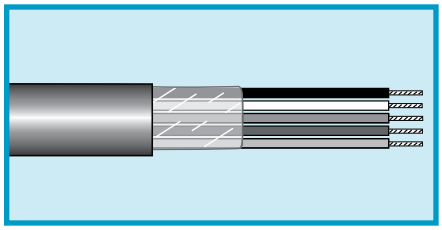
12 AWG (3.31 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1892C	2	0.312	7.92	0.023	0.58
1892/3C	3	0.333	8.46	0.023	0.58

Communication and Control

600 V Unshielded, Multiconductor, PVC, PVC



UL AWM 2463 VW-1

Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- Chart F (page 532)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Clear polyester wrap
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

16 AWG (1.32 mm²)

Stranding 19/0.0117 (19 x 0.29 mm)
Insulation Thickness 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1064	4	0.395	10.03	0.047	1.19
1065	5	0.430	10.92	0.047	1.19
1067	7	0.468	11.89	0.047	1.19
1069	9	0.577	14.66	0.063	1.60
1072	12	0.640	16.26	0.063	1.60
1075	15	0.694	17.63	0.063	1.60
1079	19	0.749	19.02	0.065	1.65
1085	25	0.907	23.04	0.083	2.11

14 AWG (2.08 mm²)

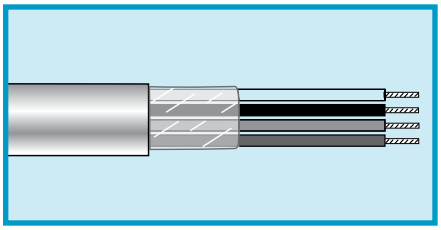
Stranding (19 x 0.0147 (19 x 0.37 mm)
Insulation thickness: 0.047 (1.19 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1274	4	0.503	12.78	0.047	1.19
1275	5	0.584	14.83	0.063	1.60
1277	7	0.635	16.13	0.063	1.60
1279	9	0.744	18.90	0.065	1.60
1282	12	0.867	22.02	0.083	2.11

CA PROP 65 RoHS Compliant

Communication and Control

300 V Unshielded, Multiconductor, IRR PVC, PVC



MIL-DTL-16878/1 (Type B)
UL AWM 2576 (150 V) VW-1

Operating Temperature

- -55°C to +105°C (MIL)
- -55°C to +80°C (AWM)

Conductor Color Coding

- 1 White, 2 Black, 3 Red, 4 Green

Materials

- Stranded tinned copper conductors
- Irradiated PVC insulation
- Clear polyester wrap
- White PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6622	2	0.155	3.94	0.032	0.81
6623	3	0.162	4.11	0.032	0.81
6624	4	0.173	4.39	0.032	0.81

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6632	2	0.167	4.24	0.032	0.81
6633	3	0.175	4.44	0.032	0.81
6634	4	0.188	4.78	0.032	0.81

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6642	2	0.183	4.65	0.032	0.81
6643	3	0.192	4.88	0.032	0.81
6644	4	0.207	5.26	0.032	0.81

18 AWG (0.89 mm²)

Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

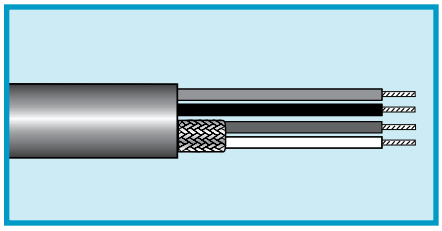
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6652	2	0.203	5.16	0.032	0.81
6653	3	0.214	5.44	0.032	0.81
6654	4	0.232	5.89	0.032	0.81

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

300 V Unshielded and Braid Shield, Multiconductor, PVC, PVC



UL AWM 2785 VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60°C (AWM, CMG)

Conductor Color Coding

See tables

Materials

- Stranded tinned copper conductors
- PVC insulation
- Tinned copper braid shield, 80% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)*
500 ft (152 m)*
1000 ft (305 m)

*Parts 1243, 1243/4, and 1243/5 only

22 AWG Composite Shielded and Unshielded, UL AWM 2785, UL CM, and CSA CMG

22 AWG (0.35 mm²)

Stranding 7/30 (7 x 0.25 mm)
Insulation Thickness 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Configuration	
		Inch	mm	Inch	mm	Shielded	Unshielded
1243	3	0.190	4.83	0.020	0.51	1	2
1243/4	4	0.185 x 0.285	4.70 x 7.24	0.020	0.51	2	2
1243/5	5	0.195 x 0.300	4.95 x 7.62	0.020	0.51	3	2

Conductor Color Coding
Shielded: 1 White, 2 Black, 3 Red
Unshielded: 1 Black, 2 Red

22 and 18 AWG Unshielded, UL CM and CSA CMG Only

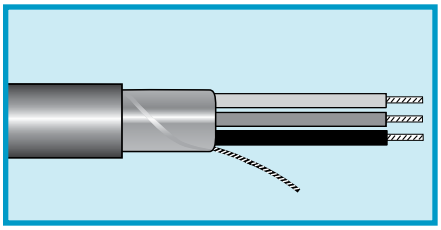
22 AWG (0.35 mm²)	18 AWG (0.81 mm²)
Stranding: 7/30 (7 x 0.25 mm) Insulation thickness: 0.010 (0.25 mm)	16/30 (16 x 0.25 mm) 0.018 (0.45 mm)

Part No.	Conductors		Nominal Diameter		Jacket Thickness	
	22 AWG	18 AWG	Inch	mm	Inch	mm
1826C	4	2	0.241	6.12	0.025	0.63
1827C	5	2	0.247	6.27	0.028	0.71
1828C	6	2	0.261	6.63	0.028	0.71

Conductor Color Coding
22 AWG: Chart I (page 533)
18 AWG: Chart D (page 531)

Communication and Control

300 V Foil Shield, Multiconductor, PE, PVC



UL AWM 2092, 2093, 2094 VW-1
UL CMG
CSA CMG FT4

Operating Temperature

- -20°C to +75°C (CMG)
- -20°C to +60°C (AWM)

Conductor Color Coding

- 1 Black, 2 Red, 3 Natural, 4 Green

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see table for sizes)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m), spool or box
1000 ft (305 m), spool or box

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		AWM
		Inch	mm	Inch	mm	
2400C	2	0.156	3.96	0.020	0.51	2092

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		AWM
		Inch	mm	Inch	mm	
2401C*	2	0.168	4.27	0.020	0.51	2092
2402C	2	0.168	4.27	0.020	0.51	2092
2403C	3	0.178	4.52	0.020	0.51	2093
2404C	4	0.194	4.93	0.020	0.51	2094

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)
20 AWG (0.50 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		AWM
		Inch	mm	Inch	mm	
2411C*	2	0.184	4.67	0.020	0.51	2092
2412C	2	0.184	4.67	0.020	0.51	2092
2413C	3	0.195	4.95	0.020	0.51	2093
2414C	4	0.213	5.41	0.020	0.51	2094

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
20 AWG (0.50 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		AWM
		Inch	mm	Inch	mm	
2421C*	2	0.202	5.13	0.020	0.51	2092
2422C	2	0.202	5.13	0.020	0.51	2092
2423C	3	0.214	5.44	0.020	0.51	2093
2424C	4	0.235	5.97	0.020	0.51	2094

16 AWG (1.32 mm²)

Stranding: 19/0.117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)
18 AWG (0.81 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		AWM
		Inch	mm	Inch	mm	
2432C	2	0.226	5.74	0.020	0.51	2092
2433C	3	0.240	6.10	0.020	0.51	2093

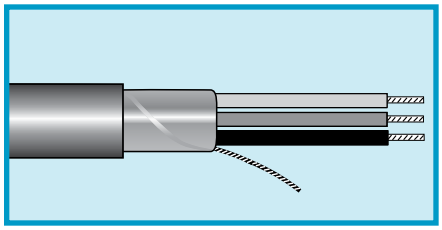
*Color code: 1 black, 2 natural.

UL LISTED CSA CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

300 V Foil Shield, Multiconductor, PE, PVC



UL CL2
CSA AWM I/II A/B FT4

Operating Temperature

- -20°C to +75°C (CL2)
- -20°C to +60°C (AWM)

Conductor Color Coding

- 1 Black, 2 Red, 3 Natural, 4 Green

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see table for sizes)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m), spool or box
1000 ft (305 m), spool or box

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)
16 AWG (1.32 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL
		Inch	mm	Inch	mm	
2442C	2	0.292	7.42	0.030	0.76	CL2

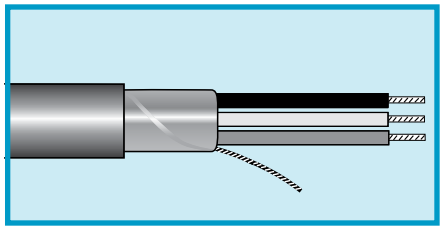
12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)
14 AWG (2.08 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness		UL
		Inch	mm	Inch	mm	
2444C	2	0.330	8.38	0.030	0.76	CL2

Communication and Control

300 V Foil Shield, Multiconductor, PP, PE, PVC/PVC



UL CM
VW-1
CSA CMG FT4

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- 1 White, 2 Black, 3 Red, 4 Green
- 1 Black, 2 Red, 3 White, 4 Green

Materials

- Stranded tinned copper conductors (except 2460C)
- PP, PE, or PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  1243/3C: foil facing inward
  Stranded tinned copper drain wire (except 2460C)
- Slate PVC jacket
  2461C: slate or black

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

Polypropylene Insulation

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm) or solid
Insulation Thickness: 0.008 (0.20 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Configuration	
		Inch	mm	Inch	mm	Shielded	Unshielded
2460C	2 (solid)	0.126	3.20	0.020	0.51	2	0
2461C	2	0.136	3.45	0.020	0.51	2	0

Polyethylene Insulation

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation Thickness: 0.014 (0.36 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Configuration	
		Inch	mm	Inch	mm	Shielded	Unshielded
1243/3C	3	0.210	5.33	0.030	0.76	2	1
2464C	4	0.165	4.19	0.020	0.51	2	2

PVC Insulation

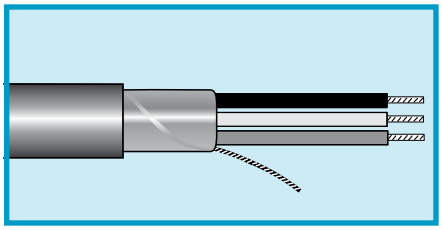
20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation Thickness: 0.015 (0.38 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness		Configuration	
		Inch	mm	Inch	mm	Shielded	Unshielded
2465C	4	0.240	6.10	0.030	0.76	2	2

Communication and Control

300 V Foil Shield, Multiconductor, PVC, PVC



UL AWM 2576 (150 V) VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1212C	2	0.156	3.96	0.032	0.81
1213C	3	0.163	4.14	0.032	0.81
1214C	4	0.174	4.42	0.032	0.81
1215C	5	0.187	4.75	0.032	0.81
1216C	6	0.201	5.11	0.032	0.81
1217C	7	0.201	5.11	0.032	0.81
1218C	8	0.214	5.44	0.032	0.81
1219C	9	0.228	5.79	0.032	0.81
1219/10C	10	0.244	6.20	0.032	0.81
1219/12C	12	0.251	6.38	0.032	0.81
1219/15C	15	0.270	6.86	0.032	0.81
1219/20C	20	0.298	7.57	0.032	0.81
1219/25C	25	0.332	8.43	0.032	0.81
1219/37C	37	0.376	9.55	0.032	0.81
1219/40C	40	0.390	9.91	0.032	0.81
1219/50C	50	0.427	10.85	0.032	0.81

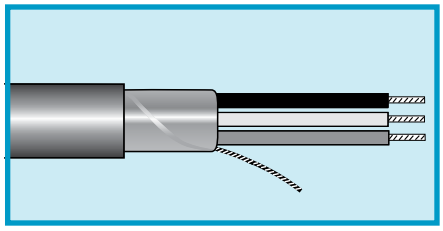
22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1292C	2	0.168	4.27	0.032	0.81
1293C	3	0.176	4.47	0.032	0.81
1294C	4	0.189	4.80	0.032	0.81
1295C	5	0.204	5.18	0.032	0.81
1296C	6	0.219	5.56	0.032	0.81
1297C	7	0.219	5.56	0.032	0.81
1298C	8	0.234	5.94	0.032	0.81
1299C	9	0.250	6.35	0.032	0.81
1299/10C	10	0.268	6.81	0.032	0.81
1299/12C	12	0.276	7.01	0.032	0.81
1299/15C	15	0.298	7.57	0.032	0.81
1299/20C	20	0.330	8.38	0.032	0.81
1299/25C	25	0.368	9.35	0.032	0.81
1299/30C	30	0.389	9.88	0.032	0.81
1299/37C	37	0.418	10.62	0.032	0.81
1299/40C	40	0.433	11.00	0.032	0.81
1299/50C	50	0.482	12.24	0.035	0.89

Communication and Control

300 V Foil Shield, Multiconductor, SR-PVC, PVC



UL AWM 2464 VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart F (page 532)

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

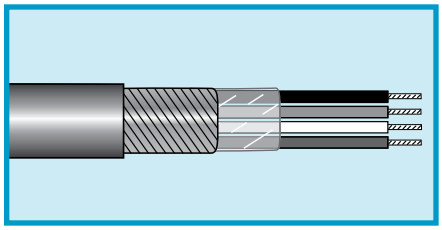
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6300/3*	3	0.163	4.14	0.032	0.81
6300/4*	4	0.174	5.44	0.032	0.81
6305	5	0.187	4.75	0.032	0.81
6306*	6	0.201	5.11	0.032	0.81
6300/8*	8	0.214	5.44	0.032	0.81
6300/10*	10	0.244	6.20	0.032	0.81
6307	15	0.270	6.86	0.032	0.81
6308	20	0.298	7.57	0.032	0.81
6309	25	0.332	8.43	0.032	0.81
6310	30	0.366	9.30	0.040	1.02
6311	40	0.406	10.31	0.040	1.02
6312	50	0.453	11.51	0.045	1.14

Mutual capacitance: 32 pF/ft (105 pF/m)
Ground capacitance: 58 pF/ft (190 pF/m)

*Color coding: 1 Black, 2 White, 3 Red, 4 Green, 5 Brown, 6 Blue, 7 Orange, 8 Yellow, 9 Violet, 10 Slate.

Communication and Control

300 V Spiral Shield, Multiconductor, PVC, PVC



AWM 2095
AWM 1108 (Single-conductor cables)

Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green, 5 Yellow, 6 Blue

Materials

- Stranded tinned copper conductors
- PVC insulation
- Clear polyester wrap (multiconductor only)
- Bare copper spiral shield, 95% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2254/1	1	0.112	2.84	0.020	0.51
2254	2	0.177	4.50	0.020	0.51
2254/3	3	0.187	4.75	0.020	0.51
2254/4	4	0.206	5.23	0.020	0.51
2254/6	6	0.243	6.17	0.020	0.51

20 AWG (0.56 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2256/1	1	0.119	3.02	0.020	0.51
2256	2	0.191	4.85	0.020	0.51
2256/3	3	0.202	5.13	0.020	0.51
2256/4	4	0.223	5.66	0.020	0.51
2256/6	6	0.264	6.71	0.020	0.51

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2258/1	1	0.129	3.28	0.020	0.51
2258	2	0.214	5.44	0.020	0.51
2258/3	3	0.226	5.74	0.020	0.51
2258/4	4	0.247	6.27	0.020	0.51

16 AWG (1.32 mm²)

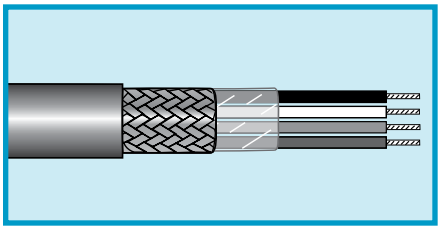
Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2260	2	0.240	6.10	0.020	0.51
2260/3	3	0.254	6.45	0.020	0.51

CA PROP 65 RoHS Compliant

Communication and Control

600 V Braid Shield, Multiconductor, PVC, PVC



MIL-DTL-16878/1 (Type B)

Operating Temperature

- -55°C to +105°C

Conductor Color Coding

- Chart F (page 532)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Clear polyester wrap
- Tinned copper braid shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
1000 ft (305 m)

28 AWG (0.09 mm²)

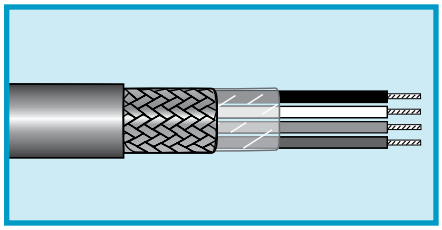
Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3302	2	0.119	3.02	0.012	0.30
3303	3	0.124	3.15	0.012	0.30
3304	4	0.134	3.40	0.012	0.30
3306	6	0.161	4.09	0.015	0.38
3308	8	0.171	4.34	0.015	0.38
3310	10	0.201	5.11	0.018	0.46
3312	12	0.206	5.23	0.018	0.46
3315	15	0.236	5.99	0.020	0.51
3320	20	0.261	6.63	0.022	0.56

CA PROP 65 RoHS Compliant

Communication and Control

600 V Braid Shield, Multiconductor, PVC/Nylon, PVC



MIL-DTL-16878/17 (Type B/N)

Operating Temperature

- -55°C to +105°C

Conductor Color Coding

- 1 White, 2 Black, 3 Red, 4 Green (unless otherwise noted)

Materials

- Stranded tinned copper conductors
- PVC/nylon insulation
- Clear polyester wrap (multiconductor only)
- Tinned copper braid shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3200	1	0.087	2.21	0.010	0.25
3201	2	0.143	3.63	0.014	0.36
3202	3	0.150	3.81	0.014	0.36
3203	4	0.166	4.22	0.016	0.41

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3210	1	0.093	2.36	0.010	0.25
3211	2	0.159	4.04	0.016	0.41
3212	3	0.167	4.24	0.016	0.41
3213	4	0.182	4.62	0.017	0.43

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

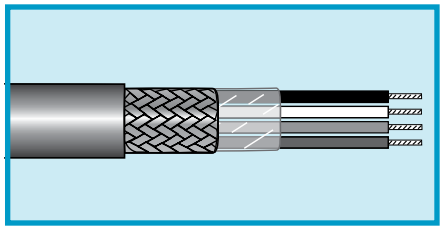
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3220	1	0.100	2.54	0.010	0.25
3221	2	0.173	4.39	0.016	0.41
3222	3	0.184	4.67	0.017	0.43
3223	4	0.203	5.16	0.019	0.49
3335*	5	0.228	5.79	0.020	0.51
3336*	6	0.246	6.25	0.020	0.64
3337*	8	0.274	6.96	0.025	0.64

*Color code chart F.

CA PROP 65 RoHS Compliant

Communication and Control

600 V Braid Shield, Multipair, PVC/Nylon, PVC



MIL-DTL-16878/17 (Type B/N)

Operating Temperature

- -55°C to +105°C

Conductor Color Coding

- 1 White, 2 Black, 3 Red, 4 Green (unless otherwise noted)

Materials

- Stranded tinned copper conductors
- PVC/nylon insulation
- Clear polyester wrap (multiconductor only)
- Tinned copper braid shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

20 AWG (0.61 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3230	1	0.108	2.74	0.010	0.25
3231	2	0.195	4.95	0.019	0.49
3232	3	0.205	5.21	0.019	0.49
3233	4	0.227	5.77	0.021	0.53

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3240	1	0.122	3.10	0.012	0.30
3241	2	0.219	5.56	0.021	0.53
3242	3	0.233	5.92	0.022	0.56
3243	4	0.261	6.63	0.023	0.58

16 AWG (1.23 mm²)

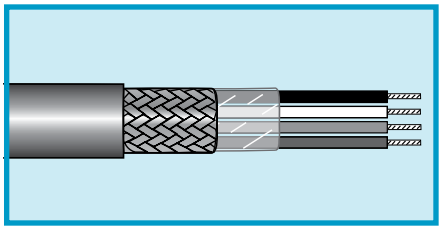
Stranding: 19/29 (19 x 0.29 mm)
Insulation thickness: 0.010 (0.25 mm) PVC/0.003 (0.08 mm) nylon

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3245	1	0.136	0.136	0.016	0.41
3246	2	0.241	0.241	0.023	0.58
3247	3	0.254	0.254	0.023	0.58
3248	4	0.279	0.279	0.025	0.64

CA PROP 65 RoHS Compliant

Communication and Control

300 V Braid Shield, Multiconductor, PVC, PVC



UL AWM 2095 VW-1
UL AWM 1108
(Single-Conductor Cables)
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded or solid tinned copper conductors
- PVC insulation
- Clear polyester wrap (multiconductor only)
- Bare copper braid shield, 75% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1775C	2	0.195	4.95	0.020	0.51

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1735	1	0.124	3.15	0.020	0.51
1736C	2	0.189	4.80	0.020	0.51
1737C	3	0.199	5.05	0.020	0.51
1738C	4	0.215	5.46	0.020	0.51

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1741C	2	0.205	5.21	0.020	0.51
1742C	3	0.216	5.49	0.020	0.51
1743C	4	0.234	5.94	0.020	0.51

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1745	1	0.141	3.58	0.020	0.51
1746C	2	0.223	5.66	0.020	0.51
1747C	3	0.235	5.97	0.020	0.51
1747/4C	4	0.256	6.50	0.020	0.51

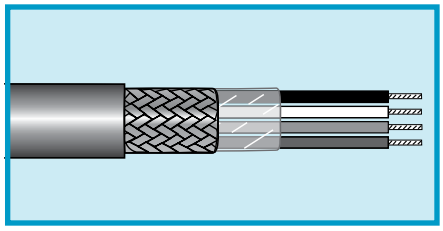
16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1748C	2	0.247	6.27	0.020	0.51
1749C	3	0.261	6.63	0.020	0.51

Communication and Control

450 V Braid Shield, Multiconductor, PVC, PVC



Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Clear polyester wrap
- Bare copper braid shield, 75% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1750	2	0.299	7.59	0.020	0.51
1751	3	0.317	8.05	0.020	0.51

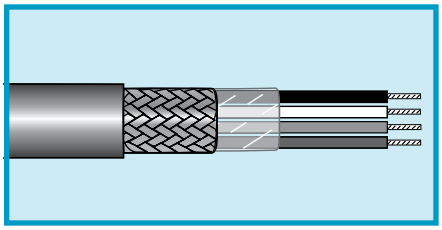
12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1760	2	0.337	8.56	0.020	0.51
1761	3	0.358	9.09	0.020	0.51

Communication and Control

600 V Braid Shield, Multiconductor, IRR PVC, PVC



MIL-DTL-16878/1 (Type B)

Operating Temperature

- -55°C to +105°C

Conductor Color Coding

- Chart G (page 532)

Materials

- Stranded tinned copper conductors
- Irradiated PVC insulation
- Clear polyester wrap
- Tinned copper braid shield, 90% coverage
- White PVC jacket

Availability

1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7622	2	0.163	4.14	0.025	0.64
7623	3	0.170	4.32	0.025	0.64
7624	4	0.181	4.60	0.025	0.64

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7631	1	0.122	3.10	0.025	0.64
7632	2	0.175	4.45	0.025	0.64
7633	3	0.183	4.65	0.025	0.64
7634	4	0.196	4.98	0.025	0.64

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7661	1	0.130	3.30	0.025	0.64
7662	2	0.191	4.85	0.025	0.64
7663	3	0.200	5.08	0.025	0.64
7664	4	0.215	5.46	0.025	0.64

18 AWG (0.89 mm²)

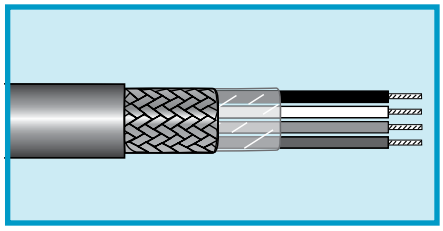
Stranding: 7/26 (7 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7671	1	0.140	3.56	0.025	0.64
7672	2	0.211	5.35	0.025	0.64
7673	3	0.222	5.64	0.025	0.64
7674	4	0.240	6.09	0.025	0.64

CA PROP 65 RoHS Compliant

Communication and Control

1000 V Braid Shield, Multiconductor, PVC, PVC



MIL-DTL-16878/2 (Type C)

Operating Temperature

- -55°C to +105°C

Conductor Color Coding

- Chart F (page 532)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Clear polyester wrap
- Tinned copper braid shield, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
1000 ft (305 m)

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3405	5	0.303	7.70	0.025	0.64
3408	8	0.364	9.25	0.030	0.76
3410	10	0.429	10.90	0.035	0.89
3412	12	0.442	11.23	0.035	0.89
3415	15	0.488	12.40	0.040	1.02
3420	20	0.550	13.97	0.045	1.14
3430	30	0.667	16.94	0.055	1.40

16 AWG (1.23 mm²)

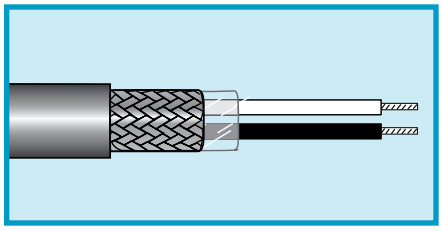
Stranding: 19/29 (19 x 0.29 mm)
Insulation thickness: 0.018 (0.45 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3444	4	0.316	8.03	0.031	0.79
3446	6	0.376	9.55	0.034	0.86
3450	10	0.487	12.37	0.044	1.12
3452	12	0.509	12.93	0.048	1.22

CA PROP 65 RoHS Compliant

Communication and Control

Braid or Spiral Shield, Multiconductor, PE, PVC Microphone Cable



Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- 1-White, 2-Black

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Clear polyester wrap (multiconductor only)
- Braided tinned copper or spiral wrapped tinned copper shield, 90% coverage (85% for part no. 1712)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

1-Conductor Cable for High-Impedance Microphones

Part No.	Voltage Rating	Wire Size		Stranding		Nominal Diameter		Shield	Jacket Thickness		Insulation Thickness		Capacitance	
		AWG	mm²	AWG	mm	Inch	mm		Inch	mm	Inch	mm	pF/ft	pF/m
1706*	4000	20	0.52	26/34	26 x 0.16	0.182	4.62	Braid	0.030	0.76	0.031	0.79	38	125
1703	3500	24	0.20	10/34	10 x 0.16	0.146	3.71	Braid	0.030	0.76	0.020	0.50	36	118
1702**	1000	26	0.14	7/34	7 x 0.16	0.101	2.57	Spiral	0.020	0.51	0.016	0.41	35	115
1705	1000	24	0.20	10/34	10 x 0.16	0.106	2.69	Spiral	0.020	0.51	0.016	0.41	41	135

*UL AWM 1150, 300 V.
**1702 has 3 strands of tinned copper and 4 strands of tinned Copperweld.

2-Conductor Cable for Low-Impedance Microphones

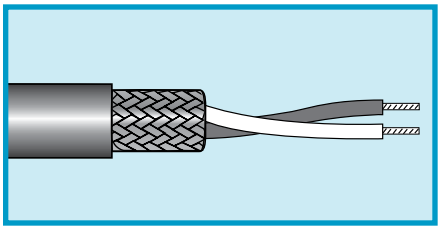
Part No.	Voltage Rating	Wire Size		Stranding		Nominal Diameter		Shield	Jacket Thickness		Insulation Thickness		Capacitance*	
		AWG	mm²	AWG	mm	Inch	mm		Inch	mm	Inch	mm	pF/ft	pF/m
1709	1000	24	0.20	10/34	10 x 0.16	0.185	4.70	Spiral	0.030	0.76	0.016	0.41	32	105
1710	1000	22	0.38	19/34	19 x 0.16	0.239	6.07	Braid	0.025	0.64	0.025	0.63	30	98
1712	600	20	0.52	26/34	26 x 0.16	0.221	5.61	Braid	0.030	0.76	0.015	0.38	44	144

*Capacitance between one conductor and remaining conductors connected to shield.

CA PROP 65 RoHS Compliant

Communication and Control

600 V Braid Shield, Multiconductor, PE, PVC Audio Cable



Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- 1771: White, blue
  Black, red, or orange jacket
- 1772: White, blue, white, blue
  Black, brown, slate, or
  yellow jacket

Materials

- Bare copper conductors
- Polyethylene insulation
- Tinned copper braid shield, 95% coverage
- PVC jacket

Availability

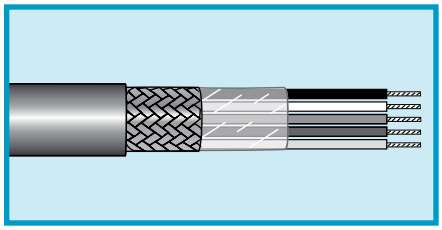
100 ft (30.5 m)
1000 ft (305 m)

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Shield	Jacket Thickness		Insulation Thickness		Capacitance	
		AWG	mm^2	AWG	mm	Inch	mm		Inch	mm	Inch	mm	pF/ft	pF/m
1771	2	23	0.29	60/40	60 x 0.08	0.243	6.17	Braid	0.040	1.01	0.020	0.51	17.9	58.7
1772	4	25	0.20	40/40	40 x 0.08	0.239	6.07	Braid	0.044	1.11	0.014	0.35	18	69.1

CA PROP 65 RoHS Compliant

Communication and Control

600 V Multiconductor, PE, PVC
Braid Shield



Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Chart H (page 533)

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Clear polyester wrap
- Braided tinned copper shield, 85% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

20 AWG (0.52 mm²)

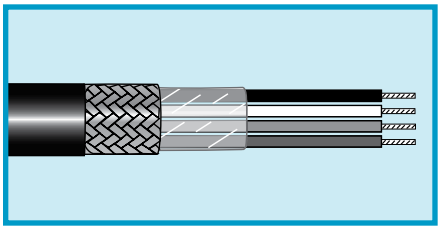
Stranding: 26/34 (26 x 0.16 mm)
Insulation thickness: 0.015 (0.38 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1712	2	0.221	5.61	0.030	0.76
1713	3	0.248	6.30	0.035	0.88
1715	4	0.266	6.76	0.035	0.88
1716	5	0.285	7.24	0.035	0.88
1717	6	0.306	7.77	0.035	0.88
1719	8	0.327	8.31	0.035	0.88
1721	10	0.373	9.47	0.035	0.88
1723	12	0.384	9.75	0.035	0.88
1726	15	0.421	10.69	0.035	0.88
1728	20	0.462	11.73	0.035	0.88

CA PROP 65 RoHS Compliant

Communication and Control

600 V Multiconductor, Rubber, Polychloroprene Braid Shield



Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Chart H (page 533)

Materials

- Stranded tinned copper conductors
- EPDM rubber insulation
- Clear polyester wrap
- Tinned copper braid shield, 85% coverage
- Black polychloroprene jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

18 AWG (0.82 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.020 (0.51 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1450	2	0.298	7.57	0.045	1.14
1454	6	0.392	9.96	0.045	1.14

16AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.026 (0.65 mm)

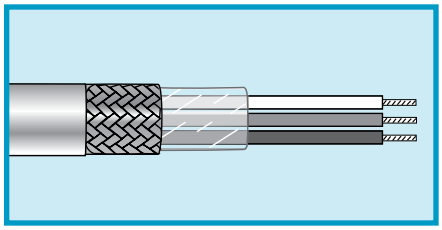
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1450/16	2	0.327	8.31	0.036	0.91
1451/16	3	0.350	8.89	0.037	0.94

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

600 V Multiconductor, PTFE, FEP
Braid Shield



MIL-DTL-16878/4 (Type E)
NEMA HP3-EXBEE

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Chart G (page 532)

Materials

- Stranded silver-plated copper conductors
- PTFE insulation
- Clear polyester wrap
- Silver-plated copper braid shield, 90% coverage
- White FEP jacket

Availability

100 ft (30.5 m)
1000 ft (305 m)*
*May contain multiple lengths

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2831	1	0.087	2.21	0.010	0.25
2831/2	2	0.132	3.35	0.010	0.25
2831/3	3	0.139	3.53	0.010	0.25

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.009 (0.23 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2834	1	0.092	2.34	0.010	0.25
2834/2	2	0.142	3.61	0.010	0.25
2834/3	3	0.154	3.91	0.012	0.30

20 AWG (0.62 mm²)

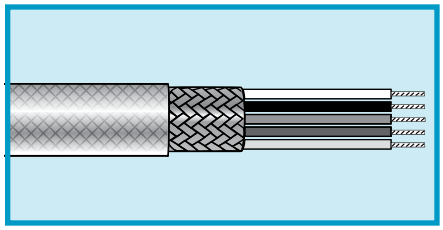
Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.009 (0.23 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2837/2	2	0.162	4.11	0.012	0.30
2837/3	3	0.171	4.34	0.012	0.30

CA PROP 65 RoHS Compliant

Communication and Control

600 V Multiconductor, TFE, Fiberglass Braid Shield



MIL-DTL-16878/4 (Type E)
NEMA HP3-EXBEE

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Chart G (page 532)

Materials

- Stranded silver-plated copper conductors
- TFE insulation
- Silver-plated copper braid shield, 90% coverage
- White PTFE-impregnated fiberglass jacket

Availability

100 ft (30.5 m)
1000 ft (305 m)*
*May contain multiple lengths

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2811	1	0.100	2.54	0.012	0.30
2811/2	2	0.145	3.68	0.012	0.30
2811/3	3	0.152	3.86	0.012	0.30
2811/4	4	0.164	4.17	0.012	0.30
2811/5	5	0.177	4.50	0.012	0.30
2811/7	7	0.191	4.85	0.012	0.30

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.009 (0.23 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2814/2	2	0.155	3.94	0.012	0.30
2814/4	4	0.176	4.47	0.012	0.30
2814/6	6	0.206	5.23	0.012	0.30

20 AWG (0.62 mm²)

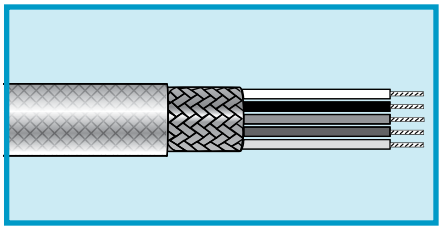
Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.009 (0.23 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2817/2	2	0.171	4.34	0.012	0.30
2817/3	3	0.180	4.57	0.012	0.30
2817/4	4	0.195	4.95	0.012	0.30
2817/5	5	0.212	5.38	0.012	0.30
2817/6	6	0.230	5.84	0.012	0.30

CA PROP 65 RoHS Compliant

Communication and Control

600 V Multiconductor, TFE, Fiberglass Braid Shield



MIL-DTL-16878/4 (Type E)
NEMA HP3

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Chart G (page 532)

Materials

- Stranded silver-plated copper conductors
- TFE insulation
- Silver-plated copper braid shield, 90% coverage
- White PTFE-impregnated fiberglass jacket

Availability

100 ft (30.5 m)
1000 ft (305 m)*
*May contain multiple lengths

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2819	1	0.125	3.18	0.012	0.30
2819/2	2	0.195	4.95	0.012	0.30
2819/3	3	0.206	5.23	0.012	0.30
2819/4	4	0.224	5.69	0.012	0.30
2819/5	5	0.245	6.22	0.012	0.30

16 AWG (1.32 mm²)

Stranding: 19/29 (19 x 0.29 mm)
Insulation thickness: 0.012 (0.30 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2820	1	0.135	3.43	0.012	0.30
2820/2	2	0.215	5.46	0.012	0.30
2820/3	3	0.228	5.79	0.012	0.30
2820/4	4	0.249	6.32	0.012	0.30

14 AWG (1.23 mm²)

Stranding: 19/27 (19 x 0.36 mm)
Insulation thickness: 0.012 (0.30 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2804/2	1	0.245	6.22	0.012	0.30
2804/3	2	0.260	6.60	0.012	0.30

12 AWG (3.08 mm²)

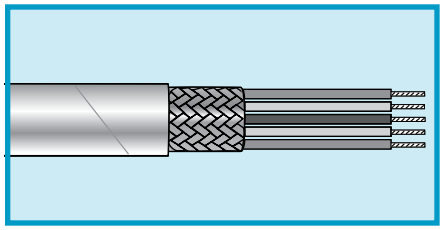
Stranding: 19/25 (19 x 0.46 mm)
Insulation thickness: 0.012 (0.30 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2803/2	2	0.283	7.19	0.012	0.30

CA PROP 65 RoHS Compliant

Communication and Control

600 V Multiconductor, PTFE, PTFE Tape Braid Shield



MIL-DTL-16878/4 (Type E)
NEMA HP3-EXBEE

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Chart G (page 532)

Materials

- Stranded silver-plated copper conductors
- PTFE insulation
- Silver-plated copper braid shield, 90% coverage
- White PTFE tape jacket

Availability

100 ft (30.5 m)
1000 ft (305 m)*
*May contain multiple lengths

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2821	1	0.087	2.21	0.010	0.25
2821/2	2	0.136	3.45	0.012	0.30
2821/3	3	0.143	3.63	0.012	0.30
2821/4	4	0.155	3.94	0.012	0.30
2821/5	5	0.168	4.27	0.012	0.30
2821/6	6	0.182	4.62	0.012	0.30

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.009 (0.23 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2824	1	0.092	2.34	0.010	0.25
2824/2	2	0.146	3.71	0.012	0.30
2824/3	3	0.154	3.91	0.012	0.30
2824/4	4	0.167	4.24	0.012	0.30
2824/5	5	0.182	4.62	0.012	0.30
2824/6	6	0.193	4.90	0.012	0.30

20 AWG (0.62 mm²)

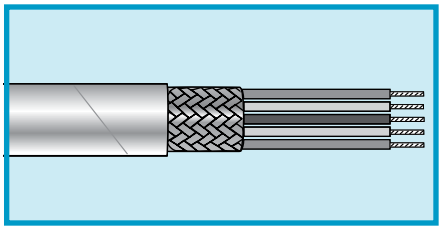
Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.009 (0.23 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2827	1	0.100	2.54	0.010	0.25
2827/2	2	0.158	4.01	0.012	0.30
2827/3	3	0.171	4.34	0.012	0.30
2827/4	4	0.186	4.72	0.012	0.30
2827/5	5	0.203	5.16	0.012	0.30
2827/6	6	0.221	5.61	0.012	0.30

CA PROP 65 RoHS Compliant

Communication and Control

600 V Multiconductor, PTFE, PTFE Tape Braid Shield



MIL-DTL-16878/4 (Type E)
NEMA HP3-EXBEE

Operating Temperature

- -55°C to +200°C

Conductor Color Coding

- Chart G (page 532)

Materials

- Stranded silver-plated copper conductors
- PTFE insulation
- Silver-plated copper braid shield, 90% coverage
- White PTFE tape jacket

Availability

100 ft (30.5 m)
1000 ft (305 m)*
*May contain multiple lengths

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2829/2	2	0.186	4.72	0.012	0.30
2829/3	3	0.197	5.00	0.012	0.30
2829/4	4	0.215	5.46	0.012	0.30

16 AWG (1.23 mm²)

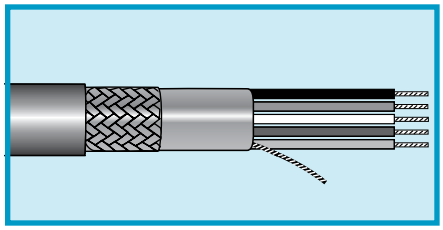
Stranding: 19/29 (19 x 0.29 mm)
Insulation thickness: 0.012 (0.30 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2826	1	0.122	3.10	0.010	0.25
2826/2	2	0.206	5.23	0.012	0.30
2826/3	3	0.219	5.56	0.012	0.30
2826/4	4	0.240	6.10	0.012	0.30

CA PROP 65 RoHS Compliant

Communication and Control

300 V Multiconductor, SR-PVC, PVC Foil/Braid Shield



UL AWM 2464 VW-1
UL CL2
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CL2)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart D (page 531)

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester/aluminum foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to the conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

28 AWG (0.08 mm²)

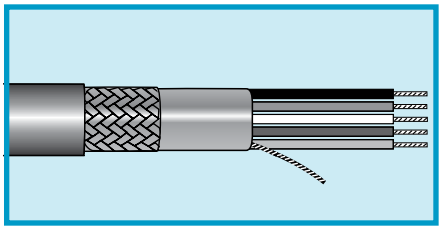
Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3463*	3	0.171	4.34	0.035	0.89
3464C	4	0.181	4.60	0.035	0.89
3465C	5	0.191	4.85	0.035	0.89
3466C	6	0.202	5.13	0.035	0.89
3467C	7	0.202	5.13	0.035	0.89
3468C	8	0.212	5.38	0.035	0.89
3469C	9	0.223	5.66	0.035	0.89
3470C	10	0.236	5.99	0.035	0.89
3470/15C	15	0.267	6.78	0.035	0.89
3470/25C	25	0.312	7.92	0.035	0.89
3470/37C	37	0.347	8.81	0.035	0.89
3470/50C	50	0.397	10.08	0.035	0.89

*UL AWM 2464/CSA CMG only.

Low Capacitance Data Cable

300 V Multiconductor, FPP, PVC Foil/Braid Shield



UL AWM 2919 (30 V) VW-1
UL CL2
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CL2)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart D (page 531) for 3-conductor to 9-conductor cables
- Chart F (page 532) for 25-conductor cables

Materials

- Stranded tinned copper conductors
- Foam polypropylene insulation
- Foil + braid shield
  Aluminum/polyester/aluminum foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid shield, 65% coverage
- Slate PVC jacket

Availability

1000 ft (305 m)

28 AWG (0.08 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.013 (0.33 mm)

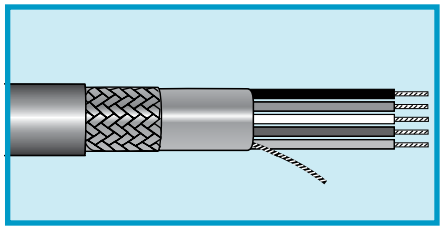
Part No.*	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3483	3	0.184	4.67	0.035	0.89
3484C	4	0.195	4.95	0.035	0.89
3488C	8	0.232	5.89	0.035	0.89
3489C	9	0.245	6.22	0.035	0.89
3490/25C	25	0.348	8.84	0.035	0.89

Mutual capacitance: 12 pF/ft (39.4 pF/m)
Ground capacitance: 20 pF/ft (65.6 pF/m)

*C suffix part no. are CL2 approved.

Communication and Control

300 V Multiconductor, SR-PVC, PVC Overall Foil/Braid Shield



UL AWM 2464 VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart F (page 532) for 15-conductor through 50-condcutor cables
- See table below for 3-conductor through 10-conductor cables

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire, 24 AWG (0.22 mm²), 7/32 (7 x 0.22 mm)
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6327	3	0.185	4.70	0.032	0.81
6328	4	0.196	4.98	0.032	0.81
6329	5	0.209	5.31	0.032	0.81
6330	6	0.223	5.66	0.032	0.81
6331	7	0.223	5.66	0.032	0.81
6332	8	0.236	5.99	0.032	0.81
6333	9	0.250	6.35	0.032	0.81
6334	10	0.266	6.76	0.032	0.81
6335	15	0.292	7.42	0.032	0.81
6336	25	0.354	8.99	0.032	0.81
6337	37	0.398	10.11	0.032	0.81
6338	50	0.449	11.40	0.032	0.81

Mutual capacitance: 32 pF/ft (105 pF/m)
Ground capacitance: 58 pF/ft (190 pF/m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6339	3	0.198	5.03	0.032	0.81
6340	4	0.211	5.36	0.032	0.81
6341	5	0.226	5.74	0.032	0.81
6342	6	0.241	6.12	0.032	0.81
6343	7	0.241	6.12	0.032	0.81
6344	8	0.256	6.50	0.032	0.81
6345	9	0.272	6.91	0.032	0.81
6346	10	0.290	7.37	0.032	0.81
6347	15	0.320	8.13	0.032	0.81
6348	25	0.390	9.91	0.032	0.81
6349	37	0.440	11.18	0.032	0.81
6350	50	0.540	13.72	0.053	1.35

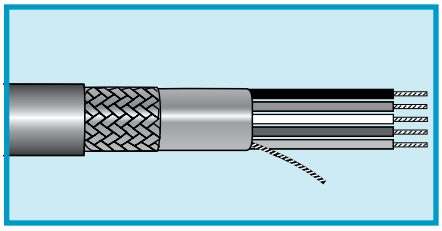
Mutual capacitance: 36 pF/ft (118 pF/m)
Ground capacitance: 65 pF/ft (213 pF/m)

Color Coding: 3 through 10 Conductors

1 Black	6 Blue
2 White	7 Orange
3 Red	8 Yellow
4 Green	9 Violet
5 Brown	10 Slate

Communication and Control

300 V Foil/Braid Shield, Multiconductor, FPE, PVC Low Capacitance Data Cable



UL AWM 2919 (30 V) VW-1
UL CM
CSA CMH FT1

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMH)

Conductor Color Coding

- Chart F (page 532) for 15 through 37 conductors. Other parts, see table at right.

Materials

- Stranded tinned copper conductors
- Foam polyethylene insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6351	3	0.217	5.51	0.035	0.89
6352	4	0.231	5.87	0.035	0.89
6353	5	0.248	6.30	0.035	0.89
6354	6	0.265	6.73	0.035	0.89
6355	7	0.265	6.73	0.035	0.89
6356	8	0.282	7.16	0.035	0.89
6357	9	0.300	7.62	0.035	0.89
6358	10	0.320	8.13	0.035	0.89
6359	15	0.353	8.97	0.035	0.89
6360	25	0.432	10.97	0.035	0.89
6361	37	0.514	13.06	0.048	1.22

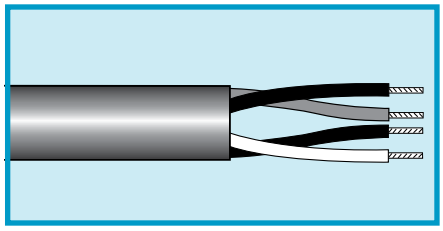
Mutual capacitance: 12 pF/ft (39.4 pF/m)
Ground capacitance: 22 pF/ft (72.2 pF/m)

Color Coding

1 Black	5 Brown	9 Violet
2 White	6 Blue	10 Slate
3 Red	7 Orange	
4 Green	8 Yellow	

Communication and Control

300 V Unshielded, Multipair, PVC, PVC



UL AWM 2464, 2576 VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart A (page 528)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Slate PVC jacket

Availability

1000 ft (305 m)

22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1300C	1	0.157	3.99	0.032	0.81
1302C	2	0.215	5.46	0.032	0.81
1304C	3	0.226	5.74	0.032	0.81
1305C	4	0.246	6.25	0.032	0.81
1306C	5	0.267	6.78	0.032	0.81
1307C	6	0.289	7.34	0.032	0.81
1308/11C	11	0.362	9.19	0.032	0.81
1309C	13	0.382	9.70	0.032	0.81
1310C	16	0.414	10.52	0.032	0.81
1313C	27	0.537	13.64	0.040	1.02

UL AWM 2576

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1317C	2	0.231	5.87	0.032	0.81
1318C	3	0.244	6.20	0.032	0.81
1319C	4	0.265	6.73	0.032	0.81
1320C	5	0.289	7.34	0.032	0.81
1322C	6	0.320	8.13	0.035	0.89
1323C	9	0.371	9.42	0.035	0.89
1324C	11	0.401	10.19	0.035	0.89
1325C	12	0.414	10.52	0.035	0.89
1327C	15	0.460	11.68	0.040	1.02
1327/19C	19	0.493	12.52	0.040	1.02

UL AWM 2464

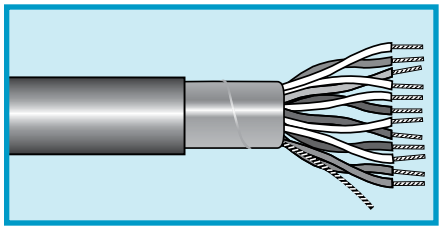
18AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1131C	1	0.225	5.72	0.032	0.81
1132C	2	0.332	8.43	0.035	0.89
1133C	3	0.356	9.04	0.037	0.94
1134C	4	0.396	10.06	0.040	1.02
1135C	5	0.444	11.28	0.045	1.14
1136C	6	0.484	12.29	0.045	1.14
1138C	8	0.534	13.56	0.050	1.27
1139C	9	0.584	14.83	0.055	1.40
1149C	19	0.791	20.09	0.070	1.78

Communication and Control

300 V Overall Foil Shield, Multipair, SR-PVC, PVC



UL AWM 2464
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart K (page 529)

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5471C	1	0.156	3.96	0.032	0.81
5472C	2	0.212	5.38	0.032	0.81
5473C	3	0.224	5.69	0.032	0.81
5474C	4	0.243	6.17	0.032	0.81
5475C	5	0.270	6.86	0.035	0.89
5476C	6	0.292	7.42	0.035	0.89
5477C	7	0.292	7.42	0.035	0.89
5478C	8	0.316	8.03	0.035	0.89
5479C	9	0.343	8.71	0.037	0.83
5480C	10	0.373	9.47	0.040	1.02
5480/15C	15	0.415	10.54	0.040	1.02
5480/19C	19	0.445	11.30	0.040	1.02
5480/25C	25	0.527	13.39	0.045	1.14
5480/50C *	50	0.699	17.75	0.053	1.35

*Color code chart C.

Individually Shielded, 22 AWG (0.35 mm²), 7/30 (7 x .025) Tinned Copper Drain Wire
UL VW-1

20 AWG (0.56 mm²)

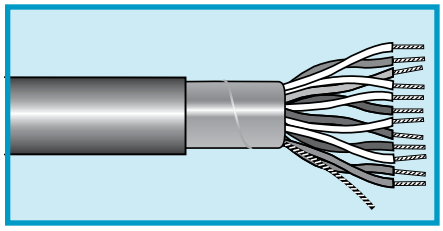
Stranding: 7/28 (7 x 0.33 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6416	2	0.295	7.49	0.041	1.04

Mutual capacitance: 55 pF/ft (180 pF/m)
Ground capacitance: 95 pF/ft (312 pF/m)

Communication and Control

300 V Overall Foil Shield, Multipair, PVC, PVC



UL AWM 2464 VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart K (page 529)

Materials

- Solid tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

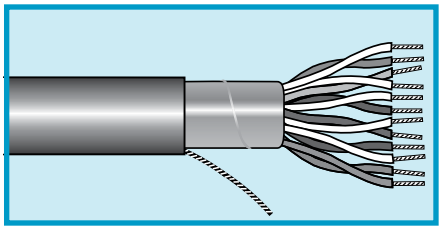
22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.013 (0.33 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
5902C	2	0.238	6.05	0.032	0.81
5905C	4	0.273	6.93	0.032	0.81
5906C	6	0.329	8.36	0.035	0.89
5909C	9	0.385	9.78	0.037	0.94
5909/15C	15	0.471	11.96	0.040	1.02
5909/19C	19	0.506	12.85	0.040	1.02

Communication and Control

150 and 300 V Overall Foil Shield, Multipair, PVC, PVC



UL AWM 2576 VW-1 (150 V)
UL AWM 2464 VW-1 (300 V)
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart A (page 528)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

150 V, AWM 2576

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2211C	1	0.168	4.27	0.032	0.81
2212C	2	0.232	5.89	0.032	0.81
2213C	3	0.245	6.22	0.032	0.81
2214C	4	0.266	6.76	0.032	0.81
2215C	5	0.290	7.37	0.032	0.81
2216C	6	0.315	8.00	0.032	0.81
2219C	9	0.372	9.45	0.035	0.89
2219/12C	12	0.415	10.54	0.035	0.89
2219/15C	15	0.451	11.46	0.035	0.89
2219/19C	19	0.494	12.55	0.040	1.02
2219/23C	23	0.545	13.84	0.040	1.02
2219/27C	27	0.589	14.96	0.040	1.02

300 V, AWM 2464

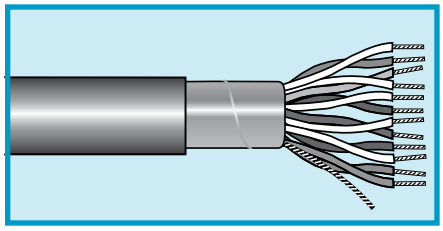
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2241C	1	0.226	5.74	0.032	0.81
2242C	2	0.333	8.46	0.035	0.89
2243C	3	0.357	9.07	0.037	0.94
2244C	4	0.397	10.08	0.040	1.02
2245C	5	0.445	11.30	0.045	1.14
2246C	6	0.485	12.32	0.045	1.14
2249C	9	0.585	14.86	0.055	1.40
2249/12C	12	0.652	16.56	0.055	1.40
2249/19C	19	0.792	20.12	0.070	1.78

Communication and Control

300 V Overall Foil Shield, Multipair, PVC, PVC



UL PLTC/CM
UL VW-1
UL Sunlight Resistant
CSA CMG FT4

Operating Temperature

- -20°C to +105°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Black and red pairs, numbered

Materials

- Stranded tinned copper conductors
- PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire, 24 AWG (0.22 mm²), 7/32 (7 x 0.20)
- Slate PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.013 (0.33 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6417	2	0.267	6.78	0.038	0.97
6418	3	0.291	7.39	0.043	1.09
6419	4	0.315	8.00	0.043	1.09
6420	6	0.370	9.40	0.043	1.09
6421	9	0.447	11.35	0.053	1.35
6422	11	0.480	12.19	0.053	1.35
6423	15	0.545	13.84	0.053	1.35
6424	19	0.593	15.06	0.063	1.60
6425	27	0.698	17.73	0.063	1.60
6426	51	0.914	23.22	0.075	1.91

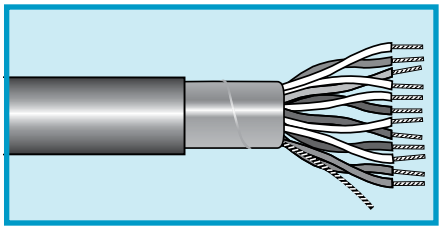
18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6427	2	0.362	9.19	0.043	1.09
6428	3	0.403	10.24	0.053	1.35
6429	4	0.438	11.13	0.053	1.35
6430	6	0.518	13.16	0.053	1.35
6431	9	0.622	15.80	0.063	1.60
6432	11	0.671	17.04	0.063	1.60
6433	15	0.751	19.08	0.063	1.60

Communication and Control

300 V Overall Foil Shield, Multipair, HDPE, PVC Low Capacitance, Extended Distance Cable



UL AWM 2919 (30 V) VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart M (page 530)

Materials

- Stranded tinned copper conductors
- High-density polyethylene insulation
- Aluminum/polyester/aluminum foil shield, 25% overlap min. Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

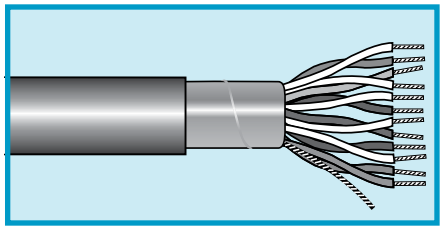
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6083C	3	0.235	5.97	0.035	0.89
6084C	4	0.254	6.45	0.035	0.89
6087C	7	0.297	7.54	0.035	0.89
6089C	9	0.342	8.69	0.035	0.89
6089/18C	18	0.440	11.18	0.035	0.89

Characteristic impedance: 100 ohms
Mutual capacitance: 15 pF/ft (49.2 pF/m)
Ground capacitance: 27 pF/ft (88.6 pF/m)

Communication and Control

300 V Overall Foil Shield, Multipair, PE, PVC Low Capacitance Data Cable



UL AWM 2919 (30 V) VW-1
UL CM
CSA CMH FT1

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMH)

Conductor Color Coding

- Chart M (page 530)

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

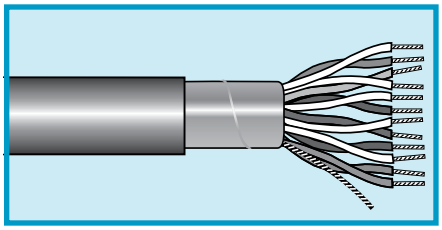
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6301	6	0.351	8.92	0.035	0.89
6304	12.5	0.455	11.56	0.035	0.89

Characteristic impedance: 120 ohms
Mutual capacitance: 12.8 pF/ft (42 pF/m)
Ground capacitance: 23 pF/ft (75.4 pF/m)

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

300 V Overall Foil Shield, Multipair, FPP, PVC Low Capacitance Data Cable



UL AWM 2919 (30 V) VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart A (page 528)

Materials

- Stranded tinned copper conductors
- Foam polypropylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6202C	2	0.258	6.55	0.035	0.89
6203C	3	0.272	6.91	0.035	0.89
6204C	4.5*	0.304	7.72	0.035	0.89
6205C	5	0.323	8.20	0.035	0.89
6206C	6	0.351	8.92	0.035	0.89
6207C	7	0.351	8.92	0.035	0.89
6208C	8	0.379	9.63	0.035	0.89
6209C	9	0.408	10.36	0.035	0.89
6210C	10	0.441	11.20	0.035	0.89
6210/12C	12.5*	0.455	11.56	0.035	0.89
6210/15C	15	0.496	12.60	0.035	0.89
6210/18C	18.5*	0.554	14.07	0.050	1.27
6210/25C	25	0.655	16.64	0.050	1.27

*Single conductor colors: 4.5 = black, 12.5 = red, 18.5 = white

Characteristic impedance: 105 ohms
Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 22 pF/ft (72 pF/m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

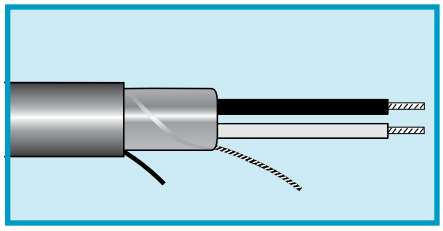
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6212C	2	0.304	7.72	0.035	0.89
6213C	3	0.322	8.18	0.035	0.89
6216C	6	0.420	10.67	0.035	0.89
6217C	7	0.420	10.67	0.035	0.89
6218C	8	0.456	11.58	0.035	0.89
6220C	10	0.563	14.30	0.050	1.27
6220/12C	12.5*	0.580	14.73	0.050	1.27
6220/15C	15	0.631	16.03	0.050	1.27
6220/18C	18.5*	0.667	16.94	0.050	1.27
6220/25C	25	0.793	20.14	0.050	1.27

*Single conductor colors: 12.5 = red, 18.5 = white

Characteristic impedance: 105 ohms
Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 22 pF/ft (72 pF/m)

Communication and Control

600 V Overall Foil Shield, Multipair, PE, PVC



UL AWM 2106 VW-1

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Black, clear

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire one even AWG size smaller than conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2471	1	0.314	7.98	0.035	0.89

Mutual capacitance: 20.5 pF/ft (67.3 pF/m)
Ground capacitance: 37 pF/ft (121.4 pF/m)

14 AWG (1.94 mm²)

Stranding: 19/27 (19 x 0.36 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2472	1	0.344	8.74	0.035	0.89

Mutual capacitance: 22.7 pF/ft (74.5 pF/m)
Ground capacitance: 41 pF/ft (134.5 pF/m)

12 AWG (3.08 mm²)

Stranding: 19/25 (19 x 0.45 mm)
Insulation thickness: 0.037 (0.94 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2473	1	0.412	10.46	0.040	1.02

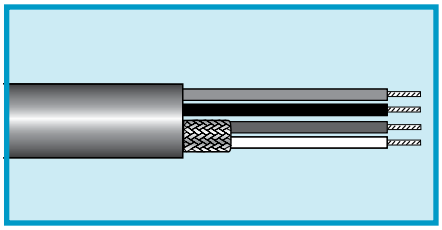
Mutual capacitance: 23.9 pF/ft (78.4 pF/m)
Ground capacitance: 43 pF/ft (141.1 pF/m)

UL LISTED CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

400 V Multiconductor, Multipair, PE, PVC Foil Shielded Pairs and Overall Foil Shield



25 AWG (0.18 mm²)

Stranding: 3/33 TC +4/33 TCW (3 x 0.18 +4 x 0.18 mm)
Insulation thickness: 0.013 (0.33 mm)

Part No.	Conductors	Pairs	Nominal Diameter		Jacket Thickness	
			Inch	mm	Inch	mm
2468	2	1	0.165	4.19	0.020	0.51

Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Conductors: 1 White, 2 Green
  Pair: Black-Red

Materials

- Stranded tinned and steel-coated copper conductors
- Polyethylene insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire, 25 AWG (0.18 mm²), 7/33 (7 x 0.18 mm)
- Slate PVC jacket

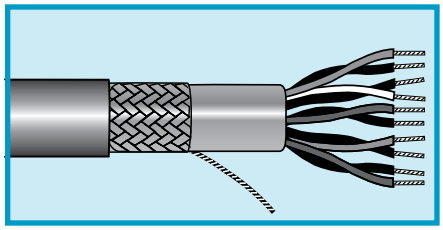
Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

CA PROP 65 RoHS Compliant

Communication and Control

300 V Overall Foil/Braid Shield, Multipair, SR-PVC, PVC



UL AWM 2464 VW-1
UL CL2
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CL2)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart A (page 528)

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

28 AWG (0.09 mm²)

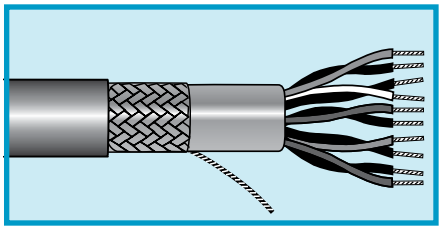
Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness		Availability
		Inch	mm	Inch	mm	Ft
3472C	2	0.211	5.36	0.035	0.89	100
3474C	4	0.235	5.97	0.035	0.89	100
3475C	5	0.258	6.55	0.035	0.89	100, 1000
3476C	6	0.275	6.99	0.035	0.89	100
3477C	7	0.275	6.99	0.035	0.89	100
3480C	10	0.332	8.43	0.035	0.89	100, 500, 1000
3480/12C	12.5	0.342	8.69	0.035	0.89	100, 500, 1000
3480/18C	18	0.389	9.88	0.035	0.89	100, 500, 1000
3480/25C	25	0.446	11.33	0.035	0.89	100, 500, 1000

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

300 V Overall Foil/Braid Shield, Multipair, SR-PVC, PVC



UL AWM 2464 VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- See tables

Materials

- Stranded tinned copper conductors
- Semirigid PVC insulation
- Foil + braid shield
  Aluminum/polyester foil, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire, 24 AWG (0.23 mm²), 7/32 (7 x 0.20 mm)
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
6362	2	0.234	5.94	0.032	0.81	M
6363	3	0.246	6.25	0.032	0.81	M
6364	4	0.265	6.73	0.032	0.81	M
6365	5	0.286	7.26	0.032	0.81	M
6366	6	0.308	7.82	0.032	0.81	M
6367	7	0.308	7.82	0.032	0.81	M
6368	10	0.379	9.63	0.032	0.81	M
6369	12.5	0.389	9.62	0.032	0.81	M
6370	15	0.421	10.69	0.032	0.81	M
6371	18	0.451	11.46	0.032	0.81	M
6372	25	0.523	13.28	0.032	0.81	M

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25mm)
Insulation thickness: 0.010 (0.25 mm)

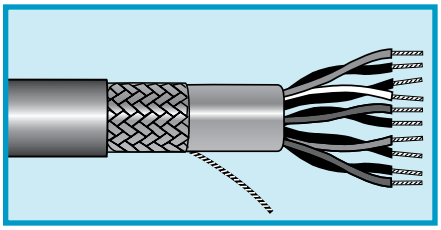
Part No.	Pairs	Nominal Diameter		Jacket Thickness		Color Code
		Inch	mm	Inch	mm	
6373	2	0.254	6.45	0.032	0.81	A
6374	3	0.267	6.78	0.032	0.81	A
6375	4	0.288	7.32	0.032	0.81	A
6376	5	0.312	7.92	0.032	0.81	Chart below
6377	6	0.337	8.56	0.032	0.81	A
6378	7	0.337	8.56	0.032	0.81	A
6379	8	0.363	9.22	0.032	0.81	Chart below
6380	10	0.418	10.62	0.032	0.81	A
6381	12.5	0.430	10.92	0.032	0.81	A
6382	15	0.467	11.86	0.032	0.81	A
6383	18	0.500	12.70	0.032	0.81	A
6384	25	0.595	15.11	0.032	0.81	A

Color Code Chart (Part No. 6376 and 6379)

Pair No.	Color	Pair No.	Color
1	Black, Red	5	Black, Yellow
2	Black, White	6	Black, Brown
3	Black, Green	7	Black, Orange
4	Black, Blue	8	Red, White

Communication and Control

300 V Overall Foil/Braid Shield, Multipair, PE, PVC Low Capacitance Data Cable



UL AWM 2960 VW-1
UL CL2
CSA CMH FT1

Operating Temperature

- -20°C to +75°C (CL2)
- -20°C to +60°C (AWM, CMH)

Conductor Color Coding

- Chart K (page 529)

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Foil + braid shielding
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

28 AWG (0.089 mm²)

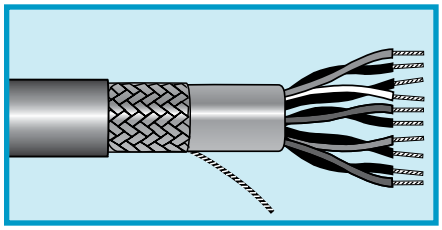
Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6390	2	0.211	5.36	0.035	0.89
6391	3	0.220	5.59	0.035	0.89
6392	4	0.235	5.97	0.035	0.89
6393	5	0.252	6.40	0.035	0.89
6394	7	0.269	6.83	0.035	0.89
6395	9	0.305	7.75	0.035	0.89
6396	12	0.335	8.51	0.035	0.89
6397	13	0.341	8.66	0.035	0.89
6398	18	0.383	9.73	0.035	0.89
6399	25	0.440	11.18	0.035	0.89
6400	31	0.470	11.94	0.035	0.89

Characteristic impedance: 100 ohms
Mutual capacitance: 15.5 pF/ft (50.9 pF/m)
Ground capacitance: 27.5 pF/ft (90.2 pF/m)

Communication and Control

300 V Overall Foil/Braid Shield, Multipair, PE, PVC Low Capacitance Data Cable



UL AWM 2919 VW-1
UL CM
CSA CM FT1

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)

Conductor Color Coding

- Chart M (page 530)

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Foil + braid shielding
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% or 90% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)
65% braid coverage

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6401	2	0.280	7.11	0.035	0.89
6402	3	0.294	7.47	0.035	0.89
6403	4	0.318	8.08	0.035	0.89
6404	5	0.345	8.76	0.035	0.89
6405	6	0.373	9.47	0.035	0.89
6406	7	0.373	9.47	0.035	0.89
6407	9	0.430	10.92	0.035	0.89
6408	10	0.463	11.76	0.035	0.89
6409	12	0.478	12.14	0.035	0.89
6410	18	0.580	14.73	0.047	1.19
6411	25	0.671	17.04	0.047	1.19

Characteristic impedance: 100 ohms
Mutual capacitance: 15.5 pF/ft (50.9 pF/m)
Ground capacitance: 27.5 pF/ft (90.2 pF/m)

24 AWG (0.23 mm²)

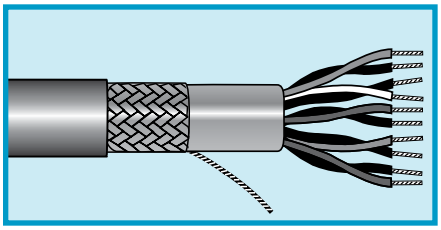
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)
90% braid coverage

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6412	1	0.208	5.28	0.035	0.89
6413	2	0.280	7.11	0.035	0.89
6414	3	0.294	7.47	0.035	0.89
6415	4	0.318	8.08	0.035	0.89

Characteristic impedance: 120 ohms
Mutual capacitance: 12.8 pF/ft (42 pF/m)
Ground capacitance: 23 pF/ft (75.5 pF/m)

Communication and Control

300 V Overall Foil/Braid Shield, Multipair, FPP, PVC Low Capacitance Data Cable



UL AWM 2919 (30 V) VW-1
UL CL2
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CL2)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart M (page 530)

Materials

- Stranded tinned copper conductors
- Foam polypropylene insulation
- Foil + braid shielding
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

28 AWG (0.089 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.013 (0.33 mm)

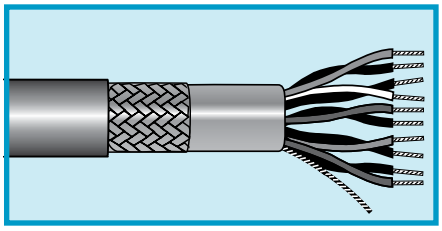
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
3492C	2	0.230	5.84	0.035	0.89
3493C	3	0.241	6.12	0.035	0.89
3494C	4	0.265	6.73	0.035	0.89
3495C	5	0.284	7.21	0.035	0.89
3496C	6	0.305	7.75	0.035	0.89
3498C	8	0.326	8.28	0.035	0.89
3500/12C	12.5	0.381	9.67	0.035	0.89
3500/18C	18	0.439	11.15	0.035	0.89
3500/25C	25	0.531	13.49	0.048	1.22

Mutual capacitance: 12 pF/ft (39.3 pF/m)
Ground capacitance: 20 pF/ft (65.5 pF/m)

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

300 V Overall Foil/Braid Shield, Multipair, FPP, PVC Low Capacitance Data Cable



UL AWM 2919 (30 V) VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart M (page 530)

Materials

- Stranded tinned copper conductors
- Foam polypropylene insulation
- Foil + braid shielding
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

24 AWG (0.23 mm²)

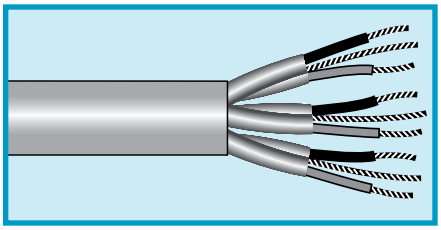
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6222C	2	0.280	7.11	0.035	0.89
6223C	3	0.294	7.47	0.035	0.89
6224C	4	0.318	8.08	0.035	0.89
6225C	5	0.345	8.76	0.035	0.89
6226C	6	0.373	9.47	0.035	0.89
6227C	7	0.373	9.47	0.035	0.89
6228C	8	0.401	10.19	0.035	0.89
6230C	10	0.463	11.76	0.035	0.89
6230/12C	12.5	0.477	12.12	0.035	0.89
6230/15C	15	0.518	13.16	0.035	0.89
6230/18C	18	0.586	14.88	0.050	1.27
6230/25C	25	0.677	17.20	0.050	1.27

Characteristic impedance: 105 ohms
Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 22 pF/ft (72 pF/m)

Communication and Control

300 V Individually Foil Shielded Pairs, Multipair, PVC, PVC



UL AWM 2919 (30 V) VW-1
UL CL2
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart A (page 528)

Materials

- Stranded tinned copper conductors
- PVC insulation
- Individual aluminum/polyester foil shield, 25% overlap min. Foil facing inward Stranded tinned copper drain wire
- PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6052C	2	0.316	8.03	0.043	1.09
6053C	3	0.334	8.48	0.043	1.09
6054C	4	0.364	9.25	0.043	1.09
6056C	6	0.451	11.46	0.053	1.35
6059C	9	0.522	13.26	0.053	1.35
6059/11C	11	0.581	14.76	0.053	1.35
6059/15C	15	0.644	16.36	0.053	1.35
6059/19C	19	0.698	17.73	0.063	1.60
6059/27C	27	0.828	21.03	0.063	1.60

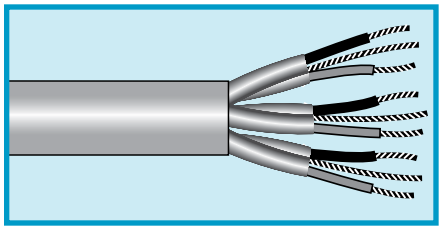
18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
20 AWG (0.51 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6062C	2	0.376	9.55	0.043	1.09
6063C	3	0.418	10.62	0.053	1.35
6064C	4	0.456	11.58	0.053	1.35
6066C	6	0.541	13.74	0.053	1.35
6069C	9	0.650	16.51	0.063	1.60
6069/15C	15	0.804	20.42	0.063	1.60

Communication and Control

300 V Individually Foil Shielded Pairs, Multipair, PP, PVC



UL 2493 VW-1
UL CM, CMG
CSA CMG FT4

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60°C (AWM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart A (page 528)

Materials

- Solid or stranded tinned copper conductors
- Polypropylene insulation
- Individual aluminum/polyester foil shield, 25% overlap min. Foil facing inward
  Solid or stranded tinned copper drain wire, 22 AWG (0.35 mm²), 7/30 (7 x 0.25 mm)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness		UL
		Inch	mm	Inch	mm	
6000C	3	0.278	7.06	0.047	1.19	CM
6008C	15	0.492	12.50	0.047	1.19	CM

Characteristic impedance: 62 ohms
Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 45 pF/ft (147 pF/m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness		UL
		Inch	mm	Inch	mm	
6010C	3	0.298	7.57	0.048	1.22	CMG
6012C	6	0.378	9.60	0.048	1.22	CMG
6014C	9	0.436	11.07	0.048	1.22	CMG
6016C	11	0.483	12.27	0.048	1.22	CMG
6017C	12	0.483	12.27	0.048	1.22	CMG
6018C	15	0.565	14.35	0.063	1.60	CM
6019C	17	0.593	15.06	0.063	1.60	CM
6020C	19	0.593	15.06	0.063	1.60	CM
6022C	27	0.698	17.73	0.063	1.60	CM

Characteristic impedance: 55 ohms
Mutual capacitance: 28 pF/ft (91.9 pF/m)
Ground capacitance: 50 pF/ft (164 pF/m)

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.33 mm)
Insulation thickness: 0.013 (0.33 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness		UL
		Inch	mm	Inch	mm	
6032C	2	0.331	8.41	0.047	1.19	CMG
6033C	3	0.349	8.86	0.047	1.19	CMG
6036C	6	0.450	11.43	0.047	1.19	CMG
6039C	9	0.555	14.10	0.063	1.60	CMG
6042C	12	0.615	15.62	0.063	1.60	CMG

Characteristic impedance: 61 ohms
Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 45 pF/ft (147.6 pF/m)

18 AWG (0.81 mm²)

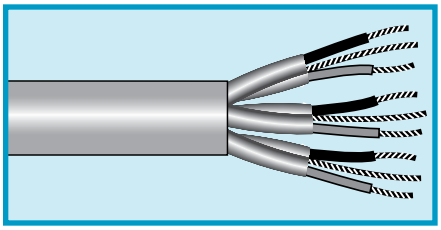
Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness		UL
		Inch	mm	Inch	mm	
6023C	3	0.406	10.31	0.047	1.19	CM
6024C	6	0.561	14.25	0.063	1.60	CM
6025C	9	0.650	16.51	0.063	1.60	CM

Characteristic impedance: 59 ohms
Mutual capacitance: 26 pF/ft 85.3 pF/m)
Ground capacitance: 47 pF/ft (154.2 pF/m)

Communication and Control

300 V Individually Foil Shielded Pairs, Multipair, PVC, PVC



UL PLTC
UL CM
UL VW-1
CSA CMG FT4

Operating Temperature

- -20°C to +105°C (PLTC, CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Black and red pairs, numbered

Materials

- Stranded tinned copper conductors
- PVC insulation
- Individual aluminum/polyester foil shield, 25% overlap min. Foil facing inward Stranded tinned copper drain wire
- Slate PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.013 (0.33 mm)
24 AWG (0.23 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6434	2	0.295	7.49	0.043	1.09
6435	3	0. 311	7.89	0.043	1.09
6436	4	0.338	8.58	0.043	1.35
6437	6	0.420	10.66	0.053	1.35
6438	9	0.484	12.29	0.053	1.35
6439	11	0.537	13.63	0.053	1.35
6440	19	0.646	16.40	0.063	1.60
6441	51	1.020	25.90	0.075	1.91

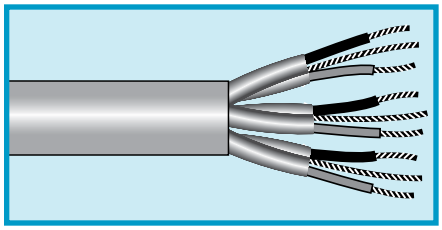
18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6442	2	0.406	10.31	0.053	1.35
6443	3	0.429	10.90	0.053	1.35
6444	4	0.468	11.89	0.053	1.35
6445	6	0.557	14.15	0.053	1.35
6446	9	0.669	16.99	0.063	1.60
6447	11	0.746	18.95	0.063	1.60
6448	15	0.829	21.06	0.063	1.60

Communication and Control

350 V Individually Foil Shielded Pairs, Multipair, PP, PE Direct Burial



Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- Chart A (page 528)

Materials

- Stranded tinned copper conductors
- Polypropylene insulation
- Individual aluminum/polyester foil shield, 25% overlap min. Foil facing inward
  Stranded tinned copper drain wire, 22 AWG (0.35 mm²), 7/30 (7 x 0.25 mm)
- Black polyethylene jacket

Availability

1000 ft (305 m)
500 ft (152 m)

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.008 (0.20 mm)

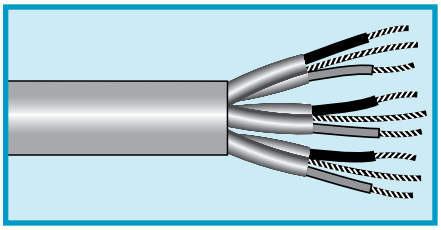
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6314	3	0.291	7.39	0.040	1.02
6315	6	0.385	9.78	0.045	1.14

Characteristic impedance: 48 ohms
Mutual capacitance: 31 pF/ft (101.7 pF/m)
Ground capacitance: 56 pF/ft (183.7 pF/m)

CA PROP 65 RoHS Compliant

Communication and Control

300 V Individually Foil Shielded Pairs, Multipair, PE, PVC



UL AWM 2919 (30 V) VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +80°C (AWM)
- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

- Chart A (page 528)

Materials

- Stranded tinned copper conductors
- Polyethylene insulation
- Individual aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire equal in size to conductor
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

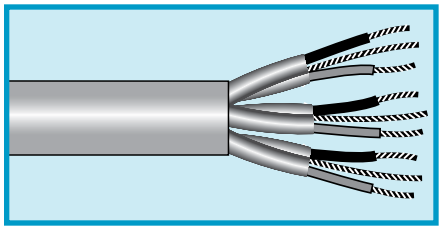
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6385	3	0.247	6.27	0.035	0.89
6386	6	0.317	8.05	0.035	0.89
6387	9	0.368	9.35	0.035	0.89
6388	12	0.411	10.44	0.035	0.89
6389	25	0.599	15.21	0.047	1.19

Characteristic impedance: 60 ohms
Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 47 pF/ft (154.2 pF/m)

Communication and Control

300 V Individually Foil Shielded Pairs, Multipair, PP, PVC



UL CMG
CSA CMG FT4

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60°C (CMG)

Conductor Color Coding

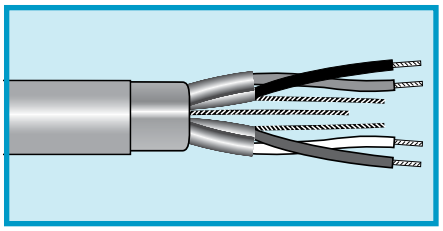
- See tables

Materials

- Stranded tinned copper conductors
- Polypropylene insulation
- Individual aluminum/polyester foil shield, 25% overlap min. Stranded tinned copper drain wire (see tables for sizes)
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)



Individually Shielded Pairs

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
24 AWG (0.22 mm²) drain wire
Foil facing outward

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2466C	2	0.170	4.32	0.020	0.51

Characteristic impedance: 60 ohms
Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 45 pF/ft (147.6 pF/m)

Color code: 1 Red-Black, 2 Green-White.

Individually Shielded Pairs, UL CM

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.008 (0.20 mm)
24 AWG (0.22 mm²) drain wire
Foil facing outward

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2463C	4	0.230	5.84	0.020	0.51

Characteristic impedance: 53 ohms
Mutual capacitance: 29 pF/ft (95.1 pF/m)
Ground capacitance: 52 pF/ft (170.6 pF/m)

Color code: 1 Red-Black, 2 Green-White, 3 White/Red-White/Black, 4 White/Green-White/Yellow.

Individually Shielded Pairs

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.015 (0.38 mm)
22 AWG (0.35 mm²) drain wire
Foil facing inward

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
2467C	4	0.340	8.64	0.030	0.76

Characteristic impedance: 66 ohms
Mutual capacitance: 23 pF/ft (75.5 pF/m)
Ground capacitance: 41 pF/ft (134.5 pF/m)

Color code: 1 Red-Black, 2 Green-White, 3 White/Red-White/Black, 4 White/Green-White/Yellow.

Individually Shielded Pairs +Overall Shield, AWM 2717

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.009 (0.23 mm)
22 AWG (0.35 mm²) drain wire
Foil facing inward

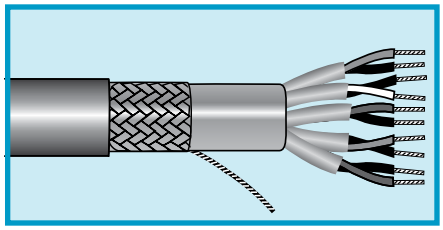
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1243/2C	2	0.245	6.22	0.030	0.76

Characteristic impedance: 57 ohms
Mutual capacitance: 27 pF/ft (88.6 pF/m)
Ground capacitance: 49 pF/ft (160.7 pF/m)

Color code: 1 Red-Black, 2 Green-White.

Communication and Control

300 V Individually Foil Shielded Pairs and Overall Foil/Braid, Multipair, FPE, PVC, Low Capacitance Data Cable



UL AWM 2493 VW-1
UL CM
CSA CM FT1

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60°C (AWM, CMG)

Conductor Color Coding

- Chart A (page 528)
- (See table at right for Part No. 6319 and 6322)

Materials

- Stranded tinned copper conductors
- Foam polyethylene insulation
- Individual aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire, 24 AWG (0.23 mm²), 7/32 (7 x 0.20 mm)
- Overall foil + braid shielding
  Aluminum/polyester foil, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire equal in size to conductor
  Tinned copper braid, 65% coverage
- Slate PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.019 (0.49 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
6316	2	0.349	8.86	0.048	1.22
6317	3	0.353	8.97	0.048	1.22
6318	4	0.397	10.08	0.048	1.22
6319*	5	0.430	10.92	0.048	1.22
6320	6	0.464	11.79	0.048	1.22
6321	7	0.464	11.79	0.048	1.22
6322*	8	0.499	12.67	0.048	1.22
6323	10	0.606	15.39	0.063	1.60
6324	15	0.687	17.45	0.063	1.60
6325	18	0.721	18.31	0.063	1.60
6326	25	0.901	22.89	0.085	2.16

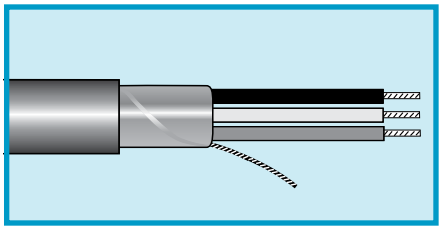
Characteristic impedance: 100 ohms
Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 22 pF/ft (72.2 pF/m)

***Color Code**

Pair No.	Color	Pair No.	Color
1	Black, Red	5	Black, Yellow
2	Black, White	6	Black, Brown
3	Black, Green	7	Black, Orange
4	Black, Blue	8	Red, White

Communication and Control

300 V Foil Shield, Multiconductor, PVC, PVC Plenum Rated



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- -5°C to +75°C

Conductor Color Coding

- Chart D2 (page 531)

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Foil shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see tables for size)
- Slate plenum-rated PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.008 (0.020 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58401	2	0.120	3.05	0.015	0.39
57003	3	0.120	3.05	0.015	0.39
57004	4	0.131	3.33	0.015	0.39
57006	6	0.154	3.91	0.015	0.39
57008	8	0.167	4.24	0.015	0.39
57010	10	0.194	4.93	0.015	0.39
57015	15	0.217	5.51	0.015	0.39
58110/25	25	0.262	6.65	0.015	0.39

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.008 (0.020 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58411	2	0.126	3.20	0.015	0.39
58113	3	0.133	3.38	0.015	0.39
58114	4	0.145	3.68	0.015	0.39
58116	6	0.172	4.37	0.015	0.39
58117	7	0.172	4.37	0.015	0.39
58118	8	0.187	4.75	0.015	0.39
58119	9	0.201	5.11	0.015	0.39
58120	10	0.218	5.54	0.015	0.39
58120/12	12	0.225	5.72	0.015	0.39
58120/15	15	0.245	6.22	0.015	0.39
58120/25	25	0.314	7.98	0.017	0.43

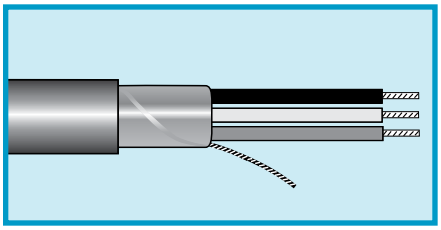
20 AWG (0.35 mm²)

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.008 (0.020 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58421	2	0.138	3.51	0.015	0.39
58124	4	0.160	4.06	0.015	0.39
58126	6	0.191	4.85	0.015	0.39

Communication and Control

300 V Foil Shield, Multiconductor, PVC, PVC Plenum Rated



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- -5°C to +75°C

Conductor Color Coding

- Chart D2 (page 531)

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Foil shield
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see tables for size)
- Slate plenum-rated PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.009 (0.023 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58431	2	0.162	4.11	0.015	0.39
58133	3	0.172	4.37	0.015	0.39
58134	4	0.189	4.80	0.015	0.39
58136	6	0.227	5.77	0.015	0.39

16 AWG (1.31 mm²)

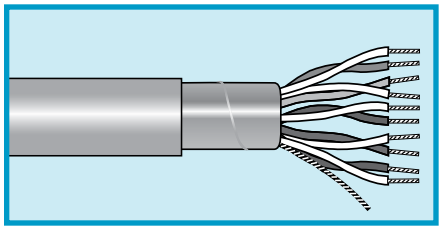
Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.009 (0.023 mm)
18 AWG (0.82 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58142	2	0.186	4.72	0.015	0.39
58144	4	0.218	5.54	0.015	0.39

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

300/150 V Foil Shield, Multipair, PVC, PVC Plenum Rated



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- -5°C to +75°C

Conductor Color Coding

- Chart A1 (page 528)

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Foil shield
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Stranded tinned copper drain wire (see tables for size)
- Slate plenum-rated PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.008 (0.020 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
57602	2	0.165	4.19	0.015	0.39
57603	3	0.175	4.45	0.015	0.39
57604	4	0.193	4.90	0.015	0.39
57605	5	0.212	5.38	0.015	0.39
57606	6	0.231	5.87	0.015	0.39

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.008 (0.020 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58412	2	0.185	4.70	0.015	0.39
58413	3	0.197	5.00	0.015	0.39
58414	4	0.217	5.51	0.015	0.39
58415	5	0.239	6.07	0.015	0.39
58416	6	0.261	6.63	0.015	0.39
57628	8	0.285	7.24	0.015	0.39
58419	9	0.311	7.90	0.016	0.41
58420/19	19	0.418	10.62	0.018	0.46

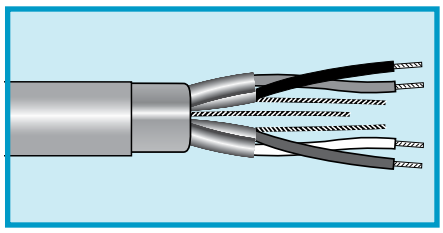
20 AWG (0.35 mm²)

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.008 (0.020 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
57632	2	0.205	5.21	0.015	0.39
57634	4	0.240	6.10	0.015	0.39
57636	6	0.291	7.39	0.015	0.39

Communication and Control

150 V Foil Shield, Multipair, FEP, PVDF
Plenum Rated, Low- and Mid-Capacitance



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- -25°C to +125°C

Conductor Color Coding

- Chart A1 (page 528)

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire, 24 AWG (0.22 mm²), 7/32 (7 x 0.20 mm)
- Slate PVDF jacket

Availability

500 ft (152 m)
1000 ft (305 m)*
*May contain multiple lengths

Individually Shielded Pairs

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58602	2	0.164	4.17	0.009	0.23
58603	3	0.175	4.45	0.009	0.23
58604	4	0.194	4.93	0.009	0.23

Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 45 pF/ft (147.6 pF/m)

Overall Shield

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58802	2	0.154	3.91	0.011	0.28
58803	3	0.163	4.14	0.011	0.28
58804	4	0.180	4.57	0.011	0.28
58806	6	0.217	5.51	0.011	0.28
58809	9	0.256	6.50	0.011	0.28
58812	12.5	0.294	7.47	0.011	0.28

Mutual capacitance: 20 pF/ft (65.6 pF/m)
Ground capacitance: 36 pF/ft (118.1 pF/m)

Overall Shield

24 AWG (0.22 mm²)

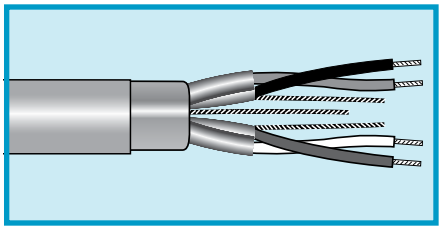
Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.012 (0.30 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58902	2	0.186	4.72	0.011	0.28
58903	3	0.199	5.05	0.011	0.28
58904	4	0.219	5.56	0.011	0.28
58906	6	0.266	6.76	0.011	0.28
58909	9	0.315	8.00	0.011	0.28
58912	12.5	0.367	9.32	0.011	0.28

Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 23 pF/ft (75.5 pF/m)

Communication and Control

150 V Foil Shield, Multipair, FEP, PVDF
Plenum Rated, Low- and Mid-Capacitance



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- -55°C to +125°C

Conductor Color Coding

- Chart A1 (page 528)

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
  Foil facing inward
  Stranded tinned copper drain wire, 24 AWG (0.22 mm²), 7/32 (7 x 0.20 mm)
- Slate PVDF jacket

Availability

500 ft (152 m)
1000 ft (305 m)*
*May contain multiple lengths

Overall Foil Shield, Individually Shielded Pairs

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58612	2	0.189	4.80	0.009	0.23
58613	3	0.202	5.13	0.009	0.23
58616	6	0.272	6.91	0.009	0.23

Mutual capacitance: 29 pF/ft (95.1 pF/m)
Ground capacitance: 51 pF/ft (167.3 pF/m)

Individually Shielded Pairs, Overall Shield

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58632	2	0.247	6.27	0.010	0.25
58633	3	0.264	6.71	0.012	0.30

Mutual capacitance: 35 pF/ft (114.8 pF/m)
Ground capacitance: 63 pF/ft (206.7 pF/m)

Individually Shielded Pairs

16 AWG (0.35 mm²)

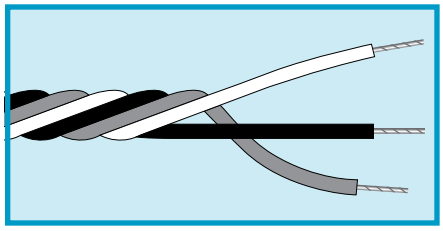
Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58642	2	0.289	7.34	0.012	0.30
58643	3	0.309	7.85	0.012	0.30

Mutual capacitance: 39 pF/ft (128 pF/m)
Ground capacitance: 69 pF/ft (226.4 pF/m)

Communication and Control

200 V Unshielded and Shielded, Multiconductor PVC, PVC Hi-Fi and Stereo Cable



Operating Temperature

- -20°C to +80°C

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green

Materials

- Stranded tinned copper conductors
- PVC insulation
- Conductors twisted in an extra tight lay

Availability

100 ft (30.5 m)
1000 ft (305 m)

32 AWG (0.03 mm²)

Stranding: 7/40 (7 x 0.08 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter	
		Inch	mm
1101	3	0.063	1.60
1102	4	0.072	1.83

30 AWG (0.05 mm²)

Stranding: 7/38 (7 x 0.10 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter	
		Inch	mm
1115	2	0.064	1.63
1116	3	0.070	1.78

Miniature Shielded Cable

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green

Materials

- Stranded tinned copper conductors
- Color-coded PVC insulation
- Tinned copper braid shield, 80% coverage
- Clear PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

28 AWG (0.09 mm²)

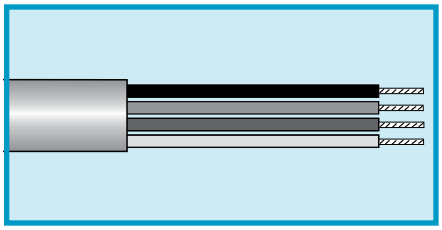
Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
1120	2	0.115	2.92	0.010	0.25
1121	3	0.120	3.05	0.010	0.25
1122	4	0.130	3.30	0.010	0.25

CA PROP 65 RoHS Compliant

Communication and Control

150 V Unshielded Multiconductor PP, PVC Silver Satin Oval Telephone Cable



Temperature Rating

- -20°C to +60°C

Conductor Color Coding

- See table

Materials

- Stranded bare copper conductors
- Polypropylene insulation
- Silver PVC jacket

Availability

328 ft (100 m), box
1000 ft (305 m), box

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.009 (0.23 mm)

Part No.	Conductors	Nominal Outer Dimension		Jacket Thickness	
		Inch	mm	Inch	mm
1604	4	0.090 x 0.190	2.28 x 4.83	0.020	0.51
1606	6	0.090 x 0.270	2.28 x 6.85	0.024	0.61
1608	8	0.090 x 0.350	2.28 x 8.89	0.024	0.61

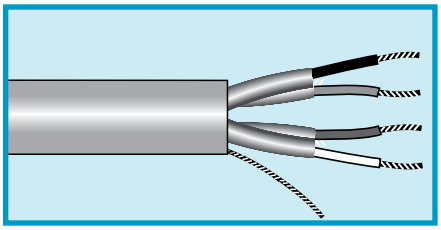
Conductor Color Coding

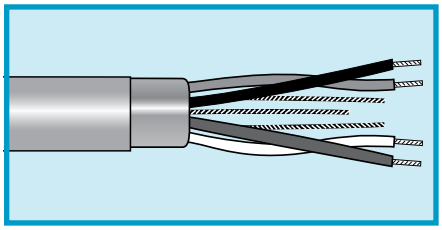
Conductor No.	1604	1606	1608
1	Black	White	Slate
2	Red	Black	Orange
3	Green	Red	Black
4	Yellow	Green	Red
5		Yellow	Green
6		Blue	Yellow
7			Blue
8			Brown

CA PROP 65 RoHS Compliant

Communication and Control

300 V Individually Foil Shielded Pairs or Overall Foil Shielded, Multipair, FPP, PVC





UL AWM 2490, 2493, 2668
VW-1
UL CM
CSA CMG FT4

Operating Temperature

- -20°C to +75°C (CM)
- -20°C to +60 (AWM, CMG)

Conductor Color Coding

- Chart K (page 529)

Materials

- Solid or stranded tinned copper conductors
- Foam polypropylene insulation
- Individual aluminum/polyester foil shield, 25% overlap min. Foil facing inward
  Stranded tinned copper drain wire, 24 AWG (0.23 mm²), 7/32 (7 x 0.20 mm)
- Slate PVC jacket (unless otherwise noted)

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

Individually Foil Shielded Pairs

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.023 (0.58)

Part No.	Pairs	Nominal Diameter		Jacket Thickness		AWM
		Inch	mm	Inch	mm	
6073C	3	0.374	9.50	0.048	1.22	2493
6076C	6	0.483	12.27	0.048	1.22	2493
6079C	9	0.597	15.16	0.065	1.65	2493
6079/11C	11	0.643	16.33	0.065	1.65	2493
6079/12C	12	0.663	16.84	0.065	1.65	2493
6079/15C	15	0.719	18.26	0.065	1.65	2493
6079/27C	27	0.962	24.43	0.087	2.21	2490

Characteristic impedance: 115 ohms
Mutual capacitance: 12 pF/ft (41 pF/m)

Overall Foil Shield

22 AWG (0.32 mm²)

Stranding: Solid
Insulation thickness: 0.023 (0.58)

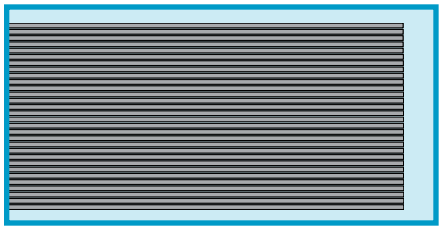
Part No.	Pairs	Nominal Diameter		Jacket Thickness		AWM
		Inch	mm	Inch	mm	
6072C*	2	0.42	9.50	0.035	0.89	2668

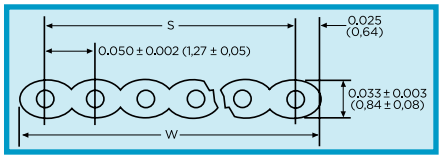
Characteristic impedance: 150 ohms
Mutual capacitance: 8.8 pF/ft (28.9 pF/m)

*Black jacket.

Communication and Control

300 V Unshielded, Flat Cable, 0.050 (1.27 mm) Centerline





UL AWM 2651, 20932 VW-1

Operating Temperature

- -20°C to +105°C

Materials

- Stranded tinned copper conductors
- Extruded PVC insulation (slate cable)
- Thermally bonded PVC with clear PVC covering (color-coded cable)

Color

- AWM 2651: slate cable, with red polarity stripe on leading edge
- AWM 20932: color-coded cable: brown, red, orange, yellow, green, blue, violet, slate, white, black . . . repeats

Electrical Characteristics

- Capacitance: 14 pF/ft (45.9 pF/m) nom. at 1 MHz
- Propagation delay: 1.4 ns/ft (4.6 ns/m) @ 0.18 ns risetime
- Impedance: 105 ohms (G-S-G configuration)
- Near-end crosstalk: 3.2%
- Far-end crosstalk: 11.5%
- Crosstalk measured on adjacent lines, 1 ns risetime, 10 ft (3.05 m) length

Availability

100 ft (30.5 m)

May contain multiple lengths

28 AWG (0.09 mm²)

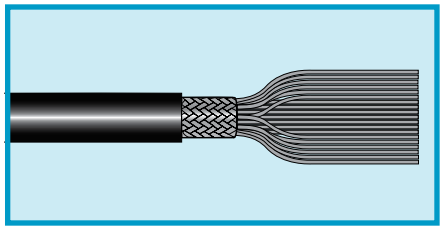
Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.		Conductors	Width (W)		Span (S)	
Slate (AWM 2651)	Color Coded (AWM 20932)		Inch	mm	Inch	mm
3580/9	**3583/9**	9	0.45	11.43	0.40	10.16
3580/10	**3583/10**	10	0.50	12.70	0.45	11.43
3580/14	**3583/14**	14	0.70	17.78	0.65	16.51
3580/15	**3583/15**	15	0.75	19.05	0.70	17.78
3580/16	**3583/16**	16	0.80	20.32	0.75	19.05
3580/20	**3583/20**	20	1.00	25.40	0.95	24.13
3580/24	**3583/24**	24	1.20	30.48	1.15	29.21
3580/25	**3583/25**	25	1.25	31.75	1.20	30.48
3580/26	**3583/26**	26	1.30	33.02	1.25	31.75
3580/34	**3583/34**	34	1.70	43.18	1.65	41.91
3580/37	**3583/37**	37	1.85	46.99	1.80	45.72
3580/40	**3583/40**	40	2.00	50.80	1.95	49.53
3580/50	**3583/50**	50	2.50	63.50	2.45	62.23
3580/60	**3583/60**	60	3.00	76.20	2.95	74.93
3580/64	**3583/64**	64	3.20	81.28	3.15	80.01

RoHS Compliant

Communication and Control

300 V Foil + Braid Shield, Round to Flat Flat Cable, 0.050 (1.27 mm) Centerline



UL AWM 20381 (300 V)
UL CL2 (150 V)

Operating Temperature

- -20°C to +105°C

Materials

- Stranded tinned copper conductors
- PVC insulation
- Foil + braid shield
  Aluminum/polyester
  Tinned copper braid
  (90% coverage)
- Black PVC jacket, 0.030 (0.08 mm) thick

Configuration

- Flat cable termination area is 0.75 (19 mm) long and occurs every 1.5 (38 mm)

Electrical Characteristics

- Capacitance: 24 pF/ft (78.7 pF/m) nom at 1 MHz
- Impedance: 70 ohms

Availability

100 ft (30.5 m)
May contain multiple lengths

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

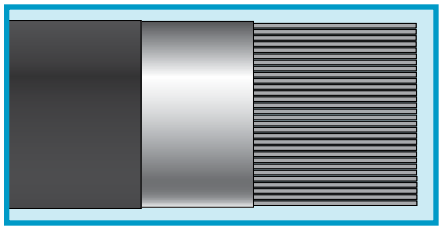
Part No.	Conductors	Nominal Diameter		Nominal Width	
		Inch	mm	Inch	mm
3585/25	25	0.34	8.64	1.20	30.48
3585/26	26	0.35	8.89	1.65	41.91
3585/40	40	0.40	10.20	1.95	49.53
3585/50	50	0.46	11.70	2.45	62.23

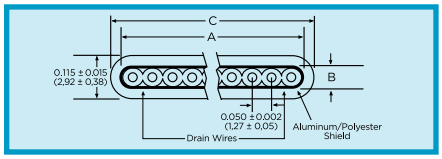
RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Communication and Control

150 V, Jacketed, Foil Shield, Flat Cable, 0.050 (1.27 mm) Centerline





UL AWM 2912
UL Type CL2

Operating Temperature

- -20°C to +105°C

Materials

- Stranded tinned copper conductors
- Extruded slate PVC insulation with red polarity stripe
- Aluminum/polyester/aluminum foil shield
  Two 28 AWG (0.09 mm²) stranded tinned copper drain wires
- Slate PVC jacket, 0.030 (0.08 mm) thick

Electrical Characteristics

- Capacitance: 20 pF/ft (65.6 pF/m) nom. at 1 MHz
- Propagation delay: 1.45 ns/ft (4.8 ns/m) at 0.18 ns risetime
- Impedance: 70 ohms
- Near-end crosstalk: 5.5%
- Far-end crosstalk: 1.6%
- Crosstalk measured on adjacent lines, 3.5 ns risetime

Availability

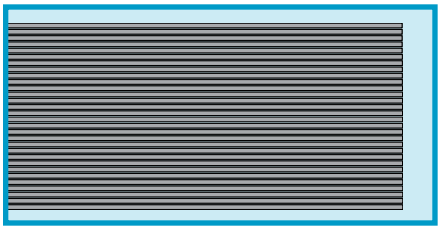
100 ft (30.5 m)
May contain multiple lengths

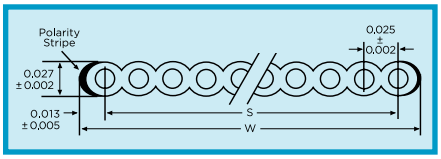
28 AWG (0.09 mm²)					
Stranding: 7/36 (7 x 0.13 mm) Insulation thickness: 0.010 (0.25 mm)					
Part No.	Conductors	Nom. Core Width (A)		Nom. Jacket Width (C)	
		Inch	mm	Inch	mm
3590/10	10	0.50	12.70	0.57	14.48
3590/14	14	0.70	17.78	0.77	19.56
3590/16	16	0.80	20.32	0.87	22.10
3590/26	26	1.30	33.02	1.37	34.80

UL LISTED RoHS Compliant

Communication and Control

150 V Unshielded, Flat Cable, 0.025 (0.64 mm) Centerline





UL AWM 2678 VW-1

Operating Temperature

- -20°C to +105°C

Color

- Slate, with red polarity stripe on leading edge

Materials

- Solid bare copper conductors
- PVC insulation

Electrical Characteristics

- Capacitance:
  24.9 pF/ft (82 pF/m) nom.
  (G-S-G) at 1 kHz
  14.3 pF/ft (47 pF/m) nom.
  (G-S) at 1 kHz
- Propagation delay: 1.52 ns/ft (4.9 ns/m)
- Impedance:
  78 ohms (G-S-G single-ended configuration)
  131 ohms nom. (G-S differential configuration)
- Skew: 0.036 ns/ft (0.12 ns/m) max

Availability

100 ft (30.5 m)
May contain multiple lengths

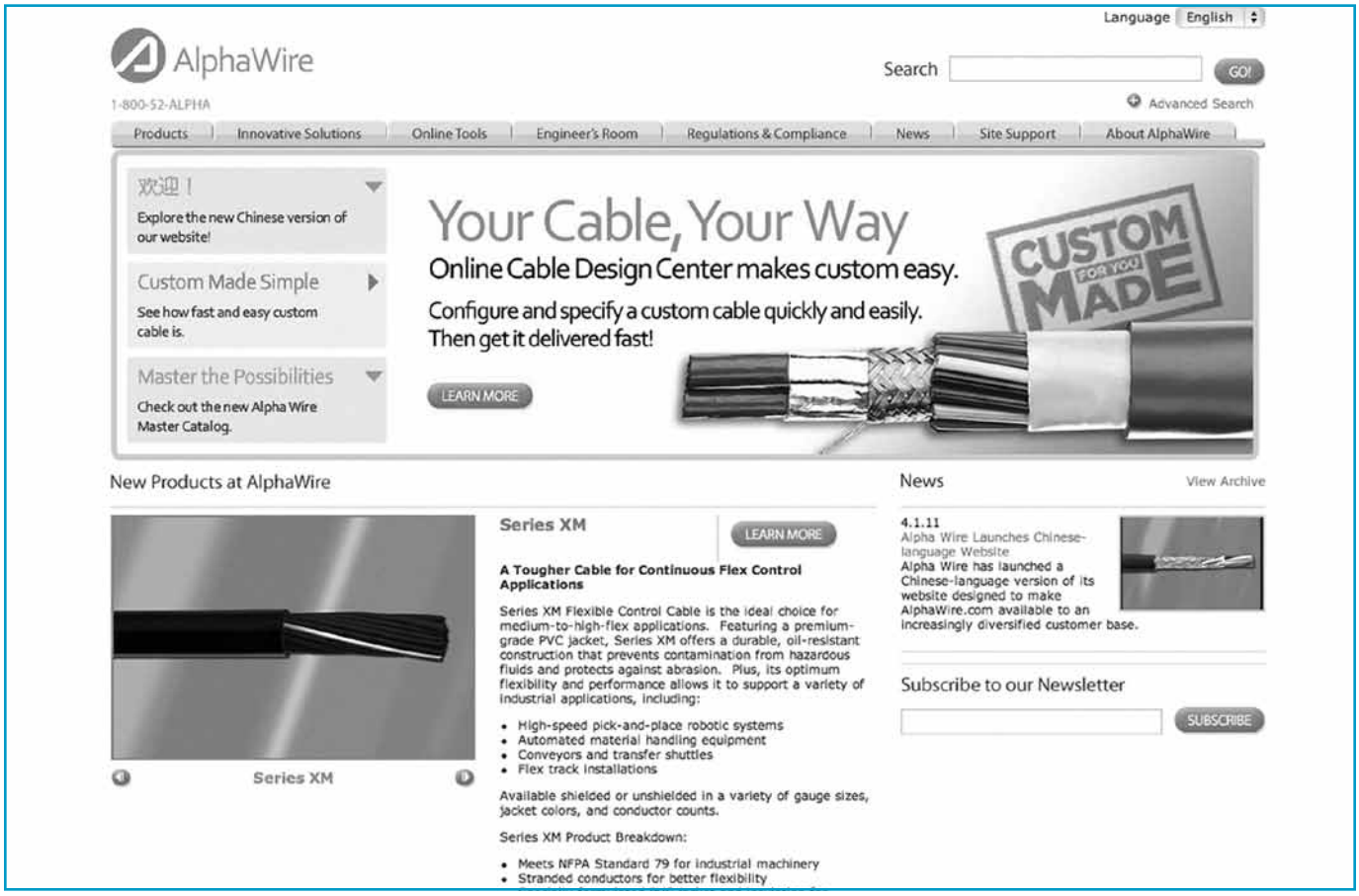
30 AWG (0.05 mm²)

Stranding: Solid
Insulation thickness: 0.013 (0.33 mm)

Part No.	Conductors	Width (W)		Span (S)	
		Inch	mm	Inch	mm
3582/26	26	0.65	16.51	0.625	15.88
3582/40	40	1.00	25.40	0.975	24.76
3582/50	50	1.25	31.75	1.225	31.15
3582/60	60	1.50	38.10	1.475	37.46

RoHS Compliant

Make AlphaWire.com your destination for all your cabling needs!



Easy to use, full of information, and designed to make the selection of wire, cable, tubing, and wire management fast and easy—the Alpha Wire website is the only source you need.

- **Search products by parameters**
- **View complete product listing**
- **Download specs**
- **Read white papers written by our industry experts**
- **Request a sample (or two!)**
- **Learn about our market-specific solution sets**
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- **Look around our "Engineer's Room"**
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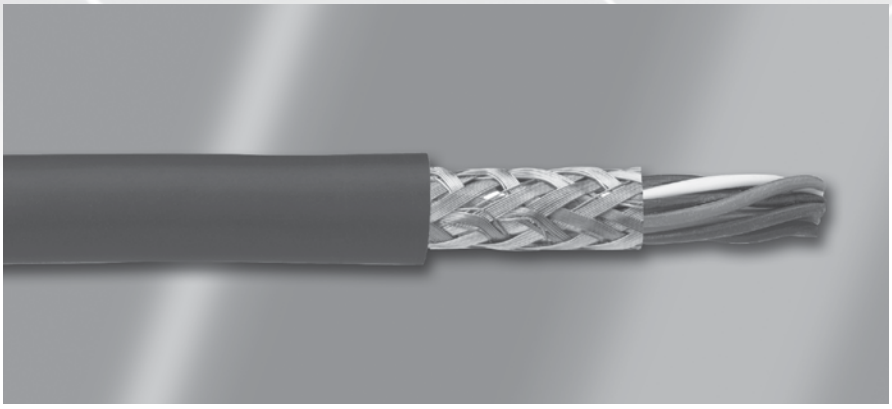
{ CONFESSION }

We've taken a shine to working down on the farm

(Our Solar Solution Set is a 24-hour per day workhorse)



For reliable, high-performance solar farms, Alpha Wire's Solar Solution Set helps engineers and installers create reliable, durable solar systems. Our solar cables and photovoltaic wire are designed for the harsh environments of solar energy applications—the hot and cold of climate extremes, ozone and UV radiation, moisture, oil, and direct burial. Our specially formulated PVC jackets provide years of reliable service by withstanding the potential environments without failing or degrading.

Regardless of your panel-to-grid needs, we have the product to satisfy it. With wire and cable in a range of gauges and conductor counts, Alpha has the solar solution. Alpha also has the accessories, from flexible conduit to heat-shrink tubing, to help you manage the system for faster installation, easier maintenance, and reliable operation.

Proven Performance, Superior Support

Alpha Wire's solar cables and photovoltaic wire are proven throughout the industry. Better still, we offer the fastest delivery so you can order what you need from our large in-stock inventory today and receive it tomorrow. To find the ideal solar cable and wire for your application, and to download our new Solar Power brochure, visit **www.alphawire.com**.

A Full Range for Power and Control

Solar Power Solution Set

- Photovoltaic wire
- Multiconductor solar cable
- Series M and Series P control cables
- Solid bus bar wires
- FIT® heat-shrink tubing
- Slit-loom and PVC flex tubing

Typical Applications

- Panel monitoring and control
- Panel to junction box
- Panel to collector
- Collector to inverter
- Grounding
- Motor supply

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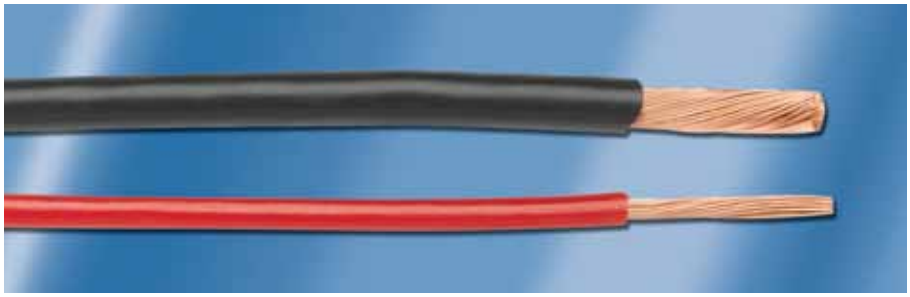
CABLE | WIRE | ACCESSORIES

Hook-Up Wire

Hook-Up Wire



The broad range of hook-up wire from Alpha means you will find the product exactly suited to your application—whether it's as straightforward as a control cabinet in a protected environment or as specialized as a machine tool on the factory floor, a high-temperature oven, or off-road construction equipment.

Our hook-up wire is available in a variety of insulations to meet your needs for temperature, ability to withstand wear and abrasion, electrical performance, or resistance to oil, solvents, and chemicals.

- **Stranded and solid copper conductors, bare or tinned, with other platings available for special application needs**
- **Broad range of insulations**
- **Color-coded insulation for easy circuit identification**
- **UL, CSA, and Mil-spec compliance**
- **Convenient put-ups as short as 100 feet**
- **Excellent uniformity and low-fray design for easy handling, stripping, and termination**

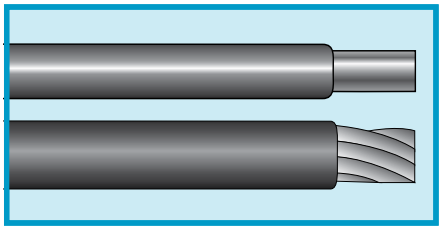
Choice of Insulations to Meet Temperature Range and Mechanical and Environmental Requirements

Insulation	Material	Temperature Range	Features
PVC	Polyvinyl chloride	-55°C to +105°C	General-purpose insulation Good abrasion resistance Excellent flame resistance
XL-PVC	Cross-linked PVC	-55°C to +105°C	Better abrasion and cut-through resistance than standard PVC Improved temperature and solder iron resistance over standard PVC Used in high-density wiring
mPPE	Modified polyphenylene ether	-40°C to +105°C	Excellent recyclability Excellent abrasion and cut-through resistance Superior dielectric properties for thinner walls than PVC—allows wires 45% smaller in diameter and 40% light in weight
PTFE	Polytetrafluoroethylene	-55°C to +200°C	High temperature Chemically inert: excellent chemical and solvent resistance Excellent electrical properties
XLPE	Cross-linked polyethylene	-55°C to +125°C	Higher temperature rating than PVC
Silicone	Silicone	-40°C to +150°C	High-voltage material Excellent flexibility Excellent dielectric strength and resistance to radiation, corona, and ozone
PDVF	Polyvinylidene fluoride	-40°C to +125°C	Widely used in wire wrap applications
ETFE	Ethylene tetrafluoroethylene	-70°C to +150°C	
TGGT	Teflon glass glass Teflon	+250°C	High-temperature applications Chemically inert: excellent chemical and solvent resistance Moisture resistant Withstands mechanical abuse and repeated flexing
MG	Mica glass	+450°C	High-temperature applications, such as heat-treating furnaces, kilns, and food service equipment Excellent thermal stability

Voltage	Insulation	Wire Range (AWG)		Approvals		Temperature Range
		Stranded	Solid	UL	CSA	
UL/CSA						
150	XL-PVC	26 – 16	—		AWM I A/B FT1	-55°C to +105°C
				AWM 1429		-55°C to +80°C
	XLPE	22 – 18	—	AWM 3265	I A/B FT1	-55°C to +125°C
300	PVC	30 – 16	24 – 16	AWM 1569		-40°C to +105°C
				AWM 1007		-40°C to +80°C
					TR-64	-40°C to +90°C
	SR-PVC	30 – 16	—	AWM 1061	I A/B FT1	-10°C to +80°C
	XL-PVC	26 – 16	—	AWM 1430	REW XL-PVC	-55°C to +105°C
	XLPE	22 – 18	—	AWM 3266	CL 1252 XLPE	-55°C to +125°C
	XLPE	22 – 16	—	AWM 3199	CL1054	-55°C to +125°C
	PTFE	24 – 8	—	AWM 1180		-60°C to +200°C
600	PVC	24 – 10	26 – 10	AWM 1015, 1230 MTW, THW, TW	TEW-105	-20°C to +105°C
		8 – 4/0	—	AWM 1242, 1284		-20°C to +105°C
	mPPE	28 – 10	18 – 14	AWM 11028	I A/B FT-1	-40°C to +105°C
	XLPE	18 – 10	—	AWM 3271	CL 1251 XLPE	-55°C to +125°C
	XLPE	20 – 2/0	—	AWM 3173, 3195, 3196, 3300 SIS Rated		-55°C to +125°C
	ETFE	24 – 4	—	SAE AS22759/16		-55°C to +150°C
	PTFE	26 – 8	—	SAE AS22759/11		-55°C to +200°C
	Silicone	22 – 4/0	—	AWM 3212, 3213, 3214	AWM I A/B	-40°C to +150°C
10,000+	Silicone	22 – 2	—	AWM 3239		-40°C to +150°C
Military						
250	PTFE	32 – 22	30 – 26	MIL-DTL-16878/6 (Type ET)		-60°C to +200°C
600	XL-PVC	26 – 16	—	MIL-DTL-16878/1 (Type B)		-55°C to +105°C
	PVC	32 – 14	—	MIL-DTL-16878/1 (Type B)		-55°C to +105°C
	PVC	14 – 8	—	MIL-W-76 Type HW		-20°C to +80°C
	PTFE	30 – 10	26 – 18	MIL-DTL-16878/4 (Type E)		-60°C to +200°C
1000	PVC	24 – 12	24 – 18	MIL-DTL-16878/2 (Type C)		-40°C to +80°C
	XLPE	22 – 18	—	MIL-DTL-16878/2 (Type C)		-55°C to +105°C
	PTFE	24 – 8	—	MIL-DTL-16878/5 (Type EE)		-60°C to +200°C
3000	XLPE	18 – 10	—	MIL-DTL-16878/1 (Type D)		-55°C to +105°C
Solar						
1000/2000	XLPE/PVC	14 – 2	—	UL 4703 PV Wire	RW-90	-40°C to +90°C
600/1000	LSZH/LSZH	14 – 2	—	UL 4703 PV Wire TÜV 2 PFG 1169	—	-40°C to +90°C
Wire Wrap						
	PVDF	—	30 – 24	AWM 1422, 1423		-40°C to +125°C
	ETFE	—	30 – 24	AWM 1516, 1523		-70°C to +150°C
Ribbon Cable: 5 to 30 Conductors						
150/300	PVC	26 – 22	—	AWM 2713, 2555		-55°C to +80°C
600/1000	PVC	26 – 22	—	MIL-DTL-16878/1 and /2 (Types B & C)		-55°C to +105°C

Hook-Up Wire

300 V, PVC



UL AWM 1007, 1581, 1569
VW-1
CSA AWM I A/B FT1
CSA TR-64 FT1

Operating Temperature

- -40°C to +105°C (AWM 1569, CSA AWM)
- -40°C to +90°C (CSA TR-64)
- -40°C to +80°C (AWM 1007, 1581)

Materials

- Stranded or solid tinned copper conductor
- PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Colors
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
3047	30	0.06	7/38	7 x 0.10	0.016	0.41	0.044	1.12	Z1, 1 - 10
3048	28	0.09	7/36	7 x 0.13	0.016	0.41	0.047	1.19	Z1, 1 - 10
3049	26	0.14	7/34	7 x 0.16	0.016	0.41	0.051	1.30	Z1, 1 - 10
3050/1	24	0.20	Solid	1 x 0.51	0.016	0.41	0.052	1.32	Z1, 1 - 10
3050	24	0.23	7/32	7 x 0.20	0.016	0.41	0.056	1.42	Z1, 1 – 19, 28, 30
892407T†	24	0.23	7/32	7 x 0.20	0.016	0.41	0.056	1.42	Z2, 0 - 9
892419†	24	0.24	19/36	19 x 0.13	0.016	0.41	0.057	1.45	Z2, 0 - 9
3051/1	22	0.32	Solid	1 x 0.64	0.016	0.41	0.057	1.45	Z1, 1 - 10
3051	22	0.35	7/30	7 x 0.25	0.016	0.41	0.062	1.57	Z1, 1 – 19, 28, 30
892207T†	22	0.35	7/30	7 x 0.25	0.016	0.41	0.062	1.57	Z2, 0 - 9
892219†	22	0.38	19/34	19 x 0.16	0.016	0.41	0.064	1.63	Z2, 0 - 9
3053	20	0.51	10/30	10 x 0.25	0.016	0.41	0.069	1.75	Z1, 1 – 19, 28, 30
892010T†	20	0.51	10/30	10 x 0.25	0.016	0.41	0.069	1.75	Z2, 0 - 9
3053/1	20	0.52	Solid	1 x 0.81	0.016	0.41	0.064	1.63	Z1, 1 - 10
892007†	20	0.56	7/28	7 x 0.32	0.016	0.41	0.070	1.78	Z2, 0 - 9
892019†	20	0.62	19/32	19 x 0.20	0.016	0.41	0.072	1.83	Z2, 0 - 9
3055	18	0.81	16/30	16 x 0.25	0.016	0.41	0.079	2.01	Z1, 1 – 19, 28, 30
891816T†	18	0.81	16/30	16 x 0.25	0.016	0.41	0.079	2.01	Z2, 0 - 9
3055/1	18	0.82	Solid	1 x 1.02	0.016	0.41	0.072	1.83	Z1, 1 - 10
891819†	18	0.96	19/30	19 x 0.25	0.016	0.41	0.082	2.08	Z2, 0 - 9
3057/1	16	1.31	Solid	1 x 1.29	0.016	0.41	0.083	2.11	Z1, 1 - 10
3057	16	1.32	26/30	26 x 0.25	0.016	0.41	0.092	2.34	Z1, 1 – 19, 28, 30
891441†	14	2.08	41/30	41 x 0.25	0.016	0.41	0.106	2.69	Z2, 0 - 9
891265*†	12	3.30	65/30	65 x 0.25	0.016	0.41	0.125	3.18	Z2, 0 - 9
891000*†	10	5.32	105/30	105 x 0.25	0.016	0.41	0.150	3.81	Z2, 0 - 9

*UL AWM 1581 and 1569. All others UL AWM 1007 and 1569.
†CSA AWM I A/B FT-1.
"T" indicates topcoat conductors.

Insulation Colors Z1

1 White	5 Yellow	9 Slate	13 White/Green	17 White/ Orange	29 Yellow/Green
2 Black	6 Blue	10 Violet	14 White/Yellow	18 White/ Slate	30 Pink
3 Red	7 Brown	11 White/Black	15 White/Blue	19 White/ Violet	
4 Green	8 Orange	12 White/Red	16 White/Brown	28 Green/ Yellow	

Insulation Colors Z2

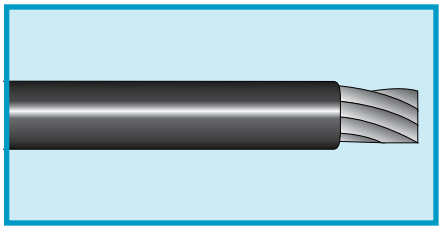
0 Black	4 Yellow	8 Slate
1 Brown	5 Green	9 White
2 Red	6 Blue	
3 Orange	7 Violet	

These wires also available in 500 ft (152 m) put-ups.

CA PROP 65 RoHS Compliant

Hook-Up Wire

300 V, Semirigid PVC



UL AWM 1061 VW-1
CSA AWM I A/B FT1

Operating Temperature

- -10°C to +80°C

Materials

- Stranded or solid tinned copper conductor
- Semirigid PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Colors
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
422807	28	0.09	7/36	7 x 0.13	0.010	0.25	0.035	0.89	Z2
422801	28	0.08	Solid	1 x 0.32	0.010	0.25	0.033	0.84	Z2
422607	26	0.14	7/34	7 x 0.16	0.010	0.25	0.039	0.99	Z2
422601	26	0.13	Solid	1 x 0.40	0.010	0.25	0.036	0.91	Z2
3250	24	0.23	7/32	7 x 0.20	0.010	0.25	0.044	1.12	Z1
3251	22	0.35	7/30	7 x 0.25	0.010	0.25	0.050	1.27	Z1
422010	20	0.51	10/30	10 x 0.25	0.010	0.25	0.057	1.45	Z2
3252	20	0.56	7/28	7 x 0.32	0.010	0.25	0.058	1.47	Z1
422001	20	0.52	Solid	1 x 0.81	0.010	0.25	0.052	1.32	Z2
421816	18	0.81	16/30	16 x 0.25	0.010	0.25	0.067	1.70	Z2
3253	18	0.90	7/26	7 x 0.40	0.010	0.25	0.068	1.73	Z1
421626	16	1.32	26/30	26 x 0.25	0.010	0.25	0.080	2.03	Z2
3254	16	1.43	7/24	7 x 0.51	0.010	0.25	0.080	2.03	Z1

Insulation Colors Z1

1 White	5 Yellow	9 Slate
2 Black	6 Blue	10 Violet
3 Red	7 Brown	
4 Green	8 Orange	

Insulation Colors Z2

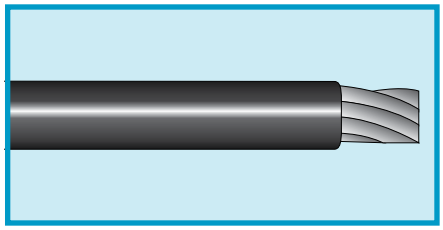
0 Black	4 Yellow	8 Slate
1 Brown	5 Green	9 White
2 Red	6 Blue	
3 Orange	7 Violet	

These wires also available in 500 ft (152 m) put-ups.

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, PVC



UL AWM 1015, 1028, 1230, 1231, 1232, 1283, 1284 VW-1
UL MTW, TW (14 to 8 AWG), THW (6 to 1/0 AWG)
CSA AWM I A/B FT1 and TEW-105

Operating Temperature

- -40°C to +105°C (AWM, TEW)
- -40°C to +90°C (MTW)
- -40°C to +75°C (THW)
- -40°C to +60°C (TW)

Materials

- Stranded bare copper conductor
- PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		UL Style
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm	
461816	18	0.81	16/30	16 x 0.25	0.032	0.81	0.111	2.82	1015, 1230
461626	16	1.32	26/30	26 x 0.25	0.032	0.81	0.124	3.15	1015, 1230
461419	14	2.07	19/0.0147	19 x 0.37	0.032	0.81	0.138	3.51	1015, 1230
461219	12	3.29	19/0.0185	19 x 0.47	0.032	0.81	0.157	3.99	1015, 1230
461265	12	3.29	65/0.010	65 x 0.25	0.031	0.79	0.153	3.89	1015, 1230
461019	10	5.26	19/0.0234	19 x 0.59	0.032	0.81	0.181	4.60	1015, 1230
460819	8	8.38	19/0.0295	19 x 0.75	0.047	1.19	0.242	6.15	1028, 1231
460619	6	13.32	19/0.0372	19 x 0.94	0.063	1.59	0.311	7.90	1283, 1232
460419	4	21.09	19/0.0469	19 x 1.19	0.063	1.59	0.360	9.14	1283, 1232
460219	2	33.63	19/0.0591	19 x 1.50	0.063	1.59	0.421	10.69	1283, 1232
460001	1/0	53.39	19/0.0745	19 x 1.89	0.078	1.98	0.529	13.44	1284, 1232

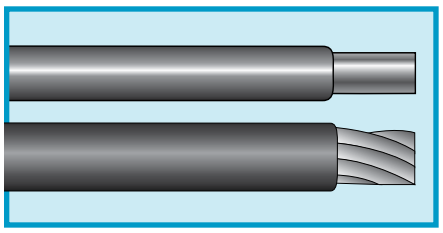
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, PVC



UL AWM 1015, 1028, 1230, 1231, 1232, 1283, 1284 VW-1
UL MTW (22 to 4/0 AWG)
UL THW (6 to 1/0 AWG)
CSA AWM I A/B FT1 and TEW 105

Operating Temperature

- -20°C to +105°C (AWM, TEW)
- -20°C to +90°C (MTW)
- -20°C to +75°C (THW)
- -20°C to +60°C (TW)

Materials

- Stranded or solid tinned copper conductor
- PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		UL Style	Colors
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm		
782607*	26	0.14	7/34	7 x 0.16	0.032	0.81	0.083	2.11	1015, 1230	Z2, 0 - 9
782401*	24	0.20	Solid	1 x 0.51	0.032	0.81	0.084	2.13	1015, 1230	Z2, 0 - 9
3070*	24	0.23	7/32	7 x 0.20	0.032	0.81	0.088	2.24	1015	Z1, 1 - 10, 28
782201	22	0.32	Solid	1 x 0.64	0.032	0.81	0.089	2.26	1015, 1230	Z2, 0 - 9
782207T	22	0.35	7/30	7 x 0.25	0.032	0.81	0.094	2.39	1015, 1230	Z2, 0 - 9
3071	22	0.35	7/30	7 x 0.25	0.032	0.81	0.094	2.39	1015	Z1, 1 - 10, 28, 29
782010T	20	0.51	10/30	10 x 0.25	0.032	0.81	0.101	2.57	1015, 1230	Z2, 0 - 9
3073	20	0.51	10/30	10 x 0.25	0.032	0.81	0.101	2.57	1015	Z1, 1 - 10, 28
782001	20	0.52	Solid	1 x 0.81	0.032	0.81	0.096	2.44	1015, 1230	Z2, 0 - 9
781816T	18	0.81	16/30	16 x 0.25	0.032	0.81	0.111	2.82	1015, 1230	Z2, 0 - 9
3075	18	0.81	16/30	16 x 0.25	0.032	0.81	0.111	2.82	1015	Z1, 1 - 10, 28, 29
781801	18	0.82	Solid	1 x 1.02	0.032	0.81	0.104	2.64	1015, 1230	Z2, 0 - 9
781601	16	1.31	Solid	1 x 1.29	0.032	0.81	0.115	2.92	1015, 1230	Z2, 0 - 9
3077	16	1.32	26/30	26 x 0.25	0.032	0.81	0.124	3.15	1015	Z1, 1 - 10, 28, 29
781401	14	2.08	Solid	1 x 1.63	0.032	0.81	0.128	3.25	1015, 1230	Z2, 0 - 9
3079	14	2.08	41/30	41 x 0.25	0.032	0.81	0.138	3.51	1015	Z1, 1 - 10, 28, 29
3080	12	3.29	65/30	65 x 0.25	0.032	0.81	0.157	3.99	1015	Z1, 1 - 4
781201	12	3.31	Solid	1 x 2.06	0.032	0.81	0.145	3.68	1015, 1230	Z2, 0 - 9
781001	10	5.26	Solid	1 x 2.59	0.032	0.81	0.166	4.22	1015, 1230	Z2, 0 - 9
3081	10	5.32	105/30	105 x 0.25	0.032	0.81	0.184	4.67	1015	Z1, 1 - 4
788133	8	8.61	133/29	133 x 0.29	0.047	1.19	0.263	6.68	1028, 1231	Z2, 0 - 9
786133	6	13.57	133/27	133 x 0.36	0.063	1.60	0.336	8.53	1283, 1232	Z2, 0 - 9
784133	4	21.55	133/25	133 x 0.45	0.063	1.60	0.395	10.03	1283, 1232	Z2, 0 - 9
782665	2	33.72	665/30	665 x 0.25	0.063	1.60	0.461	11.71	1283, 1232	Z2, 0 - 9
782133	2	34.45	133/23	133 x 0.57	0.063	1.60	0.465	11.81	1283, 1232	Z2, 0 - 9
781259	1	41.96	259/25	259 x 0.45	0.082	2.08	0.540	13.72	1284, 1232	Z2, 0 - 9
781836	1	42.39	836/30	836 x 0.25	0.082	2.08	0.547	13.89	1284, 1232	Z2, 0 - 9
780001	1/0	52.98	1045/30	1045 x 0.25	0.082	2.08	0.592	15.04	1284, 1232	Z2, 0 - 9
780002	2/0	67.43	1330/30	1330 x 0.25	0.082	2.08	0.647	16.43	1284, 1232	Z2, 0 - 9
780003	3/0	84.47	1666/30	1666 x 0.25	0.082	2.08	0.768	19.51	1284, 1232	Z2, 0 - 9
780004	4/0	106.93	2109/30	2109 x 0.25	0.082	2.08	0.754	19.15	1284, 1232	Z2, 0 - 9

T indicates top coat conductors.
*Not MTW

Insulation Colors Z1

1 White	5 Yellow	9 Slate
2 Black	6 Blue	10 Violet
3 Red	7 Brown	28 Green/Yellow
4 Green	8 Orange	29 Yellow/Green

Insulation Colors Z2

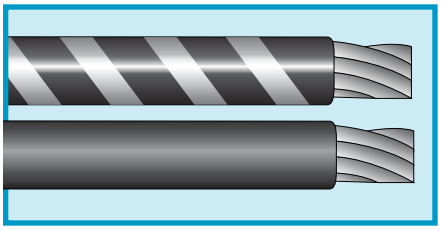
0 Black	4 Yellow	8 Slate
1 Brown	5 Green	9 White
2 Red	6 Blue	
3 Orange	7 Violet	

These wires also available in 500 ft (152 m) put-ups.

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, PVC



MIL-DTL-16878/1 (Type B)
MIL-W-76 Type LW

Operating Temperature

- -55°C to +105°C

Materials

- Stranded or solid tinned copper conductor
- PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Colors
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm	
1850	32	0.03	7/40	7 x 0.08	0.010	0.25	0.029	0.74	Z1, 1 - 6
1851*	30	0.06	7/38	7 x 0.10	0.010	0.25	0.032	0.81	Z1, 1 - 6
1852*	28	0.09	7/36	7 x 0.12	0.010	0.25	0.035	0.89	Z1, 1 - 10
1853*	26	0.14	7/34	7 x 0.16	0.010	0.25	0.039	0.99	Z1, 1 - 19
172619	26	0.15	19/38	19 x 0.10	0.010	0.25	0.040	1.02	Z2, 0 - 9
1854*	24	0.23	7/32	7 x 0.20	0.010	0.25	0.044	1.12	Z1, 1 - 19
1854/19	24	0.24	19/36	19 x 0.13	0.010	0.25	0.045	1.14	Z1, 1 - 19
1855	22	0.35	7/30	7 x 0.25	0.010	0.25	0.050	1.27	Z1, 1 - 19
1855/19	22	0.38	19/34	19 x 0.16	0.010	0.25	0.052	1.32	Z1, 1 - 19
1856*	20	0.56	7/28	7 x 0.32	0.010	0.25	0.058	1.47	Z1, 1 - 19
1856/19	20	0.62	19/32	19 x 0.20	0.010	0.25	0.060	1.52	Z1, 1 - 19
1857	18	0.90	7/26	7 x 0.40	0.010	0.25	0.068	1.73	Z1, 1 - 19
1857/19	18	0.96	19/30	19 x 0.25	0.010	0.25	0.070	1.78	Z1, 1 - 19
1858/19	16	1.23	19/29	19 x 0.29	0.010	0.25	0.076	1.93	Z1, 1 - 19
1859/19	14	1.94	19/27	19 x 0.36	0.010	0.25	0.091	2.31	Z1, 1 - 10

*Also meets MIL-W-76 Type LW.

Insulation Colors Z1

1 White	5 Yellow	9 Slate	13 White/Green	17 White/Orange
2 Black	6 Blue	10 Violet	14 White/Yellow	18 White/Slate
3 Red	7 Brown	11 White/Black	15 White/Blue	19 White/Violet
4 Green	8 Orange	12 White/Red	16 White/Brown	

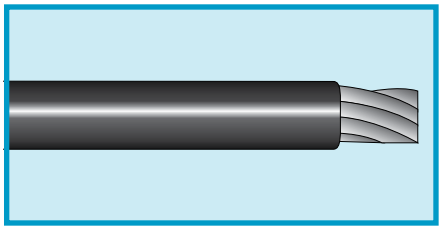
Insulation Colors Z2

0 Black	4 Yellow	8 Slate
1 Brown	5 Green	9 White
2 Red	6 Blue	
3 Orange	7 Violet	

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, PVC



MIL-W-76 Type HW

Operating Temperature

- -20°C to +80°C

Materials

- Stranded tinned copper conductor
- PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

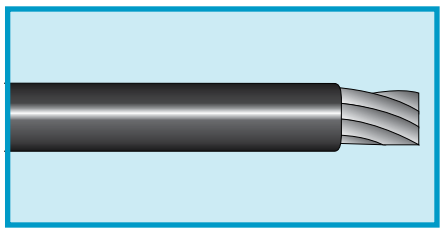
Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
1579	14	2.08	41/30	41 x 0.25	0.045	1.14	0.164	4.17
1651	12	3.29	65/30	65 x 0.25	0.045	1.14	0.183	4.65
1653	10	5.32	105/30	105 x 0.25	0.045	1.14	0.210	5.33
1655	8	8.61	133/29	133 x 0.28	0.045	1.14	0.259	6.58

Insulation Colors
White
Black
Red

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, PVC



MIL-DTL-16878/2 (Type C)
UL VW-1

Operating Temperature

- -55°C to +105°C

Materials

- Stranded tinned copper conductor
- PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
202207	22	0.35	7/30	7 x 0.25	0.017	0.43	0.064	1.63
202007	20	0.56	7/28	7 x 0.32	0.017	0.43	0.072	1.83
201807	18	0.90	7/26	7 x 0.40	0.017	0.43	0.082	2.08
201819	18	0.96	19/30	19 x 0.25	0.017	0.43	0.084	2.13
201619	16	1.23	19/29	19 x 0.29	0.019	0.47	0.093	2.36
201419	14	1.94	19/27	19 x 0.36	0.019	0.47	0.108	2.74
201219	12	3.08	19/25	19 x 0.45	0.019	0.47	0.127	3.23

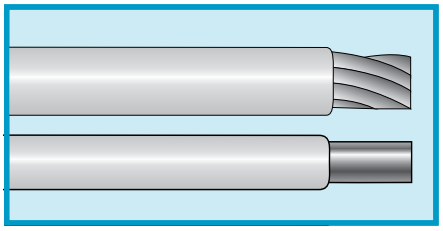
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, PVC/Nylon



UL THHN, THWN, TFN, TFFN

Operating Temperature

- -40°C to +90°C (THHN, TFN, TFFN)
- -40°C to +75°C (THWN)

Materials

- Stranded or solid bare copper conductor
- PVC/nylon insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		PVC Insulation Thickness		Nominal Diameter		UL Type
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
541816	18	0.81	16/30	16 x 0.25	0.015	0.38	0.086	2.18	TFFN
541801	18	0.82	Solid	1 x 1.02	0.015	0.38	0.079	2.01	TFN
541626	16	1.32	26/30	26 x 0.25	0.015	0.38	0.099	2.51	TFFN
541419	14	2.07	19/0.0147	19 x 0.37	0.015	0.38	0.113	2.87	THHN, THWN
541401	14	2.08	Solid	1 x 1.63	0.015	0.38	0.103	2.62	THHN, THWN
541219	12	3.29	19/0.0185	19 x 0.47	0.015	0.38	0.132	3.35	THHN, THWN
541201	12	3.31	Solid	1 x 2.06	0.015	0.38	0.120	3.05	THHN, THWN
541019	10	5.26	19/0.0234	19 x 0.59	0.020	0.51	0.166	4.22	THHN, THWN
541001	10	5.26	Solid	1 x 2.59	0.020	0.51	0.141	3.58	THHN, THWN
540819	8	8.38	19/0.0295	19 x 0.75	0.030	0.76	0.219	5.56	THHN, THWN
540619	6	13.32	19/0.0372	19 x 0.94	0.030	0.76	0.257	6.53	THHN, THWN
540419	4	21.09	19/0.0469	19 x 1.19	0.040	1.02	0.329	8.36	THHN, THWN
540219	2	33.63	19/0.0591	19 x 1.50	0.040	1.02	0.390	9.91	THHN, THWN
540001	1/0	53.39	19/0.0745	19 x 1.89	0.050	1.27	0.488	12.40	THHN, THWN

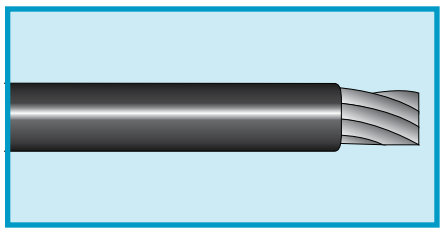
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, PVC/Nylon



MIL-DTL-16878/17 (Type B/N)

Operating Temperature

- -55°C to +105°C

Materials

- Stranded tinned copper conductor
- PVC/nylon insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		PVC Insulation Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
182607	26	0.14	7/34	7 x 0.16	0.010	0.25	0.045	1.14
182407	24	0.23	7/32	7 x 0.20	0.010	0.25	0.050	1.27
182419	24	0.24	19/36	19 x 0.13	0.010	0.25	0.051	1.30
182219	22	0.38	19/34	19 x 0.16	0.010	0.25	0.058	1.47
182019	20	0.62	19/32	19 x 0.20	0.010	0.25	0.066	1.68
181807	18	0.90	7/26	7 x 0.40	0.010	0.25	0.074	1.88
181819	18	0.96	19/30	19 x 0.25	0.010	0.25	0.076	1.93
181619	16	1.23	19/29	19 x 0.29	0.010	0.25	0.082	2.08
181419	14	1.94	19/27	19 x 0.36	0.010	0.25	0.097	2.46

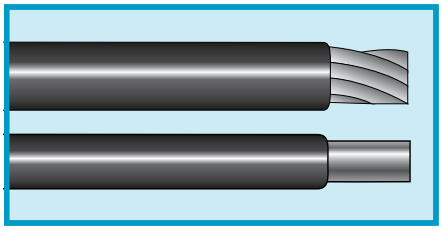
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

1000 V, PVC



MIL-W-76 Type MWP

Operating Temperature

- -55°C to +90°C

Materials

- Stranded or solid tinned copper conductor
- PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
302407	24	0.23	7/32	7 x 0.20	0.016	0.41	0.056	1.42
302207	22	0.35	7/30	7 x 0.25	0.016	0.41	0.064	1.63
302201	22	0.32	Solid	1 x 0.64	0.016	0.41	0.057	1.45
302010	20	0.51	10/30	10 x 0.25	0.016	0.41	0.069	1.75
301816	18	0.81	16/30	16 x 0.25	0.016	0.41	0.079	2.01
301626	16	1.32	26/30	26 x 0.25	0.016	0.41	0.092	2.34
301619	16	1.23	19/29	19 x 0.29	0.016	0.41	0.088	2.24
301441	14	2.08	41/30	41 x 0.25	0.016	0.41	0.106	2.69

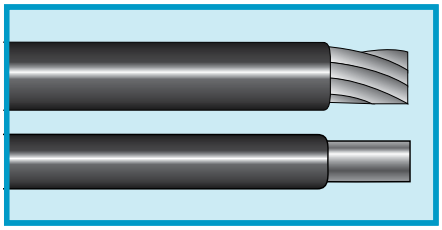
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

1000 V, PVC



MIL-W-76 B Type MW

Operating Temperature

- -40°C to +80°C

Materials

- Stranded or solid tinned copper conductor
- PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Colors*
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
1550	24	0.23	7/32	7 x 0.20	0.016	0.41	0.056	1.42	1 - 19
1561/24	24	0.20	Solid	1 x 0.51	0.016	0.41	0.052	1.32	1 - 6
1551	22	0.35	7/30	7 x 0.25	0.016	0.41	0.062	1.57	1 - 19
1561	22	0.32	Solid	1 x 0.64	0.016	0.41	0.057	1.45	1 - 6
1553	20	0.51	10/30	10 x 0.25	0.016	0.41	0.069	1.75	1 - 19
1563	20	0.52	Solid	1 x 0.81	0.016	0.41	0.064	1.63	1 - 6
1555	18	0.81	16/30	16 x 0.25	0.016	0.41	0.079	2.01	1 - 19
1565	18	0.82	Solid	1 x 1.02	0.016	0.41	0.072	1.83	1 - 6
1557	16	1.32	26/30	26 x 0.25	0.016	0.41	0.092	2.34	1 - 19
1559	14	2.08	41/30	41 x 0.25	0.016	0.41	0.106	2.69	1 – 10
1560	12	3.29	65/30	65 x 0.25	0.016	0.41	0.125	3.18	1 - 10

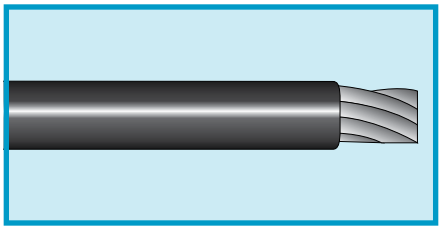
Insulation Colors

1 White	5 Yellow	9 Slate	13 White/ Green	17 White/ Orange
2 Black	6 Blue	10 Violet	14 White/ Yellow	18 White/ Slate
3 Red	7 Brown	11 White/ Black	15 White/Blue	19 White/ Violet
4 Green	8 Orange	12 White/Red	16 White/ Brown	

CA PROP 65 RoHS Compliant

Hook-Up Wire

600/150 V, Irradiated PVC Soldering Iron Resistant



MIL-DTL-16878/1 (Type B) (600 V)
UL AWM 1429 (150 V)
CSA AWM I A/B FT1 (150 V)

Operating Temperature

- -55°C to +105°C (MIL)
- -55°C to +80°C (AWM, CSA)

Materials

- Stranded tinned copper conductor
- Irradiated PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
7053	26	0.14	7/34	7 x 0.16	0.010	0.25	0.039	0.99
7054	24	0.23	7/32	7 x 0.20	0.010	0.25	0.044	1.12
7054/19	24	0.24	19/36	19 x 0.13	0.010	0.25	0.045	1.14
7055	22	0.35	7/30	7 x 0.25	0.010	0.25	0.050	1.27
7055/19	22	0.38	19/34	19 x 0.16	0.010	0.25	0.052	1.32
7056	20	0.56	7/28	7 x 0.32	0.010	0.25	0.058	1.47
7056/19	20	0.62	19/32	19 x 0.20	0.010	0.25	0.060	1.52
7057	18	0.90	7/26	7 x 0.40	0.010	0.25	0.068	1.73
7057/19	18	0.96	19/30	19 x 0.25	0.010	0.25	0.070	1.78
7058/19	16	1.32	19/0.0117	19 x 0.30	0.010	0.25	0.076	1.93

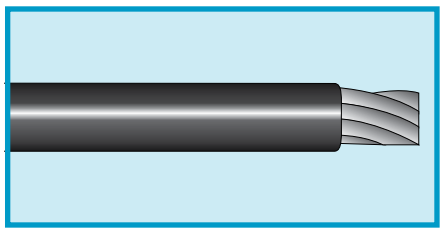
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

1000/300 V, Irradiated PVC Soldering Iron Resistant



MIL-DTL-16878/2 (Type C) (1000 V)
UL AWM 1430 (300 V)
CSA REW XLPVC FT1 (300 V)

Operating Temperature

- -55°C to +105°C

Materials

- Stranded tinned copper conductor
- Irradiated PVC insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Colors
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
7130	24	0.23	7/32	7 x 0.20	0.016	0.41	0.056	1.42	1 - 10, 29
7131	22	0.35	7/30	7 x 0.25	0.016	0.41	0.062	1.57	1 - 10
7132	20	0.56	7/ 28	7 x 0.32	0.016	0.41	0.070	1.78	1 - 10
7133	18	0.89	7/26	7 x 0.40	0.016	0.41	0.080	2.03	1 - 10, 29
7134	16	1.32	19/0.0117	19 x 0.30	0.016	0.41	0.088	2.24	1 - 10, 29
7035*	14	2.07	19/0.0147	19 x 0.37	0.016	0.41	0.103	2.62	1 - 10, 29
7036*	12	3.29	19/0.0185	19 x 0.47	0.016	0.41	0.122	3.10	1 - 10, 29

*UL AWM 3317

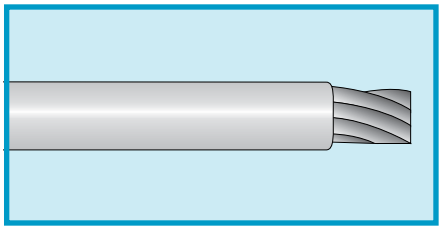
Insulation Colors

1 White	5 Yellow	9 Slate
2 Black	6 Blue	10 Violet
3 Red	7 Brown	29 Yellow/Green
4 Green	8 Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

3000/600 V, XLPE



MIL-DTL-16878/4 (Type D) (3000 V)
UL AWM 3271 (600 V) VW-1
CSA CL 1251 XLPE (600 V)

Operating Temperature

- -55°C to +105°C (MIL)
- -55°C to +125°C (UL, CSA)

Materials

- Stranded tinned copper conductor
- Cross-linked polyolefin insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
7044	18	0.81	16/30	16 x 0.25	0.032	0.81	0.111	2.82
7045	16	1.32	26/30	26 x 0.25	0.032	0.81	0.119	3.02
7046	14	2.08	41/30	41 x 0.25	0.032	0.81	0.138	3.51
7047	12	3.29	65/30	65 x 0.25	0.032	0.81	0.155	3.94
7048	10	5.32	105/30	105 x 0.25	0.032	0.81	0.184	4.67

Insulation Colors
White
Black
Red

1000/300 V, XLPE

MIL-DTL-16878/2 (Type C) (1000 V)
UL AWM 3266 (300 V) VW-1
CSA CL 1252 XLPE (300 V)

Operating Temperature

- -55°C to +105°C (MIL)
- -55°C to +125°C (UL, CSA)

Materials

- Stranded tinned copper conductor
- Cross-linked polyolefin insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

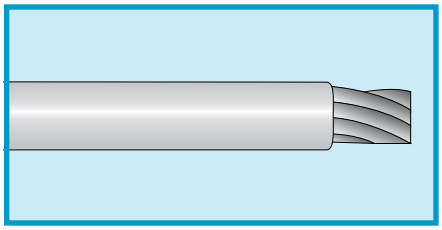
Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
7024	22	0.38	19/34	19 x 0.16	0.016	0.41	0.064	1.63
7025	20	0.62	19/32	19 x 0.20	0.016	0.41	0.072	1.83
7026	18	0.96	19/30	19 x 0.25	0.016	0.41	0.080	2.03

Insulation Colors
White
Black
Red

CA PROP 65 RoHS Compliant

Hook-Up Wire

600/150 V, XLPE



MIL-DTL-16878/1 (Type B) (600 V)
UL AWM 3265 (150 V) VW-1
CSA AWM I A/B FT1 (150 V)

Operating Temperature

- -55°C to +105°C (MIL)
- -55°C to +125°C (UL, CSA)

Materials

- Stranded tinned copper conductor
- Cross-linked polyolefin insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)

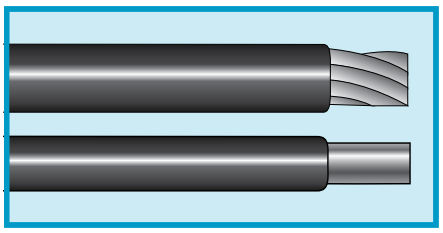
Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
7012	22	0.38	19/34	19 x 0.16	0.011	0.28	0.054	1.37
7013	20	0.62	19/32	19 x 0.20	0.011	0.28	0.06	1.52
7014	18	0.96	19/30	19 x 0.25	0.011	0.28	0.070	1.78

Insulation Colors

White
Black

Hook-Up Wire

600 V, XLPE



UL AWM 3173, 3195, 3196
UL SIS
CSA AWM I A/B
CSA CL 1251 XLPE

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

Operating Temperature

- -20°C to +125°C

Materials

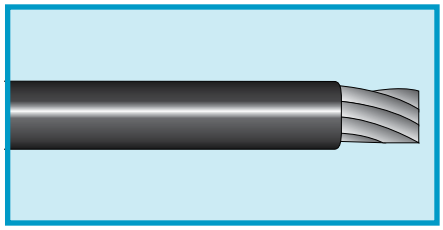
- Stranded or solid tinned copper conductor
- Slate cross-linked polyethylene insulation

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		UL Style
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
M4030	18	0.81	16/30	16 x 0.25	0.031	0.79	0.110	2.79	3173
M4010	18	0.90	7/26	7 x 0.48	0.031	0.79	0.112	2.84	3173
M4001	18	0.82	Solid	1 x 1.02	0.031	0.79	0.105	2.67	3173
M4011	16	1.43	7/24	7 x 0.51	0.031	0.79	0.123	3.12	3173
M4002	16	1.31	Solid	1 x 1.29	0.031	0.79	0.115	2.92	3173
M4012	14	2.29	7/22	7 x 0.64	0.031	0.79	0.140	3.56	SIS, 3173
M4003	14	2.08	Solid	1 x 1.63	0.031	0.79	0.130	3.30	SIS, 3173
M4013	12	3.29	19/0.0185	19 x 0.47	0.031	0.79	0.160	4.06	SIS, 3173
M4004	12	3.31	Solid	1 x 2.06	0.031	0.79	0.150	3.81	SIS, 3173
M4014	10	5.28	19/0.0234	19 x 0.59	0.031	0.79	0.180	4.57	SIS, 3173
M4005	10	5.26	Solid	1 x 2.59	0.031	0.79	0.170	4.32	SIS, 3173
M4035	8	8.63	133/29	133 x 0.29	0.047	1.19	0.270	6.86	SIS, 3195
M4015	8	8.38	19/0.0295	19 x 0.75	0.047	1.19	0.250	6.35	SIS, 3195
M4036	6	13.6	133/27	133 x 0.36	0.062	1.57	0.340	8.64	SIS, 3196
M4016	6	13.3	19/0.0372	19 x 0.94	0.062	1.57	0.320	8.13	SIS, 3196
M4037	4	21.6	133/25	133 x 0.45	0.062	1.57	0.400	10.16	SIS, 3196

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, XLPE



UL AWM 3173
UL SIS
CSA AWM I A/B FT2
CSA CL1251 XLPE

Operating Temperature

- -40°C to +125°C (AWM)
- -40°C to +150°C (CSA CL)
- -40°C to +90°C (SIS)

Materials

- Stranded tinned copper conductor
- Cross-linked polyethylene insulation

Availability

500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
752010	20	0.51	10/30	10 x 0.25	0.031	0.79	0.099	2.51
751816	18	0.81	16/30	16 x 0.25	0.031	0.79	0.109	2.77
751626	16	1.32	26/30	26 x 0.25	0.031	0.79	0.122	3.10
751441*	14	2.08	41/30	41 x 0.25	0.031	0.79	0.136	3.45
751265*	12	3.29	65/30	65 x 0.25	0.031	0.79	0.155	3.94
751000*	10	5.32	105/30	105 x 0.25	0.031	0.79	0.180	4.57
758133**	8	8.63	133/29	133 x 0.29	0.047	1.19	0.263	6.68

*UL SIS.
**UL AWM 3195 only.

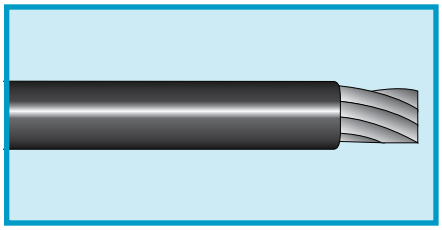
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

RoHS Compliant

Hook-Up Wire

50 V, XLPE



SAE J1128 Type GXL

Operating Temperature

- -40°C to +125°C

Materials

- Stranded bare copper conductor
- Cross-linked polyethylene insulation

Availability

500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
631816	18	0.81	16/30	16 x 0.25	0.023	0.58	0.093	2.36
631619	16	1.23	19/29	19 x 0.29	0.023	0.58	0.102	2.59
631419	14	1.94	19/27	19 x 0.36	0.023	0.58	0.113	2.87

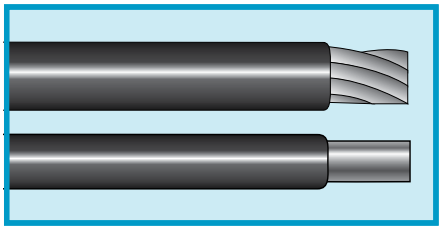
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

250 V, PTFE



MIL-DTL-16878/6 (Type ET)
UL VW-1
NEMA HP3

Operating Temperature

- -60°C to +200°C

Materials

- Stranded or solid silver-plated copper conductor
- PTFE insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)*
*May contain multiple lengths

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		NEMA HP3 Type	Colors
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm		
33201	32	0.03	Solid	1 x 0.20	0.006	0.15	0.019	0.48	—	Z2
33219	32	0.04	19/44	19 x 0.05	0.006	0.15	0.022	0.56	—	Z2
2840/7	32	0.03	7/40	7 x 0.08	0.006	0.15	0.022	0.56	ETXBAB	Z1
2841/7	30	0.06	7/38	7 x 0.10	0.006	0.15	0.024	0.61	ETXBBB	Z1
2841/1	30	0.05	Solid	1 x 0.25	0.006	0.15	0.022	0.56	ETXBBA	Z1
2842/7	28	0.09	7/36	7 x 0.12	0.006	0.15	0.027	0.69	ETXBCB	Z1
2842/19	28	0.09	19/40	19 x 0.08	0.006	0.15	0.027	0.69	ETXBCE	Z1
2842/1	28	0.08	Solid	1 x 0.32	0.006	0.15	0.025	0.64	ETXBCA	Z1
2843/7	26	0.14	7/34	7 x 0.16	0.006	0.15	0.031	0.79	ETXBDB	Z1
2843/19	26	0.15	19/38	19 x 0.10	0.006	0.15	0.031	0.79	ETXBDE	Z1
2843/1	26	0.13	Solid	1 x 0.40	0.006	0.15	0.028	0.71	ETXBDA	Z1
2844/7	24	0.23	7/32	7 x 0.20	0.006	0.15	0.036	0.91	ETXBEB	Z1
2844/19	24	0.24	19/36	19 x 0.13	0.006	0.15	0.036	0.91	ETXBEE	Z1
2845/7	22	0.35	7/30	7 x 0.25	0.006	0.15	0.042	1.07	ETXBFB	Z1
2845/19	22	0.38	19/34	19 x 0.16	0.005	0.13	0.042	1.07	ETXBFE	Z1
32007	20	0.56	7/28	7 x 0.32	0.006	0.15	0.050	1.27	ETXBGB	Z2
32019	20	0.62	19/32	19 x 0.20	0.006	0.15	0.052	1.32	ETXBGE	Z2

Insulation Colors Z1

1 White	5 Yellow	9 Slate
2 Black	6 Blue	10 Violet
3 Red	7 Brown	
4 Green	8 Orange	

Insulation Colors Z2

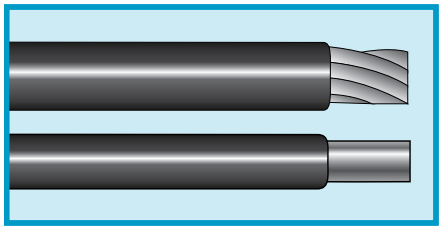
0 Black	4 Yellow	8 Slate
1 Brown	5 Green	9 White
2 Red	6 Blue	
3 Orange	7 Violet	

These wires also available in 500 ft (152 m) put-ups.

CA PROP 65 RoHS Compliant

Hook-Up Wire

600 V, PTFE



MIL-DTL-16878/4 (Type E)
UL VW-1
NEMA HP3

Operating Temperature

- -60°C to +200°C

Materials

- Stranded or solid silver-plated copper conductor
- PTFE insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)*
*May contain multiple lengths

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		NEMA HP-3
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm	
13207	32	0.03	7/40	7 x 0.08	0.010	0.25	0.029	0.74	EXBAB
13001	30	0.05	Solid	1 x 0.25	0.010	0.25	0.030	0.76	EXBBA
12819	28	0.09	19/40	19 x 0.07	0.010	0.25	0.036	0.91	—
12819UL*	28	0.09	19/40	19 x 0.07	0.010	0.25	0.036	0.91	—
11807	18	0.90	7/26	7 x 0.40	0.010	0.25	0.068	1.73	EXBHB

*UL AWM 1212 and AWM 1213 and -55°C to +105°C temperature range.

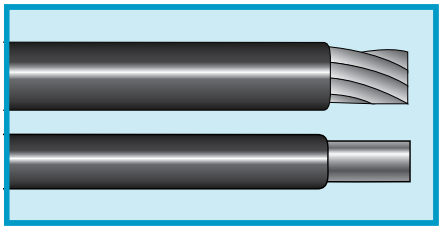
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

RoHS Compliant

Hook-Up Wire

600 V, PTFE



MIL-DTL-16878/4 (Type E) (600 V)
UL AWM 1213*
NEMA HP3

Operating Temperature

- -60°C to +200°C (MIL)
- -60°C to +105°C (UL)

Materials

- Stranded or solid silver-plated copper conductor
- PTFE insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)†
†May contain multiple lengths

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		NEMA HP3 Type
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
5851	30	0.06	7/38	7 x 0.10	0.010	0.25	0.032	0.81	EXBBB
5852	28	0.09	7/36	7 x 0.13	0.010	0.25	0.035	0.89	EXBCB
5853	26	0.14	7/34	7 x 0.16	0.010	0.25	0.039	0.99	EXBDB
5853/19	26	0.15	19/38	19 x 0.10	0.010	0.25	0.039	0.99	EXBDE
2853/1	26	0.13	Solid	1 x 0.40	0.010	0.25	0.036	0.91	EXBDA
5854	24	0.24	19/36	19 x 0.13	0.010	0.25	0.044	1.12	EXBEE
5854/7	24	0.23	7/32	7 x 0.20	0.010	0.25	0.044	1.12	EXBEB
2854/1	24	0.20	Solid	1 x 0.51	0.010	0.25	0.040	1.02	EXBEA
5855	22	0.38	19/34	19 x 0.16	0.010	0.25	0.050	1.27	EXBFE
5855/7	22	0.35	7/30	7 x 0.25	0.010	0.25	0.050	1.27	EXBFB
2855/1	22	0.32	Solid	1 x 0.64	0.010	0.25	0.045	1.14	EXBFA
5856	20	0.62	19/32	19 x 0.20	0.010	0.25	0.058	1.47	EXBGE
5856/7	20	0.56	7/28	7 x 0.32	0.010	0.25	0.058	1.47	EXBGB
2856/1* **	20	0.52	Solid	1 x 0.81	0.010	0.25	0.052	1.32	EXBGA
5857	18	0.96	19/30	19 x 0.25	0.010	0.25	0.069	1.75	EXBHE
2857/1* **	18	0.82	Solid	1 x 1.02	0.011	0.27	0.061	1.55	EXBHA
5858	16	1.23	19/29	19 x 0.29	0.012	0.30	0.080	2.03	EXBJE
5859†	14	1.94	19/27	19 x 0.36	0.012	0.30	0.095	2.41	EXBKE
5859/12†	12	3.08	19/25	19 x 0.45	0.012	0.30	0.114	2.90	EXBLE
5859/10†	10	4.74	37/26	37 x 0.40	0.012	0.30	0.134	3.40	EXBMG

*Voltage rating not specified.
***White, black, red only.
†White only, not UL AWM 1213.

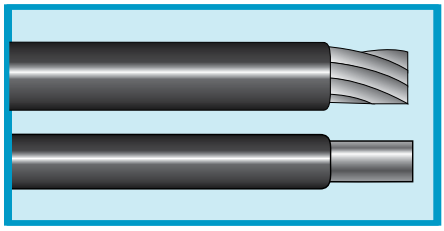
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

1000/300 V, PTFE



MIL-DTL-16878/5 (TYPE EE) (1000V)
UL AWM 1180 (300V)
NEMA HP3

Operating Temperature

- -60°C to +200°C

Materials

- Stranded or solid silver-plated copper conductor
- PTFE insulation

Availability

100 ft (30.5 m)
1000 ft (305 m)*
*May contain multiple lengths

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		NEMA HP3 Type
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm	
5874	24	0.24	19/36	19 x 0.13	0.015	0.37	0.054	1.37	EEXBEE
5875	22	0.38	19/34	19 x 0.16	0.014	0.36	0.060	1.52	EEXBFE
5876	20	0.62	19/32	19 x 0.20	0.014	0.36	0.068	1.73	EEXBGE
5877	18	0.96	19/30	19 x 0.25	0.015	0.37	0.079	2.01	EEXBHE
5878	16	1.23	19/29	19 x 0.29	0.016	0.41	0.089	2.26	EEXBJE
5879	14	1.94	19/27	19 x 0.36	0.017	0.43	0.106	2.69	EEXBKE
5879/10	10	4.74	37/26	37 x 0.40	0.017	0.43	0.145	3.68	EEXBMG
5879/12	12	3.08	19/25	19 x 0.45	0.017	0.43	0.125	3.18	EEXBLE
5879/8*	8	8.61	133/29	133 x 0.29	0.020	0.51	0.209	5.31	EEXBNL

*Not UL AWM 1180.

Insulation Colors

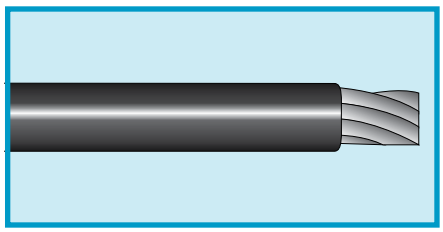
White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

Parts 5878, 5879, 5879/8, 5879/10, 5879/12: white only.

CA PROP 65 RoHS Compliant

Hook-Up Wire

1000 V, PTFE



Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		NEMA HP-3
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
22807	28	0.09	7/36	7 x 0.13	0.015	0.38	0.045	1.14	EEXBCB
22407	24	0.23	7/32	7 x 0.20	0.015	0.38	0.054	1.37	EEXBEB
22207	22	0.35	7/30	7 x 0.25	0.014	0.36	0.058	1.47	EEXBFB
22007	20	0.56	7/28	7 x 0.32	0.015	0.38	0.068	1.73	EXBGB

MIL-DTL-16878/5 (Type EE)
UL VW-1
NEMA HP3

Operating Temperature

- -60°C to +200°C

Materials

- Stranded silver-plated copper conductor
- PTFE insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)*
*May contain multiple lengths

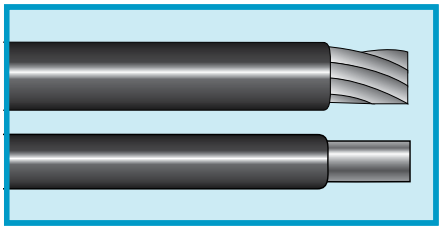
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

RoHS Compliant

Hook-Up Wire

600 V, ETFE or PTFE



SAE AS22759/11
(MIL-DTL-22759/11)
SAE AS22759/16
(MIL-DTL-22759/16)

Operating Temperature

- -55°C to +200°C (PTFE)
- -55°C to +150°C (ETFE)

Materials

- Stranded silver-plated copper conductors (SAE AS22759/11)
- Stranded tinned copper conductor (SAE AS22759/16)
- ETFE or PTFE insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)*
*May contain multiple lengths

PTFE, SAE AS22759/11, -55°C to +200°C, Silver-Plated Copper Conductors

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
AT261938	26	0.15	19/38	19 x 0.10	0.010	0.25	0.038	0.97
AT241936	24	0.24	19/36	19 x 0.13	0.009	0.23	0.043	1.09
AT221934	22	0.38	19/34	19 x 0.16	0.009	0.23	0.049	1.24
AT201932	20	0.62	19/32	19 x 0.20	0.011	0.28	0.058	1.47
AT181930	18	0.96	19/30	19 x 0.25	0.010	0.25	0.068	1.73
AT161929	16	1.23	19/29	19 x 0.29	0.010	0.25	0.075	1.90
AT141927	14	1.94	19/27	19 x 0.36	0.011	0.27	0.090	2.29
AT121925	12	3.08	19/25	19 x 0.45	0.013	0.32	0.111	2.82
AT103726	10	4.74	37/26	37 x 0.40	0.015	0.38	0.139	3.53
AT813329	8	8.61	133/29	133 x 0.29	0.019	0.48	0.202	5.13

ETFE, SAE AS22759/16, -55°C to +150°C, Tinned Copper Conductors

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
AZ241936	24	0.24	19/36	19 x 0.13	0.011	0.27	0.045	1.14
AZ221934	22	0.38	19/34	19 x 0.16	0.011	0.28	0.052	1.32
AZ201932	20	0.62	19/32	19 x 0.20	0.011	0.28	0.060	1.52
AZ181930	18	0.96	19/30	19 x 0.25	0.012	0.29	0.071	1.80
AZ161929	16	1.23	19/29	19 x 0.29	0.013	0.33	0.079	2.01
AZ141927	14	1.94	19/27	19 x 0.36	0.013	0.33	0.093	2.36
AZ123728	12	2.97	37/28	37 x 0.32	0.014	0.34	0.114	2.90
AZ103726	10	4.74	37/26	37 x 0.40	0.015	0.38	0.139	3.53
AZ813329	8	8.63	133/29	133 x 0.29	0.018	0.47	0.199	5.05
AZ413325	4	21.6	133/25	133 x 0.45	0.026	0.66	0.312	7.92

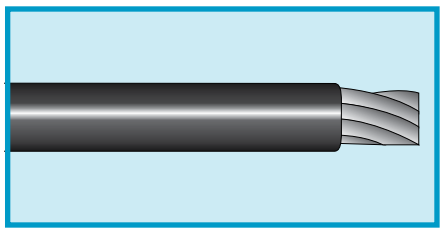
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

Wire Wrap, PVDF or ETFE



UL 1422, 1423, 1516, 1523
VW-1

Operating Temperature

- -40°C to +125°C (PVDF)
- -70°C to +150°C (ETFE)
- +105°C (UL)

Materials

- Silver-plated solid copper conductors
- PVDF or ETFE insulation

Availability

100 ft (30.5 m) (ETFE)
1000 ft (305 m) (PVDF or ETFE)

Part No.	Wire Size		Insulation Thickness		Nominal Diameter		UL Style
	AWG	mm²	Inch	mm	Inch	mm	
5951	30	0.05	0.005	0.11	0.019	0.51	1423
5952	28	0.08	0.006	0.14	0.024	0.61	1422
5953	26	0.13	0.006	0.14	0.027	0.69	1422
5954	24	0.20	0.005	0.11	0.030	0.76	1423

Part No.	Wire Size		Insulation Thickness		Nominal Diameter		UL Style
	AWG	mm²	Inch	mm	Inch	mm	
1805	30	0.05	0.005	0.11	0.020	0.51	1516
1806*	28	0.08	0.006	0.14	0.024	0.61	1523
1807	26	0.13	0.006	0.14	0.027	0.69	1523
1808**	24	0.20	0.005	0.11	0.030	0.76	1516

*Not available in orange.
**Not available in violet or orange.

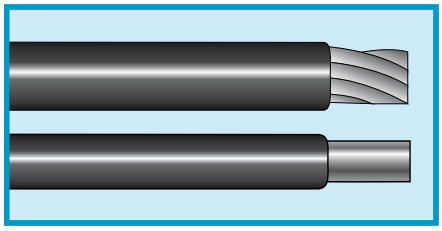
Insulation Colors

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	
Green	Orange	

CA PROP 65 RoHS Compliant

Hook-Up Wire

Test Lead Wire, EPR Rubber



Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Breakdown Voltage (RMS)	Working Voltage (RMS)
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm		
1632	20	0.52	41/36	41 x 0.13	0.040	1.02	0.118	3.00	6000	1500
1635	20	0.52	41/36	41 x 0.13	0.047	1.19	0.132	3.35	12,000	3000
1636	18	0.83	65/36	65 x 0.13	0.045	1.14	0.137	3.48	20,000	5000

Operating Temperature

- -30°C to +90°C

Voltage Rating

- See table

Materials

- Stranded tinned copper conductors
- EPR rubber insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

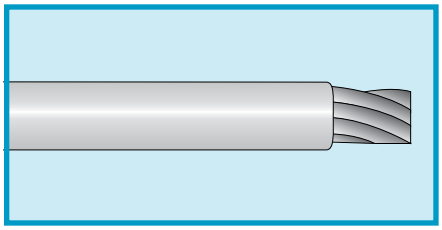
Insulation Colors

Black
Red

RoHS Compliant

Hook-Up Wire

600 V, Silicone Rubber



UL AWM 3212, 3213, 3214
CSA AWM I A/B FT2

Operating Temperature

- -40°C to +150°C

Materials

- Stranded tinned copper conductor
- White silicone rubber insulation

Availability

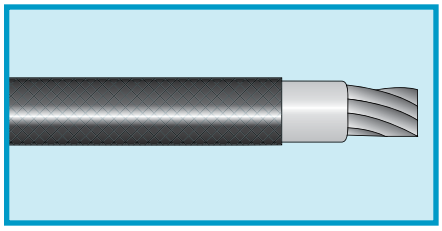
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		UL AWM
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm	
392207	22	0.35	7/30	7 x 0.25	0.047	1.19	0.124	3.15	3212
392010	20	0.51	10/30	10 x 0.25	0.047	1.19	0.131	3.33	3212
391816	18	0.81	16/30	16 x 0.25	0.047	1.19	0.141	3.58	3212
391626	16	1.32	26/30	26 x 0.25	0.047	1.19	0.154	3.91	3212
391441	14	2.08	41/30	41 x 0.25	0.047	1.19	0.168	4.27	3212
391265	12	3.29	65/30	65 x 0.25	0.047	1.19	0.187	4.75	3212
391000	10	5.32	105/30	105 x 0.25	0.047	1.19	0.212	5.38	3212
398133	8	8.61	133/29	133 x 0.29	0.063	1.60	0.295	7.49	3213
396133	6	13.57	133/27	133 x 0.36	0.063	1.60	0.339	8.61	3213
394133	4	21.55	133/25	133 x 0.45	0.063	1.60	0.395	10.03	3213
392259	2	33.15	259/26	259 x 0.40	0.063	1.60	0.460	11.68	3213
391259	1	41.96	259/25	259 x 0.45	0.078	1.98	0.532	13.51	3214
390001	1/0	53.10	259/24	259 x 0.51	0.078	1.98	0.578	14.68	3214
390002	2/0	67.43	1330/30	1330 x 0.25	0.078	1.98	0.639	16.23	3214
390004	4/0	106.82	2107/30	2107 x 0.25	0.078	1.98	0.837	21.26	3214

CA PROP 65 RoHS Compliant

Hook-Up Wire

High-Temperature Appliance Wire
600 V, Silicone Rubber, Glass Braid



UL AWM 3070, 3071, 3074, 3075
UL SF-2, SFF-2
CSA SEW-2, SEWF-2

Operating Temperature

- -40°C to +200°C (UL SF-2, CSA SEW-2)
- -40°C to +150°C (UL SFF-2, CSA SEWF-2)

Materials

- Stranded tinned copper conductor
- Silicon rubber insulation
- Glass braid jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Approval	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	UL	CSA
M4101	18	0.82	7/0.0152	7 x 0.39	0.032	0.81	0.124	3.15	3071, SF-2	SEW-2
M4110	18	0.81	16/30	16 x 0.25	0.032	0.81	0.130	3.30	3070, SFF-2	SEWF-2
M4102	16	1.31	7/0.0192	7 x 0.49	0.032	0.81	0.136	3.45	3071, SF-2	SEW-2
M4111	16	1.32	26/30	26 x 0.25	0.032	0.81	0.140	3.56	3070, SFF-2	SEWF-2
M4103	14	2.08	7/0.0242	7 x 0.61	0.032	0.81	0.152	3.86	3071, SF-2	SEW-2
M4112	14	2.08	41/30	41 x 0.25	0.032	0.81	0.160	4.06	3070, SFF-2	SEWF-2
M4104	12	3.08	19/25	19 x 0.45	0.032	0.81	0.166	4.22	3074, SF-2	SEW-2
M4113	12	3.29	65/30	65 x 0.25	0.032	0.81	0.180	4.57	3070, SFF-2	SEWF-2
M4105	10	4.92	19/23	19 x 0.57	0.048	1.22	0.221	5.61	3075, SF-2	SEW-2

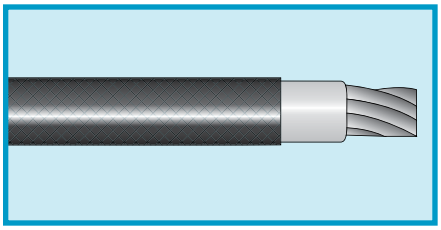
Insulation Colors

White
Black

CA PROP 65 RoHS Compliant

Hook-Up Wire

High-Temperature Type SRML Motor Lead
600 V, Silicone Rubber



UL AWM 3101, 3231, 3278
CSA SEW-2, SEWF-2

Operating Temperature

- -40°C to +200°C (AWM 3231, SEW-2)
- -40°C to +150°C (AWM 3101, 3278, SEWF-2)

Materials

- Stranded tinned copper conductor
- Silicon rubber insulation
- Black or white glass braid jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		UL AWM Style	CSA Type
	AWG	mm2	AWG	mm	Inch	mm	Inch	mm		
M4114	10	5.32	105/30	105 x 0.25	0.047	1.19	0.230	5.84	3101	SEWF-2
M4115	8	8.29	133/.0111	133 x 0.28	0.062	1.57	0.305	7.75	3278	SEWF-2
M4116	6	13.6	133/27	133 x 0.36	0.062	1.57	0.345	8.76	3278	SEWF-2
M4117	4	21.1	133/.0177	133 x 0.45	0.062	1.57	0.400	10.16	3231	SEW-2
M4118	2	33.5	133/.0223	133 x 0.57	0.062	1.57	0.470	11.94	3231	SEW-2
M4120	1/0	53.5	259/.0202	259 x 0.51	0.085	2.16	0.605	15.37	3231	SEW-2
M4121	2/0	68.8	259/.0229	259 x 0.58	0.085	2.16	0.660	16.76	3231	SEW-2
M4122	3/0	85.3	259/.0255	259 x 0.65	0.085	2.16	0.715	18.16	3231	SEW-2
M4123	4/0	107	259/.0286	259 x 0.73	0.085	2.16	0.785	19.94	3231	SEW-2

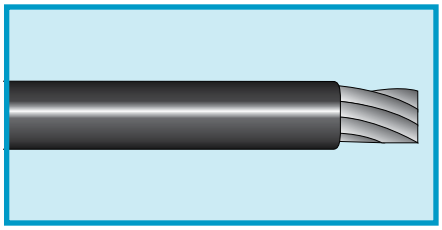
Insulation Colors

White
Black

CA PROP 65 RoHS Compliant

Hook-Up Wire

High Voltage, Silicone Rubber



UL AWM 3239

Operating Temperature

- -40°C to +150°C

Materials

- Stranded tinned copper conductor
- Silicone rubber insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

UL 3239

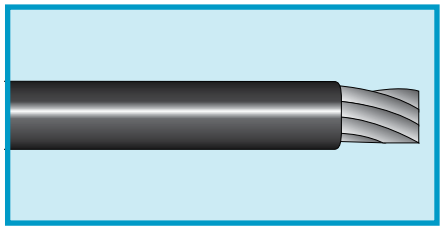
Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Voltage
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
392297	22	0.35	7/30	7 x 0.25	0.097	2.46	0.224	5.69	40 kV
392275	22	0.35	7/30	7 x 0.25	0.075	1.90	0.180	4.57	30 kV
392262	22	0.35	7/30	7 x 0.25	0.062	1.57	0.154	3.91	25 kV
392250	22	0.35	7/30	7 x 0.25	0.050	1.27	0.131	3.33	20 kV
392245	22	0.35	7/30	7 x 0.25	0.045	1.14	0.120	3.05	15 kV
392240	22	0.35	7/30	7 x 0.25	0.040	1.02	0.11	2.79	10 kV
392097	20	0.51	10/30	10 x 0.25	0.097	2.46	0.231	5.87	40 kV
392075	20	0.51	10/30	10 x 0.25	0.075	1.90	0.187	4.75	30 kV
392062	20	0.51	10/30	10 x 0.25	0.062	1.57	0.161	4.09	25 kV
392050	20	0.51	10/30	10 x 0.25	0.050	1.27	0.137	3.48	20 kV
392045	20	0.51	10/30	10 x 0.25	0.045	1.14	0.127	3.23	15 kV
392040	20	0.51	10/30	10 x 0.25	0.040	1.02	0.117	2.97	10 kV
391897	18	0.81	16/30	16 x 0.25	0.097	2.46	0.241	6.12	40 kV
391875	18	0.81	16/30	16 x 0.25	0.075	1.90	0.197	5.00	30 kV
391862	18	0.81	16/30	16 x 0.25	0.062	1.57	0.171	4.34	25 kV
391850	18	0.81	16/30	16 x 0.25	0.050	1.27	0.147	3.73	20 kV
391845	18	0.81	16/30	16 x 0.25	0.045	1.14	0.137	3.48	15 kV
391840	18	0.81	16/30	16 x 0.25	0.040	1.02	0.127	3.23	10 kV
391699	16	1.32	26/30	26 x 0.25	0.150	3.81	0.360	9.14	50 kV
391697	16	1.32	26/30	26 x 0.25	0.097	2.46	0.254	6.45	40 kV
391675	16	1.32	26/30	26 x 0.25	0.075	1.90	0.210	5.33	30 kV
391662	16	1.32	26/30	26 x 0.25	0.062	1.57	0.184	4.67	25 kV
391650	16	1.32	26/30	26 x 0.25	0.050	1.27	0.160	4.06	20 kV
391645	16	1.32	26/30	26 x 0.25	0.045	1.14	0.150	3.81	15 kV
391640	16	1.32	26/30	26 x 0.25	0.040	1.02	0.140	3.56	10 kV
391499	14	2.08	41/30	41 x 0.25	0.150	3.81	0.374	9.50	50 kV
391497	14	2.08	41/30	41 x 0.25	0.097	2.46	0.268	6.81	40 kV
391475	14	2.08	41/30	41 x 0.25	0.075	1.90	0.224	5.69	30 kV
391462	14	2.08	41/30	41 x 0.25	0.062	1.57	0.198	5.03	25 kV
391450	14	2.08	41/30	41 x 0.25	0.050	1.27	0.174	4.42	20 kV
391445	14	2.08	41/30	41 x 0.25	0.045	1.14	0.164	4.17	15 kV
391440	14	2.08	41/30	41 x 0.25	0.040	1.02	0.154	3.91	10 kV

White	Black	Red

UL LISTED CA PROP 65 RoHS Compliant

Hook-Up Wire

High Voltage, Silicone Rubber



UL AWM 3239

Operating Temperature

- -40°C to +150°C

Materials

- Stranded tinned copper conductor
- Silicone rubber insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

UL 3239

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Voltage
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
391297	12	3.29	65/30	65 x 0.25	0.097	2.46	0.287	7.29	40 kV
391275	12	3.29	65/30	65 x 0.25	0.075	1.90	0.243	6.17	30 kV
391262	12	3.29	65/30	65 x 0.25	0.062	1.57	0.217	5.51	25 kV
391250	12	3.29	65/30	65 x 0.25	0.050	1.27	0.193	4.90	20 kV
391245	12	3.29	65/30	65 x 0.25	0.045	1.14	0.183	4.65	15 kV
391099	10	5.32	105/30	105 x 0.25	0.150	3.81	0.418	10.62	50 kV
391097	10	5.32	105/30	105 x 0.25	0.097	2.46	0.312	7.92	40 kV
391045	10	5.32	105/30	105 x 0.25	0.045	1.14	0.208	5.28	15 kV
391040	10	5.32	105/30	105 x 0.25	0.040	1.02	0.198	5.03	10 kV
390897	8	8.61	133/29	133 x 0.28	0.097	2.46	0.363	9.22	40 kV
390862*	8	8.61	133/29	133 x 0.28	0.062	1.57	0.293	7.44	25 kV
390845	8	8.61	133/29	133 x 0.28	0.045	1.14	0.259	6.58	15 kV
390662*	6	13.57	133/27	133 x 0.36	0.062	1.57	0.337	8.56	25 kV
390645	6	13.57	133/27	133 x 0.36	0.045	1.14	0.303	7.70	15 kV
390462*	4	21.55	133/25	133 x 0.45	0.062	1.57	0.393	9.98	25 kV
390262*	2	34.45	259/26	259 x 0.40	0.062	1.57	0.463	11.76	25 kV

*Not UL Recognized.

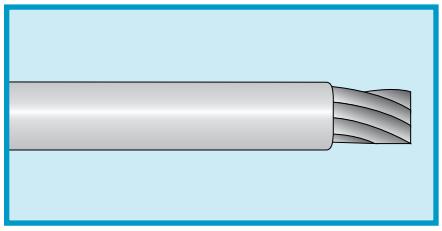
Insulation Colors

White	Black	Red

UL LISTED CA PROP 65 RoHS Compliant

Hook-Up Wire

High Voltage, Silicone Rubber



UL VW-1

Operating Temperature

- -40°C to +200°C

Materials

- Stranded silver-plated copper conductor
- White silicone rubber insulation

Availability

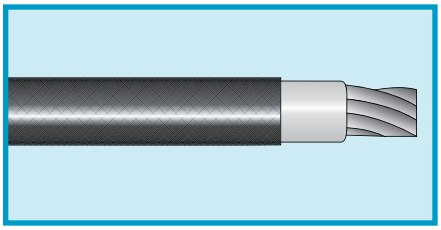
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Voltage
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	
39X2220	22	0.35	7/30	7 x 0.25	0.050	1.27	0.130	3.30	20 kV
39X2215	22	0.35	7/30	7 x 0.25	0.040	1.02	0.110	2.79	15 kV
39X2205	22	0.35	7/30	7 x 0.25	0.020	0.51	0.070	1.78	5 kV
39X2025	20	0.62	19/32	19 x 0.20	0.063	1.60	0.166	4.22	25 kV
39X2020	20	0.62	19/32	19 x 0.20	0.055	1.40	0.150	3.81	20 kV
39X2015	20	0.62	19/32	19 x 0.20	0.040	1.02	0.120	3.05	15 kV
39X1825	18	0.96	19/30	19 x 0.25	0.055	1.40	0.160	4.06	25 kV
39X1660	16	1.32	26/30	26 x 0.25	0.162	4.11	0.384	9.75	60 kV
39X1645	16	1.23	19/29	19 x 0.28	0.125	3.18	0.306	7.77	45 kV
39X1635	16	1.23	41/32	41 x 0.20	0.105	2.67	0.269	6.83	35 kV
39X1620	16	1.33	41/32	41 x 0.20	0.053	1.33	0.164	4.17	20 kV
39X1460	14	1.94	19/27	19 x 0.36	0.157	3.99	0.385	9.78	60 kV
39X1260	12	3.08	19/25	19 x 0.45	0.178	4.51	0.445	11.30	60 kV

CA PROP 65 RoHS Compliant

Hook-Up Wire

High Temperature
600 V, Mica-Glass, PTFE



UL AWM 5107
CSA AWM I A/B

Operating Temperature

- -55°C to +538°C
- -55°C to +450°C (UL, CSA)

Materials

- Stranded nickel-plated copper conductor
- Mica-glass tape insulation
- Tan PTFE-impregnated fiberglass jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

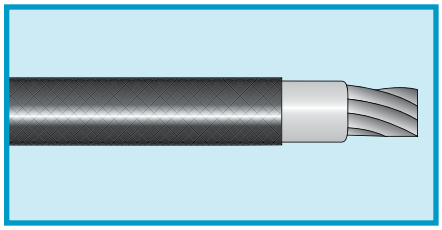
Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
3112010	20	0.51	10/30	10 x 0.25	0.025	0.64	0.101	2.57
3111816	18	0.81	16/30	16 x 0.25	0.025	0.64	0.111	2.82
3111626	16	1.32	26/30	26 x 0.25	0.025	0.64	0.124	3.15
3111441	14	2.08	41/30	41 x 0.25	0.025	0.64	0.138	3.51
3111265	12	3.29	65/30	65 x 0.25	0.025	0.64	0.157	3.99
3111000	10	5.32	105/30	105 x 0.25	0.030	0.76	0.206	5.23
3118133	8	8.63	133/29	133 x 0.28	0.030	0.76	0.260	6.60
3116133	6	13.6	133/27	133 x 0.36	0.030	0.76	0.304	7.72
3114133	4	21.6	133/25	133 x 0.36	0.030	0.76	0.361	9.17
3112133	2	34.4	133/23	133 x 0.57	0.035	0.89	0.444	11.28

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Hook-Up Wire

High Temperature
600 V, PTFE/Glass Braid



UL AWM 5196
CSA AWM I A/B

Operating Temperature

- -55°C to +250°C

Materials

- Stranded nickel-plated copper conductor
- White PTFE tape insulation
- Double fiberglass serve
- Tan PTFE-impregnated fiberglass jacket

Availability

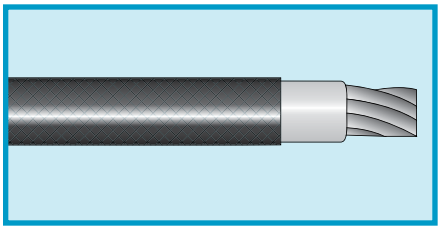
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
3131816	18	0.81	16/30	16 x 0.25	0.016	0.41	0.109	2.77
3131626	16	1.32	26/30	26 x 0.25	0.016	0.41	0.122	3.10
3131441	14	2.08	41/30	41 x 0.25	0.016	0.41	0.136	3.45
3131265	12	3.29	65/30	65 x 0.25	0.016	0.41	0.155	3.94
3131000	10	5.32	105/30	105 x 0.25	0.016	0.41	0.180	4.57
3138133	8	8.61	133/29	133 x 0.29	0.016	0.41	0.232	5.89
3136133	6	13.6	133/27	133 x 0.36	0.016	0.41	0.315	8.00

CA PROP 65 RoHS Compliant

Hook-Up Wire

Type TGGT High-Temperature
600 V, PTFE/Glass Braid



UL AWM 5196, 5251
CSA AWM 1 A/B

Operating Temperature

- -55°C to +250°C

Materials

- Flexible nickel-covered stranded copper conductor
- White PTFE tape insulation
- Tan high-temperature-saturant-coated glass braid jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

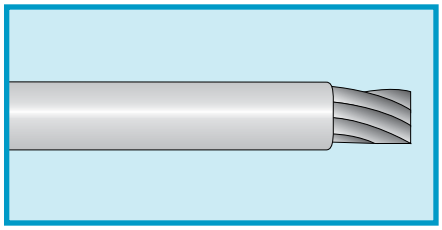
Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
M70562*	2	36.6	133/0.0223	133 x 0.57	0.020	0.51	0.445	11.30
M70563	1	41.1	259/0.0177	259 x 0.45	0.020	0.51	0.485	12.32
M70564	1/0	53.5	259/0.0202	259 x 0.51	0.020	0.51	0.535	13.59
M70565	2/0	68.8	259/0.0227	259 x 0.58	0.020	0.51	0.685	17.40
M70566	3/0	85.3	259/0.0255	259 x 0.65	0.020	0.51	0.645	16.38
M70567	4/0	107	259/0.0286	259 x 0.73	0.020	0.51	0.710	18.03

*UL AWM 5196.

CA PROP 65 RoHS Compliant

Hook-Up Wire

Welding Cable
600 V, EPDM



Operating Temperature

- -50°C to +105°C

Materials

- Stranded bare copper conductor
- Black EPDM rubber jacket

Availability

Bulk, cut to length

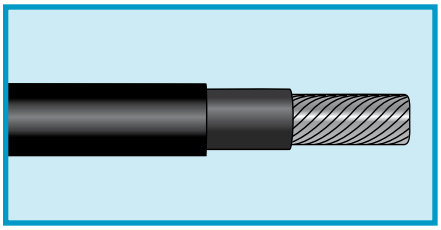
Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter		Current-Carrying Capacity	Voltage Drop*
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	A	V
6112	6	13.5	266/30	266 x 0.25	0.060	1.52	0.320	8.13	75	3.30
6113	4	19.9	392/30	392 x 0.25	0.060	1.52	0.375	9.53	100	2.80
6115	2	32.6	644/30	644 x 0.25	0.060	1.52	0.440	11.18	200	3.60
6116	1	39.7	784/30	784 x 0.25	0.080	2.03	0.515	13.08	250	3.80
6117	1/0	52.0	1026/30	1026 x 0.25	0.080	2.03	0.550	13.97	300	3.60
6118	2/0	63.5	1254/30	1254 x 0.25	0.080	2.03	0.590	14.99	375	3.37
6119	3/0	81.8	1615/30	1615 x 0.25	0.080	2.03	0.660	16.76	450	3.40
6120	4/0	104	2056/30	2056 x 0.25	0.080	2.03	0.725	18.42	550	3.30

*Voltage drop per 100 ft (30.5 m) at 60°C.

RoHS Compliant

Hook-Up Wire

1000/2000 V Photovoltaic Wire, XLPE, PVC



UL 4703 PV VW-1 (2000 V)
UL Sunlight Resistant

Operating Temperature

- -40°C to +90°C

Materials

- Stranded tinned copper conductor
- Black cross-linked polyethylene insulation
- Black PVC jacket

Availability

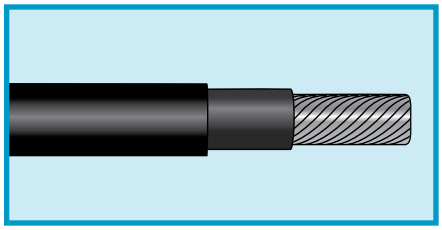
100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation/Jacket Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PV1430	14	2.08	41/30	41 x 0.25	0.063/ 0.032	1.60/ 0.81	0.267	6.78
PV1230	12	3.29	65/30	65 x 0.25	0.063/ 0.032	1.60/ 0.81	0.286	7.26
PV1030	10	5.32	105/30	105 x 0.25	0.063/ 0.032	1.60/ 0.81	0.311	7.90
PV0830A*	8	8.51	168/30	168 x 0.25	0.078/ 0.032	1.98/ 0.81	0.390	9.91
PV0630A*	6	13.5	266/30	266 x 0.25	0.078/ 0.032	1.98/ 0.81	0.433	11.00
PV0430A*	4	21.3	420/30	420 x 0.25	0.078/ 0.032	1.98/ 0.81	0.491	12.47
PV0230A*	2	33.7	665/30	665 x 0.25	0.078/ 0.032	1.98/ 0.81	0.558	14.17

*UL 4703 PV only.

Hook-Up Wire

600/1000 V Photovoltaic Wire, LSZH, LSZH



UL 4703 PV VW-1 (600 V)
UL Sunlight Resistant
TÜV 2 PFG 1169 (1000 V)
IEC 60332-1
IEC 60754-1 and 60754-2

Operating Temperature

- -40°C to +125°C
- -40°C to +90°C (TÜV and UL)
- +120°C maximum temperature at conductor (TÜV)

Materials

- Stranded tinned copper conductor
- Black cross-linked LSZH insulation
- Black cross-linked LSZH jacket

Availability

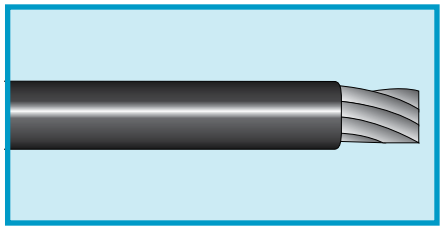
100 ft (30.5 m)
1000 ft (305 m)

Part No.	Wire Size		Stranding		Insulation/Jacket Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PVT1430	14	2.5	50/30	50 x 0.25	0.045/ 0.032	1.14/ 0.81	0.230	5.84
PVT1228	12	4.0	56/28	56 x 0.32	0.045/ 0.032	1.14/ 0.81	0.252	6.40
PVT1028	10	6.0	84/28	84 x 0.32	0.045/ 0.032	1.14/ 0.81	0.275	6.99
PVT0826	8	10	78/26	78 x 0.40	0.060/ 0.032	1.52/ 0.81	0.340	8.64
PVT0626	6	16	128/26	128 x 0.40	0.060/ 0.032	1.52/ 0.81	0.386	9.80
PVT0426	4	25	199/26	199 x 0.40	0.060/ 0.032	1.52/ 0.81	0.436	11.07
PVT0226	2	35	279/26	279 x 0.40	0.060/ 0.032	1.52/ 0.81	0.484	12.29

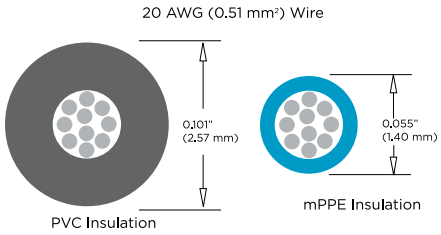
UL LISTED RoHS Compliant

Hook-Up Wire

EcoWire™
600 V, mPPE



Innovative EcoWire combines increased performance with a minimized environmental impact. EcoWire's modified polyphenylene ether (mPPE) insulation is inherently lighter, tougher, and more durable than PVC. The result is UL AWM wire that is up to 45% smaller in diameter and 40% lighter than PVC-based counterparts, while offering 10x better abrasion resistance. Plus, the non-halogenated insulation contains no heavy metal pigments, allowing it to help manufacturers meet Waste Electrical and Electronic Equipment (WEEE) requirements.



UL AWM 11028 VW-1
CSA AWM I A/B FT1
CE compliant

Operating Temperature

- -40°C to +105°C

Materials

- Stranded or solid tinned copper conductors
- Modified polyphenylene ether insulation

Availability

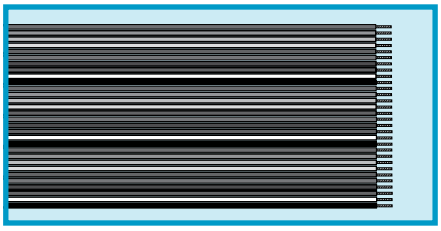
100 ft (30.5 m)
1000 ft (305 m)

Part No.	Conductor Size		Stranding		Insulation Thickness		Wire Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
6710	28	0.07	7/36	7 x 0.12	0.010	0.25	0.034	0.86
6711	26	0.14	7/34	7 x 0.16	0.010	0.25	0.038	0.97
6712	24	0.22	7/32	7 x 0.20	0.010	0.25	0.043	1.09
6713	22	0.35	7/30	7 x 0.25	0.010	0.25	0.049	1.24
6714	20	0.51	10/30	10 x 0.25	0.010	0.25	0.055	1.40
6715	18	0.81	16/30	16 x 0.25	0.010	0.25	0.067	1.70
6715S	18	0.82	Solid	Solid	0.010	0.25	0.059	1.50
6716	16	1.32	26/30	26 x 0.25	0.011	0.28	0.081	2.06
6717	14	2.09	41/30	41 x 0.25	0.011	0.28	0.096	2.44
6717S	14	2.08	Solid	Solid	0.011	0.28	0.086	2.18
6718	12	3.31	65/30	65 x 0.25	0.012	0.30	0.117	2.97
6719	10	5.37	105/30	105 x 0.25	0.012	0.30	0.144	3.66

White	Yellow	Slate
Black	Blue	Violet
Red	Brown	Green/Yellow
Green	Orange	

Hook-Up Wire

150/600 V Ribbon Cable, PVC



MIL-DTL-16878/1 (Type B) (600 V)
UL AWM 2713 (150 V) VW-1

Operating Temperature

- -20°C to +105°C (MIL)
- -20°C to +80°C (AWM)

Conductor Color Coding

- Brown, red, orange, yellow, green, blue, violet, slate, white, black . . . repeats

Materials

- Stranded tinned copper conductors
- Color-coded PVC insulation bonded into a flat configuration

Availability

100 ft (30.5 m)

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)
Cable height: 0.039 (0.99 mm)

Part No.	Conductors	Width	
		Inch	mm
3550	10	0.392	9.96
3550/14	14	0.546	13.87
3551	15	0.585	14.68
3551/16	16	0.624	15.85
3553	30	1.170	29.72

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.010 (0.25 mm)
Cable height: 0.044 (1.12 mm)

Part No.	Conductors	Width	
		Inch	mm
3540/7	10	0.440	11.18
3541/7	15	0.660	16.76
3542/7	20	0.880	22.35

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.12 mm)
Insulation thickness: 0.010 (0.25 mm)
Cable height: 0.044 (1.12 mm)

Part No.	Conductors	Width	
		Inch	mm
3540	10	0.440	11.18
3541	15	0.660	16.76
3542	20	0.880	22.35
3543	30	1.320	33.53

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Cable height: 0.050 (1.27 mm)

Part No.	Conductors	Width	
		Inch	mm
3530/7	10	0.500	12.70
3531/7	15	0.750	19.05
3532/7	20	1.000	25.40
3533/7	30	1.500	38.10

22 AWG (0.38 mm²)

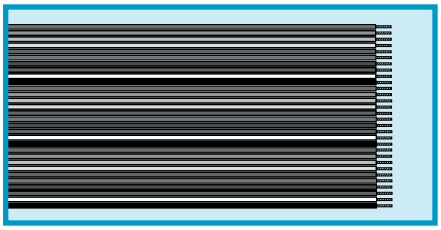
Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)
Cable height: 0.051 (1.29 mm)

Part No.	Conductors	Width	
		Inch	mm
3530	10	0.510	12.95
3531	15	0.765	19.43
3532	20	1.020	25.91
3533	30	1.530	38.86

RoHS Compliant

Hook-Up Wire

300/1000 V Ribbon Cable, PVC



MIL-DTL-16878/2 (Type C) (1000 V)
UL AWM 2555 (300 V)

Operating Temperature

- -20°C to +105°C (MIL)
- -20°C to +80°C (AWM)

Conductor Color Coding

- Brown, red, orange, yellow, green, blue, violet, slate, white, black . . . repeats

Materials

- Stranded tinned copper conductors
- Color-coded PVC insulation bonded into a flat configuration

Availability

100 ft (30.5 m)

22 AWG (0.35 mm²)

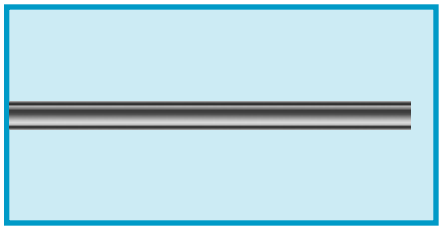
Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)
Cable height: 0.065 (1.65 mm)

Part No.	Conductors	Width	
		Inch	mm
3505	5	0.310	7.87
3510	10	0.620	15.75
3515	15	0.930	23.62
3520	20	1.240	31.50

RoHS Compliant

Hook-Up Wire

Bus Bar Wire



CID AA-59551 Type S
ASTM B33

Material

- Electrolytic soft-drawn and annealed solid tin-plated copper conductor

Availability

100 ft (30.5 m)
1000 ft (305 m)

Part No	Wire Size			Diameter	
	AWG	CMA	mm^2	Inch	mm
938	38	16	.008	0.004	0.10
936	36	25	0.01	0.005	0.13
934	34	40	0.02	0.006	0.15
932	32	64	0.03	0.008	0.20
299/3	30	100	0.05	0.010	0.25
299/2	28	159	0.08	0.013	0.33
299/1	26	253	0.12	0.016	0.41
299	24	404	0.20	0.020	0.51
298	22	640	0.32	0.025	0.64
297	20	1020	0.51	0.032	0.81
296	18	1620	0.82	0.040	1.02
295	16	2580	1.31	0.051	1.30
286	14	4110	2.08	0.064	1.63
289	12	6530	3.31	0.081	2.06
910	10	10380	5.26	0.102	2.59
908	8	16510	8.37	0.129	3.28
906	6	26250	13.3	0.162	4.11

RoHS Compliant

Hook-Up Wire Kits

Alpha's hook-up wire kits contain an assortment of 100 ft (30.5 m) spools of hook-up wire suitable for military or UL/CSA applications. These kits have been designed for use by technicians, engineers, and designers in the R&D lab or maintenance shop. Each kit contains a stripping tool and five spools of hook-up wire in a unique, rack-mounted, transparent dispensing tube. The tube and rack system keeps hook-up wire neat, clean, and conveniently at hand.

Operating Temperature

- **-40°C to +80°C (HU-KIT-10, 30)**
- **-40°C to +105°C (HU-KIT-20, 40)**

Voltage Rating

- **1000 V (HU-KIT-10, 30)**
- **300 V (HU-KIT-20, 40)**

Materials

- **Stranded tinned copper conductor**
- **Color-coded PVC insulation**

Availability

1 box

Part No.	Wire Type	Wire Size		Colors	Wire Length (each order)		Reorder No.
		AWG	mm²		Feet	Meters	
HU-KIT-40	UL AWM 1007 UL AWM 1569 CSA TR 64	24	0.23	White Black Red Green Blue	100	30.5	3050
HU-KIT-30	MIL-W-76B Type MW	24	0.23	White Black Red Green Blue	100	30.5	1550
HU-KIT-20	UL AWM 1007 UL AWM 1569 CSA TR 64	22	0.36	White Black Red Green Blue	100	30.5	3051
HU-KIT-10	MIL-W-76B Type MW	22	0.36	White Black Red Green Blue	100	30.5	1551

Note: Each kit includes a cut-and-strip tool.

RoHS Compliant

Dearborn™ Bulk Hook-Up Wire

We support your high-volume needs with large put-ups for a wide range of both military and UL style PVC hook-up wire.

Dearborn bulk wire has the same high quality as all Alpha wire and cable, but is available in put-ups of 5000 ft (1524 m) and above. Many styles are available in barrel packs as well.

Bulk PVC wire options include:

- **Stranded and solid conductors**
- **Bare or tinned copper**
- **Standard and semirigid PVC**
- **Variety of temperature ranges**

Popular Bulk Wire Styles

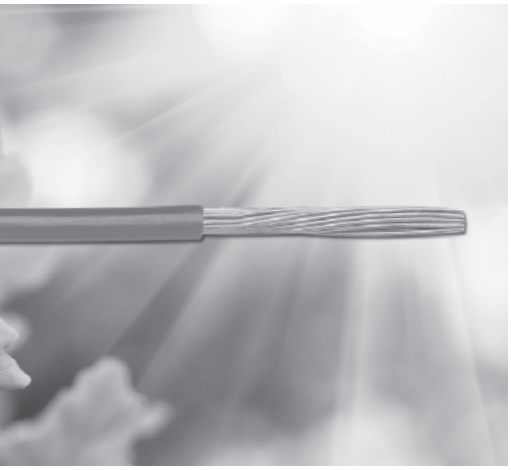
Style	Insulation	AWG Range	Temperature
MIL-DTL-16878/1 (Type B)	PVC	32 – 14	-55°C to +105°C
MIL-DTL-16878/2 (Type C)	PVC	24 – 22	-55°C to +105°C
MIL-DTL-16878/3 (Type D)	PVC	16	-20°C to +105°C
MIL-W-76 Type MWP	PVC	24, 12	-55°C to +90°C
UL AWM 1007	PVC	24 - 10	-20°C to +80°C
UL AWM 1028	PVC	24 - 10	-20°C to +105°C
UL AWM 1061	SR-PVC	30 - 20	-10°C to +80°C
UL AWM 1231	PVC	24 - 10	-20°C to +105°C
UL AWM 1569	PVC	28 - 16	-20°C to +105°C
UL AWM 1581	PVC	28 - 16	-20°C to +80°C
UL MTW	PVC	20 – 10	-20°C to +90°C
UL TW	PVC	24 - 10	-20°C to +60°C

For more styles and conductor options please contact your Alpha Wire Sales Representative.

{CONFESSION}

We think we're pretty tough

(New EcoWire™ has 10x better abrasion and pinch resistance than PVC)



Superior Performance for Sustainable Designs

Tough wire doesn't have to be bulky or hard to recycle. Innovative EcoWire combines increased performance with a minimized environmental impact. EcoWire's modified polyphenylene ether (mPPE) insulation is inherently lighter, tougher, and more durable than PVC.

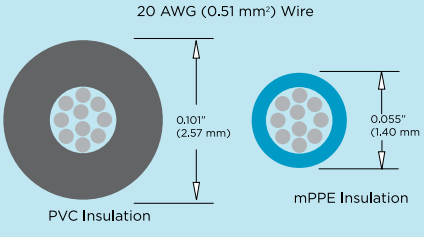
Meet Waste Electrical and Electronic Equipment (WEEE) requirements with EcoWire. Its nonhalogenated insulation contains no heavy metal pigments, so it is easily and 100% recyclable.

With sizes ranging from 28 to 10 AWG in a UL AWM 11028 style with a temperature range from -40°C to +105°C, EcoWire is the perfect hook-up wire where space savings, lighter weight, mechanical ruggedness, and recyclability are required. And it gives you greener performance in eleven insulation colors.

Learn more about EcoWire by visiting www.alphawire.com to download a brochure and white paper, obtain complete specifications, or order a sample.

EcoWire Gives You More for Less

- 10x superior abrasion resistance
- Up to 45% smaller diameter
- Up to 40% lighter weight
- UL VW-1 flammability rating
- 100% recyclable



AlphaWire

Cables you trust. Service you deserve.

Toll Free: 1-800-52 ALPHA | www.alphawire.com

CABLE | WIRE | ACCESSORIES

Dearborn™ Marine

Dearborn™ Marine

The Premier Choice for Marine Applications

For tough, seaworthy wire and cable, Alpha Wire's Dearborn brand of products delivers performance in the most challenging environments for electrical components and electronic systems, with the ever-present potential for corrosion and other harmful effects from moisture, salt, oil, and gases.

Whether you are building new pleasure or commercial watercraft or maintaining existing boats, our marine products will satisfy your most stringent requirements.

Complete line for every marine application

From wiring of engines, batteries, and bilge pumps to cables for communications, instrumentation, and electronics, you will find the exact wire or cable you need. Cables are color-coded to meet boating industry standards.

Marine wire

High-grade marine wire for the full spectrum of marine applications, including wiring of engines, batteries, and bilge pumps.

Marine cable

A complete line of multi-conductor cables, designed specifically for marine environments. Ideally suited for multiple applications, including communi-cations, instrumentation, and electronics.

Marine heat-shrink tubing

To protect cable terminations and provide a watertight connection, we offer marine grade heat-shrink tubing with an operating temperature range of –55°C to +130°C for protecting electrical connections, and spiral wrap and split ducts for managing and organizing wires and cables.

Marine ready

Our cables meet various specifications to ensure regulatory compliance and seaworthiness:

- **UL Standard 1426: Electrical Cable for Boats**
- **SAE J378: Marine Propulsion Systems Wiring**
- **SAE J1127: Low-Voltage Battery Cables**
- **SAE J1128: Low-Voltage Primary Cables**
- **ABYC E-11-2008: Standard for AC and DC Electrical Systems on Boats**
- **ABYC E-10-2006: Storage Batteries**
- **USCG: Title 33, CFR 183 Subpart I, Section 183**

Designed to perform

Dearborn marine wire and cable use corrosion-resistant annealed tinned copper conductors with Type 3 marine stranding for extra flexibility and service life. A choice of round or flat multiconductor cables means easier handling and routing.

- **Rugged PVC insulation and jackets, rated to 105°C**
- **Easy circuit identification with color-coded conductors**
- **Shielded cable available for EMI protection**
- **UL VW-1 flame retardant**
- **Convenient, easy to use packaging in lengths as low as 50 feet**
- **Resistant to oil, chemicals, solvents, and sea water**
- **Premium high-performance with tinned conductors**

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

The Premier Choice for Marine Applications				
Application	**Configuration**	**No. of Conductors**	**Wire Gauge Range**	**Features**
Engine wiring	Flat (parallel) or round	1 – 3	18 – 6	Color-coded with white jackets
Battery	Round	1	8 – 4/0	Extra flexible stranding
Speaker cable	Round	1	22 – 14	Ripcord construction
Bonding cable	Round	1	6 – 4	Resists oil, fungus, chemicals, and heat Retards electrolytic corrosion
Telephone cable	Round	2 – 3	22	High-density polyethylene insulation
Communications and control	Round	2 – 7	18 – 16	Shielded and unshielded
RFI shielded cable	Round	2 – 3	18 – 14	Foil shield, 100% coverage
Duplex shielded cable	Round	2	16 – 10	Foil + braid for maximum shielding
Bilge pump	Round	3	18 – 14	Water-resistant construction Resistant to gasoline, oils, solvents, and salt water
Trailer cable	Flat (parallel) or round	3 – 4	16 – 12	See-through insulation for easier installation

Required Marine Wiring Color Codes

Direct Current Systems, Under 50 Volts	
Color	**Use**
Green	Bonding
White or Black	Return, negative main
Red	Positive mains, particularly unfused

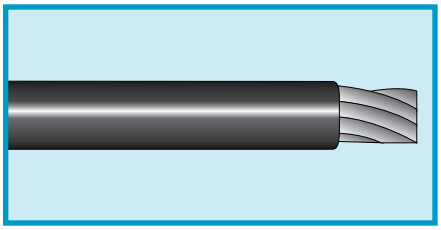
Notes: (1) The colors shall be reserved for the uses as indicated, only.
(2) When the color (White or Black) is selected for the negative side of the system, it shall be used throughout the system to the exclusion of the other color.

Recommended Marine Wiring Color Codes

Direct Current Systems, Under 50 Volts		
Color	**Item**	**Use**
Yellow w/Red Stripe	Starting circuit	Starting switch to solenoid
Yellow	Generator or alternator field	Generator or alternator field to regulator field
	Bilge blowers	Terminal fuse or switch to blowers
Dark Gray	Navigation lights	Fuse or switch to lights
	Tachometer	Tachometer sender to gauge
Brown	Generator armature	Generator armature to regulator
	Alternator charge light	Generator terminal or alternator auxiliary terminal to light to regulator
	Pumps	Fuse or switch to pumps
Orange	Accessory feed	Ammeter to alternator or generator output and accessory fuses or switches
	Accessory common feed	Distribution panel to accessory switch
Purple	Ignition	Ignition switch to coil and electrical instruments
	Instrument feed	Distribution panel to electric instruments
Dark Blue	Cabin and instrument lights	Fuse or switch to lights
Light Blue	Oil pressure	Sender to gauge
Tan	Water temperature	Water temperature sender to gauge
Pink	Fuel gauge	Fuel gauge sender to gauge

Dearborn™ Marine Wire

50 V Standard-Grade Primary Wire



SAE J1128 Type GPT
SAE J378B

Operating Temperature

- -40°C to +105°C

Insulation Color Coding

- Black, red, orange, yellow, green, blue, violet, white, brown, slate

Materials

- Stranded bare copper conductors
- PVC insulation

Availability

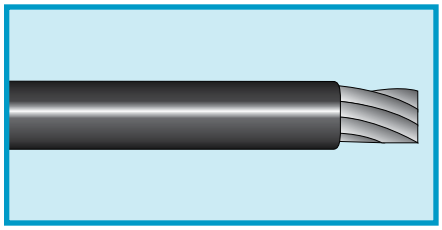
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PWM1816	18	0.81	16/30	16 x 0.25	0.023	0.58	0.093	2.36
PWM1619	16	1.23	19/29	19 x 0.29	0.023	0.58	0.103	2.62
PWM1419	14	1.94	19/27	19 x 0.36	0.023	0.58	0.117	2.97
PWM1219	12	3.08	19/25	19 x 0.46	0.026	0.66	0.142	3.61
PWM1019	10	4.92	19/23	19 x 0.57	0.034	0.86	0.176	4.47
PWM0819	8	7.82	19/21	19 x 0.72	0.037	0.94	0.216	5.49
PWM0619	6	12.4	19/19	19 x 0.91	0.043	1.09	0.337	8.56

RoHS Compliant

Dearborn™ Marine Wire

600 V Premier Battery Wire



UL AWM 1283 VW-1
UL BC-5W2
UL Oil Res 1
CSA AWM I A/B FT1
CSA TEW-105
ABYC
Coast Guard
SAE J378B, J1127 Type SGT (50 V)

Operating Temperature

- -20°C to +105°C

Insulation Color Coding

- White, black, red, green, yellow, blue, brown, orange, slate, violet

Materials

- Corrosion-resistant stranded tinned copper conductors
- PVC insulation

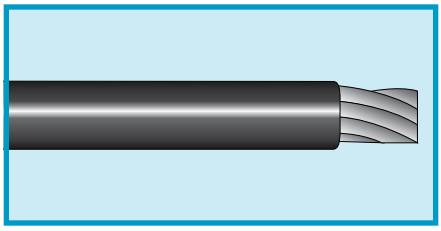
Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PBM0830	8	8.51	168/30 (7 x 24)	168 x 0.25	0.060	1.52	0.294	7.47
PBM0630	6	13.5	266/30 (7 x 38)	266 x 0.25	0.060	1.52	0.339	8.61
PBM0430	4	21.3	420/30 (7 x 60)	420 x 0.25	0.065	1.65	0.404	10.26
PBM0230	2	33.7	665/30 (7 x 95)	665 x 0.25	0.065	1.65	0.471	11.96
PBM0130	1	42.4	836/30 (19 x 44)	836 x 0.25	0.082	2.08	0.529	13.44
PBM0001	1/0	53.9	1064/30 (19 x 56)	1064 x 0.25	0.082	2.08	0.570	14.48
PBM0002	2/0	67.0	1323/30 (7 x 7 x 27)	1323 x 0.25	0.082	2.08	0.648	16.46
PBM0003	3/0	84.4	1666/30 (7 x 7 x 34)	1666 x 0.25	0.082	2.08	0.659	16.74
PBM0004	4/0	107	2109/30 (37 x 57)	2109 x 0.25	0.082	2.08	0.760	19.30

Dearborn™ Marine Wire

600 V Premier Primary Wire



UL AWM 1015 VW-1
UL AWM 1230
UL Oil Res. 1
UL BC-5W2
CSA AWM I A/B FT1
CSA TEW-105
SAE J1128 Type GPT
SAE J378B
ABYC
Coast Guard

Operating Temperature

- -20°C to +105°C

Insulation Color Coding

- White, black, red, green, yellow, blue, brown, orange, slate, violet

Materials

- Corrosion-resistant stranded tinned copper conductors
- PVC insulation

Availability

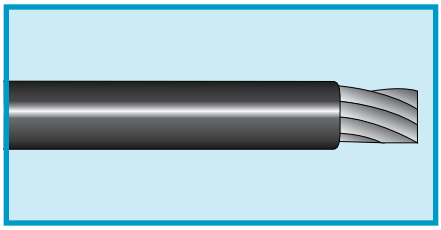
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PPM1830	18	0.81	16/30	16 x 0.25	0.031	0.79	0.109	2.77
PPM1630	16	1.32	26/30	26 x 0.25	0.031	0.79	0.122	3.10
PPM1430	14	2.08	41/30	41 x 0.25	0.031	0.79	0.136	3.45
PPM1230	12	3.29	65/30	65 x 0.25	0.032	0.81	0.152	3.86
PPM1030	10	5.32	105/30	105 x 0.25	0.032	0.81	0.185	4.67
PPM0830	8	8.51	168/30 (7 x 24)	168 x 0.25	0.032	0.81	0.232	5.89

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Dearborn™ Marine Wire

600 V Bonding Marine Wire



Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
PGM0849	8	8.42	49/0.0184 (7 x 7)	49 x 0.47	0.060	1.52	0.286	7.26
PGM0649	6	13.3	49/0.0231 (7 x 7)	49 x 0.59	0.060	1.52	0.328	8.33
PGM0449	4	21.2	49/0.0292 (7 x 7)	49 x 0.74	0.065	1.65	0.393	9.98

UL AWM 1028
UL BC-5W2
UL VW-1
UL Oil Res I
CSA AWM I A/B FT1
CSA TEW-105
SAE J1128

Operating Temperature

- -20C to +105°C (dry)
- -20C to +60°C (wet or oil)

Insulation Color Coding

- Green

Materials

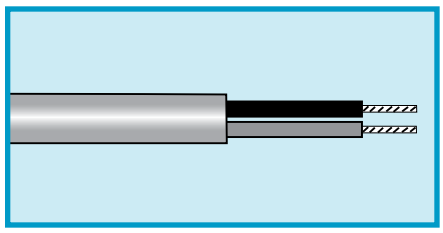
- Corrosion-resistant stranded tinned copper conductors
- PVC insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Dearborn™ Marine Cable

600 V Unshielded, Multiconductor, Premier Duplex Cable



UL BC 5W2
UL Oil Res. I
UL VW-1

Operating Temperature

- -20°C to +105°C (dry)
- -20°C to +75°C (wet)

Conductor Color Coding

- 1 Black, 2 Red

Materials

- Corrosion-resistant stranded tinned copper conductors
- White PVC insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

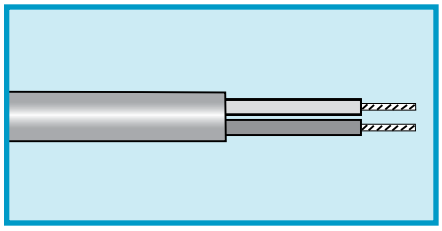
Two-Conductor Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
PDM2002	20	0.50	10/30	10 x 0.25	0.032	0.81	0.035	0.89	0.161 x 0.260	4.09 x 6.60
PDM1802	18	0.81	16/30	16 x 0.25	0.032	0.81	0.035	0.89	0.181 x 0.292	4.60 x 7.42
PDM1602	16	1.32	26/30	26 x 0.25	0.032	0.81	0.035	0.89	0.194 x 0.318	4.93 x 8.33
PDM1402	14	2.08	41/30	41 x 0.25	0.032	0.81	0.035	0.89	0.208 x 0.346	5.28 x 8.79
PDM1202	12	3.29	65/30	65 x 0.25	0.032	0.81	0.035	0.89	0.227 x 0.384	5.77 x 9.75
PDM1002	10	5.32	105/30	105 x 0.25	0.032	0.81	0.035	0.89	0.252 x 0.434	6.40 x 11.02
PDM0802	8	8.51	168/30	168 x 0.25	0.048	1.22	0.035	0.89	0.334 x 0.598	8.48 x 15.19
PDM0602	6	13.5	266/30	266 x 0.25	0.060	1.52	0.035	0.89	0.403 x 0.736	10.24 x 18.69

UL LISTED CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

600 V Unshielded, Multiconductor, Premier Duplex Safety Cable



UL BC 5W2
UL Oil Res. I
UL VW-1

Operating Temperature

- -20°C to +105°C (dry)
- -20°C to +75°C (wet)

Conductor Color Coding

- 1 Yellow, 2 Red

Materials

- Corrosion-resistant stranded tinned copper conductors
- White PVC insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
(Minimums may apply)

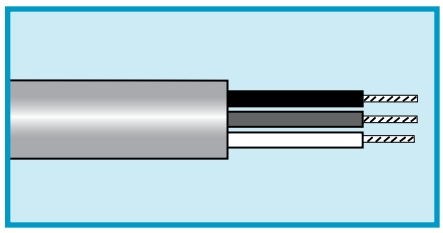
Two-Conductor Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
PDS1802	18	0.81	16/30	16 x 0.25	0.032	0.81	0.035	0.89	0.280 x 0.172	7.11 x 4.37
PDS1602	16	1.32	26/30	26 x 0.25	0.032	0.81	0.035	0.89	0.322 x 0.194	8.18 x 4.93
PDS1402	14	2.08	41/30	41 x 0.25	0.032	0.81	0.035	0.89	0.356 x 0.211	9.04 x 5.36
PDS1202	12	3.29	65/30	65 x 0.25	0.032	0.81	0.035	0.89	0.392 x 0.230	9.96 x 5.84
PDS1002	10	5.32	105/30	105 x 0.25	0.032	0.81	0.035	0.89	0.450 x 0.250	11.43 x 6.35
PDS0802	8	8.51	168/30	168 x 0.25	0.048	1.22	0.035	0.89	0.608 x 0.336	15.44 x 8.53
PDS0602	6	13.50	266/30	266 x 0.25	0.060	1.52	0.035	0.89	0.750 x 0.420	19.05 x 10.67

UL LISTED CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

600 V Unshielded, Multiconductor, Premier Triplex Cable



UL BC 5W2
UL Oil Res. I
UL VW-1

Operating Temperature

- -20°C to +105°C (dry)
- -20°C to +75°C (wet)

Conductor Color Coding

- 1 Black (ungrounded)
  2 Green (ground)
  3 White (ground neutral)

Materials

- Corrosion-resistant stranded tinned copper conductors
- White PVC insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

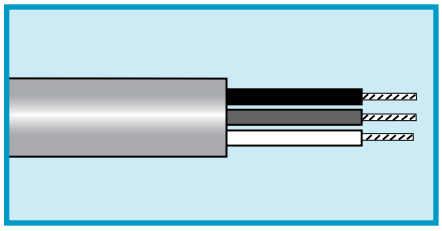
Three-Conductor Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Cable Dimension	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm	Inch	mm
PFM1603	16	1.32	26/30	26 x 0.25	0.032	0.81	0.035	0.89	0.194 x 0.442	4.93 x 11.23
PFM1403	14	2.08	41/30	41 x 0.25	0.032	0.81	0.035	0.89	0.208 x 0.484	5.28 x 12.29
PFM1203	12	3.29	65/30	65 x 0.25	0.032	0.81	0.035	0.89	0.227 x 0.541	5.77 x 13.74
PFM1003	10	5.32	105/30	105 x 0.25	0.032	0.81	0.035	0.89	0.252 x 0.616	6.40 x 15.65
PFM0803	8	8.51	168/30	168 x 0.25	0.048	1.22	0.035	0.89	0.302 x 0.766	7.67 x 19.46
PFM0603	6	13.50	266/30	266 x 0.25	0.060	1.52	0.035	0.89	0.379 x 0.997	9.63 x 25.32

UL LISTED CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

600 V Unshielded, Multiconductor, Premier Round Cable



UL BC 5W2
UL Oil Res. I
UL VW-1

Operating Temperature

- -20°C to +105°C (dry)
- -20°C to +75°C (wet)

Conductor Color Coding

- Two-Cond. Cable: 1 Black, 2 Red
- Three-Cond. Cable: 1 White, 2 Black, 3 Green
- Four-Cond. Cable: 1 White, 2 Black, 3 Green, 4 Red

Materials

- Corrosion-resistant stranded tinned copper conductors
- PVC insulation
- White PVC jacket

Availability

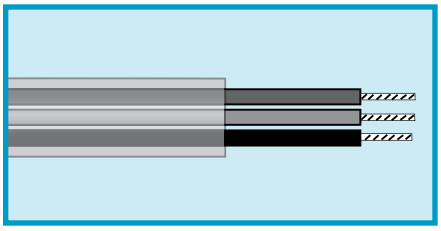
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)

Part No.	Conductors	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Nominal Diameter	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
PRM1602	2	16	1.32	26/30	26 x 0.25	0.032	0.81	0.035	0.89	0.324	8.23
PRM1603	3	16	1.32	26/30	26 x 0.25	0.032	0.81	0.035	0.89	0.344	8.74
PRM1604	4	16	1.32	26/30	26 x 0.25	0.032	0.81	0.035	0.89	0.376	9.55
PRM1402	2	14	2.08	41/30	41 x 0.25	0.032	0.81	0.035	0.89	0.352	8.94
PRM1403	3	14	2.08	41/30	41 x 0.25	0.032	0.81	0.035	0.89	9.374	9.50
PRM1404	4	14	2.08	41/30	41 x 0.25	0.032	0.81	0.035	0.89	0.410	10.41
PRM1202	2	12	3.29	65/30	65 x 0.25	0.032	0.81	0.035	0.89	0.390	9.91
PRM1203	3	12	3.29	65/30	65 x 0.25	0.032	0.81	0.035	0.89	0.415	10.54
PRM1204	4	12	3.29	65/30	65 x 0.25	0.032	0.81	0.035	0.89	0.456	11.58
PRM1002	2	10	5.32	105/30	105 x 0.25	0.032	0.81	0.035	0.89	0.400	10.16
PRM1003	3	10	5.32	105/30	105 x 0.25	0.032	0.81	0.035	0.89	0.469	11.91
PRM1004	4	10	5.32	105/30	105 x 0.25	0.032	0.81	0.035	0.89	0.517	13.13
PRM0803	3	8	8.51	168/30	266 x 0.25	0.048	1.22	0.035	0.89	0.646	16.41
PRM0804	4	8	8.51	168/30	266 x 0.25	0.048	1.22	0.035	0.89	0.716	18.19
PRM0603	3	6	13.5	266/30	266 x 0.25	0.060	1.52	0.035	0.89	0.794	20.17
PRM0604	4	6	13.5	266/30	266 x 0.25	0.061	1.55	0.035	0.89	0.888	22.56

UL LISTED CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

600 V Unshielded, Multiconductor, Premier Clear Cote™ Cable



UL BC 5W2
UL Oil Res. I
UL VW-1
SAE J378B, J1128 Types GPT and HDT

Operating Temperature

- -20°C to +105°C (dry)
- -20°C to +75°C (wet)

Conductor Color Coding

- 1 Black, 2 Red, 3 Green

Materials

- Corrosion-resistant stranded tinned copper conductors
- PVC insulation
- Clear PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

Three-Conductor Round Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
PCM1603R	16	1.32	26/30	26 x 0.25	0.032	0.81	0.035	0.89	0.292	7.42
PCM1403R	14	2.08	41/30	41 x 0.25	0.032	0.81	0.035	0.89	0.329	8.36
PCM1203R	12	3.29	65/30	65 x 0.25	0.032	0.81	0.035	0.89	0.370	9.40

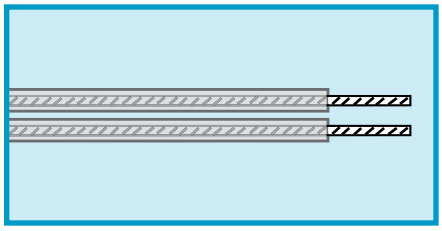
Two-Conductor Parallel Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Jacket Thickness		Nominal Size	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
PCM1802	18	0.81	16/30	16 x 0.25	0.032	0.81	0.022	0.56	0.244 x 0.140	6.20 x 3.56
PCM1602	16	1.32	26/30	26 x 0.25	0.032	0.81	0.022	0.56	0.272 x 0.144	6.91 x 3.66
PCM1402	14	2.08	41/30	41 x 0.25	0.032	0.81	0.022	0.56	0.306 x 0.161	7.77 x 4.09
PCM1202	12	3.29	65/30	65 x 0.25	0.032	0.81	0.022	0.56	0.197 x 0.350	5.00 x 8.89
PCM1002	10	5.32	105/30	105 x 0.25	0.032	0.81	0.022	0.56	0.226 x 0.408	5.74 x 10.36
PCM0802	8	8.51	168/30	168 x 0.25	0.048	1.22	0.050	1.27	0.364 x 0.628	9.25 x 15.95

UL LISTED CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

300 V Unshielded, Multiconductor, Premier Speaker Cable



Operating Temperature

- -20°C to +60°C

Conductor Color Coding

- Clear

Materials

- Stranded copper conductors, one bar, one tinned
- PVC insulation

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

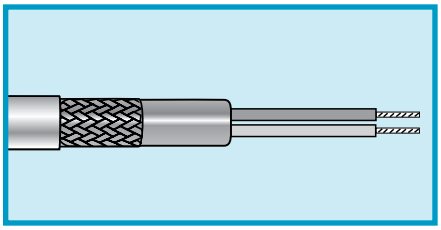
Two-Conductor Ripcord Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Size	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PAM1602	16	1.32	26/30	26 x 0.25	0.027	0.69	0.115 x 0.230	2.92 x 5.84
PAM1402	14	2.08	41/30	41 x 0.25	0.027	0.69	0.140 x 0.290	3.56 x 7.37

CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

600 V Foil/Braid Shielded, Multiconductor, Duplex Cable



UL BC 5W2
UL VW-1

Operating Temperature

- -20°C to +105°C (dry)
- -20°C to +75°C (wet)

Conductor Color Coding

- 1 Yellow, 2 Red

Materials

- Corrosion-resistant stranded tinned copper conductors
- PVC insulation
- Foil + braid shield
  Aluminum/polyester foil
  Tinned copper braid
- White PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

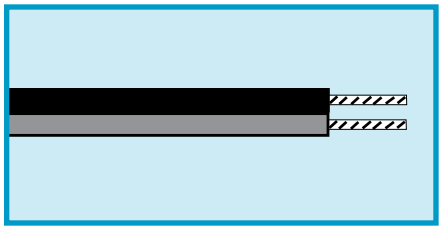
Two-Conductor Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Size	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PSD1602	16	1.32	26/30	26 x 0.25	0.032	0.81	0.340	8.64
PSD1002	10	5.32	105/30	105 x 0.25	0.032	0.81	0.438	11.13

UL LISTED CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

50 V Unshielded, Multiconductor, Bonded Duplex Primary Cable



SAE J1128 Type GPT
SAE J378B

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- 1 Black, 2 Red

Materials

- Corrosion-resistant stranded bare copper conductors
- PVC insulation

Availability

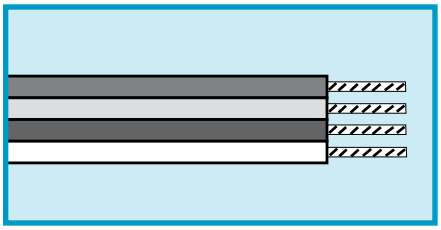
100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
(Minimums may apply)

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Size	
	AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PWM1802B	18	0.81	16/0.009	16 x 0.23	0.023	0.58	0.094 x 0.189	2.39 x 4.80
PWM1602B	16	1.23	19/29	19 x 0.29	0.023	0.58	0.102 x 0.204	2.59 x 5.18
PWM1402B	14	1.94	19/27	19 x 0.36	0.023	0.58	0.117 x 0.235	2.97 x 5.97
PWM1202B	12	3.08	19/25	19 x 0.45	0.023	0.58	0.142 x 0.285	3.61 x 7.24
PWM1002B	10	4.92	19/23	19 x 0.57	0.023	0.58	0.176 x 0.353	4.47 x 8.97

CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

600 V Unshielded, Multiconductor, Flat Bonded Trailer Cable



SAE J378/J1128 Type GPT

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

- 1 Brown, 2 Yellow, 3 Green, 4 White

Materials

- Stranded bare copper conductors
- PVC insulation

Availability

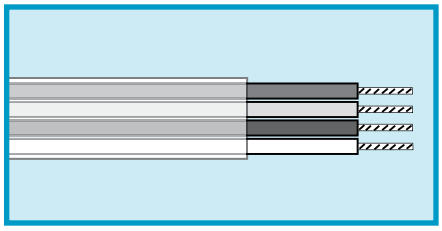
100 ft (30.5 m)
Bulk, cut to length
(Minimums may apply)

Part No.	Conductors	Wire Size		Stranding		Insulation Thickness		Nominal Size	
		AWG	mm^2	AWG	mm	Inch	mm	Inch	mm
PTB1603	3	16	1.23	19/29	19 x 0.29	0.023	0.58	0. 013 x 0.309	2.62 x 7.85
PTB1604	4	16	1.23	19/29	19 x 0.29	0.023	0.58	0.103 x 0.412	2.62 x 10.46

CA PROP 65 RoHS Compliant

Dearborn™ Marine Cable

600 V Unshielded, Multiconductor, Premier Round Trailer Cable



UL BC 5W2

Operating Temperature

- -20°C to +105°C

Conductor Color Coding

Conductor Colors

- 1 Brown, 2 Yellow, 3 Green, 4 White

Materials

- Corrosion-resistant stranded tinned copper conductors
- Clear PVC jacket

Availability

100 ft (30.5 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Four-Conductor Cable

Part No.	Wire Size		Stranding		Insulation Thickness		Nominal Size	
	AWG	mm²	AWG	mm	Inch	mm	Inch	mm
PTM1604	16	1.32	26/30	26 x 0.25	0.031	0.79	0.399	10.13
PTM1404	14	2.08	41/30	41 x 0.25	0.031	0.79	0.440	11.18

Market-Specific Solutions Sets

The Fast Track to Finding the Perfect Product

Find the wire, cable, and wire management products especially suited to your application with our market-specific solution sets. We've taken our expertise in different industries and applications and picked products that match specific application needs. You'll be able to find and specify products faster and easier.

Products in each solution set reflect the specific needs for electrical performance, durability under mechanical and environmental stresses, standards compliance, and all the other details that distinguish your application in such industries as:

- **Consumer goods**
- **Food and beverage**
- **Material handling**
- **Medical devices**
- **Military**
- **Industrial packaging**
- **Pharmaceutical**
- **Solar power**
- **Wind power**

Visit www.alphawire.com to find out more about our market specific solution sets.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Kerrigan-Lewis™ Specialty Wire

Kerrigan-Lewis™ Specialty Wire

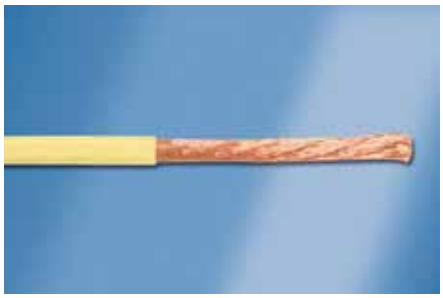
Alpha Wire's Kerrigan-Lewis brand of specialty wire is designed and manufactured to stringent standards of quality and performance. From expertise in fine copper wire and insulations to an exact understanding of your most rigorous application requirements, we can help you increase efficiency, reduce size, and achieve higher levels of productivity.

We offer the lowest minimum order levels in the industry. Save money by ordering only what you need.

Our products are custom configured for specific applications. Call us at 773-772-7208 to discuss your application requirements for Kerrigan-Lewis specialty wire.

Litz wire

Litz wire reduces AC losses in conductors from skin and proximity effects at high frequencies to make transformers and motors more efficient. It consists of individually insulated strands woven or twisted in a specific pattern so that each tends to occupy all possible positions in the cross section. This equalizes flux linkages and reactances so that current is evenly divided among the strands for increased current-carrying efficiency.



Applications

- **High-frequency inductors and transformers**
- **Motors**
- **Relays**
- **Inverters**
- **Power supplies**
- **Ultrasonic and sonar equipment**
- **Heat-induction equipment**
- **High-twist applications, up to 300 turns per foot**

Kerrigan-Lewis litz wire is available in a wide range of configurations to meet specific operating frequencies, voltages, and current-carrying capacities. Individual strands range from 50 to 16 AWG, with anywhere from a few strands to thousands in the wire. Besides traditional round conductors, we also offer space-saving square and rectangular cross sections for maximum copper density.

Some popular configurations include:

- **60 strands of 36 AWG**
- **100 strands of 38 AWG**
- **2100 strands of 36 AWG**

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

	Variations	Advantages
Insulations/Servings	NEMA-approved films	To 105°C, 155°C, 200°C Single and heavy coatings
	Cotton	To 105°C Abrasion resistant
	Nylon	To 130°C Abrasion resistant Good high-frequency properties
	Celanese synthetic yarn	To 105°C Excellent high-frequency properties Chemically soluble
	Nylon/Celanese mix	To 105°C Excellent high-frequency properties Chemically soluble
	Fluorocarbon textile	To 200°C Abrasion resistant Excellent high-frequency properties Excellent handling properties
	Teflon FEP extrusion	To 200°C Waterproof Abrasion resistant Excellent high-frequency properties Excellent handling properties
	PVC	To 105°C
Strand Range	50 to 16 AWG	Flexibility in meeting application goals
Configurations	Round Square Rectangular	Configurable for maximum operating and space efficiencies

Resistance wire

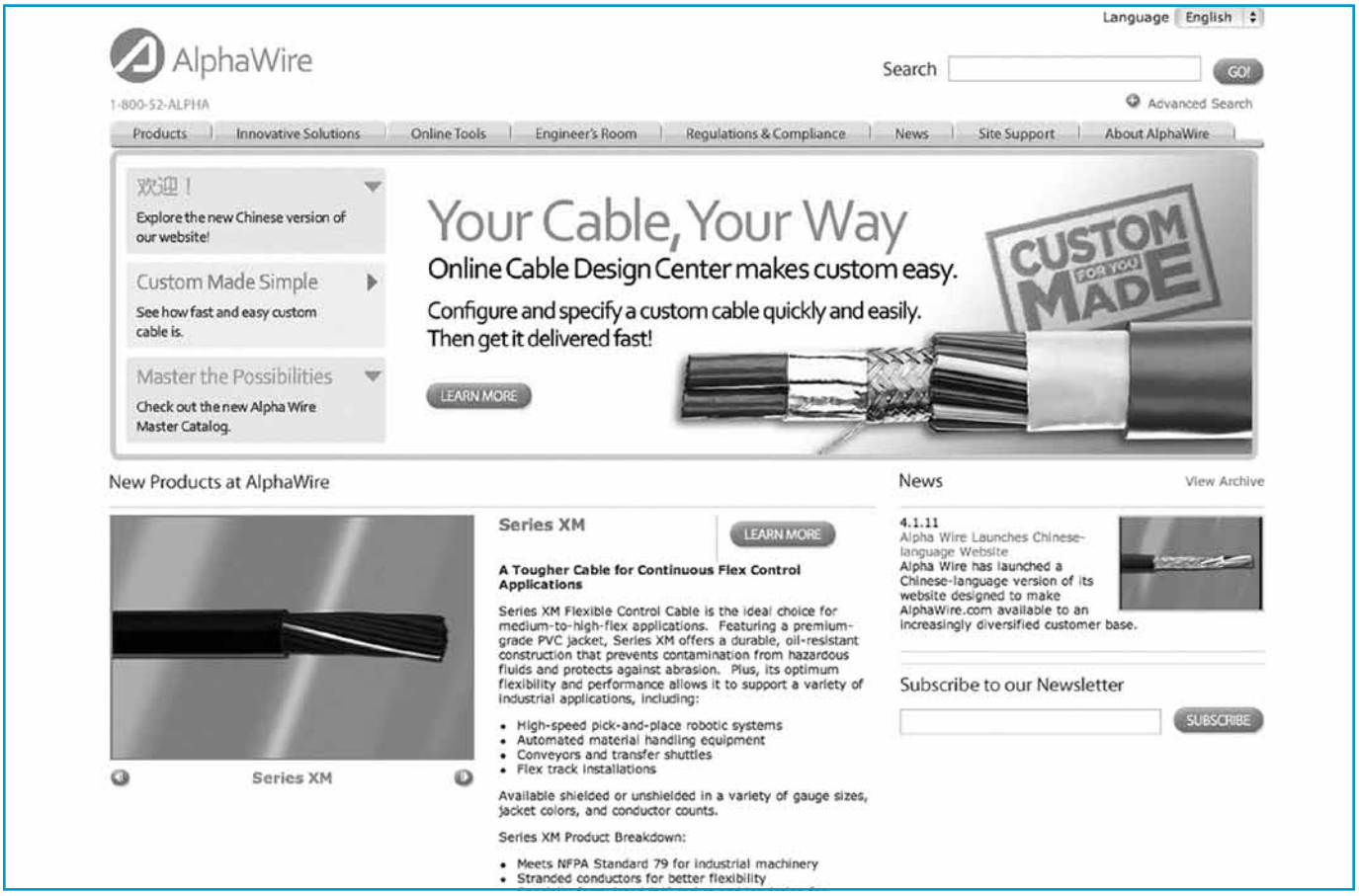
Kerrigan-Lewis resistance wire achieves high-tolerance resistive values with a copper-nickel alloy. Standard configurations are:

- **55% copper/45% nickel for a resistance of 294 ohms per circular mil-foot**
- **78% copper/22% nickel for a resistance of 180 ohms per circular mil-foot**

Other configurations are also available.

We offer the wire in sizes from 40 AWG to 25 AWG to meet specific resistance and current-carrying needs.

Make AlphaWire.com your destination for all your cabling needs!



Easy to use, full of information, and designed to make the selection of wire, cable, tubing, and wire management fast and easy—the Alpha Wire website is the only source you need.

- **Search products by parameters**
- **View complete product listing**
- **Download specs**
- **Read white papers written by our industry experts**
- **Request a sample (or two!)**
- **Learn about our market-specific solution sets**
- **Download literature**
- **Look around our "Engineer's Room"**
- **Build your own cable with our powerful Cable Design Center®**

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Heat-Shrink Tubing

FIT® Heat-Shrink Tubing

Whether your concerns are mechanical strain relief, environmental sealing, or organizing wires, Alpha Wire's FIT heat-shrink tubing is ideal for solving many challenges in electrical and electronic wiring:

- **Protect** substrates from moisture, UV light, corrosion, oxidation, dust, chemicals, abrasion, environmental conditions, solder joints, and encapsulates
- **Insulate** wire terminations and connections, entire printed circuit boards, from electrical and environmental conditions
- **Repair** cable splices, insulation damage and cuts, cable jackets, and connections, with permanent or temporary quick fixes
- **Relieve** strain on cables and connectors to prevent harmful flexing or bending
- **Bundle and organize** wire harness, cable, tubing, and hose dressing on OEM equipment, breakouts, bundle in small spaces, conform to odd shapes
- **Seal** connections, backshells, and other gaps from moisture and other contaminants
- **Identify** circuits through color coding, grouping, and labeling

FIT heat-shrink products

Our FIT heat-shrink tubing offers a reliable way to protect and seal terminations or add additional mechanical ruggedness. FIT preferred heat-shrink products are made from premium compounds under the tightest manufacturing controls. This means FIT tubing consistently provides excellent physical characteristics such as low longitudinal shrinkage and wide temperature ranges while providing an elegant appearance when used alone or on OEM equipment.

The FIT line consists of various tubing types, each designed with unique attributes that offer tubing solutions for the broadest possible range of applications and environments. FIT products are always in stock and come in an unprecedented variety of package sizes.

Beyond the widely used polyolefin tubing that is suited to the broadest range of general-purpose needs, we offer a number of other materials for higher or lower shrink temperatures, wider operating temperatures, and such special needs as outstanding chemical resistance or increased flexibility.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Material	Features	Shrink Temperature	Shrink Ratio (approx.)	FIT Family
Single-Wall Cross-linked Polyolefin for General-Purpose Use				
Cross-linked polyolefin	General-purpose heat-shrink tubing Range of shrink ratios	90°C	2:1	FIT-221
		90°C	4:1	FIT-421
Flame-retardant cross-linked polyolefin	Low shrink temp Passes UL VW-1 flame test	90°C	2:1	FIT-221V
		90°C	3:1	FIT-321V
Cross-linked polyolefin	Approved for 600-V ground lead identification Green with yellow stripe Passes UL VW-1 flame test	90°C	2:1	FIT-260
Semirigid cross-linked polyolefin	30% stronger and 25% stiffer than standard polyolefin	110°C	2:1	FIT-295
Dual-Wall Polyolefin for Additional Sealing				
Surface cross-linked, dual extruded	Meltable inner wall to encapsulate without adhesive	140°C	2.5:1	FIT-300
		110°C	3:1	FIT-321
		121°C	5.6:1	FIT-621
Bonding, thermoplastic adhesive lined	Bonds to most materials High voltage: to 2 kV at 90°C continuous use	120°C	3:1	FIT-700
Bonding, adhesive lined	Permanent water and corrosion protection	110°C	2:1	FIT-750
Special-Application Tubing				
Irradiated PVC	Low shrink temperature Passes UL VW-1 flame test 30% stronger than standard polyolefin	100°C	2:1	FIT-105
Cross-linked PVDF	High shrink temperature Fast recovery time Excellent chemical, heat, and flame resistance Passes UL VW-1 flame test 3x the tensile strength of standard polyolefin	170°C	2:1	FIT-350
FEP	High shrink temperature Excellent chemical resistance Excellent dielectric properties Thinnest wall thickness available	200°C	1.2:1	FIT-400
PTFE	High shrink temperature Excellent chemical resistance Excellent dielectric properties Very thin wall thickness	250°C	1.5:1	FIT-500
Chlorinated polyolefin	Highly flexible Oil and abrasion resistant Passes UL VW-1 flame test	130°C	2:1	FIT-600
Flexible fluoroelastomer	High shrink temperature Excellent chemical resistance Flexible	120°C	2:1	FIT-650
Polyethylene/ polyester	Superior abrasion resistance Excellent flexibility Resists harsh environments	80°C	2:1	FIT-FABRIC
Cross-linked silicone rubber	High flexibility available Pliable Scrape abrasion resistant Passes UL VW-1 flame test	200°C	1.7:1	FIT-FLEX
Cross-linked PVDF	Transparent after shrink Fast recovery time Excellent chemical, heat, and flame resistance Passes UL VW-1 flame test 2x the tensile strength of standard polyolefin	150°C	2:1	FIT-CLEAR

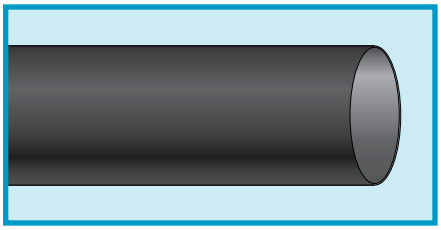
Heat Guns

Alpha heat guns are the perfect complement to our tubing, making it easy to apply FIT heat-shrink tubing quickly and efficiently.

The lightweight, durable guns are designed to make application of heat-shrink tubing fast and reliable. They are well suited to both industrial production and field use.

Heat-Shrink Tubing

FIT®-105 Heat-Shrink Tubing
2:1 Shrink Ratio, Irradiated PVC



AMS DTL-23053/2 Class 1 (except longitudinal shrinkage)
UL 224 VW-1
CSA 198

- Low shrink temperature
- Fast recovery time
- 30% stronger than standard polyolefin
- Low water absorption
- UV resistant

Operating Temperature
- -20°C to +105°C

Shrink Temperature
- 100°C min.
- 105°C full recovery

Material
- Irradiated PVC

Color
- Black

Physical Properties
- Tensile strength: 3000 psi (20.68 N/mm²)
- Elongation: 300% min
- Longitudinal change: +1%/-25%
- Specific gravity: 1.32
- Flame retardant
- Shelf life: 1 year at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 1.0% max.
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 1083 V/mil (426.3 kV/cm)
- Volume resistivity: 10^{12} ohm-cm

Availability
See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
FIT-105-3/64	0.046	1.17	0.023	0.58	0.020	0.51	25, 100, 500, 1000	7.6, 30.5, 152, 305
FIT-105-1/16	0.062	1.57	0.031	0.79	0.020	0.51	25, 100, 500, 1000	7.6, 30.5, 152, 305
FIT-105-3/32	0.093	2.36	0.046	1.17	0.020	0.51	25, 100, 1000	7.6, 30.5, 305
FIT-105-1/8	0.125	3.18	0.062	1.57	0.025	0.64	25, 100, 1000	7.6, 30.5, 305
FIT-105-3/16	0.187	4.75	0.093	2.36	0.025	0.64	25, 100, 1000	7.6, 30.5, 305
FIT-105-1/4	0.250	6.35	0.125	3.18	0.025	0.64	25, 100, 1000	7.6, 30.5, 305
FIT-105-3/8	0.375	9.53	0.187	4.75	0.030	0.76	25, 100, 500	7.6, 30.5, 152
FIT-105-1/2	0.500	12.70	0.250	6.35	0.030	0.76	25, 100, 250	7.6, 30.5, 76.2
FIT-105-3/4	0.750	19.05	0.375	9.53	0.035	0.89	25, 100, 250	7.6, 30.5, 76.2
FIT-105-1IN	1.000	25.40	0.500	12.70	0.040	1.02	25, 100, 250	7.6, 30.5, 76.2
FIT-105-1-1/2	1.500	38.10	0.750	19.05	0.045	1.14	25, 100	7.6, 30.5

Packaged Assortments

Assorted sizes of 6” (15 cm) lengths

FIT-105-MS-1

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-105-3/64	0.046	1.17	10
FIT-105-1/16	0.062	1.57	10
FIT-105-3/32	0.093	2.36	10
FIT-105-1/8	0.125	3.18	10
FIT-105-3/16	0.187	4.75	10
FIT-105-1/4	0.250	6.35	10

FIT-105-MS-2

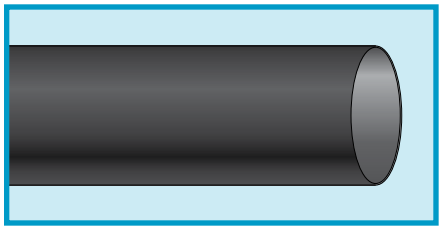
Contents	Tubing Size		Quantity
	Inch	mm	
FIT-105-3/8	0.375	9.53	10
FIT-105-1/2	0.500	12.70	10
FIT-105-3/4	0.750	19.05	10
FIT-105-1 IN	1.000	25.40	10

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Heat-Shrink Tubing

FIT®-221 Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO



AMS-DTL-23053/5 Class 1 (except clear)
AMS-DTL-23053/5 Class 2 (clear)
UL 224 (except clear)
CSA 198 (except clear)

- Excellent general-purpose tubing
- Low water absorption
- UV resistant (black only)

Operating Temperature

- -55°C to +135°C
- -55°C to +125°C (UL, CSA)

Shrink Temperature

- 90°C min.
- 121°C full recovery

Material

- Cross-linked polyolefin

Color

- Black, white, red, yellow, blue, green, clear*

*Clear tubing may exhibit some color tint that is the result of the product's chemistry; the tint is variable and can be any color

Physical Properties

- Tensile strength: 1500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±5%
- Specific gravity: 1.35 (colors)/ 1.00 (clear)
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max.
- Fluid resistance: 1000 psi (6.89 N/mm²)
- Lead free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

Availability

See table, next page

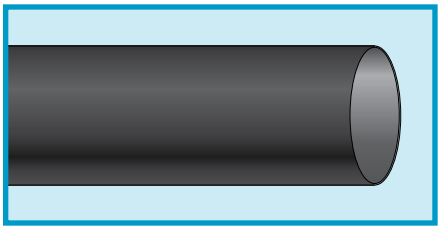
Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-221-3/64	0.046	1.17	0.023	0.58	0.016	0.41
FIT-221-1/16	0.063	1.60	0.031	0.79	0.017	0.43
FIT-221-3/32	0.093	2.36	0.046	1.17	0.020	0.51
FIT-221-1/8	0.125	3.18	0.062	1.57	0.020	0.51
FIT-221-3/16	0.187	4.75	0.093	2.36	0.020	0.51
FIT-221-1/4	0.250	6.35	0.125	3.18	0.025	0.64
FIT-221-3/8	0.375	9.53	0.187	4.75	0.025	0.64
FIT-221-1/2	0.500	12.70	0.250	6.35	0.025	0.64
FIT-221-3/4	0.750	19.05	0.375	9.53	0.030	0.76
FIT-221-1IN	1.000	25.40	0.500	12.70	0.035	0.89
FIT-221-1-1/2	1.500	38.10	0.750	19.05	0.040	1.02
FIT-221-2IN	2.000	50.80	1.000	25.40	0.045	1.14
FIT-221-3IN	3.000	76.20	1.500	38.10	0.050	1.27
FIT-221-4IN	4.000	101.60	2.000	50.80	0.055	1.40

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-221 Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO



AMS-DTL-23053/5 Class 1 (except clear)
AMS-DTL-23053/5 Class 2 (clear)
UL 224 (except clear)
CSA 198 (except clear)

Availability

Part No.	Spools		Qty, Cut Pieces at Length			
	Ft	m	4 ft (1.2 m)	6" (152 mm)	1" (25.4 mm)	0.5" (12.7 mm)
FIT-221-3/64	1000*	305*	25	40	1000	1000
FIT-221-1/16	70, 100*, 1000	21.3, 30.5*, 305	25	36	1000	1000
FIT-221-3/32	65, 100*, 500	19.8, 30.5*, 152	25	32	1000	1000
FIT-221-1/8	60, 100*, 500	18.2, 30.5*, 152	25	28	1000	1000
FIT-221-3/16	50, 100*, 500	15.2, 30.5*, 152	25	24	1000	1000
FIT-221-1/4	40, 100*, 250	12.2, 30.5, 76.2*	25	20	1000	1000
FIT-221-3/8	35, 50*, 200	10.6, 15.2*, 60.9	25	16	1000	1000
FIT-221-1/2	32, 50*, 150	9.7, 15.2*, 45.7	5	14	—	—
FIT-221-3/4	24, 50*, 250	7.3, 15.2*, 76.2	5	12	—	—
FIT-221-1IN	16, 50*, 250	4.8, 15.2, 76.2	5	8	—	—
FIT-221-1-1/2	125*	38.1*	5	5	—	—
FIT-221-2IN	125*	38.1*	5	3	—	—
FIT-221-3IN	100*	30.5*	2	2	—	—
FIT-221-4IN	50*	15.2*	2	—	—	—

*Black and clear tubing only.

Spools may contain multiple lengths.

Packaged Assortments

Assorted sizes of 6" (152 mm) lengths

Each length is size identified.

FIT-221-MS-1 Assorted colors: Black, blue, red, green, yellow

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-221-3/64	0.046	1.17	6
FIT-221-1/16	0.063	1.60	6
FIT-221-3/32	0.093	2.36	6
FIT-221-1/8	0.125	3.18	6
FIT-221-3/16	0.187	4.75	6

FIT-221-MS-2 Assorted colors: Black, blue, red, yellow

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-221-1/4	0.250	6.35	4
FIT-221-3/8	0.375	9.53	4
FIT-221-1/2	0.500	12.70	4
FIT-221-3/4	0.750	19.05	4

FIT-221 Kits

FIT-KIT-221BK
Colors: Black

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-221-3/16	0.187	4.75	25
FIT-221-1/4	0.250	6.35	20
FIT-221-3/8	0.375	9.53	15
FIT-221-1/2	0.500	12.70	10
FIT-221-3/4	0.750	19.05	6
FIT-221-1IN	1.000	25.40	4

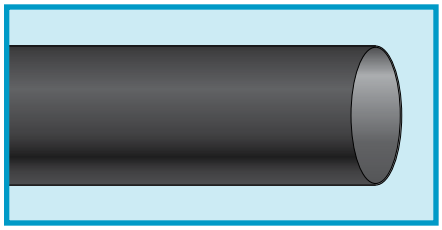
FIT-KIT-221C Assorted colors: Black, blue, red, white, green, yellow, clear

Contents	Tubing Size		Quantity	
	Inch	mm	Each Color	Total
FIT-221-3/32	0.093	2.36	4	28
FIT-221-1/8	0.125	3.18	3	21
FIT-221-3/16	0.187	4.75	3	21
FIT-221-1/4	0.250	6.35	3	21
FIT-221-3/8	0.375	9.53	2	14
FIT-221-1/2	0.500	12.70	2	14

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-221B Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO, Bulk Packaging



AMS-DTL-23053/5 Class 1 (except clear)
AMS-DTL-23053/5 Class 2 (clear)
UL 224 (except clear)
CSA 198 (except clear)

- Excellent general-purpose tubing
- Low shrink temperature
- Fastest recovery time
- Low water absorption
- UV resistant (black only)

Operating Temperature
- -55°C to +135°C
- -55°C to +125°C (UL, CSA)

Shrink Temperature
- 90°C min.
- 121°C full recovery

Material
- Cross-linked polyolefin

Colors
- Black, blue, clear*

*Clear tubing may exhibit some color tint that is the result of the product's chemistry; the tint is variable and can be any color

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±5%
- Specific gravity: 1.35 (colors)/ 1.00 (clear)
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max.
- Fluid resistance: 1000 psi (6.89 N/mm²)
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

Availability
See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-221B-3/64	0.046	1.17	0.023	0.58	0.016	0.41
FIT-221B-1/16	0.063	1.60	0.031	0.79	0.017	0.43
FIT-221B-3/32	0.093	2.36	0.046	1.17	0.020	0.51
FIT-221B-1/8	0.125	3.18	0.062	1.57	0.020	0.51
FIT-221B-3/16	0.187	4.75	0.093	2.36	0.020	0.51
FIT-221B-1/4	0.250	6.35	0.125	3.18	0.025	0.64
FIT-221B-3/8	0.375	9.53	0.187	4.75	0.025	0.64
FIT-221B-1/2	0.500	12.70	0.250	6.35	0.025	0.64
FIT-221B-3/4	0.750	19.05	0.375	9.53	0.030	0.76
FIT-221B-1IN	1.000	25.40	0.500	12.70	0.035	0.89

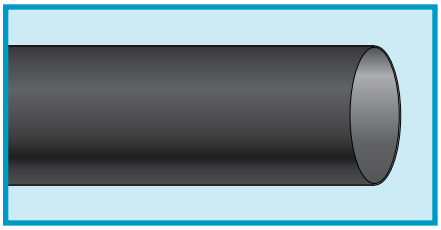
Availability

Part No.	Spools (Length x No. of Spools)		Qty, Cut Pieces at Length
	Ft	m	4 ft (1.2 m)
FIT-221B-3/64	1000 x 3	305 x 3	250
FIT-221B-1/16	1000 x 3	305 x 3	250
FIT-221B-3/32	500 x 3	152 x 3	250
FIT-221B-1/8	500 x 3	152 x 3	250
FIT-221B-3/16	500 x 2	152 x 2	250
FIT-221B-1/4	250 x 2	76.2 x 2	250
FIT-221B-3/8	200 x 2	60.9 x 2	250
FIT-221B-1/2	150 x 2	45. 7 x 2	200
FIT-221B-3/4	250 x 1 250 x 2	76.2 x 1 76.2 x 2	125
FIT-221B-1IN	250 x 1	76.2 x 1	75

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-221V Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO, Low Shrink Temperature



AMS DTL-23053/5 Class 1 and 3
UL 224 VW-1
CSA 198

- Excellent general-purpose tubing
- Low shrink temperature
- Fastest recovery time
- Low water absorption
- UV resistant (black only)

Operating Temperature
- -55°C to +135°C
- -55°C to +125°C (UL, CSA)

Shrink Temperature
- 90°C min.
- 121°C full recovery

Material
- Cross-linked polyolefin

Colors
- Black, white, red, yellow, green, blue

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±5%
- Specific gravity: 1.35
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max.
- Fluid resistance: 1000 psi (6.89 N/mm²)
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

Availability
See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-221V-3/64	0.046	1.17	0.023	0.58	0.016	0.41
FIT-221V-1/16	0.063	1.60	0.031	0.79	0.017	0.43
FIT-221V-3/32	0.093	2.36	0.046	1.17	0.020	0.51
FIT-221V-1/8	0.125	3.18	0.062	1.57	0.020	0.51
FIT-221V-3/16	0.187	4.75	0.093	2.36	0.020	0.51
FIT-221V-1/4	0.250	6.35	0.125	3.18	0.025	0.64
FIT-221V-3/8	0.375	9.53	0.187	4.75	0.025	0.64
FIT-221V-1/2	0.500	12.70	0.250	6.35	0.025	0.64
FIT-221V-3/4	0.750	19.05	0.375	9.53	0.030	0.76
FIT-221V-1IN	1.000	25.40	0.500	12.70	0.035	0.89
FIT-221V-1-1/2	1.500	38.10	0.750	19.05	0.040	1.02
FIT-221V-2IN	2.000	50.80	1.000	25.40	0.045	1.14

Availability

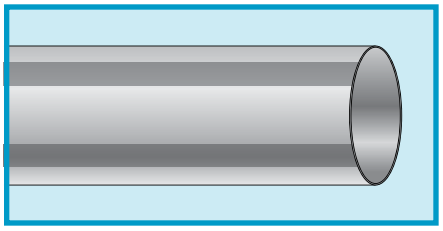
Part No.	Spools (Length x No. of Spools)		Qty, Cut Pieces at Length	
	Ft	m	4 ft (1.2 m)	6" (152 mm)
FIT-221V-3/64	1000 x 3	305 x3	25, 250	40
FIT-221V-1/16	1000 x 1, 1000 x 3	305 x 1, 305 x 3	25, 250	36
FIT-221V-3/32	500 x 1, 500 x 3	152 x 1, 152 x 3	25, 250	32
FIT-221V-1/8	500 x 1, 500 x 3	152 x 1, 152 x 3	25, 250	28
FIT-221V-3/16	500 x 1, 500 x 2	152 x 1, 152 x 2	25, 250	24
FIT-221V-1/4	250 x 1, 250 x 2	76.2 x 1, 76.2 x 2	25, 250	20
FIT-221V-3/8	200 x 1, 200 x 2	60.9 x 1, 60.9 x 2	25, 250	16
FIT-221V-1/2	150 x 1, 150 x 2	45.7 x 1, 45.7 x 2	5, 200	14
FIT-221V-3/4	250 x 1	76.2 x 1	5, 125	12
FIT-221V-1IN	250 x 1	76.2 x 1	5, 75	8
FIT-221V-1-1/2	125 x 1	38.1 x 1	5	5
FIT-221V-2IN	125 x 1	38.1 x 1	5	3

RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Heat-Shrink Tubing

FIT®-260 Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO, Ground Lead Identification



UL 224 VW-1
CSA 198

- Excellent general-purpose tubing
- Low water absorption

Operating Temperature
- -55°C to +135°C
- -55°C to +125°C (UL, CSA)

Shrink Temperature
- 90°C min.
- 120°C full recovery

Material
- Cross-linked polyolefin

Color
- Green/yellow

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm^2)
- Elongation: 200% min
- Longitudinal change: ±5%
- Specific gravity: 1.35
- Flame retardant
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max.
- Fluid resistance: 1000 psi (6.89 N/mm^2)
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

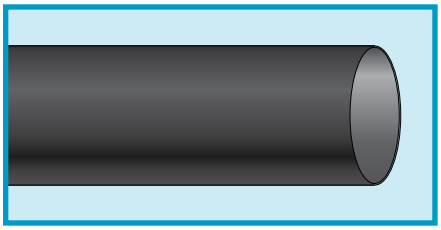
Availability
See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
FIT-260-1/8	0.125	3.18	0.062	1.57	0.020	0.51	500	152
FIT-260-1/4	0.250	6.35	0.125	3.18	0.025	0.64	250	76.2
FIT-260-3/8	0.375	9.53	0.187	4.75	0.025	0.64	250	76.2
FIT-260-1/2	0.500	12.70	0.250	6.35	0.025	0.64	250	76.2
FIT-260-3/4	0.750	19.05	0.375	9.53	0.030	0.76	250	76.2
FIT-260-1	1.000	25.40	0.500	12.70	0.035	0.89	100	30.5

Heat-Shrink Tubing

FIT®-295 Heat-Shrink Tubing
2:1 Shrink Ratio, Semirigid XLPO



AMS-DTL-23053/6 Class 1 (Black)
AMS-DTL-23053/6 Class 2 (Clear)
UL 224 VW-1 (Black)
CSA 198 (Black)

- 30% stronger than standard XLPO
- 25% stiffer than standard XLPO
- Low water absorption
- UV resistant (black only)

Operating Temperature
- -55°C to +135°C
- -55°C to +125°C (UL, CSA)

Shrink Temperature
- 110°C min.
- 135°C full recovery

Material
- Semirigid cross-linked polyolefin

Colors
- Black, clear

Physical Properties
- Tensile strength: 2000 psi (17.79 N/mm^2)
- Elongation: 200% min
- Longitudinal change: ±5%
- Specific gravity: 1.35 (black)/1.00 (clear)
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max. (black)/0.02% max. (clear)
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

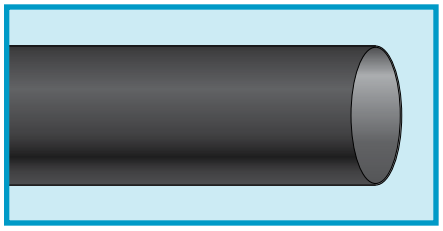
Availability
See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability Qty, Cut Pieces at Length	
	Inch	mm	Inch	mm	Inch	mm	4 ft (1.2 m)	6" (152 mm)
FIT-295-3/64	0.046	1.17	0.023	0.58	0.020	0.51	25	40
FIT-295-1/16	0.063	1.60	0.031	0.79	0.020	0.51	25	36
FIT-295-3/32	0.093	2.36	0.046	1.17	0.020	0.51	25	32
FIT-295-1/8	0.125	3.18	0.062	1.57	0.020	0.51	25	28
FIT-295-3/16	0.187	4.75	0.093	2.36	0.025	0.64	25	24
FIT-295-1/4	0.250	6.35	0.125	3.18	0.025	0.64	25	20
FIT-295-3/8	0.375	9.53	0.187	4.75	0.030	0.76	25	16
FIT-295-1/2	0.500	12.70	0.250	6.35	0.030	0.76	5	14

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-300 Heat-Shrink Tubing
2.5:1 Shrink Ratio, Dual-Wall Semirigid XLPO



AMS-DTL-23053/4 Class 1
UL 224 (Except clear)

- Meltable inner wall for encapsulation without adhesives
- Thicker wall for added protection
- High shrink ratios
- Excellent dielectric properties

Applications
- Temporary sealing without sticky residue
- Substrates requiring filled interstices

Operating Temperature
- -55°C to +135°C
- -55°C to +125°C (UL)

Shrink Temperature
- 140°C min.

Material
- Dual-wall semirigid cross-linked polyolefin

Colors
- Black, white, red, yellow, blue, slate, brown

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm^2)
- Elongation: 200% min
- Longitudinal change: +1%/-10%
- Specific gravity: 0.99
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1000 psi (6.89 N/mm^2)
- Lead free
- Halogen free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{16} ohm-cm

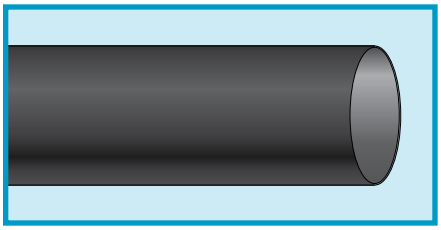
Availability
See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability Qty, Cut Pieces at Length	
	Inch	mm	Inch	mm	Inch	mm	4 ft (1.2 m)	6" (152 mm)
FIT-300-1/8	0.125	3.18	0.023	0.58	0.038	0.97	25	14
FIT-300-3/16	0.187	4.75	0.060	1.52	0.043	1.09	25	12
FIT-300-1/4	0.250	6.35	0.080	2.03	0.047	1.19	25	10
FIT-300-3/10	0.300	7.62	0.050	1.27	0.100	2.54	25	4
FIT-300-3/8	0.375	9.53	0.135	3.43	0.050	1.27	25	8
FIT-300-1/2	0.500	12.70	0.195	4.95	0.055	1.40	5	6
FIT-300-3/4	0.750	19.05	0.313	7.95	0.065	1.65	5	4
ST-3001-IN	1.000	25.40	0.400	10.16	0.075	1.91	5	--

RoHS Compliant

Heat-Shrink Tubing

FIT®-321 Heat-Shrink Tubing
3:1 Shrink Ratio, Dual-Wall XLPO, Adhesive Lined



AMS-DTL-23053/4 Class 3
UL 224
CSA 198

- Thicker wall for increased durability
- Water-resistant inner permanent-bonding adhesive

Operating Temperature
- -55°C to +125°C

Shrink Temperature
- 110°C min.
- 110°C full recovery

Material
- Dual-wall flexible polyolefin with thick-wall adhesive

Color
- Black

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm²)
- Elongation: 250% min
- Longitudinal change: +1%/-15%
- Flame tested
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 1.0% max
- Fluid resistance: 900 psi (6.20 N/mm²)
- UV resistant
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 300 V/mil (118 kV/cm)
- Volume resistivity: 10^{12} ohm-cm

Availability
See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Melt Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
FIT-321-1/8	0.125	3.18	0.024	0.61	0.037	0.94	0.020	0.51
FIT-321-1/4	0.252	6.40	0.073	1.85	0.047	1.19	0.020	0.51
ST-303-3/8	0.374	9.50	0.118	3.00	0.051	1.30	0.025	0.64
FIT-321-1/2	0.500	12.70	0.157	3.99	0.071	1.80	0.030	0.76
ST-303-3/4	0.748	19.00	0.236	5.99	0.071	1.80	0.035	0.89
FIT-321-1	0.945	24.00	0.315	8.00	0.098	2.49	0.040	1.02
FIT-321-1-1/2	1.575	40.01	0.512	13.00	0.098	2.49	0.040	1.02

Availability

Part No.	Qty, Cut Pieces at Length	
	4 ft (1.2 m)	6" (152 mm)
FIT-321-1/8	25	28
FIT-321-1/4	25	20
FIT-321-1/2	5	14
FIT-321-1	5	8
FIT-321-1-1/2	5	5

Packaged Assortments
Assorted sizes of 6" (15 cm) lengths

FIT-321-MS-1 Colors: Black

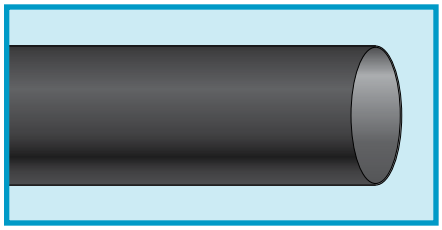
	Size		Quantity
	Inch	mm	
FIT-321-1/8	0.125	3.18	5
FIT-321-1/4	0.252	6.40	5
FIT-321-1/2	0.500	12.70	5
FIT-321-1	0.945	24.00	5

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Heat-Shrink Tubing

FIT®-321V Heat-Shrink Tubing
3:1 Shrink Ratio, Flexible XLPO, Thin Wall



AMS-DTL-23053/5 Class 1 and 3 (except dimensions)
UL 224 VW-1
CSA 198

- Low shrink temperature
- Fast recovery time
- Reduced wall thickness

Operating Temperature
- -55°C to +135°C
- -55°C to +125°C (UL, CSA)

Shrink Temperature
- 90°C min.
- 135°C full recovery

Material
- Flexible cross-linked thin-wall polyolefin

Colors
- Black, white

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm^2)
- Elongation: 200% min
- Longitudinal change: +5%/-15%
- Specific gravity: 1.35
- Flame retardant
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1000 psi (6.89 N/mm^2)

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

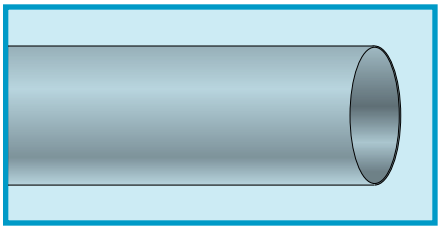
Availability
See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
FIT-321V-3/32	0.060	1.52	0.020	0.51	0.020	0.51	500	152
FIT-321V-1/8	0.120	3.05	0.040	1.02	0.024	0.61	500	152
FIT-321V-1/4	0.240	6.10	0.080	2.03	0.028	0.71	250	76.2
FIT-321V-3/8	0.360	9.14	0.120	3.05	0.031	0.79	200	60.9
FIT-321V-1/2	0.472	11.99	0.160	4.06	0.033	0.84	150	45.7
FIT-321V-3/4	0.720	18.29	0.240	6.10	0.039	0.99	250	76.2
FIT-321V-1IN	0.945	24.00	0.315	8.00	0.048	1.22	250	76.2

Heat-Shrink Tubing

FIT®-350 Heat-Shrink Tubing
2:1 Shrink Ratio, PVDF



AMS-DTL-23053/8
UL 224 VW-1

- Chemical resistant
- Heat resistant
- 3x the tensile strength of standard XLPO

Operating Temperature
- -55°C to +135°C
- -55°C to +150°C (UL)

Shrink Temperature
- 170°C min.
- 175°C full recovery

Material
- Cross-linked polyvinylidene fluoride

Color
- Clear

Physical Properties
- Tensile strength: 5000 psi (34.47 N/mm²)
- Elongation: 150% min
- Longitudinal change: ±10%
- Specific gravity: 1.80
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 5000 psi (34.47 N/mm²)
- Lead free

Electrical Properties
- 600 V (UL)
- Dielectric strength: 800 V/mil (315 kV/cm)
- Volume resistivity: 10^{13} ohm-cm

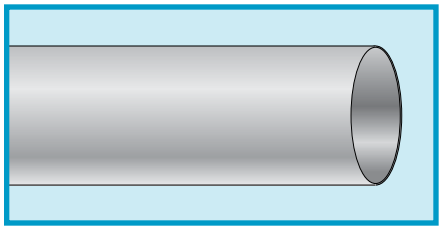
Availability
See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	4 ft (1.2 m)	6" (152 mm)
FIT-350-3/64	0.046	1.17	0.023	0.58	0.010	0.25	25	32
FIT-350-1/16	0.063	1.60	0.031	0.79	0.010	0.25	25	28
FIT-350-3/32	0.093	2.36	0.046	1.17	0.010	0.25	25	24
FIT-350-1/8	0.125	3.18	0.062	1.57	0.010	0.25	25	20
FIT-350-3/16	0.187	4.75	0.093	2.36	0.010	0.25	25	16
FIT-350-1/4	0.250	6.35	0.125	3.18	0.012	0.30	25	12
FIT-350-3/8	0.375	9.53	0.187	4.75	0.012	0.30	25	8
FIT-350-1/2	0.500	12.70	0.250	6.35	0.012	0.30	5	4
FIT-350-3/4	0.750	19.05	0.375	9.53	0.017	0.43	5	2
FIT-350-1IN	1.000	25.40	0.500	12.70	0.019	0.48	5	1

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-400 Heat-Shrink Tubing
1.2:1 Shrink Ratio, FEP



AMS-DTL-23053/11 Class 1

- Chemical resistant
- Wide temperature range
- Excellent dielectric properties
- Thinnest wall thickness available
- Lower recovery temperature than PTFE

Operating Temperature

- -75°C to +200°C

Shrink Temperature

- 175°C full recovery

Material

- FEP

Color

- Natural

Physical Properties

- Tensile strength: 2000 psi (13.79 N/mm^2)
- Elongation: 200% min
- Longitudinal change: ±15%
- Specific gravity: 2.17
- Flame rating: UL 94V-0
- Shelf life: 4 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fluid resistance: pass
- Fungus resistance: no growth
- Water absorption: 0.01% max
- Lead free

Electrical Properties

- Dielectric strength: 2000 V/mil (787 kV/cm)
- Volume resistivity: 10^{17} ohm-cm

Availability

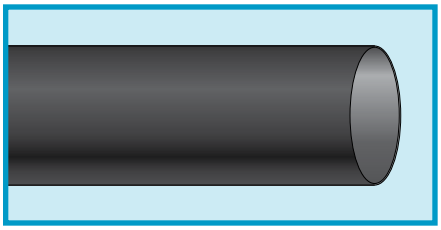
See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability Qty, Cut Pieces at Length	
	Inch	Mm	Inch	mm	Inch	mm	4 ft (1.2 m)	2 ft (0.6 m)
FIT-400-24	0.031	0.79	0.027	0.69	0.008	0.20	25	–
FIT-400-22	0.036	0.91	0.032	0.81	0.008	0.20	25	–
FIT-400-20	0.045	1.14	0.039	0.99	0.008	0.20	25	–
FIT-400-18	0.060	1.52	0.049	1.24	0.008	0.20	25	–
FIT-400-16	0.075	1.91	0.061	1.55	0.009	0.23	25	–
FIT-400-14	0.092	2.34	0.072	1.83	0.009	0.23	25	–
FIT-400-12	0.115	2.92	0.089	2.26	0.009	0.23	25	–
FIT-400-10	0.141	3.58	0.114	2.90	0.010	0.25	25	–
FIT-400-9	0.158	4.01	0.124	3.15	0.010	0.25	25	–
FIT-400-8	0.180	4.57	0.143	3.63	0.010	0.25	25	–
FIT-400-7	0.197	5.00	0.158	4.01	0.011	0.28	25	–
FIT-400-6	0.225	5.72	0.180	4.57	0.011	0.28	25	–
FIT-400-5	0.248	6.30	0.198	5.03	0.011	0.28	–	50
FIT-400-4	0.290	7.37	0.226	5.74	0.011	0.28	–	50
FIT-400-3	0.310	7.87	0.249	6.32	0.011	0.28	–	50
FIT-400-2	0.365	9.27	0.280	7.11	0.012	0.30	–	50
FIT-400-1	0.400	10.16	0.311	7.90	0.012	0.30	–	50
FIT-400-0	0.440	11.18	0.349	8.86	0.012	0.30	–	50

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-421 Heat-Shrink Tubing
4:1 Shrink Ratio, XLPO



AMS-DTL-23053/5 Class 1
UL 224 VW-1

- High-shrink ratio
- Large supplied diameters
- Conforms to irregular shapes
- Low water absorption
- UV resistant

Operating Temperature
- -55°C to +135°C
- -55°C to +125°C (UL)

Shrink Temperature
- 90°C min.
- 121°C full recovery

Material
- Cross-linked polyolefin

Color
- Black

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm^2)
- Elongation: 200% min
- Longitudinal change: +5%/-15%
- Specific gravity: 1.35
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1000 psi (6.89 N/mm^2)
- UV resistant
- Lead free

Electrical Properties
- 600 V (UL)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

Availability
See table

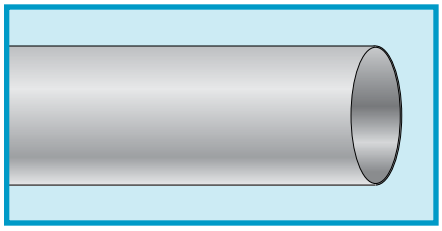
Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability Qty, Cut Pieces at Length	
	Inch	mm	Inch	mm	Inch	mm	4 ft (1.2 m)	15 ft (4.5 m)
FIT-421-1IN	1.000	25.40	0.260	6.60	0.045	1.14	5	—
FIT-421-1-1/2	1.500	38.10	0.375	9.53	0.045	1.14	5	—
FIT-421-2IN	2.000	50.80	0.550	13.97	0.045	1.14	5	—
FIT-421-3IN	3.000	76.20	0.810	20.57	0.045	1.14	2	—
FIT-421-4IN	4.000	101.60	1.050	26.67	0.045	1.14	2	

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Heat-Shrink Tubing

FIT®-500 Heat Shrink Tubing
1.5:1 Shrink Ratio, PTFE



AMS-DTL-23053/12 Class 3

- Excellent chemical resistance
- Widest temperature range
- High tensile strength
- Excellent dielectric properties
- Extremely thin wall thickness
- Low friction coefficient

Operating Temperature
- -75°C to +260°C

Shrink Temperature
- 327°C full recovery

Material
- PTFE

Color
- Natural

Physical Properties
- Tensile strength: 2500 psi (17.21 N/mm^2)
- Elongation: 200% min
- Longitudinal change: ±20%
- Specific gravity: 2.20
- Flame rating: UL 94V-0
- Shelf life: 4 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.01% max
- Fluid resistance: pass
- Lead free

Electrical Properties
- Dielectric strength: 800 V/mil (315 kV/cm)
- Volume resistivity: 10^{18} ohm-cm

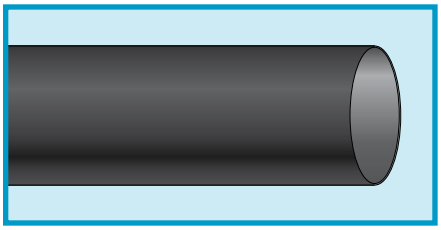
Availability
See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability, Cut Pieces at Length
	Inch	mm	Inch	mm	Inch	mm	2 ft (0.6 m)
FIT-500-30	0.034	0.86	0.015	0.38	0.009	0.23	50
FIT-500-28	0.038	0.97	0.018	0.46	0.009	0.23	50
FIT-500-26	0.046	1.17	0.022	0.56	0.010	0.25	50
FIT-500-24	0.050	1.27	0.027	0.69	0.010	0.25	50
FIT-500-22	0.055	1.40	0.032	0.81	0.012	0.30	50
FIT-500-20	0.060	1.52	0.039	0.99	0.012	0.30	50
FIT-500-18	0.076	1.93	0.049	1.24	0.012	0.30	50
FIT-500-16	0.093	2.36	0.061	1.55	0.012	0.30	50
FIT-500-14	0.120	3.05	0.072	1.83	0.012	0.30	50
FIT-500-12	0.150	3.81	0.089	2.26	0.012	0.30	25
FIT-500-10	0.191	4.85	0.112	2.84	0.012	0.30	25
FIT-500-8	0.240	6.10	0.141	3.58	0.015	0.38	25
FIT-500-6	0.302	7.67	0.178	4.52	0.015	0.38	10
FIT-500-4	0.370	9.40	0.224	5.69	0.015	0.38	10
FIT-500-2	0.430	10.92	0.278	7.06	0.015	0.38	10
FIT-500-0	0.470	11.94	0.347	8.81	0.015	0.38	10

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-600 Heat Shrink Tubing
2:1 Shrink Ratio, Chlorinated PO



AMS-DTL-23053/1 Class 1 and 2

- More flexible than standard XLPO
- 2x the tensile strength of silicone rubber
- Large tubing diameters
- Oil resistant
- Abrasion resistant

Operating Temperature
- -75°C to +121°C

Shrink Temperature
- 130°C min.
- 130°C full recovery

Material
- Chlorinated polyolefin

Color
- Black

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm^2)
- Elongation: 250% min
- Longitudinal change: +1%/-10%
- Specific gravity: 1.30
- Flame retardant
- Shelf life: 1 year at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 1.0% max
- Fluid resistance: 1000 psi (6.89 N/mm^2)
- UV resistant
- Lead free

Electrical Properties
- Dielectric strength: 300 V/mil (118 kV/cm)
- Volume resistivity: 10^{11} ohm-cm

Availability
See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
FIT-600-1/4	0.250	6.35	0.143	3.63	0.035	0.89	25, 150	7.6, 46
FIT-600-3/8	0.375	9.53	0.211	5.36	0.040	1.02	25, 150	7.6, 46
FIT-600-1/2	0.500	12.70	0.286	7.26	0.048	1.22	25, 150	7.6, 46
FIT-600-5/8	0.625	15.88	0.357	9.07	0.052	1.32	25, 150	7.6, 46
FIT-600-3/4	0.750	19.05	0.428	10.87	0.057	1.45	25, 100	7.6, 30.5
FIT-600-7/8	0.875	22.23	0.500	12.70	0.065	1.65	25, 100	7.6, 30.5
FIT-600-1IN	1.000	25.40	0.570	14.48	0.070	1.78	25, 100	7.6, 30.5
FIT-600-1-1/4	1.250	31.75	0.714	18.14	0.087	2.21	25, 100	7.6, 30.5
FIT-600-1-1/2	1.500	38.10	0.857	21.77	0.095	2.41	25, 100	7.6, 30.5
FIT-600-1-3/4	1.750	44.45	1.000	25.40	0.107	2.72	25, 75	7.6, 22.8
FIT-600-2IN	2.000	50.80	1.140	28.96	0.110	2.79	25, 75	7.6, 22.8
FIT-600-3IN	3.000	76.20	1.710	43.43	0.125	3.18	25, 50	7.6, 15.2

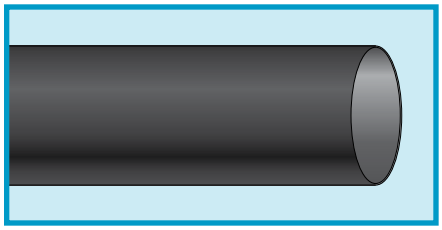
CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Heat-Shrink Tubing

FIT®-621 Heat Shrink Tubing

5.6:1 Shrink Ratio, Dual-Wall Flexible PO, Adhesive-Lined Inner Thick Wall



- High shrink ratios
- Heavy-duty adhesive lining
- Low water absorption
- Oil resistant
- Chemical resistant
- Abrasion resistant

Operating Temperature

- -55°C to +90°C

Shrink Temperature

- 121°C full recovery

Material

- Polyolefin

Color

Black

Physical Properties

- Tensile strength: 1200 psi (8.27 N/mm^2)
- Elongation: 200% min
- Longitudinal change: -10%
- Specific gravity: 1.40
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 750 psi (5.17 N/mm^2)
- Halogen free
- Lead free

Electrical Properties

- Dielectric strength: 200 V/mil (79 kV/cm)
- Volume resistivity: 10^{13} ohm-cm

Availability

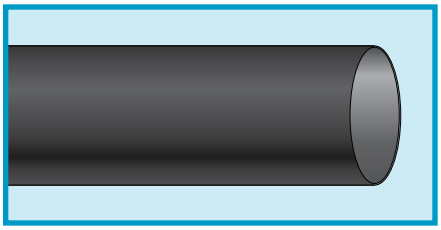
See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Adhesive Wall Thickness, Min.		Availability, Qty, Cut Pieces at Length
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	6" (152 mm)
FIT-621-5/8	0.600	15.24	0.150	3.81	0.060	1.52	0.050	1.27	3, 10
FIT-621-1-1/4	1.250	31.75	0.220	5.59	0.060	1.52	0.050	1.27	3, 10
FIT-621-2	2.000	50.80	0.374	9.50	0.106	2.69	0.050	1.27	3, 10, 24
FIT-621-2-1/2	2.500	63.50	0.500	12.70	0.120	3.05	0.050	1.27	3, 10
FIT-621-3	3.000	76.20	0.748	19.00	0.140	3.56	0.050	1.27	3, 10
FIT-621-4	4.000	101.60	0.898	22.81	0.155	3.94	0.050	1.27	3, 10

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-650 Heat Shrink Tubing
2:1 Shrink Ratio, Flexible Fluoroelastomer



AMS-DTL-23053/13

- Excellent chemical resistance
- Wide temperature range
- Flexible
- Oil resistant
- Fuel resistant

Operating Temperature
- -40°C to +200°C

Shrink Temperature
- 130°C min.
- 175°C full recovery

Material
- Flexible fluoroelastomer

Colors
- Black

Physical Properties
- Tensile strength: 1200 psi (8.27 N/mm^2)
- Elongation: 250% min
- Longitudinal change: ±20%
- Flammability: self-extinguishing
- Shelf life: 2 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.50% max
- Fluid resistance: 1200 psi (8.27 N/mm^2)
- Lead free

Electrical Properties
- Dielectric strength: 200 V/mil (79 kV/cm)
- Volume resistivity: 10^9 ohm-cm

Availability
100 ft (30.5 m)
Spools may contain multiple lengths

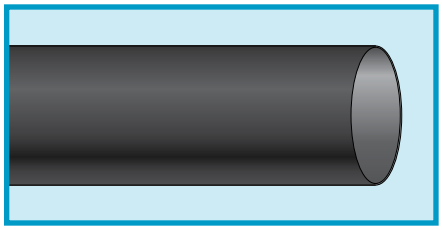
Part No	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-650-1/8	0.125	3.18	0.062	1.57	0.031	0.79
FIT-650-3/16	0.187	4.75	0.093	2.36	0.035	0.89
FIT-650-1/4	0.250	6.35	0.125	3.18	0.035	0.89
FIT-650-3/8	0.375	9.53	0.187	4.75	0.035	0.89
FIT-650-1/2	0.500	12.70	0.250	6.35	0.035	0.89
FIT-650-3/4	0.750	19.05	0.375	9.53	0.042	1.07
FIT-650-1	1.000	25.40	0.500	12.70	0.049	1.24
ST-650-1-1/2*	1.500	38.10	0.750	19.50	0.055	1.40

*Available in 50 ft (76 m) spools only.

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-700 Heat Shrink Tubing
3:1 Shrink Ratio, Heavy-Wall XLPO, Thermoplastic Adhesive Lined



ANSI C119:1
UL 486
CSA 198

- Thermoplastic adhesive bonds to most materials
- Rated for 1 kV, 90°C continuous use
- Superior strength

Operating Temperature
- -55°C to +110°C

Shrink Temperature
- 120°C min.
- 120°C full recovery

Material
- Heavy-wall cross-linked polyolefin
- Thermoplastic adhesive

Color
- Black

Physical Properties
- Tensile strength: 2100 psi (14.48 N/mm²)
- Elongation: 600% min
- Longitudinal change: +1%/-10%
- Specific gravity: 1.10
- Flame retardant
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.10% max
- Fluid resistance: excellent
- UV resistant
- Lead free

Electrical Properties
- Dielectric strength: 500 V/mil (196.9 kV/cm)
- Volume resistivity: 10^{17} ohm-cm

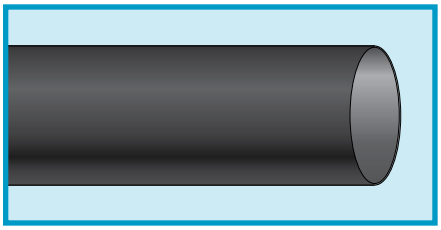
Availability
Cut pieces (see table)

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Adhesive Wall Thickness, Min.		Availability, Qty, Cut Pieces at Length
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	12" (304 mm)
FIT-700-21	0.750	19.05	0.240	6.10	0.120	3.05	0.050	1.27	6
FIT-700-22	1.100	27.94	0.350	8.89	0.120	3.05	0.050	1.27	6
FIT-700-23	1.500	38.10	0.470	11.94	0.140	3.56	0.050	1.27	6
FIT-700-24	2.000	50.80	0.630	16.00	0.140	3.56	0.050	1.27	6
FIT-700-25*	3.000	76.20	1.250	31.75	0.160	4.06	0.050	1.27	6
FIT-700-26*	4.500	114.30	1.750	44.45	0.160	4.06	0.050	1.27	6

*Not UL or CSA listed

Heat-Shrink Tubing

FIT®-750 Heat Shrink Tubing
2:1 Shrink Ratio, XLPO, Adhesive Lined



AMS-DTL-23053/4 Class 2
UL 224 VW-1
CSA 198

- General-purpose adhesive-lined tubing
- Total encapsulation
- Bonding to substrates

Operating Temperature
- -55°C to +110°C
- -55°C to +125°C (UL, CSA)

Shrink Temperature
- 110°C min.
- 110°C full recovery

Material
- Adhesive-lined cross-linked polyolefin

Color
- Black

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm^2)
- Elongation: 200% min
- Longitudinal change: +1%/-5%
- All tubing flame tested
- Self-extinguishing within 1 minute
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1000 psi (6.89 N/mm^2)
- UV resistance
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{12} ohm-cm

Availability
See table

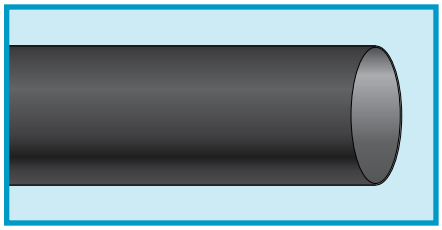
Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Adhesive Wall Thickness, Min.		Availability, Qty, Cut Pieces at Length
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	4' (1219 mm)
ST-302-1/8	0.125	3.18	0.063	1.60	0.027	0.69	0.002	0.05	25
ST-302-3/16	0.187	4.75	0.093	2.36	0.027	0.69	0.002	0.05	25
FIT-750-1/4	0.250	6.35	0.125	3.18	0.030	0.76	0.004	0.10	25
FIT-750-3/8	0.375	9.53	0.187	4.75	0.031	0.79	0.004	0.10	25
FIT-750-1/2	0.500	12.70	0.250	6.35	0.032	0.81	0.005	0.13	5
FIT-750-3/4	0.750	19.05	0.375	9.53	0.037	0.94	0.005	0.13	5
FIT-750-1IN	1.000	25.40	0.500	12.70	0.039	0.99	0.007	0.18	5
FIT-750-1-1/2	1.500	38.10	0.750	19.05	0.046	1.17	0.007	0.18	5

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Heat-Shrink Tubing

FIT®-FABRIC Woven Fabric Heat-Shrink Tubing
2:1 Shrink Ratio



UL 1441 (125°C)
MVSS 302

- Excellent abrasion resistance
- Outstanding flexibility and durability
- Easy installation: cuts with scissors

Operating Temperature
- -40°C to +125°C

Shrink Temperature
- 80°C min.
- 135°C full recovery

Material
- Polyethylene-polyester fabric

Color
- Black

Physical Properties
- Flame retardant
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Lead free
- Halogen free
- UV resistant

Availability
See table

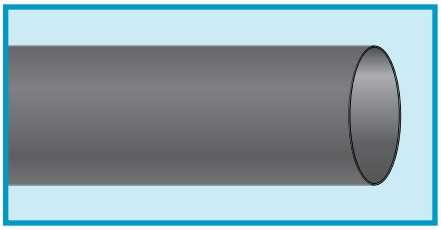
Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
FIT-FAB-1	0.472	11.99	0.236	5.99	0.040	1.02	50, 200	15.2, 60.9
FIT-FAB-2	0.787	19.99	0.394	10.01	0.040	1.02	50, 200	15.2, 60.9
FIT-FAB-3	1.181	30.00	0.591	15.01	0.040	1.02	50, 200	15.2, 60.9
FIT-FAB-4	1.575	40.01	0.787	19.99	0.040	1.02	50, 200	15.2, 60.9
FIT-FAB-5	1.969	50.01	0.984	24.99	0.040	1.02	25, 100	7.6, 30.5
FIT-FAB-6	2.362	59.99	1.181	30.00	0.040	1.02	25, 100	7.6, 30.5
FIT-FAB-7	2.756	70.00	1.378	35.00	0.040	1.02	25, 100	7.6, 30.5

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-FLEX Highly Flexible Heat-Shrink Tubing
1.7:1 Shrink Ratio, Cross-linked Silicone Rubber



UL 224 VW-1

- Highly flexible over wide temperature range
- Scrape abrasion resistant
- Pliable

Operating Temperature
- -50°C to +200°C

Shrink Temperature
- 80°C min.
- 135°C full recovery

Material
- Cross-linked silicone rubber

Color
- Slate

Physical Properties
- Tensile strength: 870 psi (5.99 N/mm^2)
- Elongation: 350% min
- Longitudinal change: -15%
- Specific gravity: 1.20
- Flammability: self-extinguishing
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption 1.0% max
- Lead free

Electrical Properties
- 600 V
- Dielectric strength: 200 V/mil (79 kV/cm)
- Volume resistivity: 10^{12} ohm-cm

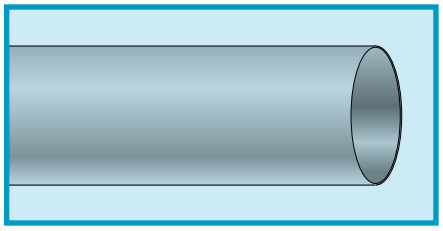
Availability
25 ft (7.6 m)
100 ft (30.5 m)
Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-FLEX-2	0.165	4.19	0.071	1.80	0.055	1.40
FIT-FLEX-3	0.263	6.68	0.114	2.90	0.055	1.40
FIT-FLEX-5	0.394	10.01	0.173	4.39	0.055	1.40
FIT-FLEX-6	0.512	13.00	0.244	6.20	0.055	1.40
FIT-FLEX-9	0.757	19.23	0.354	8.99	0.059	1.50
FIT-FLEX-12	0.984	24.99	0.492	12.50	0.079	2.01
FIT-FLEX-20	1.378	35.00	0.748	19.00	0.079	2.01

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-CLEAR Heat-Shrink Tubing
2:1 Shrink Ratio, Cross-Linked PVDF



AMS-DTL-23053/18 Class 1
UL 224 VW-1

- Excellent heat and chemical resistance
- Mechanical abrasion and cut-through resistance

Operating Temperature
- -55°C to +175°C
- -55°C to +150°C (UL)

Shrink Temperature
- 150°C full recovery

Material
- Cross-linked polyvinylidene fluoride

Color
- Clear

Physical Properties
- Tensile strength: 3500 psi (24.13 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±10%
- Specific gravity: 2.0
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption 0.5% max
- Fluid resistance: 2000 psi (13.79 N/mm²)
- Lead free

Electrical Properties
- 600 V (UL)
- Dielectric strength: 400 V/mil (158 kV/cm)
- Volume resistivity: 10^{11} ohm-cm

Availability
See table

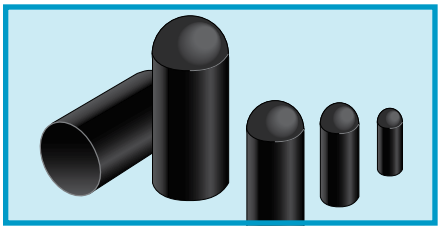
Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
FIT-CLEAR-3/64	0.046	1.17	0.023	0.58	0.010	0.25	100	30.5
FIT-CLEAR-1/16	0.063	1.60	0.031	0.79	0.010	0.25	100	30.5
FIT-CLEAR-3/32	0.093	2.36	0.046	1.17	0.010	0.25	100	30.5
FIT-CLEAR-1/8	0.125	3.18	0.062	1.57	0.010	0.25	100	30.5
FIT-CLEAR-3/16	0.187	4.75	0.093	2.36	0.010	0.25	100	30.5
FIT-CLEAR-1/4	0.250	6.35	0.125	3.18	0.012	0.30	100	30.5
FIT-CLEAR-3/8	0.375	9.53	0.187	4.75	0.012	0.30	100	30.5
FIT-CLEAR-1/2	0.500	12.70	0.250	6.35	0.012	0.30	50	15.2
FIT-CLEAR-3/4	0.750	19.05	0.375	9.53	0.017	0.43	50	15.2
FIT-CLEAR-1IN	1.000	25.40	0.500	12.70	0.019	0.48	50	15.2
FIT-CLEAR-1-1/2	1.500	38.10	0.750	19.05	0.020	0.51	50	15.2
FIT-CLEAR-2IN	2.000	50.80	1.000	25.40	0.020	0.51	50	15.2

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

CAP Molded Heat-Shrink End Caps
2:1 Shrink Ratio, Semirigid Polyolefin



- Abrasion resistant
- Moisture resistant

Operating Temperature

- -55°C to +135°C

Shrink Temperature

- 135°C full recovery

Material

- Semirigid polyolefin

Color

- Black

Physical Properties

- Tensile strength: 2500 psi (1.76 N/mm^2)
- Elongation: 300% min
- Recovered parts may have angularity of 30° to 45°
- Specific gravity: 1.25
- Flammability: self-extinguishing
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption 0.1% max
- UV resistant
- Lead free

Electrical Properties

- Dielectric strength: 700 V/mil (276 kV/cm)
- Volume resistivity: 10^{16} ohm-cm

Availability

25-piece packages

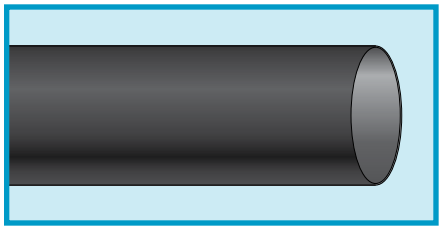
Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Length, Nom.	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
CAP-21	0.200	5.08	0.080	2.03	0.040	1.02	0.900	22.86
CAP-22	0.290	7.37	0.130	3.30	0.050	1.27	1.000	25.40
CAP-23	0.400	10.16	0.180	4.57	0.060	1.52	1.200	30.48
CAP-24	0.600	15.24	0.250	6.35	0.070	1.78	1.600	40.64
CAP-25	0.810	20.57	0.370	9.40	0.080	2.03	2.400	60.96
CAP-26	1.000	25.40	0.450	11.43	0.090	2.29	2.700	68.58
CAP-27	1.550	39.37	0.710	18.03	0.100	2.54	3.600	91.44

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

SPC Heat Shrink Tubing

3:1 Shrink Ratio, XLPO, Heavy-Wall Thermoplastic Bonding Layer



AMS DTL-23053/15 Class 1

- Adhesive lined for sealing
- Thick wall for extra abrasion resistance
- Rated to 1 kV

Operating Temperature

- -55°C to +110°C

Shrink Temperature

- 120°C min.

Material

- Cross-linked polyolefin

Color

- Black

Physical Properties

- Tensile strength: 2400 psi (138 N/mm^2)
- Elongation: 475% min
- Longitudinal change: +1%/-10%
- Specific gravity: 1.28
- Flame retardant, self-extinguishing
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.02%
- Fluid resistance: pass
- UV resistant
- Lead free

Electrical Properties

- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{15} ohm-cm

Availability

Sold in individual pieces
6 in. (0.1 m)
12 in. (0.3 m)
48 in. (1.2 m) bulk

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Adhesive Wall Thickness, Min.	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
SPC-400*	0.400	10.16	0.150	3.81	0.060	1.52	0.050	1.27
SPC-800*	0.800	20.32	0.200	5.08	0.060	1.52	0.050	1.27
SPC-110*	1.100	27.94	0.375	9.53	0.105	2.67	0.050	1.27
SPC-150	1.500	38.10	0.500	12.70	0.120	3.05	0.050	1.27
SPC-200	2.000	50.80	0.750	19.05	0.120	3.05	0.050	1.27
SPC-300	3.000	76.20	1.000	25.40	0.120	3.05	0.050	1.27

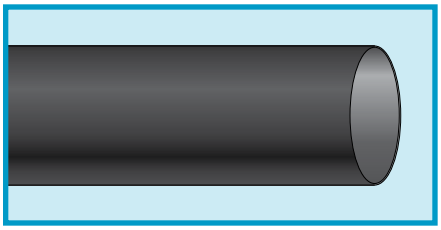
*Availability includes 6 in. (0.1 m) lengths.

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

SPCM Heat Shrink Tubing

3:1 Shrink Ratio, XLPO, Medium Wall, Thermoplastic Bonding Layer



AMS DTL-23053/15 Class 2

- Adhesive lined for sealing
- Medium wall for abrasion resistance
- Rated to 1 kV

Operating Temperature

- -55°C to +200°C

Shrink Temperature

- 120°C min.

Material

- Cross-linked polyolefin

Color

- Black

Physical Properties

- Tensile strength: 2400 psi (1.38 N/mm^2)
- Elongation: 475% min
- Longitudinal change: +1%/-10%
- Specific gravity: 1.25
- Self-extinguishing
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.02%
- Fluid resistance: pass
- UV resistant
- Lead free

Electrical Properties

- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{15} ohm-cm

Availability

Sold in individual pieces
6 in. (0.1 m)
12 in. (0.3 m)
48 in. (1.2 m)

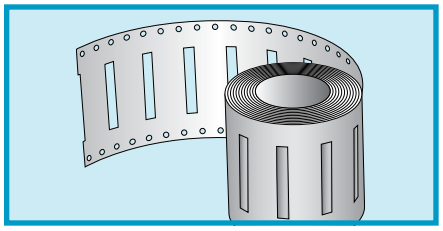
Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Adhesive Wall Thickness, Min.	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
SPCM400*	0.400	10.16	0.150	3.81	0.050	1.27	0.040	1.02
SPCM800*	0.800	20.32	0.220	5.59	0.060	1.52	0.040	1.02
SPCM110*	1.100	27.94	0.375	9.53	0.065	1.65	0.040	1.02
SPCM130	1.300	33.02	0.375	9.53	0.065	1.65	0.040	1.02
SPCM150	1.500	38.10	0.500	12.70	0.080	2.03	0.040	1.02
SPCM170	1.700	43.18	0.500	12.70	0.100	2.54	0.040	1.02
SPCM200	2.000	50.80	0.750	19.05	0.100	2.54	0.040	1.02
SPCM300	3.000	76.20	1.000	25.40	0.100	2.54	0.040	1.02

*Availability includes 6 in. (0.1 m) lengths.

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-PRINT Heat-Shrinkable Identification System
3:1 Shrink Ratio, XLPO



UL 224
CSA 198
MIL-STD-202F Method 215J

- Permanent, smear-resistant marking
- Identification for cable or harness assemblies

Operating Temperature
- -30°C to +105°C

Shrink Temperature
- 90°C min.
- 125°C full recovery

Material
- Cross-linked polyolefin

Colors
- White, yellow

Physical Properties
- Tensile strength: 1160 psi (8.0 N/mm^2)
- Elongation: 150% min
- Longitudinal change: 20%
- Flame retardant
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5%

Electrical Properties
- Dielectric strength: 20 V/mil (7.9 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

Availability
250 tubing pieces per package

Part No	Range			Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	AWG	Inch	mm	Inch	mm	Inch	mm	Inch	mm
FIT-PRINT-1/8	22 – 16	0.344 – 1.374	8.74 – 34.90	0.125	3.18	0.042	1.07	0.023	0.58
FIT-PRINT-1/4	16 – 8	1.374 – 3.264	34.90 – 82.92	0.250	6.35	0.083	2.11	0.023	0.58
FIT-PRINT-1/2	8 – 2	3.264 – 6.543	82.92 – 166.19	0.500	12.70	0.166	4.22	0.023	0.58
FIT-PRINT-1	2 – 4/0	6.543 – 10.2	166.19 – 259.08	1.000	25.40	0.333	8.46	0.023	0.58

To economically meet the wire identification needs of the electronic interconnect, industrial, computer office automation, marine, and electrical markets, FIT-PRINT sleeves allow smear-resistant, permanent identification. The sleeves, available in white or high-visibility bright yellow, feed directly into dot matrix printers (high carbon content ribbon recommended). A standard ball-point pen may also be used.

CA PROP 65 RoHS Compliant

Heat-Shrink Tubing

FIT®-KIT

Assorted Heat-Shrink Tubing

- **For use in R&D labs, engineering development, and maintenance departments**

FIT-KIT-1 for General-Purpose Indoor Applications

Tubing supplied in 6" (15.2 cm) lengths unless otherwise noted.

Family	Material	Sizes	Range	Total Quantity
FIT-105	PVC	9	3/64" – 3/4"	18
FIT-221	XLPO	9	3/64" – 3/4"	19
FIT-295	SR-XLPO	8	3/64" – 1/2"	12
FIT-300	XLPO	5	1/8" – 1/2"	10
FIT-350	PVDF	7	3/64" – 3/8"	14
FIT-CRIMP	Nylon	22 – 10 AWG	—	3 pc*
Caps	XLPO	22, 23, 24 AWG	—	6 pc

*1 each of FIT-CRIMP 1, 2, and 3.

FIT-KIT-2 for General-Purpose Indoor and Outdoor Applications

Tubing supplied in 6" (15.2 cm) lengths unless otherwise noted.

Family	Material	No. of Sizes	Range	Total Quantity
FIT-105	PVC	9	3/64" – 3/4"	18
FIT-221	XLPO	9	3/64" – 3/4"	19
FIT-295	SR-XLPO	8	3/64" – 1/2"	12
FIT-300	XLPO	5	1/8" – 1/2"	10
FIT-321	Adhesive-Lined XLPO	2	1/4" – 1/2"	16, 24*
FIT-350	PVDF	7	3/64" – 3/8"	14
FIT-400	FEP	6	24 – 12 AWG	22
FIT-500	PTFE	5	26 – 18 AWG	17
FIT-600	Chlorinated PO	5	1/4" – 1"	8
FIT-700	Thermoplastic Adhesive-Lined XLPO	2	21 – 22	2
FIT-750	Adhesive-Lined XLPO	1	3/8"	10*
FIT-CRIMP	Nylon	22 – 10 AWG	—	3 pc**
Caps	XLPO	22, 23, and 24	—	6 pc

*1"/25.4 mm length.
**1 each of FIT-CRIMP 1, 2, and 3.

FIT-KIT-7 for General-Purpose Indoor and Outdoor Applications

Tubing supplied in 6" (15.2 cm) lengths unless otherwise noted.

Family	Material	No. of Sizes	Range	Total Quantity
FIT-105	PVC	7	1/16" – 1/2"	14
FIT-221	XLPO	7	1/16" – 1/2"	28
FIT-260	XLPO (Ground Lead)	3	1/8" – 1/2""	6
FIT-300	XLPO	4	3/8" – 1/2"	8
FIT-321	Adhesive-Lined XLPO	3	1/8" – 1/2"	6
FIT-350	PVDF	7	1/6" – 1/2"	14
FIT-400	FEP	7	24 – 12 AWG	14
FIT-750	Adhesive-Lined XLPO	5	1/4" – 1"	10
FIT-CRIMP	Nylon	22 – 10 AWG	—	12 pc*

*4 each of FIT-CRIMP 1, 2, and 3.

Heat-Shrink Tubing

FIT®-MGKIT-1

Convenient Kit with FIT Minigun and FIT-221 Variety Pack

FIT Minigun Characteristics

- UL 499
- To 300°C nozzle temperature
- 6 ft (1.83 m) power cord
- 10.3 oz (0.39 kg) net weight
- Workbench storage loop included
- 120 V
- 350 W
- 3 A
- Color: blue

FIT-221-R Variety Kit

- UL 224
- CSA 198
- AMS-DTL-23053/5 Class 1
- 60 6" (15.2 cm) pieces in five sizes and various colors
- Cross-linked polyolefin
- 2:1 shrink ratio

FIT-MGKIT-1 Contents

Part No.	Description	Quantity
FIT MINIGUN	Lightweight, portable heat gun	1
FIT-221-R	FIT-221R Variety Pack	1 kit/60 pieces

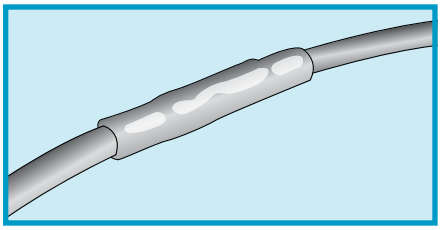
FIT-221-R Kit Contents

	Tubing Size		Number of 6" (15.2 cm) Pieces					
	Inch	Mm	Black	White	Red	Blue	Yellow	Green
FIT-221-1/8	0.125	3.18	4	3	2	2	2	1
FIT-221-3/16	0.187	4.75	4	3	2	2	2	1
FIT-221-1/4	0.250	6.35	4	3	2	2	2	1
FIT-221-3/8	0.375	9.53	3	2	1	1	1	1
FIT-221-1/2	0.500	12.70	3	2	1	1	1	1

RoHS Compliant

Heat-Shrink Tubing

FIT®-CRIMP Heat-Shrinkable Crimp Splices
2:1 Shrink Ratio, Nylon



UL ZMVV

Operating Temperature

- -55°C to +125°C

Materials

- Heat-shrinkable nylon
- Polyamide-based adhesive
- Tin-plated copper base metal

Physical Properties

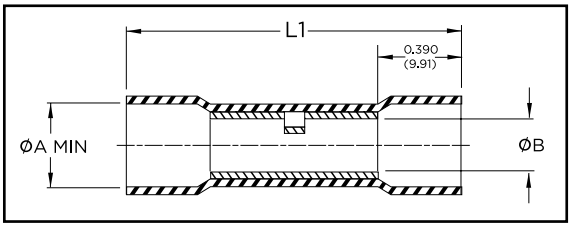
- Shelf life: 25 years at 18°C to 35°C
- Not flame retardant

Chemical Properties

- Solvent resistance: isopropyl alcohol, trichloroethylene, gasoline, battery acid, diesel fuel, motor oil, anti-freeze, brake fluid, 5% salt water

Availability

100-piece packages
500-piece packages



Part No.	Wire Range		Color	Length		Supplied ID, Min.				Recovered ID, Max.	
				L1		A		B		A	
	AWG	mm²		Inch	mm	Inch	mm	Inch	mm	Inch	mm
FIT-CRIMP 1	22 – 18	0.26 – 0.96	Red	1.50	38.10	0.170	4.32	0.058	1.47	0.055	1.40
FIT-CRIMP 2	16 – 14	1.04 – 2.62	Blue	1.50	38.10	0.197	5.00	0.092	2.34	0.080	2.03
FIT-CRIMP 3	12 – 10	2.62 – 6.64	Yellow	1.70	43.18	0.255	6.48	0.138	3.51	0.110	2.79

Alpha's heat-shrinkable pre-insulated crimp splices completely seal electrical connections from corrosion caused by water, salts, and other contaminants. Unlike conventional splices, these adhesive-lined butt connectors provide a strong reinforced connection. They are lightweight and easy to install, too.

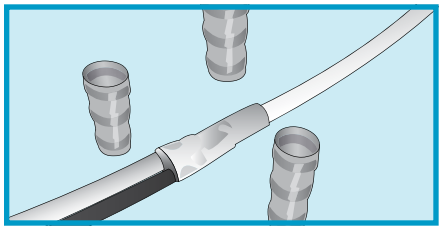
Simply insert the wires. The sleeve's transparent nylon insulation lets you inspect wire location and position your crimping tool fast.

Crimp the splice and then shrink and seal it with a common heat gun or other heat source. Reliable sealing plus quick and easy installation add up to protection you can count on whenever wire splices are required, including automobile and truck wiring, outdoor electrical equipment, marine equipment, telecommunications equipment, recreational equipment, and household appliances.

RoHS Compliant

Heat-Shrink Tubing

FIT®-SLV Soldering Sleeves



ANSI J-STD-004
ANSI J-STD-006
NAS 1745

Operating Temperature

- -55°C to +105°C (SLV 12 – 16)
- -55°C to +125°C (SLV 22 – 26)

Sleeve Color

- Transparent blue

Materials

- PVDF heat-shrinkable sleeve

Solder Preform:

- 105°C Series: 51.2% tin, 30.6% lead, 18.2% cadmium (143°C melting temperature)
- 125°C Series: 63% tin, 37% lead (183°C melting temperature)

Physical Properties:

- Shelf life: 25 years at 18°C to 35°C

Availability

25-piece packages
100-piece packages

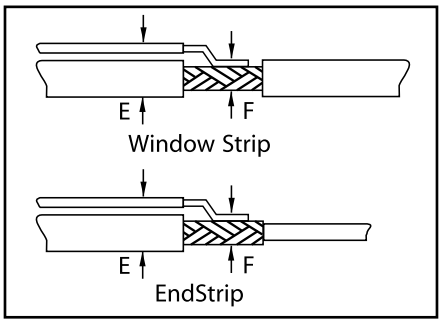
Part No.		Dimensions					
		D1 min.		D min.		L nom.	
105°C	125°C	Inch	mm	Inch	mm	Inch	mm
FIT-SLV-12	**FIT-SLV-22**	0.125	3.18	0.110	2.79	0.625	15.88
FIT-SLV-14	**FIT-SLV-24**	0.200	5.08	0.180	4.57	0.625	15.88
FIT-SLV-16	**FIT-SLV-26**	0.300	7.62	0.280	7.11	0.750	19.05

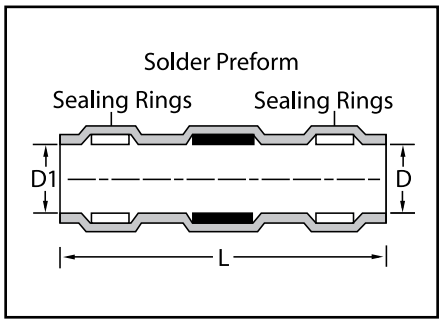
Alpha's FIT-SLV soldering sleeve is a one piece, shield ground termination system featuring a strong, low-cost soldered connection that is completely insulated and encapsulated. It consists of a heat-shrinkable thermoplastic sleeve containing a precisely engineered preform of fluxed solder and thermoplastic inserts at each end. When placed over a cable shield and heated, the solder melts and flows, connecting the ground lead and shield. The outer sleeve shrinks and the thermoplastic inserts melt, encapsulating the termination. The result is a perfectly soldered, strain-relieved and environmentally protected termination.

A solder preform ensures exact quantity of solder and flux, producing optimum solder connections for maximum strength and lowest voltage drop. Transparent heat-shrinkable insulating sleeve allows inspection of termination, and provides long-life strain relief. Meltable inserts insure complete environmental protection.

Selection Guide

1. Measure maximum diameter (E) and minimum diameter (F) of combined cable and ground lead.
2. Find appropriate Alpha part number and sleeve size in the cable and sleeve dimensions chart.





Heat-Shrink Tubing

FIT® Heat Guns

	FIT-GUN-1	FIT-GUN-3	FIT-Minigun
Temperature, Low	60°C (140°F)	316°C (600°F)	—
Temperature, High	566°C (1050°F)	510°C (950°F)	300°C (572°F)
Temperature Selection	Slider switch: Off, Low, Medium, High	Slider switch: Off, Low, High	Rocker switch: Off, On
Power	1400 W	1300 W	350 W
Voltage	120 VAC/60 Hz	120 VAC/60 Hz	120 VAC/60 Hz
Current	11.6 A	10.0 A	3 A
Power Cord Length	6.5 ft (2 m)	6.5 ft (2 m)	6 ft (1.8 m)
Net Weight	2.2 lb (1 kg)	1.6 lb (0.68 kg)	10.3 oz (0.39 kg)
Color	Black/gray	Black/gray	Blue
Nozzle Attachments	Reflector nozzle	—	Workbench loop
Approvals	UL 499 c UL us RoHS Compliant	UL 499 c UL us RoHS Compliant	UL 499 UL LISTED
Part No.	**FIT-GUN1**	**FIT-GUN3**	**FIT-MG1**

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management

FIT® Wire Management

Better wire management means better harnesses

Bringing order to wire harnesses and cable routing means a system that is more reliable, easier to fabricate, and simpler to maintain. Our woven sleeves are tough and flexible. For additional resistance to chemicals, oils, and solvents, our flexible tubing offers exceptional performance and operates at temperatures as high as 260°C. Our braided shields are effective and easy to use for additional EMI protection or a ground connection.

Neatness counts

As a leader in premium products, Alpha Wire knows wire and cable. And we know the challenges you face in creating harnesses, routing, and combating noise. Our FIT wire management products are designed to tame the most unruly applications.

Harnessing

Make any wire harness organized, manageable, and neat with our tubing, sleeving, spiral wrap tubing, zipper tubing, and lacing tape. Our unique ZIP-GRP expandable, enclosure sleeving allows easy re-entry and unlimited wire and cable break outs with its hook and loop fastener system.

Shielding

Add shielding easily and quickly. We offer flat, round, and oval braided shielding for additional protection against EMI and for grounding protection. Our copper foil shielding tape is backed with a highly conductive, pressure-sensitive adhesive for use in a wide variety of EMI/RFI shielding applications in cable and connector assemblies.

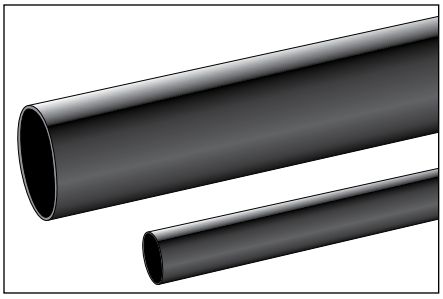
Routing

Get the advantages of conduit in a flexible non-metallic, liquid-tight tubing and connection system that protects wire, copper cable, and fiber-optic cable in factories, offices, or underground installations. Use our watertight tubing to replace rigid raceways where flexibility, re-entry, or re-usability is required. Additionally, Alpha offers split looms to provide a convenient solution for your routing needs.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

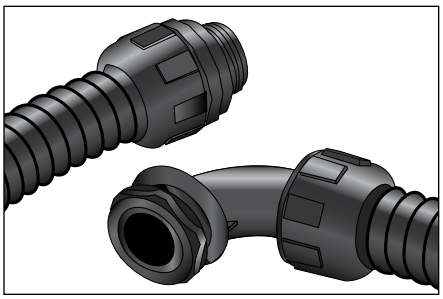
FIT® Wire Management

Better wire management means better harnesses



PVC-105

PVC tubing is the workhorse choice for protecting, organizing, and routing cables.

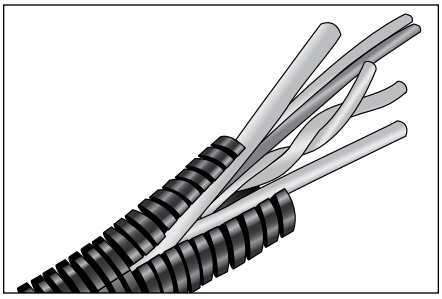


Flexible Liquid-Tight PVC Tubing and Nylon Connectors

FNT Tubing

SLC and RLC Connectors

FNT PVC tubing system of wire management products for electronic and electrical wire protection provides maximum flexibility and can be used in extremely tight quarters. The tubing is excellent for general applications where maximum flexibility is required or in areas where movement, vibration, or flexing is a problem.



Convoluted Slit Loom Tubing and Tee Connector Fittings

Type 492 Tubing

Type 493 Fittings

Flexible polyethylene loom material permits fast, easy installations and protection of harness and cable assemblies. The loom is slit full length so that it slides over the completed wire assembly easily, but closes after installation to protect the wire bundle. The slit allows for the wires to break out at any point along the cable length for custom installation. Companion snap-on connectors provide simple, clean cable junctions.

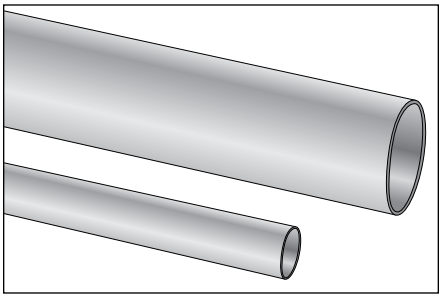
Zipper Tubing™

ZIP-41

Protect wire, cables, and harnesses. Alpha Zipper Tubing provides a professional finish to wiring installations by eliminating exposed wiring and providing added protection against flame, chemicals, and abrasion. With Zipper Tubing, it's possible to isolate any group of wires or cables quickly and easily, without the bother of tape wrapping. Zipper Tubing is an ideal jacketing material for use in harsh environments for production or repair of harness assemblies. Each package contains two plastic sliders.

FIT® Wire Management

Better wire management means better harnesses

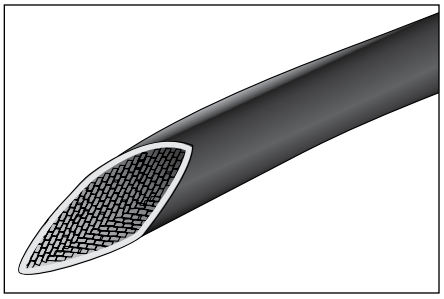


Flexible PTFE Tubing

TFT-200 Thin-Wall Tubing

TFT-250 Standard-Wall Tubing

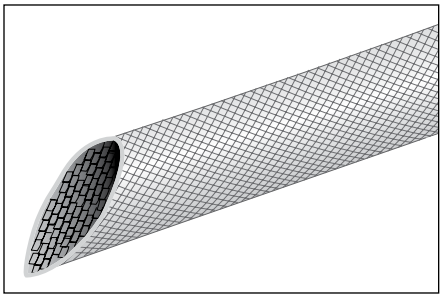
To improve the reliability of cable harnesses, PTFE tubing provides a heat and abrasion resistant wire insulator under the most adverse conditions. With an unmatched temperature range, exceptional abrasion resistance, and excellent dielectric properties, it maintains flexibility over its entire temperature range.



PVC-Coated Fiberglass Sleeving

PIF-130

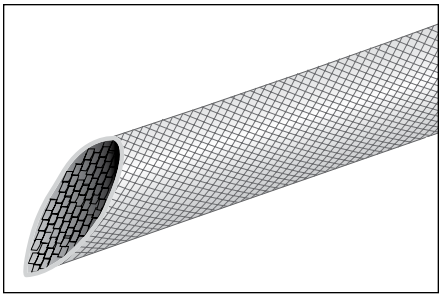
PIF-130 sleeving is a woven fiberglass braid impregnated with a heat-resistant, extremely tough, abrasion-resistant and flexible plastic insulation. The fiberglass is treated to remove all organic matter and resist fraying. The sleeving is completely compatible with all insulation and conductor types.



Uncoated Fiberglass Sleeving

PIF-240

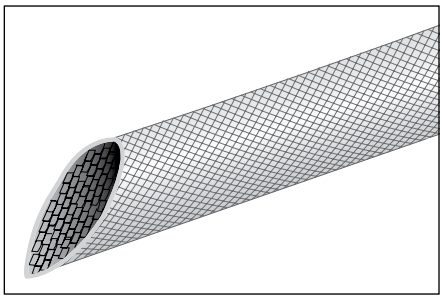
PIF-240 sleeving is extremely flexible and abrasion resistant. It is ideal for applications requiring operation up to 648°C. It is heat treated to remove all organic matter, and it is completely compatible with all insulation and conductor types.



Acrylic-Coated Fiberglass Sleeving

AF-155

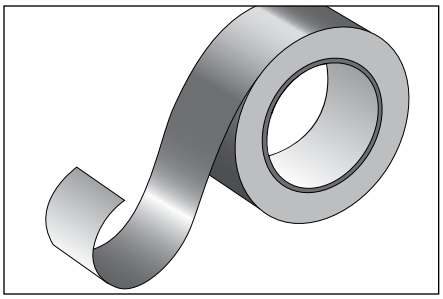
AF-155 is a specially designed fiberglass sleeving coated with a thermally stable, flexible, acrylic resin for wire and cable protection in electrical equipment. The most economical and versatile of all coated sleeving products, it offers high heat resistance, extreme flexibility, and resistance to cracking, abrasion, cut-though, and chemicals.



Silicone-Coated Fiberglass Sleeving

PIF-200, SF-200

PIF-200 and SF-200 sleeving offers high heat and superior electrical characteristics in a closely woven, braided fiberglass, uniformly coated with silicone rubber. It provides low temperature flexibility to -70°C and heat protection to 200°C. The fiberglass sleeving material is heat-set, cuts cleanly, and will not fray. It is easy to "pushback" and form over components, connections, and cables.



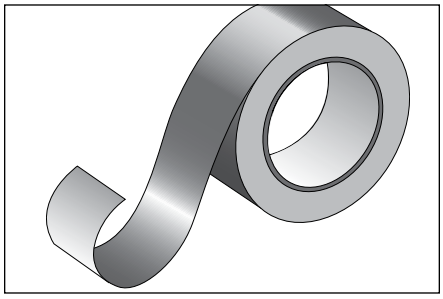
CST Series

The pressure-sensitive adhesive contains a uniform dispersion of unique oxidation-resistant conductive particles that produce very low resistance through the tape. This feature results in shielding performance approximately 5 dB better than other metal foil shielding tapes.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

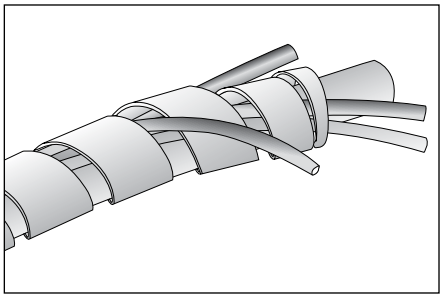
FIT® Wire Management

Better wire management means better harnesses



Self-Fusing Silicone Tape

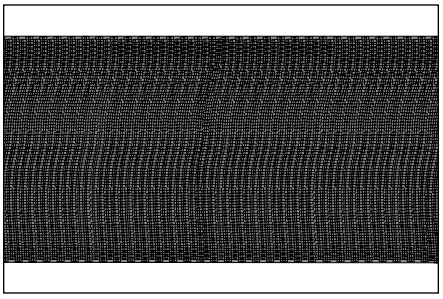
Where a masking wrap or permanently resilient insulation seal is necessary, self-adhering silicone tape is made of special unsupported silicone rubber compound that readily adheres to itself when wrapped under tension and fuses to form a homogenous mass within 24 hours at room temperature or 4 hours at 177°C. The self-adhering silicone is protected with a polyester or polyethylene liner to prevent contamination and blocking.



Spiral Wrap Tubing

SW

Spiral wrap tubing simplifies wire harnessing, cabling, and bundling. Alpha's SW tubing wraps tightly to the wire and cable being bundled, yet is flexible and simple to apply. All types maintain flexibility even when bent around sharp edges. Breakouts or tapoff connections may be made through the openings of the wrap. SW spiral wrap is constructed from several semirigid tubing materials and then cut on a continual spiral.



Expandable Braided Polyester Sleeving

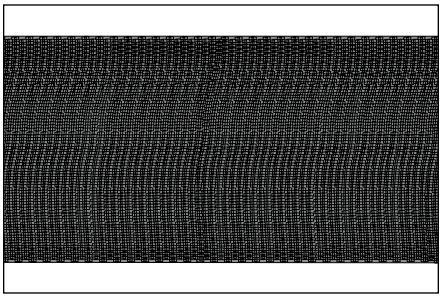
GRP-110, GRP-120

GRP-110/120 is a lightweight, expandable woven polyester sleeving that offers high flexibility with high resistance to abrasion and cut-through. The open weave allows for a great range of expansion of the sleeving diameter, thus ensuring ease of installation and gripping action over a wide range of shapes and sizes. GRP sleeving is an ideal protective sleeve for wire bundles, harnesses, pneumatic hoses, hydraulic lines, and highly polished or threaded machine parts.

To prevent fraying of ends, GRP-110 and GRP-120 should be cut/sealed with a hot knife.

FIT® Wire Management

Better wire management means better harnesses



Non-Fraying, Expandable Braid Sleeving

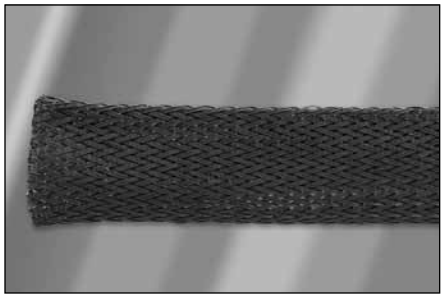
GRP-110NF, GRP-120NF

GRP-110NF/120NF sleeving cuts cleanly and fray-free with scissors, with no hot knife required. It is a lightweight, expandable woven polyester sleeving that offers high flexibility with high resistance to abrasion and cut-through. The open weave allows for a great range of expansion of the sleeving diameter, thus ensuring ease of installation and gripping action over a wide range of shapes and sizes. GRP sleeving is an ideal protective sleeve for wire bundles, harnesses, pneumatic hoses, hydraulic lines and highly polished or threaded machine parts.

Wrappable Sleeving

GRP-130 and GRP-130NF

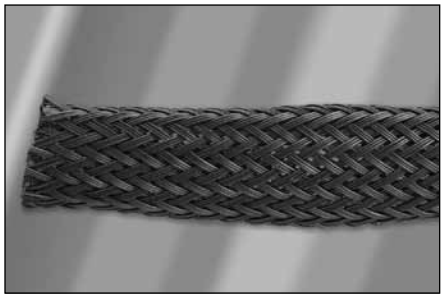
A unique split, semirigid braided construction allows GRP-130 and GRP-130NF sleeving to be installed quickly and easily. The lateral split opens up to accommodate a wide variety of bundling requirements, and then closes around the entire installation without the need for any additional fasteners. The sleeving bends to a tight radius without distorting or splitting open and, unlike full rigid tubing, will not impair or affect the flexibility of harnesses.



Advanced Protection Expandable Sleeving

GRP-160

This heavy-duty, flexible sleeving is extremely versatile in any industrial application requiring abrasion protection without sacrificing flexibility or durability. GRP-160 sleeving is economical and easy to use, cutting cleanly with a hot knife, and expanding up to 50% for easy installation over plugs and connectors. It resists fuels, UV, solvents, salt water, and most chemicals.



Advanced Chemical-Resistant Expandable Sleeving

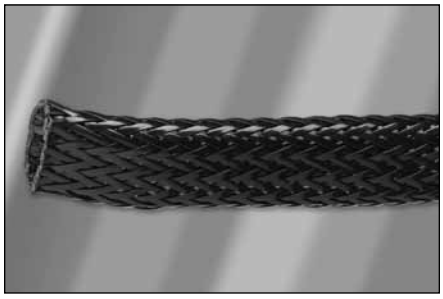
GRP-170

GRP-170 is lightweight sleeving, resistant to high temperatures and virtually impervious to solvents. The sleeving resists all known solvents below 200°C chemical resistance, is inert to steam, strong bases, fuels, and acids, and offers high temperature stability, low moisture absorption, excellent dimensional stability and ultra-low wear.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management

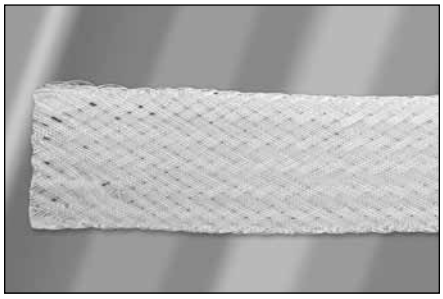
Better wire management means better harnesses



Maximum Protection Expandable Sleeving

GRP-180

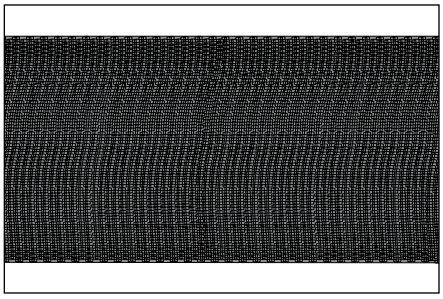
For a thick abrasion guard offering extreme protection against abrasion and cut-through on hoses and cables exposed to harsh conditions. GRP-180 provides fuller coverage for increased resistance to abrasion and penetration, and still expands for easy installation over long lengths. The braided construction allows moisture dissipate quickly to prevent rot and fungus.



Extreme Performance Expandable Sleeving

GRP-200

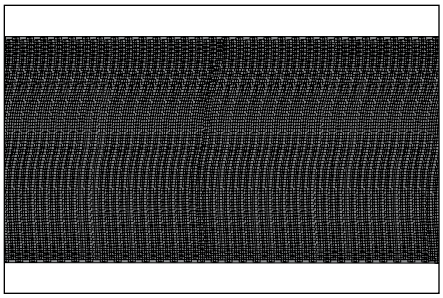
GRP-200 sleeving uses PTFE to allow the highest levels of performance, including resistance to chemicals, flame, and high temperatures. Thermal stability and low outgassing make it suited to aerospace, military, and high-tech applications. GRP-2000 sleeving is suitable for plenum applications.



Expandable Polyester Braided Sleeving

XS-100HD

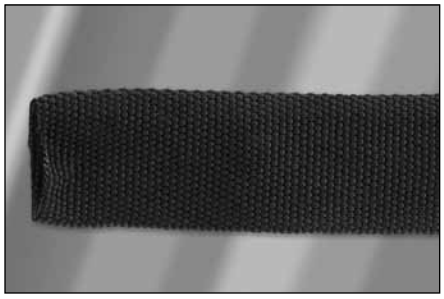
Spirally cut sleeving simplifies wiring, cabling, harnessing, and bundling where breakout or re-entry is required.



Braided Sleeving

XS-200N

Durable overbraiding for military and commercial cable assemblies protects against abrasion, mildew, and aging. Type XS-200N nylon braided self-fitting cable sleeving has been designed to cover and protect both round and flat cable assemblies. The variety of sizes and self-fitting features make selection easy for solving many of the cable assembly design problems found in electronic, electrical, aerospace, process control, and robotic-automation equipment.



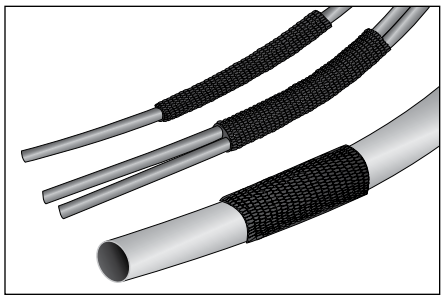
Abrasion-Resistant Nylon Sleeving

XS-300

Tightly woven nylon, with a 45-mil wall thickness, makes XS3000 sleeving the perfect solution for protecting cables, hoses and ropes from weather, sunlight and abrasion damage. The sleeving is resistant to chemicals, UV damage and rot, making it suitable for continuous outdoor use under all weather conditions. The flexible sleeving cuts with a scissor and slides easily over any application.

FIT® Wire Management

Better wire management means better harnesses



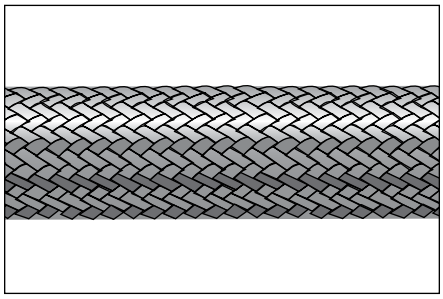
Expandable Polyester Webbed Sleeving

ZIP-GRP

ZIP-GRP expandable webbing offers superb flexibility and high tensile strength while providing added protection against flame, chemicals, and abrasion. With its hook and loop fastening, wires, cable assemblies, and wire harnesses are always accessible and can be easily opened for any number of breakouts. To prevent fraying of ends, ZIP-GRP should be cut/sealed with a hot knife.

Lacing Tape

Alpha lacing tapes offer high tensile strength and knot retention. Designed to allow a wider contact area with the insulation so that it remains in place, lacing tape is flexible and easy on the assembler's hands. Once knotted, tape resists slipping and does not increase diameter of harness. Nylon has excellent tensile strength and resists acids, abrasion, flame, and fungus. Polyester has all the characteristics of nylon, but has better resistance to acids, and no appreciable discoloration.

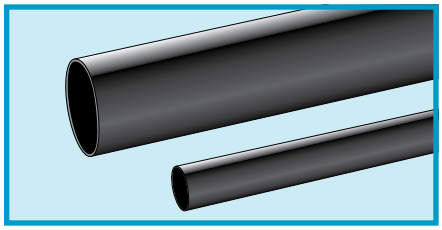


Tinned and Silver-Plated Copper Braid

A tight weave of multistrand, soft drawn copper wire, either tinned or silver plated, copper braid is an ideal shielding material for short-run cables providing easy radial termination. In retrofit applications, provides additional shielding efficiency. Tinned copper flat braid, used as a ground strap, provides an excellent, low-resistance ground path.

FIT® Wire Management

Multipurpose PVC Tubing
PVC-105



UL 224 VW-1
CSA 198
MIL-I-631D Type F, Form U, Subform Ua, Grade C
ASTM D922

- Flexible wire protection for harnesses and ground straps
- Resistance to heat, oil, and abrasion

Operating Temperature

- -20°C to +105°C

Colors

- Size #24 to 1-1/2 inches: Black, clear
- 2 Inches to 2-1/2 inches: Black

Physical Properties

- Tensile strength: 2780 psi (19.17 N/mm^2)
- Elongation: 260%
- Specific gravity: 1.32
- Flammability: UL 224 VW-1

Chemical Properties

- Corrosive effect: non-corrosive
- Fungus resistance: no growth
- UV stable
- Lead free

Electrical Properties

- Dielectric strength: 870 V/mil (343 kV/cm)
- Volume resistivity: 2 x 10^{14} ohm-cm
- UL voltage rating
  Sizes #24 to #1: UL rated 300 V
  5/16 to 2 inches: UL rated 600 V

Availability

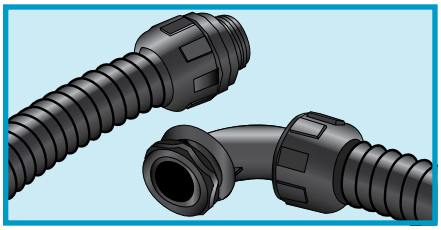
- See table
- PVC-105-24 to PVC-105-1 are available air spooled on the largest put-ups only

Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Nom.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
PVC-105-24	0.022	0.56	0.027	0.69	0.012	0.30	1000	305
PVC-105-22	0.025	0.64	0.032	0.81	0.012	0.30	100, 1000	30.5, 305
PVC-105-20	0.032	0.81	0.039	0.99	0.016	0.41	1000	305
PVC-105-19	0.036	0.91	0.044	1.12	0.016	0.41	1000	305
PVC-105-18	0.040	1.02	0.049	1.24	0.016	0.41	100, 1000	30.5, 305
PVC-105-17	0.045	1.14	0.054	1.37	0.016	0.41	100, 1000	30.5, 305
PVC-105-16	0.051	1.30	0.061	1.55	0.016	0.41	100, 1000	30.5, 305
PVC-105-15	0.057	1.45	0.067	1.70	0.016	0.41	100, 1000	30.5, 305
PVC-105-14	0.064	1.63	0.072	1.83	0.016	0.41	100, 500	30.5, 152
PVC-105-13	0.072	1.83	0.08	2.03	0.016	0.41	100, 500	30.5, 152
PVC-105-12	0.081	2.06	0.089	2.26	0.016	0.41	500	152
PVC-105-11	0.091	2.31	0.101	2.57	0.016	0.41	100, 500	30.5, 152
PVC-105-10	0.102	2.59	0.112	2.84	0.016	0.41	500	152
PVC-105-9	0.114	2.90	0.124	3.15	0.020	0.51	500	152
PVC-105-8	0.129	3.28	0.141	3.58	0.020	0.51	100, 500	30.5, 152
PVC-105-7	0.144	3.66	0.158	4.01	0.020	0.51	100, 500	30.5, 152
PVC-105-6	0.162	4.11	0.178	4.52	0.020	0.51	100, 500	30.5, 152
PVC-105-5	0.183	4.65	0.198	5.03	0.020	0.51	100, 500	30.5, 152
PVC-105-4	0.204	5.18	0.224	5.69	0.020	0.51	100, 250	30.5, 76
PVC-105-3	0.229	5.82	0.249	6.32	0.020	0.51	100, 250	30.5, 76
PVC-105-2	0.258	6.55	0.278	7.06	0.020	0.51	250	76
PVC-105-1	0.289	7.34	0.311	7.90	0.020	0.51	100, 250	30.5, 76
PVC-105-5/16	0.313	7.95	0.334	8.48	0.025	0.64	100, 250	30.5, 76
PVC105-0	0.325	8.26	0.347	8.81	0.020	0.51	100, 250	30.5, 76
PVC-105-3/8	0.375	9.53	0.399	10.13	0.025	0.64	100, 250	30.5, 76
PVC-105-7/16	0.438	11.13	0.462	11.73	0.025	0.64	100	30.5
PVC-105-1/2A	0.500	12.70	0.524	13.31	0.025	0.64	100	30.5
PVC-105-9/16	0.562	14.27	0.592	15.04	0.030	0.76	100	30.5
PVC-105-5/8	0.625	15.88	0.655	16.64	0.030	0.76	100	30.5
PVC-105-3/4	0.750	19.05	0.786	19.96	0.035	0.89	50	15.2
PVC-105-7/8	0.875	22.23	0.911	23.14	0.035	0.89	50	15.2
PVC-105-1IN	1.000	25.40	1.036	26.31	0.035	0.89	50	15.2
PVC-105-1-1/8	1.125	28.58	1.161	29.49	0.010	0.25	50	15.2
PVC-105-1-1/4	1.250	31.75	1.29	32.77	0.040	1.02	50	15.2
PVC-105-1-1/2	1.500	38.10	1.55	39.37	0.045	1.14	50	15.2
PVC-105-2IN	2.000	50.80	2.07	52.58	0.060	1.52	50	15.2
PVC-105-2-1/2	2.500	63.50	2.53	64.26	0.070	1.78	50	15.2

CA PROP 65 RoHS Compliant

FIT® Wire Management

Flexible Liquid-Tight PVC Tubing
FNT Tubing



UL 1696
CSA C22.2 No. 227.3-05

Operating Temperature

- -18°C to +50°C

Color

- Black

Materials

- Liquid-tight PVC tubing

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Resists oil and water
- Lead free

Availability

25 ft (7.5 m)
100 ft (30.5 m)

PVC Tubing

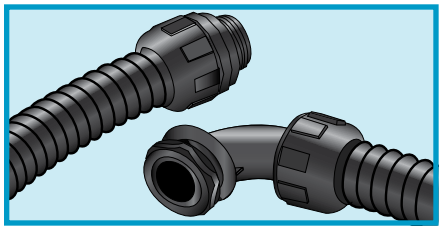
Part No.	Trade Size	Inside Diameter, Min.		Inside Diameter, Max.		Outside Diameter, Min.		Outside Diameter, Max.	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm
FNT-1/4*	1/4	0.385	9.78	0.405	10.29	0.560	14.22	0.575	14.61
FNT-3/8	3/8	0.484	12.29	0.504	12.80	0.690	17.53	0.710	18.03
FNT-1/2	1/2	0.622	15.80	0.642	16.31	0.820	20.83	0.840	21.34
FNT-3/4	3/4	0.820	20.83	0.840	21.34	1.030	26.16	1.050	26.67
FNT-1	1	1.041	26.44	1.066	27.08	1.290	32.77	1.315	33.40

*Not CSA certified

CA PROP 65 RoHS Compliant

FIT® Wire Management

Liquid-Tight Nylon Connectors
SLC or RLC



Part No.		Trade Size	Thread Size
Straight	90°		
SLC-1/4*	—	1/4	—
SLC-3/8	RLC-3/8	3/8	1/2 NPT
SLC-1/2	RLC-1/2	1/2	1/2 NPT
SLC-3/4	RLC-3/4	3/4	3/4 NPT
SLC-1	RLC-1	1	1 NPT

*Snap-on connector, not CSA certified

Operating Temperature

- +125°C

Color

- Black

Materials

- Nylon connector
- Supplied with o-ring and steel locking nut

Properties

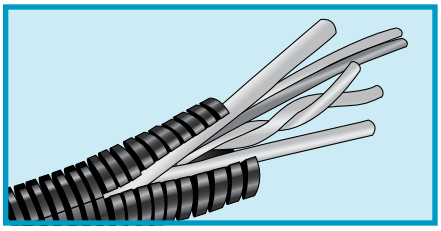
- Resists salt water, weak acids, gasoline, alcohol, oil, grease, and common solvents
- Flammability rating: UL 94V-2

Availability

10-piece packages
100-piece packages

FIT® Wire Management

Convoluted Slit Loom Tubing
Type 492



- Abrasion and fluid resistant
- Light weight
- Easy, flexible cable breakouts

Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Outside Diameter, Min.		Outside Diameter, Max.	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
492250	0.256	6.50	0.276	7.01	0.373	9.47	0.398	10.11
492350	0.341	8.66	0.38	9.65	0.496	12.60	0.526	13.36
492413	0.399	10.13	0.437	11.10	0.569	14.45	0.597	15.16
492500	0.473	12.01	0.516	13.11	0.664	16.87	0.70	17.78
492625	0.603	15.32	0.639	16.23	0.802	20.37	0.837	21.26
492750	0.707	17.96	0.759	19.28	0.95	24.13	0.989	25.12
492100	1.020	25.91	1.069	27.15	1.251	31.78	1.304	33.12
492150	1.566	39.78	1.647	41.83	1.867	47.42	1.947	49.45
492200	1.969	50.01	2.038	51.77	2.285	58.04	2.388	60.66

Operating Temperature

- -40°C to +93°C

Color

- Black

Material

- Polyethylene

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Electrical Properties

- Volume resistivity: 10^{15} ohm-cm

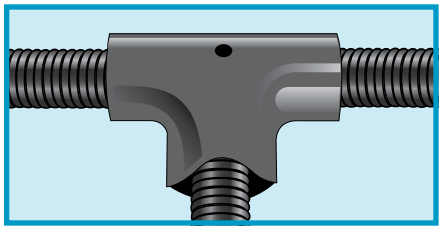
Availability

100 ft (30.5 m)

CA PROP 65 RoHS Compliant

FIT® Wire Management

Loom Tee Connector Fittings
Type 493



Part No.	Mating Loom Size					
	Left		Center		Right	
	Inch	mm	Inch	mm	Inch	mm
493100	0.413 or 0.500	10.49 or 12.70	0.413 or 0.500	10.49 or 12.70	0.413 or 0.500	10.49 or 12.70
493101	0.500	12.70	0.350	8.89	0.750	19.05
493102	0.500	12.70	0.413	10.49	0.750	19.05
493103	0.750	19.05	0.500	12.70	0.750	19.05
493110	0.413	10.49	0.350	8.89	0.350	8.89
493118	1.000	25.40	0.625	15.88	0.100	2.54

Operating Temperature

- -40°C to +90°C

Color

- Black

Material

- Polypropylene

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

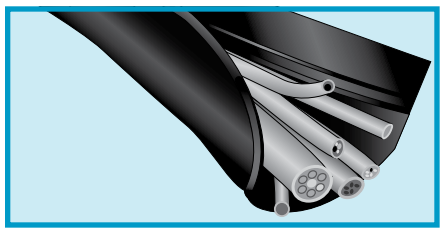
Availability

Single pieces

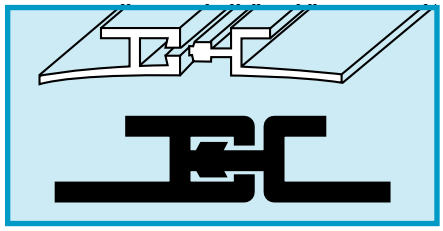
CA PROP 65 RoHS Compliant

FIT® Wire Management

Zipper Tubing™
ZIP-41



MIL-I-631
UL 224 VW-1



Loc-Trac® provides an effective closure that is ideal for use where the assembly will be subjected to random flexing.

Protection against flame, chemicals, and abrasion.

Operating Temperature
- -20°C to +105°C

Color
- Black

Material
- PVC

Physical Properties
- Tensile strength: 1800 psi (12.4 N/mm²)
- Elongation: 200% min.
- Flammability: UL VW-1

Chemical Properties
- Fungus resistance: no growth
- Lead free

Electrical Properties
- Dielectric strength: 700 V/mil (275.8 kV/cm)
- Volume resistivity: 10^{10} ohms/cm

Availability
25 ft (30.5 m)
100 ft (30.5 m)

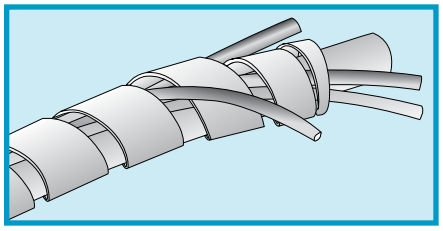
Each spool comes with two Loc-Trac fasteners and installation instructions.

Part No.	Inside Diameter, Nom.		Wall Thickness, Nom.		Flat Width, Nom.	
	Inch	mm	Inch	mm	Inch	mm
ZIP-41-1/2	0.500	12.70	0.020	0.51	2.000	50.80
ZIP-41-5/8	0.625	15.88	0.020	0.51	2.375	60.33
ZIP-41-3/4	0.750	19.05	0.020	0.51	2.750	69.85
ZIP-41-7/8	0.875	22.23	0.020	0.51	3.125	79.38
ZIP-41-1IN	1.000	25.40	0.020	0.51	3.562	90.47
ZIP-41-1-1/4	1.250	31.75	0.020	0.51	4.125	104.78
ZIP-41-1-1/2	1.500	38.10	0.020	0.51	4.875	123.83
ZIP-41-1-3/4	1.750	44.45	0.020	0.51	5.625	142.88
ZIP-41-2IN	2.000	50.80	0.020	0.51	6.375	161.93
ZIP-41-2-1/4	2.250	57.15	0.020	0.51	7.500	190.50
ZIP-41-3IN	3.000	76.20	0.020	0.51	10.000	254.00

CA PROP 65 RoHS Compliant

FIT® Wire Management

Spiral Wrap Tubing
SW



- Flexible cable bundling
- Easy breakouts

See table for specifications

	SW-1 to SW-6	SW-10 to SW-14	SW-20 to SW-25	SW-30 to SW-35	SW-40 to SW-45	SW-50 to SW-53
Material	Natural Polyethylene	Flame-Retardant Polyethylene	Nylon	PTFE	UV-Resistant Polyethylene	PVC
Colors	Natural	White	Natural	Natural, Black	Black	Black
Temperature Range (°C)	-66 to +88	-20 to +80	-40 to +121	-268 to +260	-66 to +88	-20 to +80
Abrasion Resistance (Taber)	22	27	6 - 8	7	20	Excellent
Flame Rating	Not rated	UL 1441 Self-extinguishing	Self-extinguishing	UL VW-1	Not rated	Self-extinguishing
Tensile Strength (psi (N/mm²)	1800 (12.41)	1300 (8.96)	12,000 (82.74)	3000 (20.68)	2000 (13.79)	3000 (20.68)
Water Absorption (%)	0.014	0.02	1.5	0.005	0.03	—
Dielectric Constant (Max.)	—	2.58	4.0	2.1	—	—
Effects of Alkalis and Acids	None	None	None	None	None	Satisfactory*
Weather Resistance	N/A	N/A	N/A	Excellent	N/A	N/A
Specs	UL UZKX2 MIL-I-631D, Type A, Form U MIL-P-21922B ASTM 1248-65T Type 1 Class A, Grade 3 A-A-59602, Type 1, Class 1	UL UZKX2 A-A-59602, Type 1, Class 3	UL UZKX2 ASTM-D-4066, Group 2, Class 1	UL UZKX2 ASTM-D-3295-01, Group 4 A-A-59602, Type 3, Class 1 (as noted)	UL UZKX2 MIL-I-631D, Type A, Form U MIL-P-21922B, Type 1 Class L A-A-59602, Type 1, Class 2	—

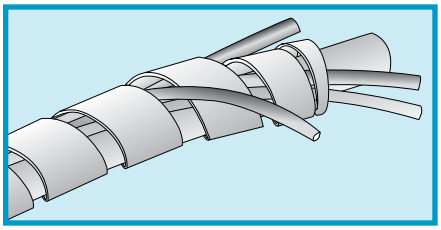
*Satisfactory except for high concentrations; not recommended for organic solvents.

CA PROP 65 RoHS Compliant

FIT® Wire Management

Spiral Wrap Tubing

SW



- Flexible cable bundling
- Easy breakouts

See table for specifications

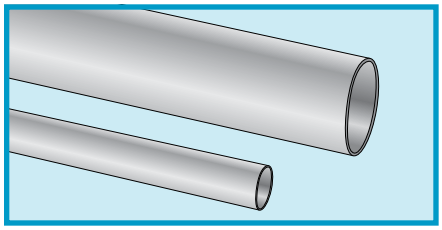
Part No.	Material	Trade Size	Outside Diameter, Nom.		Wall Thickness, Nom.		Right-Hand Pitch, Nom.		Standard Put-Ups*	
			Inch	mm	Inch	mm	Inch	mm	Ft	m
SW-1	Natural PE	1/8	0.125	3.18	0.032	0.81	0.187	4.75	25, 100, 500	7.6, 30.5, 152
SW-2	Natural PE	1/4	0.250	6.35	0.045	1.14	0.375	9.53	25, 100, 500	7.6, 30.5, 152
SW-3	Natural PE	3/8	0.375	9.53	0.052	1.32	0.438	11.13	25, 100	7.6, 30.5
SW-4	Natural PE	1/2	0.500	12.70	0.062	1.57	0.563	14.30	25, 100	7.6, 30.5
SW-5	Natural PE	3/4	0.750	19.05	0.065	1.65	0.750	19.05	25, 100, 500	7.6, 30.5, 152
SW-6	Natural PE	1	1.000	25.40	0.080	2.03	1.000	25.40	25, 100, 500	7.6, 30.5, 152
SW-10	FR PE	1/8	0.125	3.18	0.032	0.81	0.187	4.75	25, 100, 500	7.6, 30.5, 152
SW-11	FR PE	1/4	0.250	6.35	0.045	1.14	0.375	9.53	25, 100, 500	7.6, 30.5, 152
SW-12	FR PE	3/8	0.375	9.53	0.052	1.32	0.438	11.13	25, 100	7.6, 30.5
SW-13	FR PE	1/2	0.500	12.70	0.062	1.57	0.563	14.30	25, 100	7.6, 30.5
SW-14	FR PE	3/4	0.750	19.05	0.065	1.65	0.750	19.05	25, 100	7.6, 30.5
SW-20	Nylon	1/8	0.125	3.18	0.015	0.38	0.187	4.75	25, 100, 500	7.6, 30.5, 152
SW-21	Nylon	1/4	0.250	6.35	0.025	0.64	0.375	9.53	25, 100, 500	7.6, 30.5, 152
SW-22	Nylon	3/8	0.375	9.53	0.035	0.89	0.438	11.13	25, 100	7.6, 30.5
SW-23	Nylon	1/2	0.500	12.70	0.035	0.89	0.500	12.70	25, 100	7.6, 30.5
SW-24	Nylon	3/4	0.750	19.05	0.032	0.81	0.750	19.05	25, 100, 500	7.6, 30.5, 152
SW-25	Nylon	1	1.000	25.40	0.032	0.81	1.000	25.40	25, 100	7.6, 30.5
SW-30	PTFE	1/8	0.125	3.18	0.030	0.76	0.187	4.75	25, 100	7.6, 30.5
SW-31	PTFE	1/4	0.250	6.35	0.030	0.76	0.375	9.53	25, 100	7.6, 30.5
SW-32**	PTFE	3/8	0.375	9.53	0.030	0.76	0.438	11.13	25, 100	7.6, 30.5
SW-33**	PTFE	1/2	0.500	12.70	0.030	0.76	0.500	12.70	25, 100	7.6, 30.5
SW-34**	PTFE	3/4	0.750	19.05	0.032	0.81	0.750	19.05	25, 100	7.6, 30.5
SW-35	PTFE	1	1.000	25.40	0.040	1.02	1.000	25.40	25, 100	7.6, 30.5
SW-40	UV-Res. PE	1/8	0.125	3.18	0.032	0.81	0.187	4.75	25, 100, 500	7.6, 30.5, 152
SW-41	UV-Res. PE	1/4	0.250	6.35	0.045	1.14	0.375	9.53	25, 100, 500	7.6, 30.5, 152
SW-42	UV-Res. PE	3/8	0.375	9.53	0.052	1.32	0.438	11.13	25, 100	7.6, 30.5
SW-43	UV-Res. PE	1/2	0.500	12.70	0.062	1.57	0.500	12.70	25, 100	7.6, 30.5
SW-44	UV-Res. PE	3/4	0.750	19.05	0.065	1.65	0.750	19.05	25, 100, 500	7.6, 30.5, 152
SW-45	UV-Res. PE	1	1.000	25.40	0.080	2.03	1.000	25.40	25, 100, 500	7.6, 30.5, 152
SW-50	PVC	1/8	0.125	3.18	0.032	0.81	0.187	4.75	25, 100	7.6, 30.5
SW-51	PVC	1/4	0.250	6.35	0.045	1.14	0.375	9.53	25, 100	7.6, 30.5
SW-52	PVC	3/8	0.375	9.53	0.052	1.32	0.438	11.13	25, 100	7.6, 30.5
SW-53	PVC	1/2	0.500	12.70	0.062	1.57	0.500	12.70	25, 100	7.6, 30.5

*May contain multiple lengths.
**Does not meet A-A-59602 Type 3 Class 1

CA PROP 65 RoHS Compliant

FIT® Wire Management

Flexible PTFE Thin-Wall Tubing
TFT-200



ASTM D 3295-81a Type I
Class B
AMS 3655

- Flexible wire protection for harnesses and ground straps
- Resistance to heat, oil, and abrasion

Operating Temperature
- -75°C to +260°C

Color
- Natural

Material
- PTFE

Physical Properties
- Tensile strength: 2000 psi (13.7 N/mm²)
- Elongation: 200% min.
- Specific gravity: 2.18
- Flammability rating: UL 94V-0

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.01%
- Lead free

Electrical Properties
- Dielectric strength: 1400 V/mil (55 kV/cm)
- Volume resistivity: 10^{18} ohm-cm
- Dielectric constant: 2.1

Availability
See table

Spools may contain multiple lengths

TFT-200-7 and larger supplied as coils

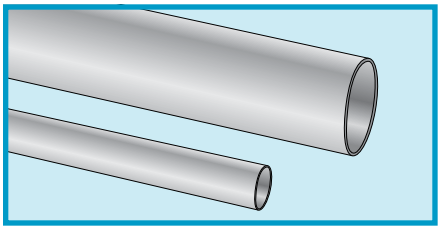
Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Min.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
TFT-200-30	0.010	0.25	0.015	0.38	0.009	0.23	100, 500, 1000	30.5, 152, 305
TFT-200-28	0.013	0.33	0.018	0.46	0.009	0.23	100, 500, 1000	30.5, 152, 305
TFT-200-26	0.016	0.41	0.021	0.53	0.009	0.23	100, 500, 1000	30.5, 152, 305
TFT-200-24	0.020	0.51	0.026	0.66	0.010	0.25	100, 500, 1000	30.5, 152, 305
TFT-200-22	0.026	0.66	0.032	0.81	0.010	0.25	100, 500, 1000	30.5, 152, 305
TFT-200-20	0.032	0.81	0.04	1.02	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-200-19	0.036	0.91	0.042	1.07	0.012	0.30	100, 1000	30.5, 305
TFT-200-18	0.040	1.02	0.046	1.17	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-200-17	0.045	1.14	0.052	1.32	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-200-16	0.051	1.30	0.058	1.47	0.012	0.30	100, 1000	30.5, 305
TFT-200-15	0.057	1.45	0.065	1.65	0.012	0.30	100, 1000	30.5, 305
TFT-200-14	0.064	1.63	0.072	1.83	0.012	0.30	100, 500	30.5, 152
TFT-200-13	0.072	1.83	0.081	2.06	0.012	0.30	100, 500	30.5, 152
TFT-200-12	0.081	2.06	0.091	2.31	0.012	0.30	100, 500	30.5, 152
TFT-200-11	0.091	2.31	0.101	2.57	0.012	0.30	100, 500	30.5, 152
TFT-200-10	0.102	2.59	0.112	2.84	0.012	0.30	100, 500	30.5, 152
TFT-200-9	0.114	2.90	0.124	3.15	0.012	0.30	100, 500	30.5, 152
TFT-200-8	0.129	3.28	0.139	3.53	0.015	0.38	100	30.5
TFT-200-7	0.144	3.66	0.155	3.94	0.015	0.38	100	30.5
TFT-200-6	0.162	4.11	0.174	4.42	0.015	0.38	100*	30.5*
TFT-200-5	0.182	4.62	0.195	4.95	0.015	0.38	100*	30.5*
TFT-200-4	0.204	5.18	0.218	5.54	0.015	0.38	100*	30.5*
TFT-200-3	0.229	5.82	0.244	6.20	0.015	0.38	100*	30.5*
TFT-200-2	0.258	6.55	0.273	6.93	0.015	0.38	100*	30.5*
TFT-200-1	0.289	7.34	0.305	7.75	0.015	0.38	100*	30.5*
TFT-200-0	0.325	8.26	0.342	8.69	0.015	0.38	100*	30.5*

*Supplied as coils.

CA PROP 65 RoHS Compliant

FIT® Wire Management

Flexible PTFE Standard-Wall Tubing
TFT-250



ASTM D 3295-81a Type I Class C
MIL-I-22129

- Excellent heat and chemical resistance
- Flexible wire protection for harnesses and ground straps
- Resistance to heat, oil, and abrasion

Operating Temperature
- -75°C to +260°C

Color
- Natural

Material
- PTFE

Physical Properties
- Tensile strength: 2000 psi (13.7 N/mm^2)
- Elongation: 200% min.
- Specific gravity: 2.18
- Flammability rating: UL 94V-0

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.01%
- Lead free

Electrical Properties
- Dielectric strength: 1400 V/mil (551 kV/cm)
- Volume resistivity: 10^{18} ohm-cm
- Dielectric constant: 2.1

Availability
See table

Spools may contain multiple lengths

TFT-200-7 and larger supplied as coils

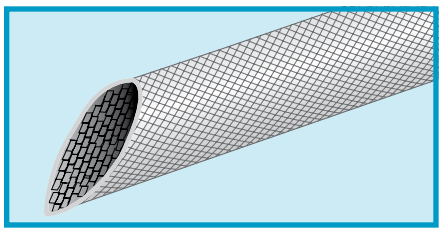
Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Min.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
TFT-250-24	0.020	0.51	0.026	0.66	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-250-22	0.025	0.64	0.032	0.81	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-250-20	0.032	0.81	0.040	1.02	0.016	0.41	100, 500, 1000	30.5, 152, 305
TFT-250-19	0.036	0.91	0.044	1.12	0.016	0.41	100, 500, 1000	30.5, 152, 305
TFT-250-18	0.040	1.02	0.049	1.24	0.016	0.41	100, 500, 1000	30.5, 152, 305
TFT-250-17	0.045	1.14	0.054	1.37	0.016	0.41	100, 1000	30.5, 305
TFT-250-16	0.051	1.30	0.061	1.55	0.016	0.41	100, 500, 1000	30.5, 152, 305
TFT-250-15	0.057	1.45	0.067	1.70	0.016	0.41	100, 500	30.5, 152
TFT-250-14	0.064	1.63	0.074	1.88	0.016	0.41	100, 500	30.5, 152
TFT-250-13	0.072	1.83	0.082	2.08	0.016	0.41	100	30.5
TFT-250-12	0.081	2.06	0.091	2.31	0.016	0.41	100	30.5
TFT-250-11	0.091	2.31	0.101	2.57	0.016	0.41	100, 500	30.5, 152
TFT-250-10	0.102	2.59	0.112	2.84	0.016	0.41	100, 500	30.5, 152
TFT-250-9	0.114	2.90	0.124	3.15	0.020	0.51	100, 500	30.5, 152
TFT-250-8	0.129	3.28	0.141	3.58	0.020	0.51	100	30.5
TFT-250-7	0.144	3.66	0.158	4.01	0.020	0.51	100	30.5
TFT-250-6	0.162	4.11	0.178	4.52	0.020	0.51	100*	30.5*
TFT-250-5	0.182	4.62	0.196	4.98	0.020	0.51	100*	30.5*
TFT-250-4	0.204	5.18	0.224	5.69	0.020	0.51	100*	30.5*
TFT-250-3	0.229	5.82	0.249	6.32	0.020	0.51	100*	30.5*
TFT-250-2	0.258	6.55	0.278	7.06	0.020	0.51	100*	30.5*
TFT-250-1	0.289	7.34	0.311	7.90	0.020	0.51	100*	30.5*
TFT-250-0	0.325	8.26	0.342	8.69	0.020	0.51	100*	30.5*

*Supplied as coils.

CA PROP 65 RoHS Compliant

FIT® Wire Management

Acrylic-Coated Fiberglass Sleeving
AF-155



MIL-I-3190/3 Grade C1
NEMA TF-1

Operating Temperature
- -30°C to +155°C

Color
- Natural

Material
- Acrylic-coated fiberglass braid

Physical Properties
- Elongation: 150% min.
- Low-temperature (-10°C) flexing: no cracking

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Electrical Properties
- Dielectric strength: 2500 V/mil (984 kV/cm)
- Dielectric constant: 2.5
- Volume resistivity: 10^{10} ohm-cm

Availability
See table

Spools may contain multiple lengths

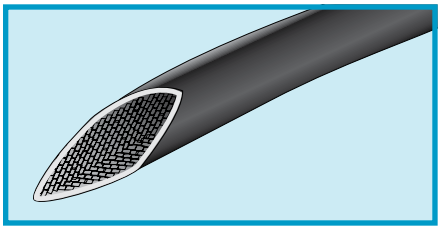
Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Min.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
AF-155-24	0.020	0.51	0.027	0.69	0.006	0.15	100, 500	30.5, 152
AF-155-22	0.025	0.64	0.032	0.81	0.006	0.15	100, 500	30.5, 152
AF-155-20	0.032	0.81	0.039	0.99	0.006	0.15	100, 500	30.5, 152
AF-155-18	0.040	1.02	0.049	1.24	0.006	0.15	100, 500	30.5, 152
AF-155-16	0.051	1.30	0.061	1.55	0.006	0.15	100, 500	30.5, 152
AF-155-15	0.057	1.45	0.067	1.70	0.006	0.15	100, 500	30.5, 152
AF-155-14	0.064	1.63	0.074	1.88	0.006	0.15	100, 500	30.5, 152
AF-155-13	0.072	1.83	0.082	2.08	0.006	0.15	100, 250	30.5, 76
AF-155-12	0.081	2.06	0.091	2.31	0.006	0.15	100, 250	30.5, 76
AF-155-11	0.091	2.31	0.101	2.57	0.008	0.20	100, 250	30.5, 76
AF-155-10	0.102	2.59	0.112	2.84	0.008	0.20	100, 250	30.5, 76
AF-155-9	0.114	2.90	0.124	3.15	0.008	0.20	100, 250	30.5, 76
AF-155-8	0.129	3.28	0.141	3.58	0.008	0.20	100, 250	30.5, 76
AF-155-7	0.144	3.66	0.158	4.01	0.008	0.20	100, 250	30.5, 76
AF-155-6	0.162	4.11	0.178	4.52	0.010	0.25	100, 250	30.5, 76
AF-155-5	0.182	4.62	0.198	5.03	0.010	0.25	100, 250	30.5, 76
AF-155-4	0.204	5.18	0.224	5.69	0.010	0.25	100, 250	30.5, 76
AF-155-3	0.229	5.82	0.249	6.32	0.010	0.25	100, 250	30.5, 76
AF-155-2	0.258	6.55	0.278	7.06	0.010	0.25	100, 250	30.5, 76
AF-155-1	0.289	7.34	0.311	7.90	0.010	0.25	100, 125	30.5, 38
AF-155-0	0.325	8.26	0.347	8.81	0.016	0.41	100, 125	30.5, 38
AF-155-3/8	0.375	9.53	0.399	10.13	0.016	0.41	125, 250	38, 76
AF-155-7/16	0.438	11.13	0.462	11.73	0.016	0.41	125	38
AF-155-1/2	0.500	12.70	0.524	13.31	0.016	0.41	100	30.5
AF-155-5/8	0.625	15.88	0.655	16.64	0.016	0.41	100	30.5
AF-155-3/4	0.750	19.05	0.786	19.96	0.016	0.41	100	30.5
AF-155-7/8	0.875	22.23	0.911	23.14	0.016	0.41	100	30.5
AF-155-1IN	1.000	25.40	1.036	26.31	0.016	0.41	100	30.5

CA PROP 65 RoHS Compliant

FIT® Wire Management

PVC-Coated Fiberglass Sleeving

PIF-130



UL 1441 (600 V_{RMS})
UL VW-1
MIL-I-3190/2 Class 130
Type B Category b
NEMA TF-1 Grade A

- High temperature, abrasion, and oil resistance
- Resists fraying, bending, and knotting

Operating Temperature

- -20°C to +130°C

Color

- Black

Material

- PVC-coated fiberglass braid

Chemical Properties

- Corrosive effect: non-corrosive
- Fungus resistance: no growth
- Lead free

Electrical Properties

- Dielectric strength: 5000 V/mil (1968 kV/cm)
- Volume resistivity: 10^9 ohm-cm

Availability

See tables

Spools may contain multiple lengths

Standard Wall Thickness

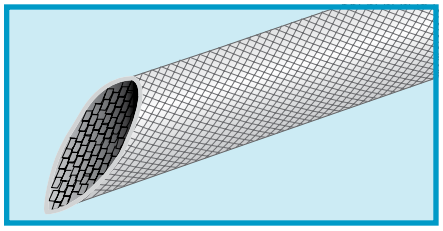
Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Min.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
PIF-130-20	0.032	0.81	0.039	0.99	0.013	0.33	100, 500, 1000	30.5, 152, 305
PIF-130-18	0.040	1.02	0.049	1.24	0.015	0.38	100, 500, 1000	30.5, 152, 305
PIF-130-16	0.051	1.30	0.061	1.55	0.015	0.38	100, 1000	30.5, 305
PIF-130-14	0.064	1.63	0.074	1.88	0.015	0.38	100	30.5
PIF-130-12	0.081	2.06	0.091	2.31	0.015	0.38	100, 500	30.5, 152
PIF-130-10	0.102	2.59	0.112	2.84	0.018	0.46	100, 500	30.5, 152
PIF-130-8	0.129	3.28	0.141	3.58	0.018	0.46	100, 500	30.5, 152
PIF-130-6	0.162	4.11	0.178	4.52	0.020	0.51	100, 250	30.5, 76
PIF-130-4	0.204	5.18	0.224	5.69	0.020	0.51	100, 250	30.5, 76
PIF-130-2	0.258	6.55	0.278	7.06	0.020	0.51	100, 250	30.5, 76
PIF-130-0	0.325	8.26	0.347	8.81	0.025	0.64	100	30.5
PIF-130-3/8	0.375	9.53	0.399	10.13	0.025	0.64	100	30.5
PIF-130-7/16	0.438	11.13	0.462	11.73	0.025	0.64	100	30.5
PIF-130-1/2A	0.500	12.70	0.524	13.31	0.025	0.64	100	30.5
PIF-130-5/8	0.625	15.88	0.655	16.64	0.025	0.64	100	30.5
PIF-130-3/4	0.750	19.05	0.786	19.96	0.025	0.64	100	30.5
PIF-130-7/8	0.875	22.23	0.911	23.14	0.025	0.64	100	30.5
PIF-130-1IN	1.000	25.40	1.036	26.31	0.025	0.64	100	30.5

UL LISTED CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management

Silicone-Coated Fiberglass Sleeving
PIF-200, SF-200



UL 1441 (600 V_{RMS})
MIL-I-3190/6 Class 20 Type D Category C
NEMA TF-1 Grade A

- Highly flexible routing
- Extreme abrasion resistance
- Superior electrical properties

Operating Temperature
- -70°C to +200°C

Color
- Natural

Material
- Silicone rubber-coated fiberglass braid

Physical Properties
- Tensile strength: 1200 psi (8.2 N/mm^2)
- Elongation: 420% min.

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Electrical Properties
- Dielectric strength: 15,000 V/mil (5905 kV/cm)
- Volume resistivity: 6 x 10^{13} ohm-cm
- Dielectric constant: 2.8

Availability
See table

Spools may contain multiple lengths

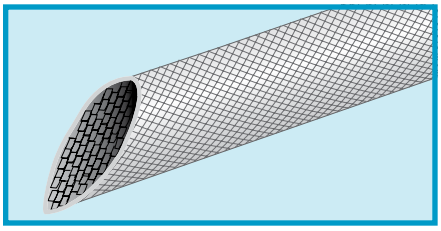
Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Min.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
PIF-200-24	0.020	0.51	0.027	0.69	0.011	0.28	100, 500, 1000	30.5, 152, 305
PIF-200-22	0.025	0.64	0.032	0.81	0.013	0.33	100, 500, 1000	30.5, 152, 305
PIF-200-20	0.032	0.81	0.039	0.99	0.013	0.33	100, 500, 1000	30.5, 152, 305
PIF-200-18	0.040	1.02	0.049	1.24	0.015	0.38	100, 500, 1000	30.5, 152, 305
PIF-200-17	0.045	1.14	0.054	1.37	0.015	0.38	500, 1000	152, 305
PIF-200-16	0.051	1.30	0.061	1.55	0.015	0.38	100, 500, 1000	30.5, 152, 305
PIF-200-15	0.057	1.45	0.067	1.70	0.015	0.38	100, 1000	30.5, 305
PIF-200-14	0.064	1.63	0.074	1.88	0.015	0.38	100, 500	30.5, 152
PIF-200-13	0.072	1.83	0.082	2.08	0.015	0.38	100, 500	30.5, 152
PIF-200-12	0.081	2.06	0.091	2.31	0.015	0.38	100, 500	30.5, 152
PIF-200-11	0.091	2.31	0.101	2.57	0.018	0.46	500	152
PIF-200-10	0.102	2.59	0.112	2.84	0.018	0.46	100, 500	30.5, 152
PIF-200-9	0.114	2.90	0.124	3.15	0.018	0.46	100, 500	30.5, 152
PIF-200-8	0.129	3.28	0.141	3.58	0.018	0.46	100, 500	30.5, 152
PIF-200-7	0.144	3.66	0.158	4.01	0.018	0.46	100, 500	30.5, 152
PIF-200-6	0.162	4.11	0.178	4.52	0.020	0.51	25, 100	7.6, 30.5
PIF-200-5	0.182	4.62	0.198	5.03	0.020	0.51	25, 100	7.6, 30.5
PIF-200-4	0.204	5.18	0.224	5.69	0.020	0.51	100	30.5
PIF-200-3	0.229	5.82	0.249	6.32	0.020	0.51	25, 100	7.6, 30.5
PIF-200-2	0.258	6.55	0.278	7.06	0.020	0.51	25, 100	7.6, 30.5
PIF-200-1	0.289	7.34	0.311	7.90	0.020	0.51	100	30.5
PIF-200-0	0.313	7.95	0.347	8.81	0.020	0.51	100	30.5
PIF-200-3/8	0.375	9.53	0.398	10.11	0.025	0.64	25, 100	7.6, 30.5
PIF-200-7/16	0.438	11.13	0.462	11.73	0.025	0.64	25, 100	7.6, 30.5
PIF-200-1/2A	0.500	12.70	0.524	13.31	0.025	0.64	25, 100	7.6, 30.5
PIF-200-5/8	0.625	15.88	0.655	16.64	0.025	0.64	25, 100	7.6, 30.5
SF-200-3/4	0.750	19.05	0.786	19.96	0.025	0.64	100	30.5
SF-200-7/8	0.875	22.23	0.911	23.14	0.025	0.64	100	30.5
SF-200-1IN	1.000	25.40	1.036	26.31	0.025	0.64	100	30.5

UL LISTED CA PROP 65 RoHS Compliant

FIT® Wire Management

Uncoated Fiberglass Sleeving

PIF-240



UL 1441 (500 V_{RMS})
UL VW-1
MIL-Y-1140
ASTM D 350/372 Class C

- Extreme flexibility
- Extreme heat environments

Operating Temperature

- -60°C to +648°C

Color

- Natural

Material

- Heat-annealed braided fiberglass

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Electrical Properties

- Volume resistivity: 10^{15} ohm-cm

Availability

100 ft (30.5 m)

Spools may contain multiple lengths

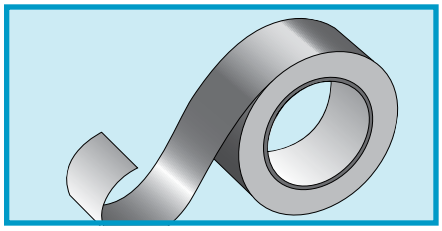
Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Min.	
	Inch	mm	Inch	mm	Inch	mm
PIF-240-20	0.032	0.81	0.039	0.99	0.009	0.23
PIF-240-18	0.040	1.02	0.049	1.24	0.011	0.28
PIF-240-16	0.051	1.30	0.061	1.55	0.011	0.28
PIF-240-15	0.057	1.45	0.067	1.70	0.011	0.28
PIF-240-14	0.064	1.63	0.074	1.88	0.011	0.28
PIF-240-12	0.081	2.06	0.091	2.31	0.011	0.28
PIF-240-11	0.091	2.31	0.101	2.57	0.011	0.28
PIF-240-10	0.102	2.59	0.112	2.84	0.011	0.28
PIF-240-9	0.114	2.90	0.124	3.15	0.011	0.28
PIF-240-8	0.129	3.28	0.141	3.58	0.011	0.28
PIF-240-7	0.144	3.66	0.158	4.01	0.013	0.33
PIF-240-6	0.162	4.11	0.178	4.52	0.013	0.33
PIF-240-5	0.182	4.62	0.198	5.03	0.013	0.33
PIF-240-4	0.204	5.18	0.224	5.69	0.016	0.41
PIF-240-3	0.229	5.82	0.249	6.32	0.016	0.41
PIF-240-2	0.258	6.55	0.278	7.06	0.016	0.41
PIF-240-1	0.289	7.34	0.311	7.90	0.016	0.41
PIF-240-0	0.325	8.26	0.347	8.81	0.016	0.41
PIF-240-3/8	0.375	9.53	0.399	10.13	0.016	0.41
PIF-240-7/16	0.438	11.13	0.462	11.73	0.018	0.46
PIF-240-1/2A	0.500	12.70	0.524	13.31	0.018	0.46
PIF-240-5/8	0.625	15.88	0.655	16.64	0.018	0.46
PIF-240-3/4	0.750	19.05	0.783	19.89	0.018	0.46
PIF-240-7/8	0.875	22.23	0.991	25.17	0.018	0.46
PIF-240-1IN	1.000	25.40	1.026	26.06	0.018	0.46

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management

Copper EMI Shielding Tape
CST Series



UL 510
ASTM D 1000, Method 303
MIL-STD-202C

- EMI shielding
- Highly conductive pressure-sensitive adhesive seal

Operating Temperature

- -40°C to +205°C

Color

- Copper

Material

- Copper foil on pressure-sensitive adhesive

Physical Properties

- Tensile strength: 21 lb/inch (0.145 N/mm²)
- Adhesion: 40 oz/inch
- Foil thickness: 0.0014 inch (0.04 mm)
- Adhesive thickness: 0.00015 inch (0.004 mm)
- Flammability: flame resistant per UL 510

Electrical Properties

- Electrical resistance through tape: <0.003 ohms/inch² (<0.0005 ohms/cm²)
- Shielding effectiveness: 50 dB at 153 MHz

Availability

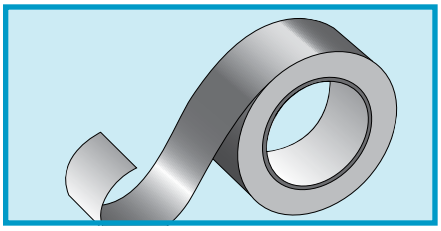
36-yard (33 m) rolls

Part No.	Width	
	Inch	mm
CST-5	0.50	12.70
CST-10	1.00	25.40
CST-15	1.50	38.10
CST-20	2.00	50.80

CA PROP 65 RoHS Compliant

FIT® Wire Management

Self-Fusing Silicone Tape



A-A-59163

- Cures within 48 hours at room temperature or 4 hours at 177°C
- No adhesive required
- Low-cost seal for electrical insulation, cables harnesses, splices, hot air ducting, and electrical wire wrap
- Conforms to irregular shapes to protect, secure, insulate, mask
- Resists outside weathering

Operating Temperature

- -90°C to +260°C (continuous)

Colors

- Red, black, blue, yellow, white, green

Material

- Silicone

Physical Properties

- Tensile strength: 700 psi (4.8 N/mm^2) min.
- Elongation: 300% min.
- Water absorption: 3% max.
- Bond strength: 20 lbf (25 kgf)
- Shelf life: 1 year at 37.3°C for unopened container

Electrical Properties

- Dielectric strength: 400 V/mil (157 kV/cm)
- Volume resistivity: 1 x 10^{13} ohm-cm

Availability

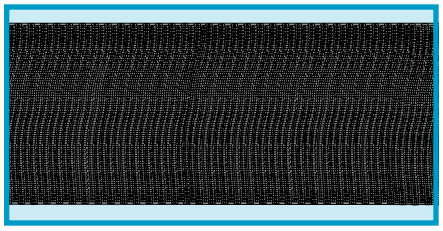
- 14-ft put-ups (all colors)
- 35-ft put-ups (black, red)

Part No.	Width		Thickness	
	Inch	mm	Inch	mm
TY2001	1.000	25.40	0.020	0.51

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management

Expandable Braided Sleeving
GRP-110, GRP-120



UL UZKX2
UL VW-1 (GRP-120)
MIL-I-631

- Light weight, flexible routing
- High abrasion and cut-through resistance

Operating Temperature

- -75°C to +125°C
- 250°C melt temperature

Color

- GRP-110: Black or natural
- GRP-120: Black with white tracer thread or white with black tracer thread

Material

- Braided polyester
- Should be cut with hot knife

Physical Properties

- Tensile strength:
  GRP-110: 85,000 psi (586 N/mm²)
  GRP-120: 55,000 psi (379 N/mm²)

Chemical Properties

- Corrosive effect: noncorrosive
- Fungus resistance: no growth
- GRP-120: flame retardant
- Halogen free
- Lead free

Availability

See tables

Spools may contain multiple lengths

General-Purpose Sleeving

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-110-1/8	0.093	2.36	0.250	6.35	0.025	0.64	32	1	32	100, 500	30.5, 152
GRP-110-1/4	0.125	3.18	0.375	9.53	0.025	0.64	24	3	72	100, 500	30.5, 152
GRP-110-1/2	0.250	6.35	0.750	19.05	0.025	0.64	48	3	144	100, 500	30.5, 152
GRP-110-3/4	0.500	12.70	1.250	31.75	0.025	0.64	72	3	216	100, 500	30.5, 152
GRP-110-1-1/4	0.750	19.05	1.750	44.45	0.025	0.64	96	3	288	50, 250	15.2, 76
GRP-110-1-3/4	1.250	31.75	2.750	69.85	0.025	0.64	120	4	480	50, 250	15.2, 76
GRP-110-2IN	1.500	38.10	3.500	88.90	0.025	0.64	120	4	480	50, 250	15.2, 76

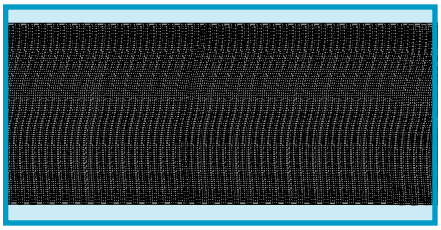
Flame-Retardant Sleeving

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-120-1/8	0.093	2.36	0.250	6.35	0.025	0.64	32	1	32	100, 500	30.5, 152
GRP-120-1/4	0.125	3.18	0.375	9.53	0.025	0.64	24	3	72	100, 500	30.5, 152
GRP-120-1/2	0.250	6.35	0.750	19.05	0.025	0.64	48	3	144	100, 500	30.5, 152
GRP-120-3/4	0.500	12.70	1.250	31.75	0.025	0.64	72	3	216	100, 500	30.5, 152
GRP-120-1-1/4	0.750	19.05	1.750	44.45	0.025	0.64	96	3	288	50, 250	15.2, 76
GRP-120-1-3/4	1.250	31.75	2.750	69.85	0.025	0.64	120	4	480	50, 250	15.2, 76
GRP-120-2IN	1.500	38.10	3.500	88.90	0.025	0.64	120	4	480	50, 250	15.2, 76

CA PROP 65 RoHS Compliant

FIT® Wire Management

Non-Fraying, Expandable Braided Sleeving
GRP-110NF, GRP-120NF



UL UZKX2
UL VW-1 (GRP-120NF, XS-100FR)
CSA 5836 01
MIL-I-631

- Light weight, flexible routing
- Frayless: cuts without a hot knife
- Compatible with automatic cutting machines

Operating Temperature

- -75°C to +125°C

Color

- GRP-110NF, XS-100: Black or natural
- GRP-120NF: Black with white tracer thread
- XS-100FR: Black or white

Material

- Braided PET

Physical Properties

- Tensile strength:
  GRP-110NF: 85,000 psi (586 N/mm²)
  GRP-120NF: 55,000 psi (379 N/mm²)
  XS-100/100FR: 100,000 psi (689 N/mm²)

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth

Availability

See tables

Spools may contain multiple lengths

General-Purpose Sleeving

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-110NF18	0.125	3.18	0.250	6.35	0.024	0.61	32	3	96	100, 500	30.5, 152
GRP-110NF14	0.156	3.96	0.438	11.13	0.024	0.61	40	3	120	100, 500	30.5, 152
GRP-110NF12	0.250	6.35	0.750	19.05	0.024	0.61	64	3	192	100, 500	30.5, 152
GRP-110NF34	0.625	15.88	1.000	25.40	0.024	0.61	80	3	240	100, 500	30.5, 152
GRP-110NF114	1.000	25.40	1.500	38.10	0.024	0.61	120	3	360	50, 250	15.2, 76
GRP-110NF112	1.250	31.75	2.000	50.80	0.024	0.61	120	4	480	50, 250	15.2, 76
XS-100-2-1/2	2.000	50.80	3.500	88.90	0.025	0.64	144	5	720	100	30.5

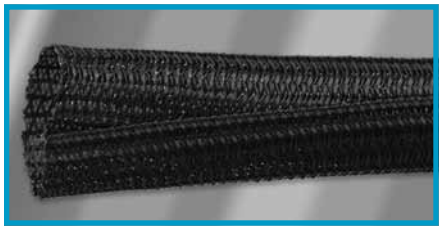
Flame-Retardant Sleeving

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-120NF18	0.125	3.18	0.250	6.35	0.024	0.61	32	3	96	100, 500	30.5, 152
GRP-120NF14	0.156	3.96	0.438	11.13	0.024	0.61	40	3	120	100, 500	30.5, 152
GRP-120NF12	0.250	6.35	0.750	19.05	0.024	0.61	64	3	192	100, 500	30.5, 152
GRP-120NF34	0.625	15.88	1.000	25.40	0.024	0.61	80	3	240	100, 500	30.5, 152
GRP-120NF114	1.000	25.40	1.500	38.10	0.024	0.61	120	3	360	50, 250	15.2, 76
GRP-120NF112	1.250	31.75	2.000	50.80	0.024	0.61	120	4	480	50, 250	15.2, 76
XS-100FR-2-1/2	2.000	50.80	3.500	88.90	0.025	0.64	144	5	720	100	30.5

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management

Flexible, Semirigid Wrappable Sleeving
GRP-130 and GRP-130NF



The choice for a wide variety of bundling applications without the need for additional fasteners

UL UZKX2
UL 94V-0 (GRP-130)
UL VW1 (GRP-130NF)
CSA 5836 01 FT2
FAR 25 (GRP-130NR)

- Bends tightly without distorting or opening
- 25% edge overlap to accommodate connectors and splices
- Fast, easy wrap-around installation
- More flexible than spiral wrap or split convoluted tubing

Operating Temperature

- -70°C to +125°C
- GRP-130: 230°C melt temperature
- GRP-130NF: 250°C melt temperature

Color

- GRP-130: Black or orange
- GRP-130NF: Black with white tracer

Materials

- 10-mil PET braid
- Cuts with hot knife

Physical Properties

- Tensile strength:
  GRP-130: 6 psi (0.04 N/mm²)
  GRP-130NF: 4 psi (0.02 N/mm²)
- Specific gravity: 1.38 max

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 0.10% max
- UV resistant
- Halogen free
- Lead free

Availability

See table
Reels may contain multiple lengths

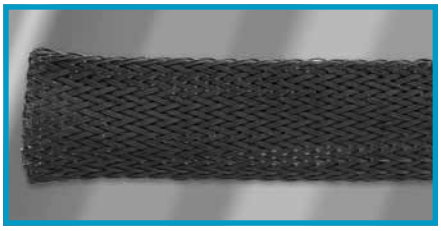
The GRP-130 installation tool makes installing long length of GRP-130 sleeving fast and easy. Simply insert your wire bundle into the tool's shank and slide the tool along the split in the sleeving. The tool deposits the wires and allows the split to close correctly.

Part No.		Size		Wall Thickness (Min)		Ends per Carrier Alternating	Standard Put-Ups		Installation Tool Part No.
Black	Black w/ Tracer	Inch	mm	Inch	mm		Ft	m	
GRP-130-1/8	GRP-130NF-18	0.125	3.18	0.024	3.18	1/3	50, 200	15.2, 71	GRP-130T-1/4
GRP-130-1/4	GRP-130NF-14	0.250	6.35	0.025	6.35	1/3	50, 200	15.2, 71	GRP-130T-1/4
GRP-130-3/8	GRP-130NF-38	0.375	9.53	0.025	9.53	1/3	50, 100	15.2, 30.5	GRP-130T-1/2
GRP-130-1/2	GRP-130NF-12	0.500	12.70	0.025	12.70	1/3	50, 100	15.2, 30.5	GRP-130T-1/2
GRP-130-3/4	GRP-130NF-34	0.750	19.05	0.025	19.05	1/3	50, 100	15.2, 30.5	GRP-130T-3/4
GRP-130-1IN	GRP-130NF-1IN	1.000	25.40	0.038	25.40	1/3	50, 100	15.2, 30.5	GRP-130T-1IN
GRP-130-1-1/4	GRP-130NF-1-14	1.250	31.75	0.038	31.75	1/3	25	7.6	GRP-130T-1-1/4
GRP-130-1-1/2	GRP-130NF-1-12	1.500	38.10	0.038	38.10	1/3	25	7.6	GRP-130T-1-1/4
GRP-130-2IN	GRP-130NF-2IN	2.000	50.80	0.038	50.80	2/3	25	7.6	GRP-130T-1-1/4*

*Designed for up to 1.22" cable diameter

FIT® Wire Management

Advanced Protection Expandable Sleeving
GRP-160



An economical, easy-to-use choice for advanced abrasion and cut-through protection

- Extreme abrasion resistance without losing flexibility or durability
- Cuts cleanly with hot knife
- Resists fuels, solvents, salt water, chemicals, and UV
- Expandable to 150%

Operating Temperature

- -45°C to +150°C
- 256°C melt temperature

Color

- Black

Materials

- 20-mil nylon polyamide monofilament

Physical Properties

- Tensile strength: 19 psi (0.13 N/mm²)
- Specific gravity: 1.14 max

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 2.50% max
- UV resistant
- Halogen free
- Lead free

Availability

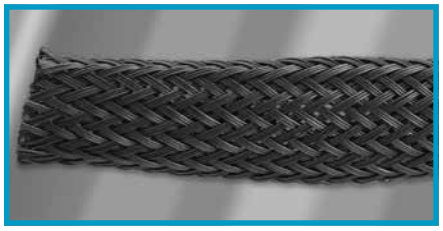
See table
Reels may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-160-1/4	1/4	6.35	0.250 – 0.500	6.35 – 12.70	20	3	60	50, 250	15.2, 76
GRP-160-1/2	1/2	12.70	0.500 – 1.000	12.70 – 25.40	36	3	108	50, 250	15.2, 76
GRP-160-3/4	3/4	19.05	0.750 – 1.250	19.05 – 31.75	40	3	120	50, 250	15.2, 76
GRP-160-1IN	1	25.40	1.000 – 1.500	25.40 – 38.10	48	3	144	50, 250	15.2, 76
GRP-160-1-1/4	1-1/4	31.75	1.250 – 2.000	31.75 – 50.80	56	3	168	50, 250	15.2, 76
GRP-160-1-3/4	1-3/4	44.45	1.750 – 2.750	44.45 – 69.85	72	3	216	50, 250	15.2, 76
GRP-160-2-1/4	2-1/4	57.15	2.250 – 3.000	57.15 – 76.20	96	3	288	25, 100	7.6, 30.5

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management

Advanced Chemical Resistance Expandable Sleeving
GRP-170



The extremely lightweight sleeving that is impervious to virtually all chemicals

UL 94V-0
FAR 25

- Resists acids, bases, solvents, and fuels
- Ultra-lightweight
- High abrasion resistance
- Expandable to 150%
- Flame resistant
- Cuts cleanly with hot knife

Operating Temperature

- -70°C to +200°C
- 285°C melt temperature

Color

- Black

Materials

- 8-mil-diameter polyphenylene sulfide (PPS) monofilaments
- Cuts with hot knife

Physical Properties

- Specific gravity: 1.37 max
- Flame resistant

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 0.025% max
- Low outgassing
- UV resistant
- Halogen free
- Lead free

Availability

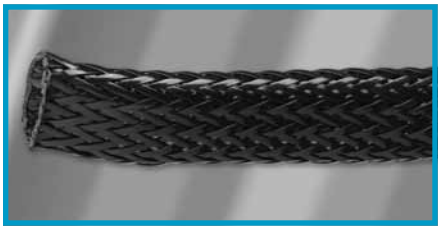
See table
Reels may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-170-1/8	1/8	3.18	0.094 - 0.250	2.38 - 6.35	32	2	64	100, 500	30.5, 152
GRP-170-1/4	1/4	6.35	0.125 - 0.375	3.18 - 9.53	48	2	96	100, 500	30.5, 152
GRP-170-1/2	1/2	12.70	0.250 - 0.750	6.35 - 19.05	56	3	168	100, 500	30.5, 152
GRP-170-3/4	3/4	19.05	0.500 - 1.250	12.70 - 31.75	72	3	216	50, 250	15.2, 76
GRP-170-1-1/4	1-1/4	31.75	0.750 - 1.750	19.05 - 44.45	96	4	384	50, 250	15.2, 76
GRP-170-1-3/4	1-3/4	44.45	1.250 - 2.500	31.75 - 63.50	120	4	480	50, 250	15.2, 76

CA PROP 65 RoHS Compliant REACH Compliant

FIT® Wire Management

Maximum Performance Expandable Sleeving
GRP-180



Superior abrasion resistance, a wide operating temperature range, easy installation for industrial, solar, and high-abrasion applications

- Superior abrasion resistance
- Easy to install
- Resists fuels, solvents, chemicals, salt water, and UV
- Smooth inner wall to prevent internal abrasion damage

Operating Temperature

- -60°C to +150°C
- 265°C melt temperature

Color

- Black

Materials

- Flat 20-mil nylon filaments
- Cuts with hot knife

Physical Properties

- Tensile strength: 19 psi (0.13 N/mm²)
- Specific gravity: 1.12 max

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 2.50% max
- UV resistant
- Lead free

Availability

See table
Reels may contain multiple lengths

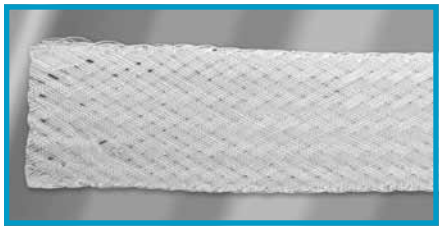
Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-180-1/2	1/2	12.70	0.375 – 0.625	9.53 – 15.88	24	1	24	50, 250	15.2, 76
GRP-180-3/4	3/4	19.05	0.625 – 1.000	15.88 – 25.40	36	1	36	50, 250	15.2, 76
GRP-180-1IN	1	25.40	0.875 – 1.250	22.22 – 31.75	44	1	44	50, 250	15.2, 76
GRP-180-1-1/4	1-1/4	31.75	1.000 – 1.500	25.40 – 38.10	48	1	48	25, 100	7.6, 30.5
GRP-180-1-3/4	1-3/4	44.45	1.500 – 2.000	38.10 – 50.80	80	1	80	25, 100	7.6, 30.5
GRP-180-2IN	2	50.80	1.750 – 2.750	44.45 – 69.85	96	1	96	25, 100	7.6, 30.5

CA PROP 65 RoHS Compliant REACH Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management

Extreme Performance Sleeving
GRP-200



The high-temperature choice for aerospace, military, and high-tech applications where thermal stability and low outgassing are critical

FAR 25

- Cut and abrasion resistant
- Flame resistant
- Resists virtually all chemicals and UV
- Thermally stable
- Low outgassing
- Suitable for plenum use

Operating Temperature

- -70°C to +280°C
- 310°C melt temperature

Color

- Natural

Materials

- 16-mil PTFE filaments
- Cuts with hot knife or hot wire

Physical Properties

- Specific gravity: 2.15 max

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 0.01% max
- Vacuum outgassing: 95.0% max
- Lead free

Availability

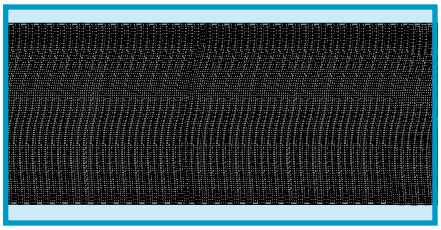
See table
Spools may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-200-1/8	1/8	3.18	0.094 – 0.250	2.38 – 6.35	24	1	25	50, 250	15.2, 76
GRP-200-1/4	1/4	6.35	0.188 – 0.375	4.76 – 9.53	32	1	32	50, 250	15.2, 76
GRP-200-3/8	3/8	9.53	0.250 – 0.750	6.35 - 19.06	40	3	120	50, 250	15.2, 76
GRP-200-1/2	1/2	12.70	0.375 - 0.875	9.53 – 22.23	48	3	144	50, 250	15.2, 76
GRP-200-3/4	3/4	19.05	0.625 – 1.250	15.88 – 31.75	64	3	192	50, 250	15.2, 76
GRP-200-1-1/4	1-1/4	31.75	1.125 – 1.500	28.58 – 38.10	72	3	216	25, 100	7.6, 30.5
GRP-200-1-3/4	1-3/4	44.45	1.375 – 1.750	34.93 – 44.45	80	4	240	25, 100	7.6, 30.5
GRP-200-2IN	2	50.80	1.688 – 2.125	42.88 – 53.98	96	3	288	25, 100	7.6, 30.5

CA PROP 65 RoHS Compliant REACH Compliant

FIT® Wire Management

Expandable Braided Sleeving
XS-100HD



UL 224
UL UZKX2
CSA 5836 01

- Extremely flexible
- Light weight
- Easy to install

Operating Temperature

- -70°C to +125°C
- 250°C melt temperature

Color

- Black

Material

- Heavy-duty braided PET

Physical Properties

- Tensile strength: 90,000 psi (620 N/mm²)
- Elongation: 25% min.
- Specific gravity: 1.31 max.

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Halogen free
- Lead free

Availability

See table

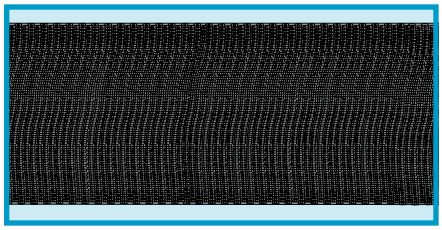
Spools may contain multiple lengths

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
XHD3/8	0.188	4.78	0.750	19.05	0.042	1.07	24	3	72	500	152
XHD5/8	0.313	7.95	1.000	25.40	0.042	1.07	32	3	96	500	152
XHD1IN	0.500	12.70	1.500	38.10	0.042	1.07	48	3	144	250	76
XHD1-1/2	1.000	25.40	2.000	50.80	0.042	1.07	72	3	216	200	61
XHD2IN	1.500	38.10	3.000	76.20	0.042	1.07	93	3	288	100	30.5

CA PROP 65 RoHS Compliant

FIT® Wire Management

Braided Sleeving
XS-200N



MIL-S-47053
CID A-A-59301

- Extremely durable
- Abrasion resistant
- Tight weave with excellent flexibility

Operating Temperature
- -45°C to +120°C
- 250°C melt temperature

Color
- Black

Material
- Braided nylon

Physical Properties
- Tensile strength: 80,000 psi (551 N/mm^2)
- Specific gravity: 1.14

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.04%, max.
- Halogen free
- Lead free

Electrical Properties
- Dielectric strength: 4 V/mil (1.57 kV/cm)

Availability
See table

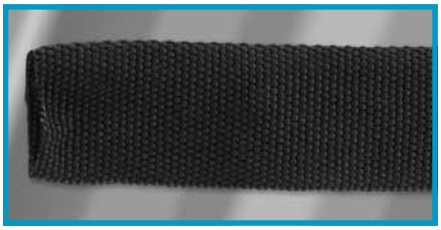
Spools may contain multiple lengths

Part No.	Inside Diameter, Min.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
XS-200N-1/8	0.125	3.18	0.020	0.51	28	3	84	100, 1000	30.5, 305
XS-200N-1/4	0.250	6.35	0.032	0.81	48	4	192	100, 500	30.5, 152
XS-200N-3/8	0.375	9.53	0.032	0.81	52	5	260	100, 500	30.5, 152
XS-200N-1/2	0.500	12.70	0.035	0.89	72	6	432	100	30.5
XS-200N-3/4	0.750	19.05	0.035	0.89	72	9	648	100, 250	30.5, 76
XS-200N-1IN	1.000	25.40	0.045	1.14	72	16	1152	100	30.5

CA PROP 65 RoHS Compliant

FIT® Wire Management

Abrasion-Resistant Nylon Sleeving
XS300



Professional-grade protection with smooth inner wall to prevent internal abrasion damage

- Excellent abrasion resistance
- Tightly woven, nonexpandable
- Cuts cleaning with scissors
- Deflects high-pressure hose ruptures
- Resists fuels, chemicals, UV, rot, and vermin
- ISO 6945 certified
- MSHA approved "Accepted flame-resistant solid products taken into mines"

Operating Temperature

- -45°C to +120°C
- 210°C melt temperature

Color

- Black

Materials

- 45-mil-thick nylon
- Cuts with scissors

Physical Properties

- Specific gravity: 1.14

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 2.70% max
- Halogen free
- Lead free

Availability

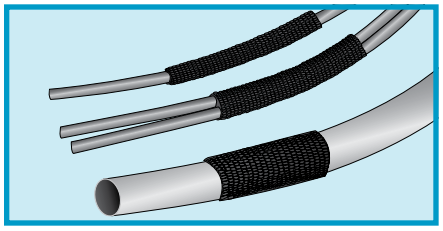
25 ft (7.6 m)
100 ft (304 m) for 0.71 through 1.59 sizes only

Part No.	Size		Wall Thickness (Min)	
	Inch	mm	Inch	Mm
XS300071	0.71	18.03	0.045	1.14
XS300083	0.83	21.08	0.045	1.14
XS300092	0.92	23.37	0.045	1.14
XS300100	1.00	25.40	0.045	1.14
XS300113	1.13	28.70	0.045	1.14
XS300125	1.25	31.75	0.045	1.14
XS300134	1.34	34.04	0.045	1.14
XS300159	1.59	40.39	0.045	1.14
XS300175	1.75	44.45	0.045	1.14
XS300207	2.07	52.58	0.045	1.14
XS300238	2.38	60.45	0.045	1.14
XS300254	2.54	64.52	0.045	1.14
XS300286	2.86	72.64	0.045	1.14
XS300334	3.34	84.84	0.045	1.14
XS300366	3.66	92.96	0.045	1.14

CA PROP 65 RoHS Compliant REACH Compliant

FIT® Wire Management

Expandable Braided Sleeving
ZIP-GRP



UL UZKYZ
UL 94V-0
CSA 5836 01

- Unlimited breakouts
- Abrasion and cut-through resistance
- Oil and solvent resistance

Operating Temperature

- -70°C to +125°C
- 230°C melt temperature

Color

- Black

Material

- Braided PET with hook and loop closure
- Cuts with hot knife

Physical Properties

- Tensile strength: 85,000 psi (586 N/mm²)
- Specific gravity: 1.38

Chemical Properties

- Corrosive effect: None
- Fungus resistance: no growth
- Water absorption: 0.15% max.
- Halogen free
- Lead free
- Chemically inert
- UV resistant

Availability

25 ft (7.6 m)
50 ft (15.2 m)

Spools may contain multiple lengths

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction		
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total
ZIP-GRP-7/8	0.500	12.70	2.375	60.33	0.025	0.64	88	4	220
ZIP-GRP-1-1/2	1.500	38.10	3.500	88.90	0.025	0.64	105	4	420
ZIP-GRP-2	2.000	50.80	4.500	114.30	0.025	0.64	137	4	548

CA PROP 65 RoHS Compliant

FIT® Wire Management
Lacing Tape

A-A-52080 Type 1

- High tensile strength
- Good chemical resistance
- Excellent abrasion resistance
- Excellent knot retention

See table for specifications.

Finishes

A. Natural, No finish

B. Wax: A microcrystalline wax with a melting point above 54°C compounded with a fungicide that does not contain either copper or mercuric materials. Excellent knot retention, yet the finish does not have too great a "waxy" feel to the user. Microcrystalline wax is soft, pliable, and easy to tie.

C. Synthetic Rubber or Elastomer: A special continuous coating of fungistatic synthetic rubber containing no corrosive compounding ingredients. Knots tied with this finish will not slip. This finish will not flake or dust.

D: Glass/TFE: The glass/TFE combination has excellent tensile strength and abrasion resistance. Also resists fungus, acids and flames.

E. Synthetic Resin or Vinyl: A thermoplastic synthetic resin with a melting point above 177°C for use where a "wax free" type is specified. It is a non-dusting or flaking, dry finish with good knot tying qualities.

A-A-52080 (MIL-T-43435B Type I)

- Flat braid made from high-tenacity continuous nylon yarn

Operating temperature:

- -55° C to +121°C

Elongation:

- 40% max

Finish weight (impregnated % of material by weight)

- Finish A (natural)
- Finish B (wax): 15% – 32%
- Finish C (synthetic rubber/ elastomer): 7% – 17%
- Finish E (synthetic resin/vinyl): 15% – 30%

Part No.	Finish	Color	Width, Nom		Thickness, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	Inch	mm	lb	kg	Yd	m
801530W	A	Natural	0.050	1.27	0.010	0.25	15	6.8	500	457
801536B	B	Black	0.050	1.27	0.010	0.25	15	6.8	500	457
801536W	B	Natural	0.050	1.27	0.010	0.25	15	6.8	500	457
802534B	B	Black	0.060	1.52	0.012	0.30	25	11.3	500	457
802534W	B	Natural	0.060	1.52	0.012	0.30	25	11.3	500	457
LC-134	B	Black, White	0.060	1.52	0.012	0.30	25	11.3	500	457
805032B	E	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805032W	E	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
805036B	B	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805036W	B	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
805040B	C	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805040W	C	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
LC-143	E	Black, White	0.085	2.16	0.014	0.36	50	22.7	500	457
808036B	B	Black	0.110	2.79	0.015	0.38	80	36.3	250	228
808036W	B	White	0.110	2.79	0.015	0.38	80	36.3	250	228

*Bobbins/tubes may contain multiple lengths.

RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Management
Lacing Tape

A-A-52081 (formerly MIL-T-43435B Type II)

- Flat braid made from high-tenacity continuous polyester yarn

Operating temperature:

- -73°C to +177°C

Elongation:

- 40% max

Finish weight (impregnated % of material by weight)

- Finish A (natural)
- Finish B (wax): 15% – 32%
- Finish C (synthetic rubber/ elastomer): 7% – 17%
- Finish E (synthetic resin/vinyl): 15% – 30%

Part No.	Finish	Color	Width, Nom.		Thickness, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	Inch	mm	lb	kg	Yd	m
801566B	C	Black	0.050	1.27	0.010	0.25	15	6.8	500	457
802566B	C	Black	0.060	1.52	0.012	0.30	25	11.3	500	457
C164	B	Black, White	0.062	1.57	0.010	0.25	25	11.3	500	457
805058B	E	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805058W	E	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
805060B	A	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805062B	B	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805062W	B	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
805066W	C	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
C162	B	Black, White	0.085	2.16	0.014	0.36	50	22.7	500	457
808060W	A	Natural	0.110	2.79	0.015	0.38	80	36.3	500	457
808058B	E	Black	0.110	2.79	0.015	0.38	80	36.3	250	228
C160	B	Black, White	0.200	5.08	0.016	0.41	135	61.2	250	228

*Bobbins/tubes may contain multiple lengths.

A-A-52083 (formerly MIL-T-43435B Type IV)

- Flat braid made from continuous filament glass yarn coated with PTFE before braiding

Operating temperature:

- Glass maintain strength and stability to 427°C

Elongation:

- 5% max

Finish weight (impregnated % of material by weight)

- Finish D (glass/TFE): 10% – 20%

Part No.	Finish	Color	Width, Nom.		Thickness, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	Inch	mm	lb	kg	Yd	m
807510W	D	Natural	0.085	2.16	0.016	0.41	75	34.0	500	457
810010W	D	Natural	0.110	2.79	0.016	0.41	100	45.3	250	228

*Bobbins/tubes may contain multiple lengths.

RoHS Compliant

FIT® Wire Management
Lacing Tape

A-A-52084 (formerly MIL-T-43435B Type V)

- Flat braid made from continuous filament aramid yarn

Operating temperature:

- -55°C to +260°C

Elongation:

- 40% max

Finish weight (impregnated % of material by weight)

- Finish C (synthetic rubber/ elastomer): 7% – 17%

Part No.	Finish	Color	Width, Nom.		Thickness, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	Inch	mm	lb	kg	Yd	m
803554	C	Natural	0.075	1.91	0.012	0.30	35	15.9	500	457

*Bobbins/tubes may contain multiple lengths.

MIL-DTL-713 Type P

- Twisted nylon cord made from high-tenacity continuous filament yarn

Operating temperature:

- -55° C to +121°C

Elongation:

- 20% min.

Finish weight (impregnated % of material by weight)

- Finish B (wax): 20% – 32%

Part No.	Finish	Color	Diameter, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	lb	kg	lb	kg
803215B	B	Black	0.023	0.58	32	14.5	1	0.45
803215W	B	Natural	0.023	0.58	32	14.5	1	0.45
804812W	A	Natural	0.025	0.64	48	21.8	1	0.45
804814B	B	Black	0.025	0.64	48	21.8	1	0.45
804814W	B	Natural	0.025	0.64	48	21.8	1	0.45
807013B	B	Black	0.040	1.02	70	31.7	1	0.45
807013W	B	Natural	0.040	1.02	70	31.7	1	0.45

*Weight per spool; bobbins/tubes may contain multiple lengths.

Telecommunications-Grade Polyester Yarn

- Round, twisted polyester cord made from high-tenacity industrial polyester fiber

Melt temperature (approx.):

- 121°C

Elongation:

- 17% – 27%

Finish weight (impregnated % of material by weight)

- 9 ply: 7% – 17%
- 12 ply: 35%

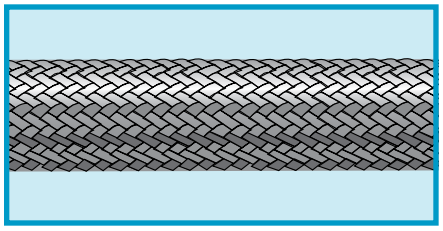
Part No.	Finish	Color	Diameter, Nom.		Break Strength, Min.		Plies	Availability*	
			Inch	mm	lb	kg		lb	kg
812030W	Wax	Natural	0.030	0.76	32	14.5	9	0.5	0.22
815040W	Wax	Natural	0.030	0.76	32	14.5	12	0.5	0.22

*Weight per tube; bobbins/tubes may contain multiple lengths.

RoHS Compliant

FIT® Wire Management

Tinned Copper Braid
Flat, Oval



AA-59569A (as indicated)

Color

- Silver

Material

- Tinned copper braid

Availability

See table

Spools may contain multiple lengths

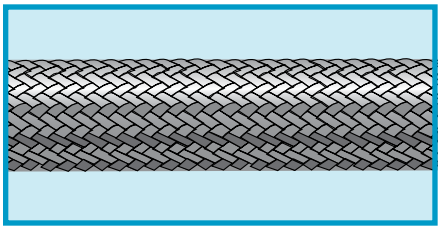
Part No.	Flat Width, Nom.		Thickness, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends			Amps	Ft	m
1221*	0.025	0.64	0.015	0.38	36	8	8	27	200	4	100, 500, 1000	30.5, 152, 305
1222*	0.032	0.81	0.020	0.50	36	16	16	24	400	6	100, 500, 1000	30.5, 152, 305
1223	0.047	1.19	0.020	0.50	36	24	24	22	600	7	100, 500, 1000	30.5, 152, 305
1224*	0.094	2.39	0.020	0.50	36	16	48	19	1200	11	100, 500, 1000	30.5, 152, 305
1229	0.125	3.18	0.020	0.50	36	24	72	18	1800	16	100, 500, 1000	30.5, 152, 305
1230	0.187	4.75	0.020	0.50	36	24	120	15	3000	25	100, 500, 1000	30.5, 152, 305
1231	0.250	6.35	0.030	0.76	36	24	168	14	4200	32	100, 500, 1000	30.5, 152, 305
1232*	0.385	9.78	0.030	0.76	36	48	288	12	7200	46	100, 500, 1000	30.5, 152, 305
1233/2*	0.500	12.70	0.030	0.76	36	48	384	10	9600	53	100, 500, 1000	30.5, 152, 305
1233	0.625	15.88	0.030	0.76	36	48	384	10	9600	53	100, 500, 1000	30.5, 152, 305
1234	0.750	19.05	0.040	1.02	36	48	864	7	20,800	85	100, 500, 1000	30.5, 152, 305
1235*	1.000	25.40	0.045	1.14	36	48	864	7	20,800	85	100, 500, 1000	30.5, 152, 305
1239	1.375	34.93	0.050	1.27	30	48	336	5	33,700	100	100, 500, 1000	30.5, 152, 305
1240	1.500	38.10	0.060	1.52	30	48	528	3	53,064	150	100	30.5
1241*	1.750	44.45	0.080	2.03	30	48	1248	2/0	125,424	280	100	30.5
1242*	2.000	50.80	0.120	3.05	30	48	1436	3/0	154,368	310	100	30.5
1242/4*	3.000	76.20	0.200	5.08	30	48	2256	4/0	225,000	390	100	30.5

*Not A-A-59569A.

CA PROP 65 RoHS Compliant

FIT® Wire Wire Management

Tinned Copper Braid
Flat, Oval



A-A-59551 (as indicated)

Color

- Silver

Material

- Tinned copper braid

Availability

See table

Spools may contain multiple lengths

Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends			Amps	Ft	m
2132	1/16	1.59	34	16	32	19	1192	11	100, 500, 1000	30.5, 152, 305
2138	11/64	4.37	34	24	120	14	4770	32	100, 500, 1000	30.5, 152, 305
2140*	3/16	4.76	34	24	144	13	5724	38	100, 500	30.5, 152
2142*	1/4	6.35	34	24	168	12	6678	41	100, 500	30.5, 152
2144*	3/8	9.53	34	24	192	11	7632	46	100, 500,	30.5, 152
2146	1/2	12.70	34	48	336	9	13,356	62	100	30.5
2148*	5/8	15.88	34	48	384	8	14,264	64	100	30.5
2150*	11/16	17.46	34	48	480	7	19,080	81	100	30.5
2152	25/32	19.84	34	48	528	7	20,988	85	100	30.5

*Not A-A-59551.

Bare Copper Braid
Flat

Material

- Bare copper braid

Availability

See table

Spools may contain multiple lengths

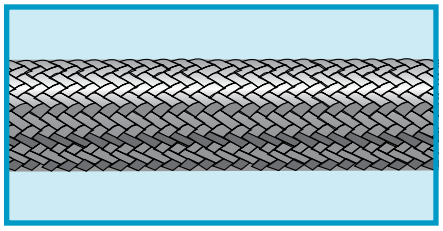
Part No.	Dimensions, Nom.		Braid Construction			CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends		Amps	Ft	m
95106	0.062 x 0.016	1.57 x 0.41	20	16	96	949	10.2	100, 500, 1000	30.5, 152, 305
95079	0.250 x 0.030	6.35 x 0.76	14	27	168	4200	27.9	100, 500, 1000	30.5, 152, 305

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

FIT® Wire Wire Management

Tinned Copper Braid
Tubular



A-A-59569

Color
- Silver

Material
- Tinned copper braid

Availability
See tables

Spools may contain multiple lengths

Tinned Copper

Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Indiv. Ends	Carriers	No. of Indiv. Ends			Amps	Ft	m
2160	0.031	0.79	36	24	24	22	600	7	100, 250	30.6, 76
2162	0.062	1.57	36	24	48	19	1200	11	100, 250	30.6, 76
2163	0.078	1.98	36	24	72	18	1800	16	100, 250	30.6, 76
2164	0.109	2.77	36	24	96	16	2400	19	100, 250	30.6, 76
2166	0.125	3.18	36	24	120	15	3000	25	100, 250	30.6, 76
2167	0.156	3.96	36	24	240	12	6000	40	100, 250	30.6, 76
2168	0.171	4.34	36	24	168	14	4200	32	100, 250	30.6, 76
2170	0.203	5.16	34	24	192	11	7630	46	100	30.5
2171	0.250	6.35	36	24	384	10	9600	53	100	30.5
2171/1	0.281	7.14	30	24	120	9	12,060	60	100	30.5
2172	0.375	9.53	36	48	384	10	9600	53	100	30.5
2173	0.437	11.10	30	24	240	6	24,120	90	100	30.5
2174	0.500	12.70	36	48	528	9	13,200	62	100	30.5
2175	0.462	11.73	30	48	480	3	48,240	145	100	30.5
2175/1	0.656	16.66	30	48	768	1	77,180	190	100	30.5
2176	0.781	19.84	36	48	864	7	21,600	88	100	30.5

Extra-Large Tinned Copper

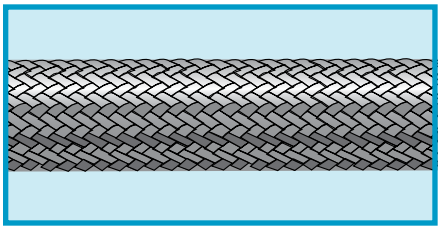
Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Indiv. Ends	Carriers	No. of Indiv. Ends			Amps	Ft	m
2177	0.875	22.23	30	48	336	5	33,700	100	100	30.5
2178	1.000	25.40	30	48	384	4	38,600	120	100	30.5
2179	1.125	28.58	30	48	432	4	43,330	130	100	30.5
2180*	1.250	31.75	30	48	480	3	48,150	145	100	30.5
2181	1.375	34.93	30	48	528	3	53,000	150	100	30.5
2182	1.500	38.10	30	48	576	2	57,775	165	100	30.5

*Not A-A-59569.

CA PROP 65 RoHS Compliant

FIT® Wire Wire Management

Silver-Plated Copper Braid
Tubular



A-A-59569

Color

- Silver

Material

- Silver-plated copper braid

Availability

See table

Spools may contain multiple lengths

Silver-Plated

Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Indiv. Ends	Carriers	No. of Indiv. Ends			Amps	Ft	m
2191	1/16	1.59	36	24	48	19	1200	11	100	30.5
2193	7/64	2.78	36	24	96	16	2400	19	100	30.5
2194	1/8	3.18	36	24	120	15	3000	25	100	30.5
2195	5/32	3.97	36	24	240	12	6000	40	100	30.5
2196	11/64	4.37	36	24	168	14	4200	32	100	30.5
2197	13/64	5.16	34	24	192	11	7640	46	100	30.5
2198	1/4	6.35	36	24	384	10	9600	53	100	30.5

CA PROP 65 RoHS Compliant

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Technical Information

AWG/Metric Conductor Table

		Approx OD		Area		Weight		DC Resistance (Bare)*		DC Resistance (Tinned)*	
AWG	Stranding	Inch	mm	CMA	mm²	Lb/ 1000 ft	kg/km	Ohms/ 1000 ft	Ohms/ km	Ohms/ 1000 ft	Ohms/ km
38	Solid	0.0040	0.102	16.0	0.008	0.048	0.071	648	2126	696	2283
38	7/46	0.0047	0.119	17.2	0.009	0.053	0.079	614	2014	659	2162
36	Solid	0.0050	0.127	25.0	0.013	0.076	0.113	415	1362	445	1460
36	7/44	0.0060	0.152	28.0	0.014	0.086	0.128	378	1240	406	1332
34	Solid	0.0063	0.160	39.7	0.020	0.120	0.179	261	856	280	919
34	7/42	0.0075	0.191	43.8	0.022	0.135	0.201	242	794	260	853
32	Solid	0.0080	0.203	64.0	0.032	0.194	0.289	162	531	174	571
32	7/40	0.0093	0.236	67.3	0.034	0.208	0.310	157	515	169	554
32	19/44	0.0100	0.254	76.0	0.039	0.235	0.350	139	456	149	489
30	Solid	0.0100	0.254	100	0.051	0.303	0.451	104	341	111	364
30	7/38	0.0120	0.305	112	0.057	0.346	0.515	94.5	310	101	331
30	19/42	0.0125	0.318	119	0.060	0.367	0.546	89.1	292	95.6	314
28	Solid	0.0126	0.320	159	0.081	0.481	0.716	65.2	214	69.3	227
28	7/36	0.0150	0.381	175	0.089	0.540	0.804	60.4	198	64.9	213
28	19/40	0.0155	0.394	183	0.093	0.564	0.839	57.9	190	62.2	204
27	7/35	0.017	0.432	220	0.111	0.679	1.01	48.1	158	51.7	170
26	Solid	0.0159	0.404	253	0.128	0.766	1.14	41.0	135	43.5	143
26	7/34	0.019	0.483	278	0.141	0.858	1.28	38.1	125	40.9	134
26	10/36	0.019	0.483	250	0.127	0.772	1.15	42.3	139	45.4	149
26	19/38	0.020	0.508	304	0.154	0.939	1.40	34.8	114	37.4	123
25	7/.0067	0.020	0.508	314	0.159	0.970	1.44	33.7	111	36.1	118
25	7/33	0.021	0.533	353	0.179	1.09	1.62	30.0	98.4	32.2	106
25	40/40	0.023	0.584	384	0.195	1.19	1.77	27.5	90.2	29.5	96.8
24	Solid	0.0201	0.511	404	0.205	1.22	1.82	25.7	84.3	26.7	87.6
24	7/32	0.024	0.610	448	0.227	1.38	2.05	23.6	77.4	25.3	83.0
24	10/34	0.023	0.584	397	0.201	1.23	1.83	26.6	87.3	28.6	93.8
24	19/36	0.025	0.635	475	0.241	1.47	2.19	22.3	73.2	23.9	78.4
22	Solid	0.0253	0.643	640	0.324	1.94	2.89	16.2	53.1	16.9	55.4
22	7/.0096	0.029	0.737	645	0.327	1.99	2.96	16.4	53.8	17.6	57.7
22	7/30	0.030	0.762	700	0.355	2.16	3.21	15.1	49.5	16.2	53.1
22	16/34	0.030	0.762	635	0.322	1.96	2.92	16.7	54.8	17.9	58.7
22	19/34	0.0315	0.800	754	0.382	2.33	3.47	14.0	45.9	15.1	49.5
20	Solid	0.032	0.813	1024	0.519	3.10	4.61	10.1	33.1	10.5	34.4
20	7/.0121	0.036	0.914	1022	0.518	3.16	4.70	10.4	34.1	11.0	36.1
20	7/28	0.038	0.965	1113	0.564	3.44	5.12	9.5	31.2	10.1	33.1
20	10/30	0.037	0.940	1000	0.507	3.09	4.60	10.6	34.8	11.4	37.4
20	19/32	0.040	1.016	1216	0.616	3.75	5.58	8.7	28.5	9.3	30.6
20	26/34	0.038	0.965	1032	0.523	3.19	4.75	10.2	33.5	11.0	36.1
20	41/36	0.037	0.940	1025	0.519	3.16	4.70	10.3	33.8	11.1	36.4
20	63(7x9)/38	0.040	1.016	1008	0.511	3.17	4.72	10.7	35.1	11.5	37.7

*Nominal resistance at 20˚C.

AWG/Metric Conductor Table

		Approx OD		Area		Weight		DC Resistance (Bare)*		DC Resistance (Tinned)*	
AWG	Stranding	Inch	mm	CMA	mm²	Lb/ 1000 ft	kg/km	Ohms/ 1000 ft	Ohms/ km	Ohms/ 1000 ft	Ohms/ km
18	Solid	0.040	1.016	1624	0.823	4.92	7.32	6.39	21.0	6.64	21.8
18	7/.0152	0.046	1.168	1617	0.819	4.99	7.43	6.54	21.5	6.95	22.8
18	7/26	0.048	1.219	1771	0.897	5.47	8.14	5.97	19.6	6.34	20.8
18	16/30	0.047	1.194	1600	0.811	4.94	7.35	6.61	21.7	7.10	23.3
18	19/30	0.050	1.270	1900	0.963	5.87	8.74	5.57	18.3	5.98	19.6
18	41/34	0.047	1.194	1628	0.825	5.03	7.49	6.50	21.3	6.98	22.9
18	65/36	0.047	1.194	1625	0.823	5.02	7.47	6.51	21.4	6.99	22.9
18	105(7x15)/38	0.052	1.321	1680	0.851	5.29	7.87	6.42	21.1	6.89	22.6
16	Solid	0.051	1.295	2581	1.31	7.81	11.62	4.02	13.2	4.18	13.7
16	7/.0192	0.058	1.473	2583	1.31	7.98	11.88	4.10	13.5	4.35	14.3
16	7/24	0.060	1.524	2828	1.43	8.73	12.99	3.74	12.3	3.89	12.8
16	19/.0117	0.059	1.499	2603	1.32	8.04	11.96	4.06	13.3	4.32	14.2
16	19/29	0.057	1.448	2432	1.23	7.51	11.18	4.35	14.3	4.62	15.2
16	26/30	0.060	1.524	2600	1.32	8.03	11.95	4.07	13.4	4.37	14.3
16	65/34	0.059	1.499	2580	1.31	7.97	11.86	4.10	13.5	4.40	14.4
16	168(7x24)/38	0.067	1.702	2688	1.36	8.46	12.59	4.01	13.2	4.31	14.1
14	Solid	0.064	1.626	4109	2.08	12.4	18.45	2.52	8.27	2.62	8.60
14	7/22	0.076	1.930	4480	2.27	13.8	20.53	2.36	7.74	2.46	8.07
14	7/.0242	0.073	1.854	4102	2.08	12.7	18.90	2.58	8.46	2.68	8.79
14	19/.0147	0.074	1.880	4104	2.08	12.7	18.90	2.58	8.46	2.74	8.99
14	19/27	0.071	1.803	3838	1.94	11.8	17.56	2.76	9.06	2.93	9.61
14	41/30	0.074	1.880	4100	2.08	12.7	18.90	2.58	8.46	2.77	9.09
14	105/34	0.075	1.905	4168	2.11	12.9	19.20	2.54	8.33	2.72	8.92
14	266(7x38)/38	0.080	2.032	4256	2.16	13.4	19.94	2.53	8.30	2.72	8.92
12	Solid	0.081	2.057	6529	3.31	19.8	29.47	1.59	5.22	1.65	5.41
12	7/20	0.096	2.438	7168	3.63	22.1	32.88	1.48	4.85	1.53	5.02
12	7/.0305	0.092	2.337	6510	3.30	20.1	29.91	1.62	5.31	1.69	5.54
12	19/.0185	0.093	2.362	6498	3.29	20.1	29.91	1.63	5.35	1.73	5.68
12	19/25	0.090	2.286	6080	3.08	18.8	27.98	1.74	5.71	1.85	6.07
12	65/30	0.093	2.362	6500	3.29	20.1	29.91	1.63	5.35	1.75	5.74
12	168(7x24)/34	0.106	2.692	6670	3.38	21.0	31.25	1.62	5.31	1.74	5.71
12	413(7x59)/38	0.106	2.692	6608	3.35	20.8	30.95	1.63	5.35	1.75	5.74
10	Solid	0.102	2.591	10384	5.26	31.4	46.73	0.999	3.28	1.04	3.41
10	7/.0385	0.116	2.946	10374	5.26	32.0	47.62	1.02	3.35	1.06	3.48
10	19/.0234	0.117	2.972	10412	5.28	32.1	47.77	1.02	3.35	1.06	3.48
10	19/23	0.113	2.870	9709	4.92	30.0	44.64	1.09	3.58	1.13	3.71
10	37/.0167	0.117	2.972	10323	5.23	31.9	47.47	1.02	3.35	1.09	3.58
10	37/26	0.111	2.819	9361	4.74	28.9	43.01	1.13	3.71	1.20	3.94
10	105/30	0.118	2.997	10500	5.32	32.4	48.22	1.01	3.31	1.08	3.54
10	658(7x94)/38	0.132	3.353	10528	5.33	33.1	49.26	1.02	3.35	1.10	3.61

*Nominal resistance at 20˚C.

AWG/Metric Conductor Table

		Approx OD		Area		Weight		DC Resistance (Bare)*		DC Resistance (Tinned)*	
AWG	Stranding	Inch	mm	CMA	mm²	Lb/ 1000 ft	kg/km	Ohms/ 1000 ft	Ohms/ km	Ohms/ 1000 ft	Ohms/ km
8	Solid	0.129	3.277	16512	8.37	50.0	74.41	0.628	2.06	0.646	2.12
8	19/.0295	0.148	3.759	16530	8.38	51.0	75.90	0.640	2.10	0.665	2.18
8	19/21	0.143	3.632	15428	7.82	47.6	70.84	0.686	2.25	0.713	2.34
8	49(7x7)/.0184	0.166	4.216	16611	8.42	52.3	77.83	0.649	2.13	0.690	2.26
8	65/26	0.148	3.759	16445	8.33	50.8	75.60	0.643	2.11	0.683	2.24
8	133(7x19)/29	0.169	4.293	17024	8.63	53.6	79.77	0.634	2.08	0.673	2.21
8	168(7x24)/30	0.167	4.242	16800	8.51	52.9	78.72	0.642	2.11	0.689	2.26
8	266(7x38)/32	0.166	4.216	17024	8.63	53.6	79.77	0.634	2.08	0.680	2.23
6	19/.0372	0.186	4.724	26296	13.3	81.2	120.84	0.402	1.32	0.418	1.37
6	19/19	0.180	4.572	24491	12.4	75.6	112.51	0.432	1.42	0.449	1.47
6	37/23	0.158	4.013	18907	9.58	58.4	86.91	0.559	1.83	0.582	1.91
6	49(7x7)/.0231	0.208	5.283	26166	13.3	81.6	121.43	0.408	1.34	0.425	1.39
6	105/26	0.188	4.775	26565	13.5	82.0	122.03	0.398	1.31	0.423	1.39
6	133(7x19)/27	0.213	5.410	26866	13.6	84.6	125.90	0.401	1.32	0.426	1.40
6	266(7x38)/30	0.210	5.334	26600	13.5	83.7	124.56	0.405	1.33	0.435	1.43
6	413(7x59)/32	0.212	5.385	26432	13.4	83.2	123.82	0.408	1.34	0.438	1.44
4	19/.0469	0.235	5.969	41800	21.2	129	191.97	0.253	0.830	0.263	0.863
4	49(7x7)/.0292	0.263	6.680	41797	21.2	130	193.46	0.256	0.840	0.266	0.873
4	133(7x19)/25	0.269	6.833	42560	21.6	134	199.41	0.253	0.830	0.269	0.883
4	168(7x24)/26	0.266	6.756	42504	21.5	134	199.41	0.254	0.833	0.270	0.886
4	413(7x59)//30	0.265	6.731	41300	20.9	130	193.46	0.261	0.856	0.280	0.919
4	420(7x60)/30	0.268	6.807	42000	21.3	132	196.44	0.257	0.843	0.276	0.906
4	665(19x35)/32	0.270	6.858	42560	21.6	134	199.41	0.253	0.830	0.272	0.892
2	19/.0591	0.296	7.518	66367	33.6	205	305.07	0.159	0.522	0.166	0.545
2	133(7x19)/23	0.339	8.611	67963	34.4	214	318.47	0.159	0.522	0.165	0.541
2	259(7x37)/26	0.334	8.484	65527	33.2	207	308.05	0.165	0.541	0.176	0.577
2	266(7x38)/26	0.334	8.484	67298	34.1	212	315.49	0.160	0.525	0.170	0.558
2	665 (7x95)/30	0.336	8.534	66500	33.7	209	311.03	0.162	0.531	0.174	0.571
2	665(19x35)/30	0.338	8.585	66500	33.7	209	311.03	0.162	0.531	0.174	0.571
2	1045(19x55)/32	0.342	8.687	66880	33.9	213	316.98	0.163	0.535	0.175	0.574
1	19/.0664	0.332	8.433	83771	42.4	259	385.43	0.126	0.413	0.131	0.430
1	133(7x19)/22	0.380	9.652	85120	43.1	268	398.83	0.127	0.417	0.132	0.433
1	259(7x37)/25	0.376	9.550	82880	42.0	262	389.90	0.131	0.430	0.139	0.456
1	836(19x44)/30	0.383	9.728	83600	42.4	266	395.85	0.130	0.427	0.140	0.459
1/0	19/.0745	0.373	9.474	105450	53.4	326	485.14	0.100	0.328	0.104	0.341
1/0	133(7x19)/21	0.428	10.871	107996	54.7	340	505.98	0.100	0.328	0.104	0.341
1/0	259(7x37)/24	0.422	10.719	104636	53.0	331	492.58	0.104	0.341	0.108	0.354
1/0	1045(19x55)/30	0.428	10.871	104500	53.0	332	494.07	0.104	0.341	0.112	0.367
1/0	1064(19x56)/30	0.430	10.922	106400	53.9	338	503.00	0.102	0.335	0.110	0.361
2/0	19/.0837	0.419	10.643	133114	67.4	411	611.64	0.079	0.259	0.083	0.272
2/0	133(7x19)/20	0.480	12.192	136192	69.0	429	638.42	0.079	0.259	0.082	0.269
2/0	259(7x37)23	0.474	12.040	132349	67.1	419	623.54	0.082	0.269	0.085	0.279
2/0	1323(7x7x27)/30	0.539	13.691	132300	67.0	424	630.98	0.083	0.272	0.089	0.292
2/0	1330(19x70)/30	0.483	12.268	133000	67.4	427	635.45	0.083	0.272	0.089	0.292

*Nominal resistance at 20˚C.

AWG/Metric Conductor Table

		Approx OD		Area		Weight		DC Resistance (Bare)*		DC Resistance (Tinned)*	
AWG	Stranding	Inch	mm	CMA	mm²	Lb/ 1000 ft	kg/km	Ohms/ 1000 ft	Ohms/ km	Ohms/ 1000 ft	Ohms/ km
3/0	19/.0940	0.470	11.938	167884	85.1	518	770.87	0.063	0.207	0.066	0.217
3/0	133(7x19)/19	0.538	13.665	171437	86.9	540	803.61	0.063	0.207	0.065	0.213
3/0	259(7x37)/22	0.530	13.462	165760	84.0	524	779.80	0.065	0.213	0.068	0.223
3/0	1666(7x7x34)30	0.604	15.342	166600	84.4	535	796.17	0.066	0.217	0.071	0.233
3/0	1672(19x88)/30	0.540	13.716	167200	84.7	536	797.66	0.066	0.217	0.071	0.233
4/0	19/.1055	0.528	13.411	211470	107	653	971.77	0.050	0.164	0.051	0.167
4/0	133(7x19)/18	0.604	15.342	215992	109	680	1011.95	0.050	0.164	0.052	0.171
4/0	259(7x37)/21	0.598	15.189	210308	107	665	989.63	0.052	0.171	0.054	0.177
4/0	2107(7x7x43)/30	0.681	17.297	210700	107	676	1006.00	0.052	0.171	0.056	0.184
4/0	2109 (37x57)/30	0.590	14.986	210900	107	677	1007.49	0.052	0.171	0.056	0.184

*Nominal resistance at 20˚C.

AWG/Metric Comparison

Stranded Conductors

Cond. Diameter (mm²)	Stranding x Strand Dia. (mm)	Corresponding AWG
0.014	7 x 0.05	–
0.035	7 x 0.08	32
0.047	24 x 0.05	–
0.049	1 x 0.25	30
0.055	7 x 0.10	30
0.079	10 x 0.10	–
0.079	7 x 0.12	–
0.080	1 x 0.32	28
0.093	7 x 0.13	28
0.094	12 x 0.10	–
0.094	48 x 0.05	–
0.096	19 x 0.08	28
0.113	10 x 0.12	–
0.118	60 x 0.05	–
0.118	15 x 0.10	–
0.124	7 x 0.15	26
0.126	1 x 0.40	26
0.149	19 x 0.10	26
0.177	10 x 0.15	24
0.188	24 x 0.10	–
0.196	1 x 0.50	24
0.212	27 x 0.10	–
0.212	12 x 0.15	–
0.220	7 x 0.20	24
0.251	32 x 0.10	–
0.252	19 x 0.13	24
0.283	1 x 0.60	–
0.291	37 x 0.10	–
0.314	40 x 0.10	–
0.322	1 x 0.64	22
0.336	19 x 0.15	22
0.344	7 x 0.25	22
0.377	12 x 0.20	–
0.377	48 x 0.10	–
0.389	22 x 0.15	–
0.442	1 x 0.75	–
0.459	26 x 0.15	20
0.491	10 x 0.25	20
0.495	7 x 0.30	–
0.503	16 x 0.20	–
0.515	1 x 0.81	20
0.563	7 x 0.32	20
0.597	19 x 0.20	20
0.636	36 x 0.15	–
0.754	24 x 0.20	–
0.785	16 x 0.25	18
0.817	1 x 1.02	18
0.848	12 x 0.30	–
0.880	7 x 0.40	18
0.933	19 x 0.25	18
0.990	56 x 0.15	–
1.005	32 x 0.20	–
1.276	26 x 0.25	16
1.327	1 x 1.30	16
1.343	19 x 0.30	16
1.374	7 x 0.50	16
1.473	30 x 0.25	–
1.508	12 x 0.40	–
1.828	19 x 0.35	14
1.885	60 x 0.20	–
1.909	27 x 0.030	–
1.979	7 x 0.60	–
2.011	16 x 0.40	–
2.013	41 x 0.25	14
2.087	1 x 1.63	14
2.454	50 x 0.25	14
3.022	19 x 0.45	12
3.142	16 x 0.50	–
3.181	45 x 0.30	–
3.191	65 x 0.25	12
3.393	48 x 0.30	–
3.958	56 x 0.30	–
4.650	37 x 0.40	–
4.714	7 x 7 x 0.35	–
5.154	105 x 0.25	–
5.160	73 x 0.30	10
5.300	75 x 0.30	10

Conductor Color Coding

Multipair Cables

Chart A

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black +Red	14	Green + Blue	27	Brown + Yellow	40	Slate + Blue
2	Black + White	15	Green + White	28	Violet + Red	41	Slate + Brown
3	Black + Green	16	Green + Brown	29	Violet + White	42	Slate + Yellow
4	Black + Blue	17	Green + Orange	30	Violet + Green	43	Slate + Orange
5	Black + Brown	18	Green + Yellow	31	Violet + Blue	44	Slate + Black
6	Black + Yellow	19	White + Blue	32	Violet + Brown	45	White/Black + Red
7	Black + Orange	20	White + Brown	33	Violet + Yellow	46	White/Black + Green
8	Red + Green	21	White + Orange	34	Violet + Orange	47	White/Black + Blue
9	Red + White	22	White + Yellow	35	Violet + Slate	48	White/Black + Brown
10	Red + Blue	23	Blue + Brown	36	Violet + Black	49	White/Black + Yellow
11	Red + Yellow	24	Blue + Orange	37	Slate + Red	50	White/Black + Orange
12	Red + Brown	25	Blue + Yellow	38	Slate + White	51	White/Black + Violet
13	Red + Orange	26	Brown + Orange	39	Slate + Green		

Chart A1

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black +Red	14	Green + White	27	Brown + Orange	40	Slate + Blue
2	Black + White	15	Green + Blue	28	Violet + Red	41	Slate + Brown
3	Black + Green	16	Green + Yellow	29	Violet + White	42	Slate + Yellow
4	Black + Blue	17	Green + Brown	30	Violet + Green	43	Slate + Orange
5	Black + Yellow	18	Green + Orange	31	Violet + Blue	44	Slate + Black
6	Black + Brown	19	White + Blue	32	Violet + Brown	45	White/Black + Red
7	Black + Orange	20	White + Yellow	33	Violet + Yellow	46	White/Black + Green
8	Red + White	21	White + Brown	34	Violet + Orange	47	White/Black + Blue
9	Red + Green	22	White + Orange	35	Violet + Slate	48	White/Black + Brown
10	Red + Blue	23	Blue + Yellow	36	Violet + Black	49	White/Black + Yellow
11	Red + Yellow	24	Blue + Brown	37	Slate + Red	50	White/Black + Orange
12	Red + Brown	25	Blue + Orange	38	Slate + White	51	White/Black + Violet
13	Red + Orange	26	Brown + Yellow	39	Slate + Green		

Chart B

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	White +Black	35	Orange +Slate	69	White/Red +Green
2	White +Brown	36	Yellow +Green	70	White/Red +Blue
3	White +Red	37	Yellow +Blue	71	White/Red +Violet
4	White +Orange	38	Yellow +Violet	72	White/Red +Slate
5	White +Yellow	39	Yellow +Slate	73	White/Orange +Black
6	White +Green	40	Green +Blue	74	White/Orange +Brown
7	White +Blue	41	Green +Violet	75	White/Orange +Red
8	White +Violet	42	Green +Slate	76	White/Orange +Orange
9	White +Slate	43	Blue +Violet	77	White/Orange +Yellow
10	Black +Brown	44	Blue +Slate	78	White/Orange +Green
11	Black +Red	45	Violet +Slate	79	White/Orange +Blue
12	Black +Orange	46	White/Black +Black	80	White/Orange +Violet
13	Black +Yellow	47	White/Black +Brown	81	White/Orange +Slate
14	Black +Green	48	White/Black +Red	82	White/Yellow +Black
15	Black +Blue	49	White/Black +Orange	83	White/Yellow +Brown
16	Black +Violet	50	White/Black +Yellow	84	White/Yellow +Red
17	Black +Slate	51	White/Black +Green	85	White/Yellow +Orange
18	Brown +Red	52	White/Black +Blue	86	White/Yellow +Yellow
19	Brown +Orange	53	White/Black +Violet	87	White/Yellow +Green
20	Brown +Yellow	54	White/Black +Slate	88	White/Yellow +Blue
21	Brown +Green	55	White/Brown +Black	89	White/Yellow +Violet
22	Brown +Blue	56	White/Brown +Brown	90	White/Yellow +Slate
23	Brown +Violet	57	White/Brown +Red	91	White/Green +Black
24	Brown +Slate	58	White/Brown +Orange	92	White/Green +Brown
25	Red +Orange	59	White/Brown +Yellow	93	White/Green +Red
26	Red +Yellow	60	White/Brown +Green	94	White/Green +Orange
27	Red +Green	61	White/Brown +Blue	95	White/Green +Yellow
28	Red +Blue	62	White/Brown +Violet	96	White/Green +Green
29	Red +Violet	63	White/Brown +Slate	97	White/Green +Blue
30	Red +Slate	64	White/Red +Black	98	White/Green +Violet
31	Orange +Yellow	65	White/Red +Brown	99	White/Green +Slate
32	Orange +Green	66	White/Red +Red	100	White/Blue +Black
33	Orange +Blue	67	White/Red +Orange	101	White/Blue +Brown
34	Orange +Violet	68	White/Red +Yellow	102	White/Blue +Red

Conductor Color Coding

Multipair Cables

Chart BR

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black #1 +Red #1	14	Black #14 + Red #14	27	Black #27 + Red #27	40	Black #40 + Red #40
2	Black #2 + Red #2	15	Black #15 + Red #15	28	Black #28 + Red #28	41	Black #41 + Red #41
3	Black #3 + Red #3	16	Black #16 + Red #16	29	Black #29 + Red #29	42	Black #42 + Red #42
4	Black #4 + Red #4	17	Black #17 + Red #17	30	Black #30 + Red #30	43	Black #43 + Red #43
5	Black #5 + Red #5	18	Black #18 + Red #18	31	Black #31 + Red #31	44	Black #44 + Red #44
6	Black #6 + Red #6	19	Black #19 + Red #19	32	Black #32 + Red #32	45	Black #45 + Red #45
7	Black #7 + Red #7	20	Black #20 + Red #20	33	Black #33 + Red #33	46	Black #46 + Red #46
8	Black #8 + Red #8	21	Black #21 + Red #21	34	Black #34 + Red #34	47	Black #47 + Red #47
9	Black #9 + Red #9	22	Black #22 + Red #22	35	Black #35 + Red #35	48	Black #48 + Red #48
10	Black #10 + Red #10	23	Black #23 + Red #23	36	Black #36 + Red #36	49	Black #49 + Red #49
11	Black #11 + Red #11	24	Black #24 + Red #24	37	Black #37 + Red #37	50	Black #50 + Red #50
12	Black #12 + Red #12	25	Black #25 + Red #25	38	Black #38 + Red #38	51	Black #51 + Red #51
13	Black #13 + Red #13	26	Black #26 + Red #26	39	Black #39 + Red #39		

Chart BW

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black +White #1	14	Black + White #14	27	Black + White #27	40	Black + White #40
2	Black + White #2	15	Black + White #15	28	Black + White #28	41	Black + White #41
3	Black + White #3	16	Black + White #16	29	Black + White #29	42	Black + White #42
4	Black + White #4	17	Black + White #17	30	Black + White #30	43	Black + White #43
5	Black + White #5	18	Black + White #18	31	Black + White #31	44	Black + White #44
6	Black + White #6	19	Black + White #19	32	Black + White #32	45	Black + White #45
7	Black + White #7	20	Black + White #20	33	Black + White #33	46	Black + White #46
8	Black + White #8	21	Black + White #21	34	Black + White #34	47	Black + White #47
9	Black + White #9	22	Black + White #22	35	Black + White #35	48	Black + White #48
10	Black + White #10	23	Black + White #23	36	Black + White #36	49	Black + White #49
11	Black + White #11	24	Black + White #24	37	Black + White #37	50	Black + White #50
12	Black + White #12	25	Black + White #25	38	Black + White #38		
13	Black + White #13	26	Black + White #26	39	Black + White #39		

Chart C

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Blue + White	14	Orange/Slate + White	27	Blue/Orange + Red	40	Slate/White + Red
2	Orange + White	15	Green/White + White	28	Blue/Green + Red	41	Blue + Black
3	Green + White	16	Green/Brown + White	29	Blue/Brown + Red	42	Orange + Black
4	Brown + White	17	Green/Slate + White	30	Blue/Slate + Red	43	Green + Black
5	Slate + White	18	Brown/White + White	31	Orange/White + Red	44	Brown + Black
6	Blue/White + White	19	Brown/Slate + White	32	Orange/Green + Red	45	Slate + Black
7	Blue/Orange + White	20	Slate/White + White	33	Orange/Brown + Red	46	Blue/White + Black
8	Blue/Green + White	21	Blue + Red	34	Orange/Slate + Red	47	Blue/Orange + Black
9	Blue/Brown + White	22	Orange + Red	35	Green/White + Red	48	Blue/Green + Black
10	Blue/Slate + White	23	Green + Red	36	Green/Brown + Red	49	Blue/Brown + Black
11	Orange/White + White	24	Brown + Red	37	Green/Slate + Red	50	Blue/Slate + Black
12	Orange/Green + White	25	Slate + Red	38	Brown/White + Red	51	Orange/White + Black
13	Orange/Brown + White	26	Blue/White + Red	39	Brown/Slate + Red		

Chart K

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black +Red	14	Green +White	27	Brown +Orange
2	Black +White	15	Green +Blue	28	Orange +Yellow
3	Black +Green	16	Green +Yellow	29	Violet +Orange
4	Black +Blue	17	Green +Brown	30	Violet +Red
5	Black +Yellow	18	Green +Orange	31	Violet +White
6	Black +Brown	19	White +Blue	32	Violet +Green
7	Black +Orange	20	White +Yellow	33	Violet +Blue
8	Red +White	21	White +Brown	34	Violet +Yellow
9	Red +Green	22	White +Orange	35	Violet +Brown
10	Red +Blue	23	Blue +Yellow	36	Violet +Black
11	Red +Yellow	24	Blue +Brown	37	Slate +White
12	Red +Brown	25	Blue +Orange		
13	Red +Orange	26	Brown +Yellow		

Conductor Color Coding

Multipair Cables

Chart L

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	White + Blue	10	Red + Slate	19	Yellow + Brown
2	White + Orange	11	Black + Blue	20	Yellow + Slate
3	White + Green	12	Black + Orange	21	Violet + Blue
4	White + Brown	13	Black + Green	22	Violet + Orange
5	White + Slate	14	Black + Brown	23	Violet + Green
6	Red + Blue	15	Black + Slate	24	Violet + Brown
7	Red + Orange	16	Yellow + Blue	25	Violet + Slate
8	Red + Green	17	Yellow + Orange		
9	Red + Brown	18	Yellow + Green		

Chart M

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Blue/White + White/Blue	10	Slate/Red + Red/Slate	19	Brown/Yellow + Yellow/Brown
2	Orange/White + White/Orange	11	Blue/Black + Black/Blue	20	Slate/Yellow + Yellow/Slate
3	Green/White + White/Green	12	Orange/Black + Black/Orange	21	Blue/Violet + Violet/Blue
4	Brown/White + White/Brown	13	Green/Black + Black/Green	22	Orange/Violet + Violet/Orange
5	Slate/White + White/Slate	14	Brown/Black + Black/Brown	23	Green/Violet + Violet/Green
6	Blue/Red + Red/Blue	15	Slate/Black + Black/Slate	24	Brown/Violet + Violet/Brown
7	Orange/Red + Red/Orange	16	Blue/Yellow + Yellow/Blue	25	Slate/Violet + Violet/Slate
8	Green/Red + Red/Green	17	Orange/Yellow + Yellow/Orange		
9	Brown/Red + Red/Brown	18	Green/Yellow + Yellow/Green		

Chart N

Pair No.	Color Combination
1	Black + Yellow
2	Red + Violet
3	Blue + Brown
4	Orange + Green
5	Black/White + White/Black
6	Brown/White + White/Brown
7	Red/White + White/Red
8	Orange/White + White/Orange
9	Yellow/White + White/Yellow
10	Green/White + White/Green
11	Blue/White + White/Blue
12	Violet/White + White/Violet

Chart Q

Pair No.	Color Combination
1	Black + White
2	Red + Green
3	Brown + Blue
4	Orange + Yellow
5	Violet + Slate
6	Tan + Pink
7	White/Blue + Blue/White
8	White/Brown + Brown/White
9	White/Orange + Orange/White
10	White/Green + Green/White
11	White/Red + Red/White
12	White/Black + Black/White
13	Yellow/Blue + Blue/Yellow
14	Yellow/Brown + Brown/Yellow
15	Yellow/Orange + Orange/Yellow
16	Yellow/Red + Red/Yellow
17	Yellow/Black + Black/Yellow
18	Yellow/Violet + Violet/Yellow

Conductor Color Coding

Multiconductor Cables

Chart D

No.	Base Color	1st Stripe	2nd Stripe	3rd Stripe
1	Black			
2	Red			
3	White			
4	Green			
5	Orange			
6	Blue			
7	Brown			
8	Yellow			
9	Violet			
10	Slate			
11	Pink			
12	Tan			
13	Red	Green		
14	Red	Yellow		
15	Red	Black		
16	White	Black		
17	White	Red		
18	White	Green		
19	White	Yellow		
20	White	Blue		
21	White	Brown		
22	White	Orange		
23	White	Slate		
24	White	Violet		
25	White	Black	Red	
26	White	Black	Green	
27	White	Black	Yellow	
28	White	Black	Blue	
29	White	Black	Brown	
30	White	Black	Orange	
31	White	Black	Slate	
32	White	Black	Violet	
33	White	Black	Black	
34	White	Red	Black	
35	White	Red	Red	
36	White	Red	Green	
37	White	Red	Blue	
38	White	Red	Brown	
39	White	Red	Violet	
40	White	Green	Black	
41	White	Green	Red	
42	White	Green	Green	
43	White	Green	Blue	
44	White	Green	Brown	
45	White	Green	Violet	
46	White	Blue	Black	
47	White	Blue	Red	
48	White	Blue	Green	
49	White	Blue	Blue	
50	White	Blue	Brown	
51	White	Blue	Violet	
52	White	Brown	Black	
53	White	Brown	Red	
54	White	Brown	Green	
55	White	Brown	Blue	
56	White	Brown	Brown	
57	White	Brown	Violet	
58	White	Violet	Red	
59	White	Violet	Green	
60	White	Violet	Blue	
61	White	Black	Red	Green
62	White	Black	Red	Yellow
63	White	Black	Red	Blue
64	White	Black	Red	Brown
65	White	Black	Red	Orange
66	White	Black	Red	Slate
67	White	Black	Red	Violet
68	White	Black	Green	Yellow
69	White	Black	Green	Blue
70	White	Black	Green	Brown
71	White	Black	Green	Orange
72	White	Black	Green	Slate
73	White	Black	Green	Violet
74	White	Black	Yellow	Blue
75	White	Black	Yellow	Brown
76	White	Black	Yellow	Orange
77	White	Black	Yellow	Slate
78	White	Black	Yellow	Violet
79	White	Black	Blue	Brown
80	White	Black	Blue	Orange
81	White	Black	Blue	Slate
82	White	Black	Blue	Violet
83	White	Black	Brown	Orange
84	White	Black	Brown	Slate
85	White	Black	Brown	Violet
86	White	Black	Orange	Slate
87	White	Black	Orange	Violet
88	White	Black	Slate	Violet
89	White	Red	Black	Green
90	White	Red	Black	Yellow
91	White	Red	Black	Blue
92	White	Red	Black	Brown
93	White	Red	Black	Orange
94	White	Red	Black	Slate
95	White	Red	Black	Violet
96	White	Red	Green	Yellow
97	White	Red	Green	Blue
98	White	Red	Green	Brown
99	White	Red	Green	Orange
100	White	Red	Green	Slate

Chart D1

No.	Color
1	Black
2	Red
3	White
4	Green
5	Yellow
6	Blue

Chart CE

No.	Color
1	Green/Yellow
2	Lt. Blue
3	Black
4	Brown

Chart D2

No.	Base Color	Stripe
1	Black	
2	White	
3	Red	
4	Green	
5	Brown	
6	Blue	
7	Orange	
8	Yellow	
9	Violet	
10	Slate	
11	Pink	
12	Tan	
13	White	Blue
14	White	Orange
15	White	Green
16	White	Brown
17	White	Slate
18	Red	Blue
19	Red	Orange
20	Red	Green
21	Red	Brown
22	Red	Slate
23	Green	Blue
24	Green	Orange
25	Green	Brown

Conductor Color Coding

Multiconductor Cables

Chart E

No.	Base Color	1st Stripe	2nd Stripe	3rd Stripe
1	Black			
2	Brown			
3	Red			
4	Orange			
5	Yellow			
6	Green			
7	Blue			
8	Violet			
9	Slate			
10	White			
11	White	Black		
12	White	Brown		
13	White	Red		
14	White	Orange		
15	White	Yellow		
16	White	Green		
17	White	Blue		
18	White	Violet		
19	White	Slate		
20	White	Black	Brown	
21	White	Black	Red	
22	White	Black	Orange	
23	White	Black	Yellow	
24	White	Black	Green	
25	White	Black	Blue	
26	White	Black	Violet	
27	White	Black	Slate	
28	White	Brown	Red	
29	White	Brown	Orange	
30	White	Brown	Yellow	
31	White	Brown	Green	
32	White	Brown	Blue	
33	White	Brown	Violet	
34	White	Brown	Slate	
35	White	Red	Orange	
36	White	Red	Yellow	
37	White	Red	Green	
38	White	Red	Blue	
39	White	Red	Violet	
40	White	Red	Slate	
41	White	Orange	Yellow	
42	White	Orange	Green	
43	White	Orange	Blue	
44	White	Orange	Violet	
45	White	Orange	Slate	
46	White	Yellow	Green	
47	White	Yellow	Blue	
48	White	Yellow	Violet	
49	White	Yellow	Slate	
50	White	Green	Blue	
51	White	Green	Violet	
52	White	Green	Slate	
53	White	Blue	Violet	
54	White	Blue	Slate	
55	White	Violet	Slate	
56	White	Black	Brown	Red
57	White	Black	Brown	Orange
58	White	Black	Brown	Yellow
59	White	Black	Brown	Green
60	White	Black	Brown	Blue
61	White	Black	Brown	Violet
62	White	Black	Brown	Slate
63	White	Black	Red	Yellow
64	White	Black	Red	Green
65	White	Black	Red	Blue
66	White	Black	Red	Violet
67	White	Black	Red	Slate
68	White	Black	Orange	Yellow
69	White	Black	Orange	Green
70	White	Black	Orange	Blue
71	White	Black	Orange	Violet
72	White	Black	Orange	Slate
73	White	Black	Yellow	Green
74	White	Black	Yellow	Blue
75	White	Black	Yellow	Violet
76	White	Black	Yellow	Slate
77	White	Black	Green	Blue
78	White	Black	Green	Violet
79	White	Black	Green	Slate
80	White	Black	Blue	Violet
81	White	Black	Blue	Slate
82	White	Black	Violet	Slate
83	White	Brown	Red	Orange
84	White	Brown	Red	Yellow
85	White	Brown	Red	Green
86	White	Brown	Red	Blue
87	White	Brown	Red	Violet
88	White	Brown	Red	Slate
89	White	Brown	Orange	Yellow
90	White	Brown	Orange	Green
91	White	Brown	Orange	Blue
92	White	Brown	Orange	Violet
93	White	Brown	Orange	Slate
94	White	Brown	Yellow	Green
95	White	Brown	Yellow	Blue
96	White	Brown	Yellow	Violet
97	White	Brown	Yellow	Slate
98	White	Brown	Green	Blue
99	White	Brown	Green	Violet
100	White	Brown	Green	Slate

Chart F

No.	Base Color	1st Stripe	2nd Stripe
1	Black		
2	White		
3	Red		
4	Green		
5	Orange		
6	Blue		
7	White	Black	
8	Red	Black	
9	Green	Black	
10	Orange	Black	
11	Blue	Black	
12	Black	White	
13	Red	White	
14	Green	White	
15	Blue	White	
16	Black	Red	
17	White	Red	
18	Orange	Red	
19	Blue	Red	
20	Red	Green	
21	Orange	Green	
22	Black	White	Red
23	White	Black	Red
24	Red	Black	White
25	Green	Black	White
26	Orange	Black	White
27	Blue	Black	White
28	Black	Red	Green
29	White	Red	Green
30	Red	Black	Green
31	Green	Black	Orange
32	Orange	Black	Green
33	Blue	White	Orange
34	Black	White	Orange
35	White	Red	Orange
36	Orange	White	Blue
37	White	Red	Blue
38	Black	White	Green
39	White	Black	Green
40	Red	White	Green
41	Green	White	Blue
42	Orange	Red	Green
43	Blue	Red	Green
44	Black	White	Blue
45	White	Black	Blue
46	Red	White	Blue
47	Green	Orange	Red
48	Orange	Red	Blue
49	Blue	Red	Orange
50	Black	Orange	Red
51	White	Black	Orange
52	Red	Orange	Black
53	Green	Red	Blue
54	Orange	Black	Blue
55	Blue	Black	Orange
56	Black	Orange	Green
57	White	Orange	Green
58	Red	Orange	Green
59	Green	Black	Blue
60	Orange	Green	Blue

Chart G

No.	Base Color	Stripe
1	White	
2	Black	
3	Red	
4	Green	
5	Yellow	
6	Blue	
7	Brown	
8	Orange	
9	Slate	
10	Violet	
11	White	Black
12	White	Brown
13	White	Red
14	White	Orange
15	White	Yellow

Conductor Color Coding

Multiconductor Cables

Chart H

No.	Base Color	Stripe	No.	Base Color	Stripe	No.	Base Color	Stripe
1	Black		8	Orange		15	White	Blue
2	White		9	Slate		16	White	Brown
3	Red		10	Violet		17	White	Violet
4	Green		11	White	Black	18	White	Slate
5	Yellow		12	White	Red	19	Black	Red
6	Blue		13	White	Green	20	Black	Yellow
7	Brown		14	White	Yellow			

Chart I

No.	Color
1	Green
2	White
3	Brown
4	Blue
5	Orange
6	Yellow

Chart I2

No.	Color	Stripe
1	Brown	
2	Blue	
3	Green	Yellow

Chart J

No.	Base Color	Stripe	No.	Base Color	Stripe
1	Black		20	Yellow	Blue
2	Red		21	Brown	Blue
3	Blue		22	Black	Orange
4	Orange		23	Red	Orange
5	Yellow		24	Blue	Orange
6	Brown		25	Yellow	Orange
7	Red	Black	26	Brown	Orange
8	Blue	Black	27	Black	Yellow
9	Orange	Black	28	Red	Yellow
10	Yellow	Black	29	Blue	Yellow
11	Brown	Black	30	Orange	Yellow
12	Black	Red	31	Brown	Yellow
13	Blue	Red	32	Black	Brown
14	Orange	Red	33	Red	Brown
15	Yellow	Red	34	Blue	Brown
16	Brown	Red	35	Orange	Brown
17	Black	Blue	36	Yellow	Brown
18	Red	Blue	37	Black	
19	Orange	Blue			

Chart J1

No.	Base Color	Stripe
1	Black #1	
2	Red #2	
3	Blue #3	
4	Orange #4	
5	Yellow #5	
6	Brown #6	
7	Red	Black #7
8	Blue	Black #8
9	Orange	Black #9
10	Yellow	Black #10
11	Brown	Black #11
12	Black	Red #12

Chart KW

No.	Color	No.	Color
1	Green/Yellow	34	Black #33
2	Black #1	35	Black #34
3	White/Black*	36	Black #35
4	Black #3	37	Black #36
5	Black #4	38	Black #37
6	Black #5	39	Black #38
7	Black #6	40	Black #39
8	Black #7	41	Black #40
9	Black #8	42	Black #41
10	Black #9	43	Black #42
11	Black #10	44	Black #43
12	Black #11	45	Black #44
13	Black #12	46	Black #45
14	Black #13	47	Black #46
15	Black #14	48	Black #47
16	Black #15	49	Black #48
17	Black #16	50	Black #49
18	Black #17	51	Black #50
19	Black #18	52	Black #51
20	Black #19	53	Black #52
21	Black #20	54	Black #53
22	Black #21	55	Black #54
23	Black #22	56	Black #55
24	Black #23	57	Black #56
25	Black #24	58	Black #57
26	Black #25	59	Black #58
27	Black #26	60	Black #59
28	Black #27	61	Black #60
29	Black #28	62	Black #61
30	Black #29	63	Black #62
31	Black #30	64	Black #63
32	Black #31	65	Black #64
33	Black #32		

*The white/black neutral conductor is used only on 18 and 16 AWG cables with conductor counts of 12 or greater.

Conductor Color Coding

Multiconductor Cables

Chart KX

No.	Color	No.	Color	No.	Color
1	Green/Yellow	23	Black #22	45	Black #44
2	Black #1	24	Black #23	46	Black #45
3	Black #2	25	Black #24	47	Black #46
4	Black #3	26	Black #25	48	Black #47
5	Black #4	27	Black #26	49	Black #48
6	Black #5	28	Black #27	50	Black #49
7	Black #6	29	Black #28	51	Black #50
8	Black #7	30	Black #29	52	Black #51
9	Black #8	31	Black #30	53	Black #52
10	Black #9	32	Black #31	54	Black #53
11	Black #10	33	Black #32	55	Black #54
12	Black #11	34	Black #33	56	Black #55
13	Black #12	35	Black #34	57	Black #56
14	Black #13	36	Black #35	58	Black #57
15	Black #14	37	Black #36	59	Black #58
16	Black #15	38	Black #37	60	Black #59
17	Black #16	39	Black #38	61	Black #60
18	Black #17	40	Black #39	62	Black #61
19	Black #18	41	Black #40	63	Black #62
20	Black #19	42	Black #41	64	Black #63
21	Black #20	43	Black #42	65	Black #64
22	Black #21	44	Black #43		

Chart LW

No.	Color	No.	Color	No.	Color
1	Green/Yellow	23	Dk. Blue #22	45	Dk. Blue #44
2	Dk. Blue #1	24	Dk. Blue #23	46	Dk. Blue #45
3	White/Blue*	25	Dk. Blue #24	47	Dk. Blue #46
4	Dk. Blue #3	26	Dk. Blue #25	48	Dk. Blue #47
5	Dk. Blue #4	27	Dk. Blue #26	49	Dk. Blue #48
6	Dk. Blue #5	28	Dk. Blue #27	50	Dk. Blue #49
7	Dk. Blue #6	29	Dk. Blue #28	51	Dk. Blue #50
8	Dk. Blue #7	30	Dk. Blue #29	52	Dk. Blue #51
9	Dk. Blue #8	31	Dk. Blue #30	53	Dk. Blue #52
10	Dk. Blue #9	32	Dk. Blue #31	54	Dk. Blue #53
11	Dk. Blue #10	33	Dk. Blue #32	55	Dk. Blue #54
12	Dk. Blue #11	34	Dk. Blue #33	56	Dk. Blue #55
13	Dk. Blue #12	35	Dk. Blue #34	57	Dk. Blue #56
14	Dk. Blue #13	36	Dk. Blue #35	58	Dk. Blue #57
15	Dk. Blue #14	37	Dk. Blue #36	59	Dk. Blue #58
16	Dk. Blue #15	38	Dk. Blue #37	60	Dk. Blue #59
17	Dk. Blue #16	39	Dk. Blue #38	61	Dk. Blue #60
18	Dk. Blue #17	40	Dk. Blue #39	62	Dk. Blue #61
19	Dk. Blue #18	41	Dk. Blue #40	63	Dk. Blue #62
20	Dk. Blue #19	42	Dk. Blue #41	64	Dk. Blue #63
21	Dk. Blue #20	43	Dk. Blue #42	65	Dk. Blue #64
22	Dk. Blue #21	44	Dk. Blue #43		

*The white/blue neutral conductor is used only on 18 and 16 AWG cables with conductor counts of 12 or greater.

Chart LX

No.	Color
1	Green/Yellow
2	Dk. Blue #1
3	Dk. Blue #2
4	Dk. Blue #3
5	Dk. Blue #4
6	Dk. Blue #5
7	Dk. Blue #6
8	Dk. Blue #7
9	Dk. Blue #8
10	Dk. Blue #9
11	Dk. Blue #10

Chart O

No.	Color	No.	Color
1	Black	9	Violet
2	White	10	Slate
3	Red	11	Pink
4	Green	12	Tan
5	Brown	13	Black/White
6	Blue	14	Red/White
7	Orange	15	Green/White
8	Yellow		

Conductor Color Coding

Chart P

No.	Color
1	White
2	Black
3	Red
4	Green
5	Blue
6	Brown
7	Yellow
8	Orange

Chart R

No.	Base Color	1st Stripe	2nd Stripe
1	Black		
2	Red		
3	Green		
4	White		
5	Brown		
6	Blue		
7	Orange		
8	Yellow		
9	Violet		
10	Slate		
11	Pink		
12	Tan		
13	Red	Green	
14	Red	Yellow	
15	Red	Black	
16	White	Black	
17	White	Red	
18	White	Green	
19	White	Yellow	
20	White	Blue	
21	White	Brown	
22	White	Orange	
23	White	Slate	
24	White	Violet	
25	White	Black	Red
26	White	Black	Green
27	White	Black	Yellow
28	White	Black	Blue
29	White	Black	Brown
30	White	Black	Orange

Chart RW

No.	Color	No.	Color	No.	Color
1	Green/Yellow	23	Red #22	45	Red #44
2	Red #1	24	Red #23	46	Red #45
3	White/Red*	25	Red #24	47	Red #46
4	Red #3	26	Red #25	48	Red #47
5	Red #4	27	Red #26	49	Red #48
6	Red #5	28	Red #27	50	Red #49
7	Red #6	29	Red #28	51	Red #50
8	Red #7	30	Red #29	52	Red #51
9	Red #8	31	Red #30	53	Red #52
10	Red #9	32	Red #31	54	Red #53
11	Red #10	33	Red #32	55	Red #54
12	Red #11	34	Red #33	56	Red #55
13	Red #12	35	Red #34	57	Red #56
14	Red #13	36	Red #35	58	Red #57
15	Red #14	37	Red #36	59	Red #58
16	Red #15	38	Red #37	60	Red #59
17	Red #16	39	Red #38	61	Red #60
18	Red #17	40	Red #39	62	Red #61
19	Red #18	41	Red #40	63	Red #62
20	Red #19	42	Red #41	64	Red #63
21	Red #20	43	Red #42	65	Red #64
22	Red #21	44	Red #43		

*The white/red neutral conductor is used only on 18 and 16 AWG cables with conductor counts of 12 or greater.

Chart RX

1	Green/Yellow
2	Red #1
3	Red #2
4	Red #3
5	Red #4
6	Red #5
7	Red #6
8	Red #7
9	Red #8
10	Red #9
11	Red #10
12	Red #11

Conductor Color Coding

Hook-Up Wire

Chart Z1	
No.	**Color**
1	White
2	Black
3	Red
4	Green
5	Yellow
6	Blue
7	Brown
8	Orange
9	Slate
10	Violet
11	White/Black
12	White/Red
13	White/Green
14	White/Yellow
15	White/Blue
16	White/Brown
17	White/Orange
18	White/Slate
19	White/Violet
28	Green/Yellow
29	Yellow/Green
30	Pink

Chart Z2	
No.	**Colors**
0	Black
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Slate
9	White
45	Yellow/Green
54	Green/Yellow
90	White/Black
91	White/Brown
92	White/Red
93	White/Orange
94	White/Yellow
95	White/Green
96	White/Blue
97	White/Violet
98	White/Slate
P	Pink
T	Tan
X	Clear

Properties of Common Insulation and Jacket Materials

Plastics									
Property	**Low-Density PE**	**High-Density PE**	**Cellular PE**	**Nylon**	**PP**	**Cellular PP**	**PVC**	**Plenum PVC**	**PUR**
Abrasion Resistance	G	E	F	E	F–G	F–G	F–G	F–G	O
Acid Resistance	G–E	E	G–E	P–F	E	E	G–E	G	F
Alcohol Resistance	E	E	E	P	E	E	P–F	G	P–G
Aliphatic Hydrocarbons Resistance (Gasoline, Kerosene, etc.)	G–E	G–E	G	G	P–F	P	P	P	P–G
Alkali Resistance	G–E	E	G–E	E	E	E	G–E	G	F
Aromatic Hydrocarbons Resistance (Benzol, Toluol, etc.)	P	P	P	G	P–F	P	P–F	P–F	P–G
Electrical Properties	E	E	E	P	E	E	F–G	G	P
Flame Resistance	P	P	P	P	P	P	E	E	P
Halogenated Hydrocarbons Resistance (Degreaser Solvents)	G	G	G	G	P	P	P–F	P–F	P–G
Heat Resistance	G	E	G	E	E	E	G–E	G–E	G
Low-Temperature Flexibility	E	E	E	G	P	P	P–G	P–G	G
Nuclear Radiation Resistance	G–E	G–E	G	F–G	F	F	F	F	G
Oil Resistance	G–E	G–E	G	E	F	F	F	F	E
Oxidation Resistance	E	E	E	E	E	E	E	E	E
Ozone Resistance	E	E	E	E	E	E	E	E	E
Underground Burial	G	E	N/A	P	N/A	N/A	P–G	P	G
Water Resistance	E	E	E	P–F	E	E	F–G	F	P–G
Weather, Sun Resistance	E	E	E	E	E	E	G–E	G	G

Ratings based on average performance of general-purpose compounds. Specific properties can usually be improved by selective compounding.

P Poor
F Fair
G Good
E Excellent
O Outstanding

Fluoropolymers						
Property	**FEP**	**PTFE**	**ETFE**	**ECTFE**	**PVDF**	**TPE**
Abrasion Resistance	E	O	E	E	E	F–G
Acid Resistance	E	E	E	E	G–E	G
Alcohol Resistance	E	E	E	E	E	G
Aliphatic Hydrocarbons Resistance (Gasoline, Kerosene, etc.)	E	E	E	E	E	P
Alkali Resistance	E	E	E	E	E	G–E
Aromatic Hydrocarbons Resistance (Benzol, Toluol, etc.)	E	E	E	E	G–E	P
Electrical Properties	E	E	E	E	G–E	E
Flame Resistance	O	E	G	E–O	E	F–G
Halogenated Hydrocarbons Resistance (Degreaser Solvents)	E	E	E	E	G	
Heat Resistance	O	O	E	O	O	E
Low-Temperature Flexibility	O	O	E	O	F	E
Nuclear Radiation Resistance	P–G	P	E	E	E	G
Oil Resistance	O	E–O	E	O	E	G
Oxidation Resistance	O	O	E	O	O	E
Ozone Resistance	E	O	E	E	E	E
Underground Burial	E	E	E	E	E	P
Water Resistance	E	E	E	E	E	G–E
Weather, Sun Resistance	O	O	E	O	E–O	E

Ratings based on average performance of general-purpose compounds. Specific properties can usually be improved by selective compounding.

P Poor
F Fair
G Good
E Excellent
O Outstanding

Properties of Common Insulation and Jacket Materials

Rubber				
Property	**Rubber**	**Neoprene**	**EPDM**	**Silicone**
Abrasion Resistance	E	G–E	G	P
Acid Resistance	F–G	G	G–E	F–G
Alcohol Resistance	G	F	P	G
Aliphatic Hydrocarbons Resistance (Gasoline, Kerosene, etc.)	P	G	P	P–F
Alkali Resistance	F–G	G	G–E	F–G
Aromatic Hydrocarbons Resistance (Benzol, Toluol, etc.)	P	P-F	F	P
Electrical Properties	G	P	E	G
Flame Resistance	P	G	P	F–G
Halogenated Hydrocarbons Resistance (Degreaser Solvents)	P	P	P	P–G
Heat Resistance	F	G	E	O
Low-Temperature Flexibility	G	F–G	G- E	O
Nuclear Radiation Resistance	F	F–G	G	E
Oil Resistance	P	G	P	F–G
Oxidation Resistance	F	G	E	E
Ozone Resistance	P	G	E	O
Water Resistance	G	E	G–E	G-E
Weather, Sun Resistance	F	G	E	O

Ratings based on average performance of general-purpose compounds. Specific properties can usually be improved by selective compounding.

P Poor
F Fair
G Good
E Excellent
O Outstanding

Temperature Ranges of Insulation and Jacket Materials				
Material	**Normal Low**	**Normal High**	**Special Low**	**Special High**
ECTFE	-70°C	150°C	—	—
EPDM	-55°C	105°C	—	150°C
ETFE	-65°C	150°C	—	—
FEP	-70°C	200°C	—	—
Neoprene	-20°C	60°C	-55°C	90°C
PE	-60°C	80°C	—	—
Plenum PVC	-20°C	75°C	—	—
PP	-40°C	105°C	—	—
PTFE	-70°C	260°C	—	—
PVC	-20°C	80°C	-55°C	105°C
PVDF	-20°C	125°C	-40°C	150°/150°C
Rubber	-30°C	60°C	-55°C	75°C
Silicone	-80°C	150°C	—	200°C
TPE	-40°C	105°C	-50°C	125°C

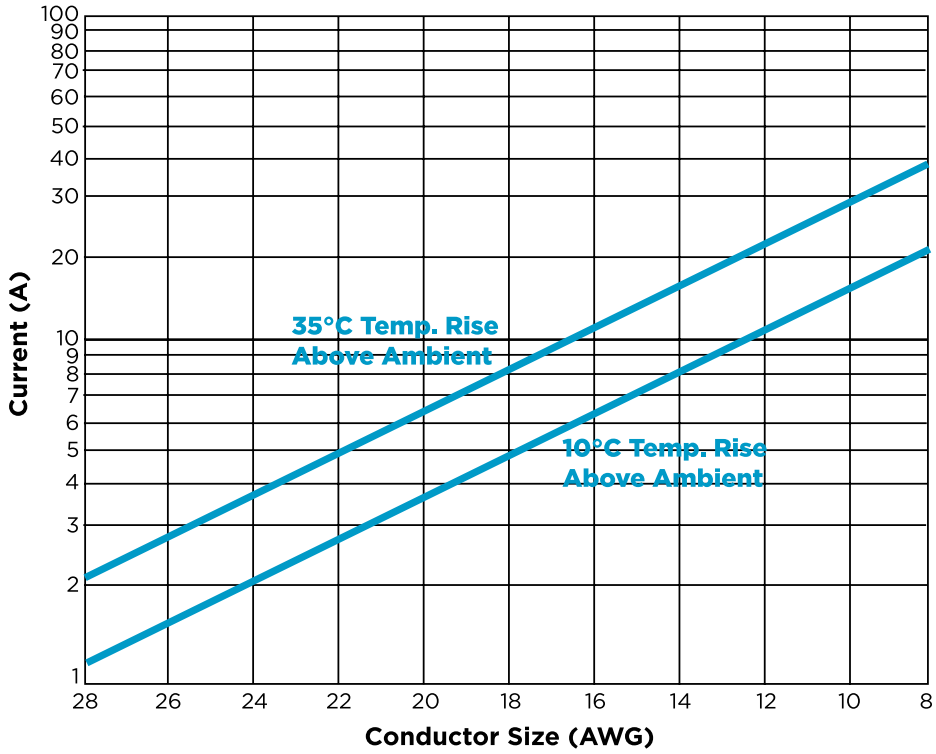
Current Ratings for Alpha Cables

The maximum continuous current rating for a cable is limited by conductor size, number of conductors contained within the cable, maximum temperature rating of the cable, and environmental conditions such as ambient temperature and air flow. To use the current capacity chart, first determine conductor size, temperature rating, and number of conductors from the applicable product description for the cable of interest.

Next, find the current value on the chart for the proper temperature rating and conductor size. To calculate the maximum current rating/conductor, multiply the chart value by the appropriate conductor factor.

The chart assumes cable is surrounded by still air at an ambient temperature of 25°C. Current values are in RMS amperes and are valid for copper conductors only. For conditions other than specified, contact Alpha Technical Support at 1-800-52-ALPHA.

Note: Current ratings are intended as general guidelines for low-power electronic communications and control applications. Current ratings for power applications generally are set by regulatory agencies such as UL, CSA, NEC, and others.



Current Ratings	
No. of Conductors*	**Factor**
1	1.6
2 to 3	1.0
4 to 5	0.8
6 to 15	0.7
16 to 30	0.5

*Do not count shields unless used as conductor.

Signal Interference

When a particular installation is prone to EMI/RFI/ESI interference from either internal or external sources, some form of cable shielding will be required. The types of interference—or noise—cables are exposed to can determine the type of cable shielding required. There are basically four types of noise which will affect the wiring or cabling of an instrument or control circuit: static, magnetic, common mode, and crosstalk noise.

Static Noise

This refers to signal distortion due to the electrical field radiated by a voltage source, which has coupled into the signal-bearing circuit. Simple shielding of the full circuit is a typical means of mitigating this electrostatic type of interference. Foil shields, which offer 100% shielding efficiency, have proven most effective against this type of interference. It is critical that the shield be continued to, and completely encompass, the transmitting and receiving ends of the circuit if high levels of noise reduction are required. Effective grounding of the shield is also required; "floating" or non-grounded shields only partially reduce the effects of noise.

Magnetic Noise

Magnetic fields, radiated by power wiring found in large AC motors, transformers and knife switches, can set up current flows in opposition to the instrument circuit field. The result is the superimposing of a noise current on the signal current. The simplest and best means of mitigating the effects of such magnetic interference is by simple twisting of the cable elements.

Common Mode Noise

Common mode interference is the result of currents flowing between different potential grounds located at various points within a system. Receivers with very high common mode rejection ratios minimize this type of interference.

Crosstalk

This refers to the superimposing of either pulsed DC or standard AC signals carried on one wire pair to another wire pair in close proximity. Although pair twist tends to reduce crosstalk levels, the most effective means of mitigation is individual cable pair shielding coupled to pair twist.

Noise Levels

Once it has been determined that noise currents are going to pose a system problem, it becomes necessary to determine if the noise is of a low, medium or high level. The table below gives general guidelines as to the areas which are subject to these generalized noise levels:

Noise Level Chart

Noise Level Sources	Noise Sources	Typical Locations
High	Electrolytic processes Large motors, generators, transformers Induction heating Relay controls Power Lines	Heavy processing plants such as steel mills and foundries
Medium	Medium-size motors, generators, transformers Relay controls	Average manufacturing plants
Low	Small motors, generators, transformers	Storage areas, labs, offices and light assembly operations

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Shielding

Shielding Performance

The shielding of electronic interconnect cables can play a critical role in overall system performance. System configuration, type of signals transmitted and proximity to noise generating sources all must be considered. These factors plus the type of interference, whether electromagnetic, electrostatic discharge (ESD) or radio frequency, will determine the necessity and type of shielding required. Alpha's Xtra-Guard cables are available in two shielded constructions providing protection for the majority of installation needs.

Shield Coverage: Braided Shield

The effectiveness of a braided shield depends upon the percent coverage afforded by the shield. Leakage in a braided shield is due to air spaces which exist between the weave. The following equation can be used to determine the percent coverage of a braided shield.

$$\text{Tan } a = \frac{2\pi\,(D+2d)P}{C}$$

where

C = Number of carriers
D = Diameter under shield, inches
d = Diameter of one strand, inches
P = Picks per inch
a = Shield angle, degrees
K = Percent coverage, where

$$K = (2F - F^2) \times 100$$

and

$$F = \frac{NdP}{\text{Sin } a}$$

N = Number of strands per carrier

Shield Resistance

The D.C. resistance for braided shields can be calculated using the following equation:

$$R = \frac{dR}{\text{Cos } a\,(NC)}$$

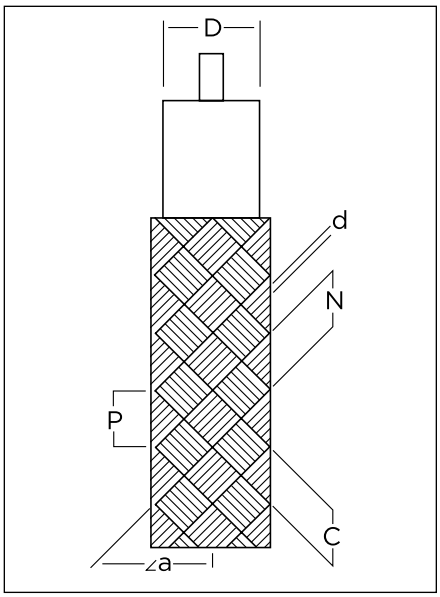
where

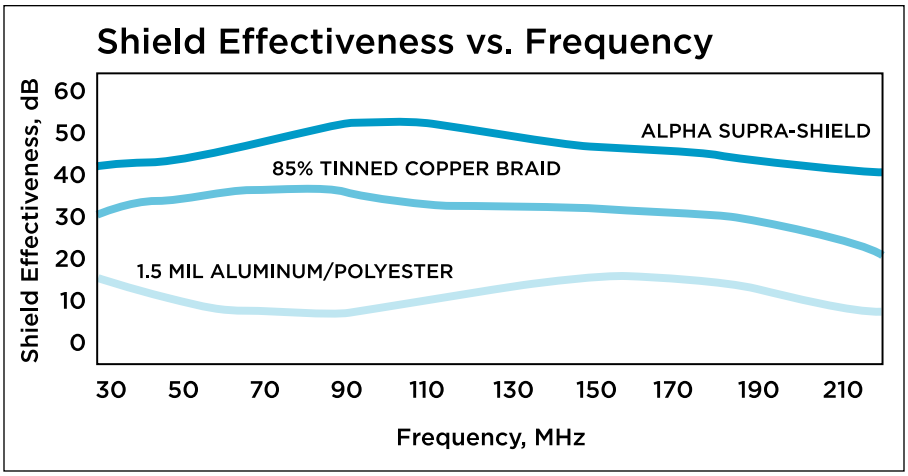
R = D.C. resistance, ohms/ unit length

dR = D.C. resistance of 1 strand end, ohms/unit length

N = Number of strand ends in one carrier

C = Number of carriers



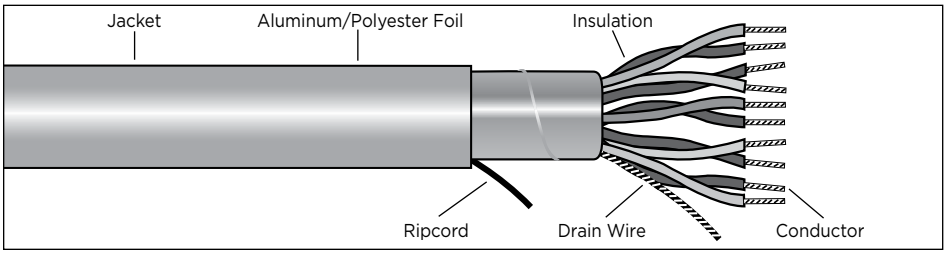


Xtra-Guard Shielding Options

Alpha Aluminum/Polyester Foil Shielding

- **Lightweight shielding**
- **Low cost**
- **Ease of termination with use of stranded tinned copper drain wire**
- **High-frequency interference**
- **100% coverage over the core of cable conductors**

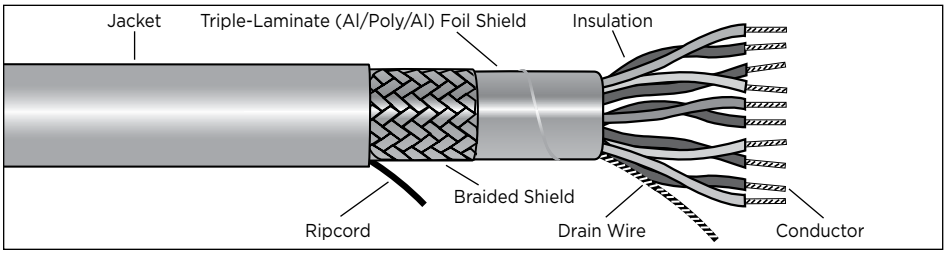
Alpha aluminum/polyester foil shielding consists of an aluminum polyester tape, foil side facing inward, with a 25% overlap and in contact with a stranded, tinned copper drain wire equal in size to insulated cable conductors.



Alpha Supra-Shield® (Foil/Braid) Shielding

- **Ease of termination with use of stranded tinned copper drain wire**
- **High-frequency interference**
- **High physical strength**

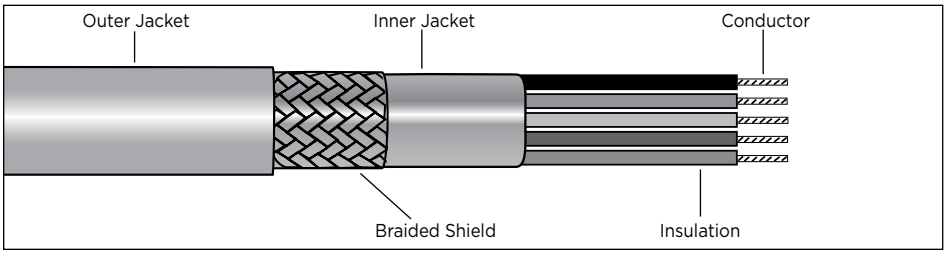
Alpha Supra-Shield® (foil/braid) shielding system consists of a unique triple-laminate tape. An aluminum/polyester/aluminum tape is bonded in one layer with a 25% overlap and in contact with a stranded tinned copper drain wire equal in size to the insulated cable conductors. A 70% coverage tinned copper braid shield is applied overall.



Xtra-Guard Flexible Cable Braid Shielding

- **EMI/RFI resistance in power, control and data applications**
- **Continuous shield continuity in flexing applications**
- **High physical strength**

Xtra-Guard flexible cables have specific shielding requirements resulting from the stresses of motion and flexing. Where foil shields will tear and lose continuity, Xtra-Guard flexible cables use a flexible, 85% coverage, tinned copper braid with a double jacket isolating the shield from the cable's inner core.

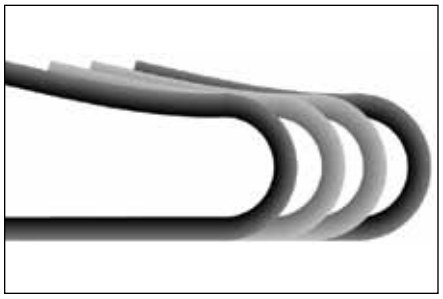


Common Flexing Applications

In applying a cable to a flexing application, you must consider the four types of flexing that may be encounter: Rolling Flex, Bending or Tic-Toc Flex, Torsional Flex, and Variable/Random Flex.

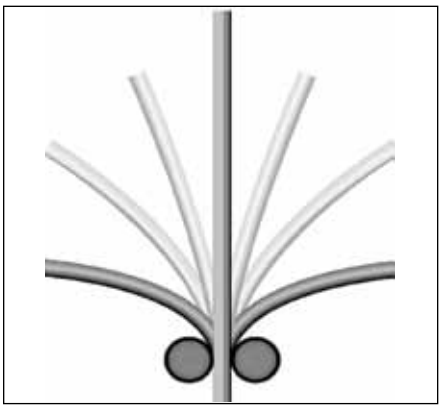
Rolling Flex

Rolling flex applications include linear motion associated with cable track systems or single axis slide apparatus. The most common type of rolling flex includes cable track systems where the cables are "managed" within an enclosed rolling motion carrier.



Bending Flex

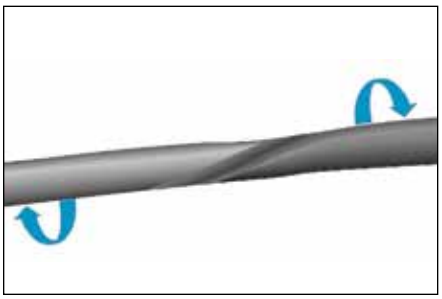
Bending or tick toc flex occurs when a cable is subjected to repetitive motion at a fixed point in the axis of the cable. The



bending moment of the cable is subjected to stress and fatigue from lateral motion in these applications.

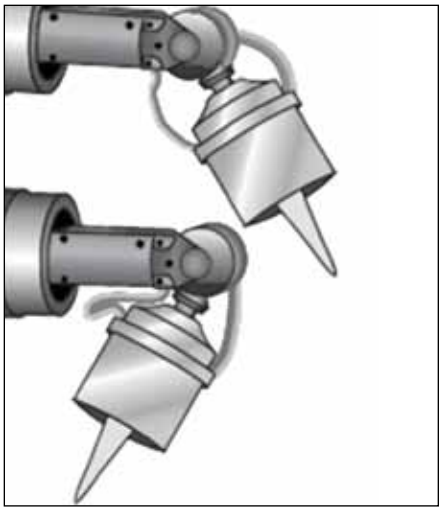
Torsional Flex

Torsional flexing applications occur when the cable is subjected to twisting forces, usually in a circular motion around the central axis of the cable. Robotic and pick/place apparatus are the most common applications subjecting cables to torsional stress.



Variable Flex

Variable flexing applications are random applications, which may occur in any number of flexing environments. Examples include articulation found in robotics, automated equipment, and hand-held devices.



Alpha Wire offers flexible cables products designed specifically for each of these types of flexure. In addition, Alpha's engineering staff can assist the user in the design of application specific cables to suit specific needs, or in the specification of an existing Alpha Wire product. A close examination of the flex requirements is an important first step in selecting product.

Technical Data

Cable Flex Test Capabilities Matrix

Flex Test Type	Applicable Standard	Travel Speed Or Cyclic Rate	Length Of Travel	Test Specimen	Bend Radius Or Mandrel Diameter	Sample Population	Acceptance Criteria
Rolling	Cable Track Alpha Rolling Flex	12.5 ft/s; 17 Cycles Per Minute	14 ft	28 ft	4.5" to 6.69"	1 Test Specimen Per Construction	Cycles to Failure
Bending/ Tic-Toc	MIL-C-13777G Section 3.7.2 and Section 4.5.4.1	30 Cycles Per Minute	42"@ ±90 degrees	42"	3/8" to 5/8"	3 Test Specimens Per Construction	Pass/Fail @ 1000 Cycles
Torsional	MIL-C-13777G Section 3.7.2 and Section 4.5.4.1	30 Cycles Per Minute	22"@ ±90 degrees	66"	3", 4.5", 6", 9"	3 Test Specimens Per Construction	Pass/Fail @ 3000 Cycles

Common Flexing Applications

Cable Family	Part No./Cable Description	Shield	Bend Radius	Cable Diameter	Bend Ratio: Radius/ Diameter	Failure	Cycle Count	Test Status
Xtra-Guard Continuous Flex Control	**85025** 20 AWG x 25 Conductors	No	6.69	0.77	8.69:1	No	13,800,000	Complete
Xtra•Guard Continuous Flex Control	**85807CY** 18AWG x 7 Conductors	Yes	6.69	0.61	10.97:1	No	13,800,000	Test Complete
Xtra-Guard Continuous Flex Control	**85618** 16AWG x 18 Conductors	No	6.69	0.78	8.58:1	No	13,800,000	Test Complete
Xtra-Guard Continuous Flex Control	**85404CY** 14AWG x 4 Conductors	Yes	6.69	0.64	10.45:1	No	13,800,000	Test Complete
Xtra-Guard Continuous Flex Data	**86714CY** 22 AWG x 7 Pairs	Yes	4.5	0.51	8.82:1	No	14,500,000	Complete
Xtra-Guard Continuous Flex Data	**86325CY** 22 AWG x 25 Conductors	Yes	4.5	0.41	10.98:1	No	6,700,000	Complete
Series F	**F16017RW** 16 AWG x 17 Conductors	No	6.69	0.67	9.99:1	No	5,698,000	Complete
Series F	**F16025RW** 16 AWG x 25 Conductors	No	6.69	0.79	8.47:1	No	5,698,000	Complete
Series F	**F16022RW** 16 AWG x 22 Conductors	No	6.69	0.73	9.16:1	No	5,698,000	Complete
Series F	**F16012RW** 16 AWG x 12 Conductors	No	4.5	0.58	7.76:1	No	7,000,000	Complete
Series F	**F16033RW** 16 AWG x 33 Conductors	No	6.69	0.89	7.52:1	No	7,000,000	Complete
Series F	**F16017RW** 16 AWG x 17 Conductors	No	6.69	0.67	9.99:1	No	3,000,000	Complete
Series F	**F16033RW** 16 AWG x 33 Conductors	No	6.69	0.89	7.52:1	No	3,000,000	Complete
Series F	**F16022RW** 16 AWG x 22 Conductors	No	6.69	0.73	9.16:1	No	3,000,000	3,000,000
Series F	**F08004KW** 8 AWG x 4 Conductors	No	6.69	0.74	9.04:1	No	7,500,000	Track Failed
Series M	**M16122RW** 16 AWG x 22 Conductors	No	4.5	0.58	7.76:1	No	1,594,000	Complete
Series M	**M16133RW** 16 AWG x 33 Conductors	No	4.5	0.89	5.06:1	Yes	1,594,000	Complete

Agency Approvals

UL/NEC • cUL/CEC • CSA/CEC Classification

UL Standard 444/CSA C22.2: Multi-National Harmonized Communication Cable Standards CSA C22.2 No. 214-94 and UL 444.

UL (Underwriters Laboratories Inc.): Develops standards and test procedures for products, materials, components, assemblies, tool, and equipment. It mainly deals with product safety in the United States.

NEC (National Electrical Code): A United States standard for the safe installation of electrical wiring equipment.

AWM (Appliance Wiring Material): Intended for the internal wiring of factory-assembled products.

CSA (Canadian Standards Association International): Tests products for compliant to national and international standards and issues certification marks for qualified products

CEC (Canadian Electrical Code): A standard published by the CSA that pertains to the installation and maintenance of electrical equipment in Canada.

cUL: A notation indicating the UL has listed the product under the applicable CSA standard.

cRU: A notation indicating the UL has recognized the product under the applicable CSA standard.

CE (Conformité Européenne): A European Economic Community approval indicating that the product complies with LVD/73/23.

NEC Article 725 Types CL2, CL3, PLTC/CL3, (Class 2 & 3 cables)

Plenum	Riser	Commercial	Residential
CL2P	CL2R	CL2	CL2X*
CL3P	CL3R	CL3	CL3X*
(none)	(none)	PLTC*	(none)

NEC Article 760 Type FPL (Power-Limited, Fire Protective Signaling Circuit Cable)

Plenum	Riser	Commercial	Residential
FPLP	FPLR	FPL	(none)

NEC Article 800 Type CM (Communications)

Plenum	Riser	Commercial	Residential
CMP	CMR	CMG, CM	CMX*

NEC Article 336 Type TC (Tray Cable)

NEC Article 690 Type PV (Photovoltaic Wire)

NEC Article 820 Type CATV (Community Antenna Television and Radio Distribution System)

Plenum	Riser	Commercial	Residential
CATVP	CATVR	CATV	CATVX**

*Cable diameter must be less than 0.250" (6.35 mm)

**Cable diameter must be less than 0.375" (9.53 mm)

CSA International

CSA is a nonprofit, independent organization which operates a nationally recognized testing laboratory (NRTL) for electrical and electronic materials and equipment. Alpha Wire Company offers the following types of Canadian CSA certifications on a wide variety of both wire and cable products.

AWM (Appliance Wiring Material) is manufactured in accordance with CSA Standard C22.2 No. 210. These products are intended for the internal wiring of electrical and electronic equipment and interconnecting wiring between equipment. All of these wires and cables must pass one of the following flame tests in order to comply with CSA Certification requirements.

FT1 Vertical Flame Test per CSA C22.2 No. 3 specifies that finished cable shall not propagate a flame or continue to burn for more than one minute after five 15-second applications of the test flame. There is an interval of 15 seconds between flame applications.

FT4 Vertical Flame Test per CSA C22.2 No. 3 for cables in cable trays. This test is similar to, but more severe than, the UL Standard 1581 Vertical Tray flame test. The UL 1581 has its burner at 0° from the horizontal while the FT4 has its burner mounted at 20° from the horizontal with its burner parts facing up. The allowable char length is only 1.5 m (58"), while UL 1581 allows damage up to a maximum of 8 ft (2.4 m).

Agency Approvals

NEC Article 800 (Communications) UL/NEC – CSA/CEC Comparable Flame Test Designations

CMP CSA FT6/UL910 Horizontal Flame and Smoke Test 300,000 BTU

Horizontal flame and smoke test in accordance with ANSI/NFPA Standard 262-1985 (UL 910). The maximum flame spread shall be 1.50 m (58”). The smoke density shall be 0.5 at peak optical density and 0.15 at maximum average optical density. This test does not investigate toxicity, combustion, or decomposition.

CMR UL 1666 Vertical Flame Test 527,500 BTU

A large scale fire test for determining values of flame propagation height for electrical and optical-fiber cables that are intended for installation vertically in shafts. The flame propagation height is not to equal or exceed 12 ft (3.6 m). The temperature of any thermocouple at the 12 ft (3.5 m) height is not to exceed 850°F (454°C). The purpose of the test is to determine whether the flame propagation characteristics of these “riser” cables are in accordance with the NEC. This test does not investigate toxicity, combustion or decomposition.

CMG CSA FT4 Vertical Flame Test 70,000 BTU

This test is more stringent than the UL 1685/UL 1581 (Vertical Tray) in so much as the cable samples must be greater than 13 mm in diameter, if not the cables are grouped in bundles of at least three to obtain an overall group diameter of 13 mm. In addition, the burner is set at a 20° angle from the horizon with the burner ports facing up. This test has a maximum char height of 1.5 m (59”) measured from the lower edge of the burner.

CM UL 1581 Section 1160 (Vertical Tray) Flame Test 2500 BTU

This test consist of an essentially flat metal plate burner mounted 0 degrees from the horizon. This test does not distinguish any specific cable size or diameter. This test has a maximum flame and char height of 78” measured from the burner.

CMX CSA FT-1/UL 1581 Section 1080 (VW-1) Vertical Flame Test 1700 BTU

A vertical finished cable shall not flame longer than 60 seconds following any of five 15 second applications of the specified nominal 125-mm premixed 500-W test flame (1700 BTU/hr.), the period between applications being (1) 15 seconds if the cable flaming ceases within 15 seconds or less time or (2) the duration of the cable flaming if the cable flame persists longer than 15 seconds. The cable shall not ignite combustible materials in the vicinity or damage more than 25% of the indicator flag during, between, or after the five applications of the test flame. The CSA FT-1 test is similar; however, it refers to CSA C22.2 No. 3, Paragraph 4.11.1 for flame test procedures.

The descriptions for the above flame tests are paraphrased from the applicable documents. For specific information, please consult the appropriate agency documentation.

Military Specifications

Military Specifications	
MIL-DTL-17	RG cables-polyethylene and PTFE cores.
MIL-W-76	General purpose hook-up wire for internal wiring of electronic equipment. Temperature range -40°C to +80°C vinyl, Types LW, MH, HW for service up to 2500 volts, polyethylene Type HF to 1000 volts.
MIL-W-3861	Copper conductors (uninsulated). Solid, bunches, concentric and rope constructions. Replaced by QQ-W-343 then superseded by A-A-59551.
MIL-DTL-16878	Military specification, covering unshielded wire for hook-up and lead wiring of electronic and electrical components and equipment. Formerly MIL-DTL-16878.
MIL-DTL-22759	PTFE insulated hook-up wire MIL-DTL-22759.
MIL-DTL-27500	600 volt aircraft wire with PTFE insulation. Formerly MIL-DTL-27500.
QQ-W-343	Copper conductors (uninsulated). Solid, bunches, concentric and rope constructions. Superseded by A-A-59551.
AMS-DTL-23053	General specification for heat shrinkable insulation sleeving. Formerly MIL-DTL-23053.
MIL-L-631	Non-rigid synthetic resin composition electrical insulation. May be in the form of film, sheets, tapes, or tubing.
MIL-I-3190	General specification for coated, flexible insulation sleeving.
A-A 59551	Wire, electrical, copper (uninsulated).
A-A 59569	Braid, wire (copper, tin-coated, silver-plated, or nickel coated, tubular or flat).
A-A 52080	Tape, lacing and tying, nylon.
A-A 52081	Tape, lacing and tying, polyester.
A-A-52083	Tape, lacing and tying, glass.
A-A-52084	Tape, lacing and tying, aramid.
A-A-59602	Tube, spiral wrap, polyethylene, PTFE and polyamide.
A-A-59301	Sleeving, textile, braided, synthetic polymer, -55°C to +105°C.
MIL-DTL-713	Twine, fibrous: impregnated, lacing and tying.
FED-STD-191	Textile test methods.
MIL-Y-1140	Yarn, cord, sleeving, cloth and tape-glass.
NEMA HP-3	PTFE insulated hook-up wire.

Military Cross Reference Index to Alpha Tubing and Sleeving Products

Heat-Shink Tubing	
MIL-SPEC	**Alpha Tubing Family**
AMS-DTL-23053/1, CL 1,2	FIT- 600, ST-700
AMS-DTL-23053/2, CL 2, CL2 Except Longitudinal Shrinkage	Special Order
AMS-DTL-23053/4, CL 1, 2 & 3	FIT-300, FIT-750, FIT-321, ST-300, ST-302, ST-303
AMS-DTL-23053/5, CL , 2 & 3, CL1 Overexpanded	FIT-221, FIT-221B, FIT-221V, FIT-421, FIT-321V (except dimensions), FIT-421, ST-421
AMS-DTL-23053/6, CL 1 & 2	FIT-295
AMS-DTL-23053/8	FIT-350
AMS-DTL-23053/11, CL 1	FIT-400
AMS-DTL-23053/12, CL 3	FIT-500
AMS-DTL-23053/12, CL 5	Special Order
AMS-DTL-23053/13	FIT-650, ST-650
AMS-DTL-23053/18, CL	FIT-CLEAR
AMS-DTL-23053/15, CL1 & 2	SPC, SPCM

Extruded Tubing	
MIL-SPEC	**Alpha Tubing Family**
MIL-I-631D	PVC-105

Coated-Fiberglass Sleeving	
MIL-SPEC	**Alpha Sleeving Family**
MIL-I-3190/3 Type C	AF-155
MIL-I-3190/2 Type B	PIF-130
MIL-I-3190/2 Type B	MPF-130
MIL-I-3190/6 Type D	PIF-200
MIL-Y-1140	PIF-240

Spirally Cut Tubing	
MIL-SPEC	**Part No.**
A-A-59602, Type 1	SW-1 to SW-6
A-A-59602, Type 2	SW-20 to SW-25
A-A-59602, Type 3	SW-30 to SW-35
A-A-59602, Type 1	SW-40 to SW-45

Military Specifications

Military Cross Reference Index to Alpha Tubing and Sleeving Products

Expandable Self-Fitting Sleeving	
MIL-SPEC	**Alpha Sleeving Family**
A-A-59301	XS-200N

Lacing Cords and Tapes	
MIL-SPEC	**Part No.**
A-A-52080 Type 3, Finish C, FED STD 191	LC-132
A-A-52080 Type 4, Finish B, FED STD 191	LC-134
A-A-52080 Type 3, Finish B, FED STD 191	LC-136
A-A-52080 Type 3, Finish C, FED STD 191	LC-140
A-A-52080 Type 3, Finish E, FED STD 191	LC-143
A-A-52080 Type 5, Finish A, FED STD 191	801530
A-A-52080 Type 5, Finish B, FED STD 191	801536
A-A-52080 Type 4, Finish B, FED STD 191	802534
A-A-52080 Type 2, Finish C, FED STD 191	805032
A-A-52080 Type 3, Finish B, FED STD 191	805036
A-A-52080 Type 3, Finish C, FED STD 191	805040
A-A-52081 Type 3, Finish B, FED STD 191	LC-162
A-A-52081 Type 5, Finish C, FED STD 191	801566
A-A-52081 Type 4, Finish C, FED STD 191	802566
A-A-52081 Type 3, Finish C, FED STD 191	805058
A-A-52081 Type 3, Finish A, FED STD 191	805060
A-A-52081 Type 3, Finish B, FED STD 191	805062
A-A-52081 Type 3, Finish C, FED STD 191	805066
A-A-52083 Type 3, Finish G, FED STD 191	807510

FIT Heat-Shrink Tubing

Competitive Cross Reference

Competitive Cross Reference						
FIT Series	**Sumitomo Electric**	**Tyco Electronics/ Raychem**	**3M**	**DSG-Canusa**	**Panduit**	**Insultab**
105	F2	—	—	—	HSTTP	HS-105
221	A2, B2	RNF-100	FP-301	CPX 100	HSTT, HSTTM	HS-101
221B	A2, B2	RNF-100	FP-301	CPX 100	HSTT	HS-101
221V	B2	VERSAFIT 2:1	FP-301VW	CPX 876	HSTTV	HS-101
260	B2(Y/G)	DCPT	SFTW-202 GYS	CPX 201	—	—
295	BB	CRN	SR-350	CHM 140	—	HS-101SR
300	W5DL	SCL	MW	—	—	HS-101MV
321	W3B2	DWP-125	EPS-300	CPA 100	HSTTA	HS-101MV3:1
321V	B2(3X)	RNF-3000, VERSAFIT 3X	SFTW-303	CPX 300	—	HS-101-3X
350	K	RW-125	Kynar	DERAY KY 175	—	HSK-600
400	—	—	—	—	—	—
421	W3B2(4X)	RP-4800	EPS-400	—	SH277	HS-101MV4:1
500	—	—	—	—	—	—
600	R10	NT	NST	—	—	HSN-100
621	BCH(6X)	HRNF	—	—	—	—
650	FE3	VITON	VTN200	—	—	HS-VTN
700	—	SST	ITCS, HDT	CFW-D	—	—
750	O2B2	TAT-125	EPS-200	CPA 100	—	HS-101MV2:1
CLEAR	K2	RW-175	Kynar	DERAY KYF 190	—	—
CAP	—	101 A0xx	—	—	—	—
CRIMP	—	D406	MH18, MH14, MH10	—	—	—
FABRIC	—	HFT5000	—	—	—	—
FLEX	—	SRFR	—	—	—	—
SLV	—	SO1xx-R/ SO2-xx-R	—	—	—	—

Xtra-Guard Flex Cables

Competitive Cross Reference

Lapp to Alpha							
Lapp	**Alpha**	**Lapp**	**Alpha**	**Lapp**	**Alpha**	**Lapp**	**Alpha**
28110	87007	601604CY	65604CY	602204TP	86704CY	602625	86125
28160	87304	601605	65605	602205	86305	602625S	86125CY
28171	87403	601605CY	65605CY	602205TP	86705CY	602802	86002
28172	87404	601607	65607	602206TP	86706CY	602802S	86002CY
28174	87407	601607CY	65607CY	602207	86307	602803	86003
28181	87503	601609	65609	602208TP	86708CY	602803S	86003CY
28182	87504	601612	65612	602210TP	86710CY	602804	86004
28184	87603	601612CY	65612CY	602214TP	86714CY	602804S	86004CY
600204	65304	601618	65618	602225	86325	602805	86005
600204CY	65304CY	601618CY	65618CY	602401TP	86601CY	602805S	86005CY
600205	65305	601625	65625	602402	86202	602807	86007
600404	65504	601625CY	65625CY	602402S	86202CY	602807S	86007CY
600405	65505	601641	65641	602402TP	86602CY	602812S	86012CY
600604	65704	601650	65650	602403	86203	602818S	86018CY
600604CY	65704CY	601802	65802	602403S	86203CY	602825	86025
600605	65705	601803	65803	602403TP	86603CY	602825S	86025CY
600804	65904	601803CY	65803CY	602404	86204	811442	87003
600804CY	65904CY	601804	65804	602404S	86204CY	811443	87004
600805	65905	601804CY	65804CY	602404TP	86604CY	890204	85304
601003	65103	601805	65805	602405	86205	890204CY	85304CY
601003CY	65103CY	601805CY	65805CY	602405S	86205CY	890404	85504
601004	65104	601807	65807	602405TP	86605CY	890404CY	85504CY
601004CY	65104CY	601807CY	65807CY	602406TP	86606CY	890604	85704
601005	65105	601809	65809	602407	86207	890604CY	85704CY
601005CY	65105CY	601812	65812	602407S	86207CY	890804	85904
601007CY	65107CY	601812CY	65812CY	602408TP	86608CY	890804CY	85904CY
601203	65203	601818	65818	602410TP	86610CY	891004	85104
601203CY	65203CY	601818CY	65818CY	602412S	86212CY	891004CY	85104CY
601204	65204	601825	65825	602414TP	86614CY	891007	85107
601204CY	65204CY	601825CY	65825CY	602418S	86218CY	891007CY	85107CY
601205	65205	601834	65834	602425	86225	891204	85204
601205CY	65205CY	601841	65841	602425S	86225CY	891204CY	85204CY
601207	65207	601850	65850	602601TP	86501CY	891207	85207
601402	65402	602002	65002	602602	86102	891207CY	85207CY
601403	65403	602003	65003	602602S	86102CY	891404	85404
601403CY	65403CY	602003CY	65003CY	602602TP	86502CY	891404CY	85404CY
601404	65404	602004	65004	602603	86103	891407	85407
601404CY	65404CY	602005	65005	602603S	86103CY	891407CY	85407CY
601405	65405	602007	65007	602603TP	86503CY	891603	85603
601405CY	65405CY	602007CY	65007CY	602604	86104	891603CY	85603CY
601407	65407	602009	65009	602604S	86104CY	891604	85604
601407CY	65407CY	602012	65012	602604TP	86504CY	891604CY	85604CY
601409	65409	602012CY	65012CY	602605	86105	891605	85605
601412	65412	602018	65018	602605S	86105CY	891605CY	85605CY
601412CY	65412CY	602025	65025	602605TP	86505CY	891607	85607
601418	65418	602025CY	65025CY	602606TP	86506CY	891607CY	85607CY
601418CY	65418CY	602201TP	86701CY	602607	86107	891612	85612
601425	65425	602202	86302	602607S	86107CY	891612CY	85612CY
601602	65602	602202TP	86702CY	602608TP	86508CY	891618	85618
601603	65603	602203	86303	602610TP	86510CY	891618CY	85618CY
601603CY	65603CY	602203TP	86703CY	602612S	86112CY	891625	85625
601604	65604	602204	86304	602618S	86118CY	891625CY	85625CY

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard Flex Cables

Competitive Cross Reference

Lapp to Alpha							
Lapp	**Alpha**	**Lapp**	**Alpha**	**Lapp**	**Alpha**	**Lapp**	**Alpha**
891634	85634	891807	85807	891834	85834	892010CY	85010CY
891634CY	85634CY	891807CY	85807CY	892003	85003	892012	85012
891650	85650	891812	85812	892003CY	85003CY	892012CY	85012CY
891803	85803	891812CY	85812CY	892004	85004	892018	85018
891803CY	85803CY	891815	85815	892004CY	85004CY	892018CY	85018CY
891804	85804	891818	85818	892005	85005	892025	85025
891804CY	85804CY	891818CY	85818CY	892005CY	85005CY	892025CY	85025CY
891805	85805	891825	85825	892007	85007	892034	85034
891805CY	85805CY	891825CY	85825CY	892007CY	85007CY		

HELUKABEL	**Alpha**	**HELUKABEL**	**Alpha**	**HELUKABEL**	**Alpha**	**HELUKABEL**	**Alpha**
10001	65002	10142	65204	15077	85407	18031	86204
10002	65003	10143	65205	15143	85204	18032	86205
10004	65004	10144	65207	15145	85104	18034	86207
10006	65005	10147	65103	15147	85904	18037	86212
10009	65007	10148	65104	15149	85704	18040	86218
10013	65012	10149	65105	15151	85634CY	18057	86302
10016	65018	10152	65904	15160	85904CY	18058	86303
10019	65025	10153	65905	15162	85704CY	18059	86304
10030	65802	10155	65704	15926	85404CY	18060	86305
10031	65803	10156	65705	15928	85407CY	18062	86307
10033	65804	10158	65504	15931	85003CY	18065	86312
10035	65805	10159	65505	15932	85004CY	18068	86318
10038	65807	10161	65304	15933	85005CY	18096	86325
10041	65809	10162	65305	15934	85007CY	18117	86125
10043	65812	15002	85003	15935	85012CY	18118	86225
10047	65818	15003	85004	15936	85018CY	20001	86102CY
10050	65825	15004	85005	15938	85025CY	20002	86103CY
10052	65834	15005	85007	15946	85803CY	20003	86104CY
10054	65841	15007	85012	15947	85804CY	20004	86105CY
10056	65850	15010	85018	15948	85805CY	20006	86107CY
10090	65602	15012	85025	15949	85807CY	20009	86112CY
10091	65603	15014	85034	15950	85812CY	20012	86118CY
10093	65604	15020	85803	15951	85818CY	20029	86202CY
10095	65605	15021	85804	15952	85825CY	20030	86203CY
10098	65607	15022	85805	15977	85603CY	20031	86204CY
10101	65609	15023	85807	15978	85604CY	20032	86205CY
10103	65612	15025	85812	15979	85605CY	20033	86207CY
10107	65618	15028	85818	15980	85607CY	20036	86212CY
10110	65625	15030	85825	15981	85612CY	20039	86218CY
10113	65641	15032	85834	15982	85618CY	20091	86125CY
10115	65650	15056	85603	15983	85625CY	20092	86225CY
10120	65402	15057	85604	18001	86102	83774	86501CY
10121	65403	15058	85605	18002	86103	83775	86502CY
10123	65404	15059	85607	18003	86104	83776	86503CY
10125	65405	15061	85612	18004	86105	83777	86504CY
10127	65407	15064	85618	18006	86107	83778	86505CY
10130	65412	15066	85625	18009	86112	83779	86506CY
10132	65418	15068	85634	18012	86118	83781	86508CY
10134	65425	15071	85650	18029	86202	83782	86510CY
10141	65203	15075	85404	18030	86203	83784	86514CY

Xtra-Guard Flex Cables

Competitive Cross Reference

HELUKABEL to Alpha							
HELUKABEL	**Alpha**	**HELUKABEL**	**Alpha**	**HELUKABEL**	**Alpha**	**HELUKABEL**	**Alpha**
83792	86601CY	83797	86606CY	83811	86702CY	83817	86708CY
83793	86602CY	83799	86608CY	83812	86703CY	83818	86710CY
83794	86603CY	83800	86610CY	83813	86704CY	83820	86714CY
83795	86604CY	83802	86614CY	83814	86705CY		
83796	86605CY	83810	86701CY	83815	86706CY		

Igus to Alpha							
Igus	**Alpha**	**Igus**	**Alpha**	**Igus**	**Alpha**	**Igus**	**Alpha**
CF130-05-02	65002	CF140-07-05	65805CY	CF240-01-04	86104CY	CF5-15-07	85607
CF130-05-03	65003	CF140-07-07	65807CY	CF240-01-05	86105CY	CF5-15-12	85612
CF130-05-04	65004	CF140-07-12	65812CY	CF240-01-07	86107CY	CF5-15-18	85618
CF130-05-05	65005	CF140-07-18	65818CY	CF240-01-18	86118CY	CF5-15-25	85625
CF130-05-07	65007	CF140-07-25	65825CY	CF240-02-03	86203CY	CF5-25-04	85404
CF130-07-04	65804	CF140-15-03	65603CY	CF240-02-04	86204CY	CF5-25-07	85407
CF130-07-05	65805	CF140-15-04	65604CY	CF240-02-05	86205CY	CF6-05-05	85005CY
CF130-07-07	65807	CF140-15-05	65605CY	CF240-02-07	86207CY	CF6-05-12	85012CY
CF130-07-12	65812	CF140-15-07	65607CY	CF240-02-18	86218CY	CF6-05-18	85018CY
CF130-07-18	65818	CF140-15-12	65612CY	CF5-05-03	85003	CF6-07-03	85803CY
CF130-07-25	65825	CF140-15-18	65618CY	CF5-05-07	85007	CF6-07-04	85804CY
CF130-15-03	65603	CF140-15-25	65625CY	CF5-05-12	85012	CF6-07-05	85805CY
CF130-15-04	65604	CF140-25-04	65404CY	CF5-05-18	85018	CF6-07-07	85807CY
CF130-15-05	65605	CF211-02-01-02	86601CY	CF5-05-25	85025	CF6-07-12	85812CY
CF130-15-07	65607	CF211-02-02-02	86602CY	CF5-07-04	85804	CF6-07-18	85818CY
CF130-15-12	65612	CF211-02-03-02	86603CY	CF5-07-05	85805	CF6-15-03	85603CY
CF130-15-18	65618	CF211-02-04-02	86604CY	CF5-07-07	85807	CF6-15-04	85604CY
CF130-15-25	65625	CF211-02-05-02	86605CY	CF5-07-12	85812	CF6-15-05	85605CY
CF130-25-04	65404	CF211-02-06-02	86606CY	CF5-07-18	85818	CF6-15-07	85607CY
CF130-25-07	65407	CF211-02-08-02	86608CY	CF5-07-25	85825	CF6-15-12	85612CY
CF130-25-12	65412	CF211-02-10-02	86610CY	CF5-15-03	85603	CF6-15-18	85618CY
CF140-07-03	65803CY	CF211-02-14-02	86614CY	CF5-15-04	85604	CF6-15-25	85625CY
CF140-07-04	65804CY	CF240-01-03	86103CY	CF5-15-05	85605	CF6-25-04	85404CY

Lutze to Alpha							
Lutze	**Alpha**	**Lutze**	**Alpha**	**Lutze**	**Alpha**	**Lutze**	**Alpha**
100154	85207	100431	65604	100467	65103	100794	85618
100215	65007	100432	65605	100468	65104	100795	85625
100354	65705	100433	65607	100471	65904	100796	85603
100358	65025	100437	65612	100473	65704	100797	85407
100363	65002	100440	65618	100475	65905	100808	85605
100364	65003	100443	65625	100480	65504	100998	85812
100365	65004	100447	65650	100481	65304	101049	85003
100366	65005	100453	65403	100707	85404	101050	85104
100370	65012	100454	65404	100766	85803	101351	85010CY
100373	65018	100455	65405	100767	85805	108003	85404CY
100385	65803	100456	65407	100768	85807	108019	85107
100386	65804	100458	65412	100771	85834	108049	85204
100392	65812	100460	65418	100780	85650	108055	85018CY
100398	65825	100461	65425	100782	85818	110016	86102CY
100400	65834	100464	65204	100784	85825	110017	86103CY
100421	65850	100465	65105	100787	85604	110018	86104CY
100429	65602	100465	65205	100792	85607	110019	86105CY
100430	65603	100466	65207	100793	85612	110021	86107CY

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard Flex Cables

Lutze to Alpha							
Lutze	**Alpha**	**Lutze**	**Alpha**	**Lutze**	**Alpha**	**Lutze**	**Alpha**
110023	86112CY	110601	86503CY	111245	85805CY	116135	65407CY
110026	86118CY	110602	86504CY	111303	85607CY	116150	65204CY
110090	86203CY	110604	86506CY	111304	85612CY	116153	65104CY
110091	86204CY	110606	86510CY	111305	85618CY	118039	85005CY
110092	86205CY	110618	86602CY	111306	85625CY	118111	85204CY
110096	86212CY	110619	86603CY	116100	65803CY	118112	85104CY
110099	86218CY	110620	86604CY	116102	65804CY	118194	85605CY
110387	65805	110622	86606CY	116103	65805CY	118195	86605CY
110389	65807	110633	86702CY	116104	65807CY	118251	86608CY
110395	65818	110634	86703CY	116105	65812CY	118383	85004
110411	86207CY	110635	86704CY	116106	65818CY	118384	85007
110423	85004CY	110637	86706CY	116107	65825CY	118389	65402
110441	85803CY	110665	86710CY	116121	65603CY	119132	85818CY
110447	85012	110774	85003CY	116123	65604CY	A1032202	86302
110447	85012CY	110775	85007CY	116124	65605CY	A1032203	86303
110486	85825CY	110776	85025	116125	65607CY	A1032204	86304
110490	85807CY	110776	85025CY	116126	65612CY	A1032225	86325
110491	85812CY	110908	86202CY	116127	65618CY	A1032402	86202
110499	85604CY	110954	85603CY	116128	65625CY	A1032403	86203
110566	85804CY	111045	85804	116132	65403CY	A1032404	86204
110591	85018	111047	86125CY	116133	65404CY	A1032425	86225
110600	86502CY	111049	86225CY	116134	65405CY		

SAB	**Alpha**	**SAB**	**Alpha**	**SAB**	**Alpha**	**SAB**	**Alpha**
02040204	65304	02041612	65612	02591003	65103CY	02592007	65007CY
02040404	65504	02041618	65618	02591004	65104CY	02592012	65012CY
02040604	65704	02041625	65625	02591005	65105CY	02592025	65025CY
02040804	65904	02041641	65641	02591203	65203CY	07750204	85304
02040805	65905	02041802	65802	02591204	65204CY	07750404	85504
02041003	65103	02041803	65803	02591205	65205CY	07750604	85704
02041004	65104	02041804	65804	02591403	65403CY	07750804	85904
02041005	65105	02041805	65805	02591404	65404CY	07751004	85104
02041203	65203	02041807	65807	02591405	65405CY	07751007	85107
02041204	65204	02041809	65809	02591407	65407CY	07751204	85204
02041205	65205	02041812	65812	02591412	65412CY	07751207	85207
02041207	65207	02041818	65818	02591418	65418CY	07751404	85404
02041402	65402	02041825	65825	02591603	65603CY	07751407	85407
02041403	65403	02041834	65834	02591604	65604CY	07751603	85603
02041404	65404	02041841	65841	02591605	65605CY	07751604	85604
02041405	65405	02042002	65002	02591607	65607CY	07751605	85605
02041407	65407	02042003	65003	02591612	65612CY	07751607	85607
02041409	65409	02042004	65004	02591618	65618CY	07751612	85612
02041412	65412	02042005	65005	02591625	65625CY	07751618	85618
02041418	65418	02042007	65007	02591803	65803CY	07751625	85625
02041425	65425	02042009	65009	02591804	65804CY	07751634	85634
02041602	65602	02042012	65012	02591805	65805CY	07751650	85650
02041603	65603	02042018	65018	02591807	65807CY	07751803	85803
02041604	65604	02042025	65025	02591812	65812CY	07751804	85804
02041605	65605	02590204	65304CY	02591818	65818CY	07751805	85805
02041607	65607	02590604	65704CY	02591825	65825CY	07751807	85807
02041609	65609	02590804	65904CY	02592003	65003CY	07751812	85812

Xtra-Guard Flex Cables

Competitive Cross Reference

SAB to Alpha							
SAB	**Alpha**	**SAB**	**Alpha**	**SAB**	**Alpha**	**SAB**	**Alpha**
07751815	85815	07850404	85504CY	07851612	85612CY	07852007	85007CY
07751818	85818	07850604	85704CY	07851618	85618CY	07852010	85010CY
07751825	85825	07850804	85904CY	07851625	85625CY	07852012	85012CY
07751834	85834	07851004	85104CY	07851803	85803CY	07852018	85018CY
07752003	85003	07851007	85107CY	07851804	85804CY	07852025	85025CY
07752004	85004	07851204	85204CY	07851805	85805CY	07951203	87603
07752005	85005	07851207	85207CY	07851807	85807CY	07951403	87503
07752007	85007	07851404	85404CY	07851812	85812CY	07951404	87504
07752012	85012	07851407	85407CY	07851818	85818CY	07951603	87403
07752018	85018	07851603	85603CY	07851825	85825CY	07951604	87404
07752025	85025	07851604	85604CY	07852003	85003CY	07951607	87407
07752034	85034	07851605	85605CY	07852004	85004CY	07951804	87304
07850204	85304CY	07851607	85607CY	07852005	85005CY	07952407	87007

Belden to Alpha							
Belden	**Alpha**	**Belden**	**Alpha**	**Belden**	**Alpha**	**Belden**	**Alpha**
7101A	85003	7122A	85603	7408A	65025	7427AS	65612CY
7101AS	85003CY	7122AS	85603CY	7408AS	65025CY	7428A	65618
7102A	85004	7123A	85604	7409A	65802	7428AS	65618CY
7102AS	85004CY	7123AS	85604CY	7410A	65803	7429A	65625
7103A	85005	7123AS	85825CY	7410AS	65803CY	7429AS	65625CY
7103AS	85005CY	7124A	85605	7411A	65804	7431A	65641
7104A	85007	7124AS	85605CY	7411AS	65804CY	7434A	65402
7104AS	85007CY	7125A	85607	7412A	65805	7435A	65403
7106A	85012	7125AS	85607CY	7412AS	65805CY	7435AS	65403CY
7106AS	85012CY	7127AS	85812CY	7413A	65807	7436A	65404
7107A	85018	7128AS	85818CY	7413AS	65807CY	7436AS	65404CY
7107AS	85018CY	7136A	85404	7414A	65809	7437A	65405
7108A	85025	7136AS	85404CY	7415A	65812	7437AS	65405CY
7108AS	85025CY	7137A	85407	7415AS	65812CY	7438A	65407
7110A	85803	7137AS	85407CY	7416A	65818	7438AS	65407CY
7110AS	85803CY	7145A	85204	7416AS	65818CY	7439A	65409
7111A	85804	7145AS	85204CY	7417A	65825	7440A	65412
7111AS	85804CY	7146A	85207	7417AS	65825CY	7441A	65418
7112A	85805	7146AS	85207CY	7418A	65834	7442A	65425
7112AS	85805CY	7147A	85104	7419A	65841	7444A	65203
7113A	85807	7174AS	85104CY	7420A	65850	7444AS	65203CY
7113AS	85807CY	7400A	65002	7421A	65602	7445A	65204
7115A	85612	7401A	65003	7422A	65603	7445AS	65204CY
7115A	85812	7401AS	65003CY	7422AS	65603CY	7446A	65103
7115AS	85612CY	7402A	65004	7423A	65604	7446AS	65103CY
7116A	85618	7403A	65005	7423AS	65604CY	7447A	65104
7116A	85818	7404A	65007	7424A	65605	7447AS	65104CY
7116AS	85618CY	7404AS	65007CY	7424AS	65605CY	7448A	65105
7117A	85625	7405A	65009	7425A	65607	7448AS	65105CY
7117A	85825	7406A	65012	7425AS	65607CY	7461A	65205
7117AS	85625CY	7406AS	65012CY	7426A	65609	7461AS	65205CY
7118A	85634	7407A	65018	7427A	65612		

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Lapp to Alpha Wire Series XM

Cross Reference

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Part No.	Part No.	Page No.
891803	XM1803R	136
891804	XM1804R	136
891805	XM1805R	136
891807	XM1807R	136
891812	XM1812R	136
891817	XM1817R	136
891822	XM1822R	136
891825	XM1825R	136
891834	XM1834R	136
891842	XM1842R	136
891849	XM1849R	136
891865	XM1865R	136
891603	XM1603R	136
891604	XM1604R	136
891605	XM1605R	136
891607	XM1607R	136
891612	XM1612R	136
891617	XM1617R	136
891619	XM1619R	136
891622	XM1622R	136
891625	XM1625R	136
891633	XM1633R	136
891642	XM1642R	136
891649	XM1649R	136
891665	XM1665R	136
891403	XM1403R	136
891404	XM1404R	136
891405	XM1405R	136
891407	XM1407R	136
891412	XM1412R	136
891203	XM1203R	137
891204	XM1204R	137
891205	XM1205R	137
891207	XM1207R	137
891003	XM1003R	137
891004	XM1004R	137
891005	XM1005R	137
891007	XM1007R	137
890803	XM0803R	137
890804	XM0804R	137
891803CY	XM1803RCY	138
891804CY	XM1804RCY	138
891805CY	XM1805RCY	138
891807CY	XM1807RCY	138
891812CY	XM1812RCY	138
891817CY	XM1817RCY	138
891822CY	XM1822RCY	138
891825CY	XM1825RCY	138
891834CY	XM1834RCY	138
891842CY	XM1842RCY	138
891849CY	XM1849RCY	138
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891605CY	XM1605RCY	138
891607CY	XM1607RCY	138
891612CY	XM1612RCY	138
891617CY	XM1617RCY	138
891619CY	XM1619RCY	138
891622CY	XM1622RCY	138
891625CY	XM1625RCY	138
891633CY	XM1633RCY	138
891642CY	XM1642RCY	138
891649CY	XM1649RCY	138
891403CY	XM1403RCY	138
891404CY	XM1404RCY	138
891405CY	XM1405RCY	138
891407CY	XM1407RCY	138
891412CY	XM1412RCY	138
891203CY	XM1203RCY	139
891204CY	XM1204RCY	139
891205CY	XM1205RCY	139
891207CY	XM1207RCY	139
891003CY	XM1003RCY	139
891004CY	XM1004RCY	139
891005CY	XM1005RCY	139
891007CY	XM1007RCY	139
890803CY	XM0803RCY	139
890804CY	XM0804RCY	139
891803	XM1803L	136
891804	XM1804L	136
891805	XM1805L	136
891807	XM1807L	136
891812	XM1812L	136
891817	XM1817L	136
891822	XM1822L	136
891825	XM1825L	136
891834	XM1834L	136
891842	XM1842L	136
891849	XM1849L	136
891865	XM1865L	136
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891607	XM1607L	136
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891617	XM1617L	136
891619	XM1619L	136
891622	XM1622L	136
891625	XM1625L	136
891633	XM1633L	136
891642	XM1642L	136
891649	XM1649L	136
891665	XM1665L	136
891403	XM1403L	136

Lapp	Alpha Wire Series XM	
Part No.	Part No.	Page No.
891404	XM1404L	136
891405	XM1405L	136
891407	XM1407L	136
891412	XM1412L	136
891203	XM1203L	137
891204	XM1204L	137
891205	XM1205L	137
891207	XM1207L	137
891003	XM1003L	137
891004	XM1004L	137
891005	XM1005L	137
891007	XM1007L	137
890803	XM0803L	137
890804	XM0804L	137
891803CY	XM1803LCY	138
891804CY	XM1804LCY	138
891805CY	XM1805LCY	138
891807CY	XM1807LCY	138
891812CY	XM1812LCY	138
891817CY	XM1817LCY	138
891822CY	XM1822LCY	138
891825CY	XM1825LCY	138
891834CY	XM1834LCY	138
891842CY	XM1842LCY	138
891849CY	XM1849LCY	138
891603CY	XM1603LCY	138
891604CY	XM1604LCY	138
891605CY	XM1605LCY	138
891607CY	XM1607LCY	138
891612CY	XM1612LCY	138
891617CY	XM1617LCY	138
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C0601A	5472C	341
C0602A	5473C	341
C0603A	5474C	341
C0604A	5475C	341
C0605A	5476C	341
C0606A	5477C	341
C0607A	5478C	341
C0608A	5479C	341
C0609A	5480C	341
C0610A	5480/15C	341

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C0612A	5480/25C	341
C0620A	6362	351
C0621A	6363	351
C0622A	6364	351
C0623A	6365	351
C0624A	6366	351
C0625A	6367	351
C0628A	6368	351
C0630A	6369	351
C0650A	6373	351
C0651A	6374	351
C0652A	6375	351
C0653A	6376	351
C0654A	6377	351
C0655A	6378	351
C0656A	6379	351
C0658A	6380	351
C0660A	6381	351
C0663A	6384	351
C0680A	6351	339
C0681A	6352	339
C0682A	6353	338
C0683A	6354	338
C0684A	6355	338
C0685A	6356	338
C0686A	6357	338
C0687A	6358	338
C0688A	6359	338
C0741A	6300/3	318
C0742A	6300/4	318
C0743A	6306	318
C0744A	6300/8	318
C0745A	6300/10	318
C0747A	6308	318
C0748A	6309	318
C0749A	6310	318
C0750A	6311	318
C0751A	6312	318
C0753A	6305	318
C0804A	6390	352
C0805A	6391	352
C0806A	6392	352
C0807A	6393	352
C0808A	6394	352
C0809A	6395	352
C0812A	6396	352
C0829A	6401	353
C0830A	6402	353
C0831A	6403	353
C0832A	6404	353
C0833A	6406	353

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C0835A	6408	353
C0836A	6409	353
C0839A	6405	353
C0841A	6412	353
C0842A	6413	353
C0843A	6414	353
C0911A	6073C	370
C0913A	6076C	370
C0915A	6079/11C	370
C0916A	6079/12C	370
C0917A	6079/15C	370
C0924A	6316	362
C0925A	6317	362
C0926A	6318	362
C0948A	3470/25C	336
C0951A	6327	338
C0952A	6328	338
C0953A	6329	338
C0954A	6330	338
C0955A	6331	338
C0956A	6332	338
C0957A	6333	338
C0958A	6334	338
C0959A	6335	338
C0961A	6336	338
C0971A	6339	338
C0972A	6340	338
C0973A	6341	338
C0974A	6342	338
C0975A	6343	338
C0976A	6344	338
C0977A	6345	338
C0978A	6346	338
C0979A	6347	338
C0981A	6348	338
C1106	9059B	250
C1155	9058C	250
C1164	9062AC	244
C1178	9058AC	238
C1321	1636	406
C1322A	1710	327
C1331A	2465C	316
C1333A	1243/3C	316
C1338A	1243/4	313
C1340A	2464C	316
C1350A	6052C	356
C1352A	2466C	361
C1368A	2467C	361
C1670A	5902C	342
C1671A	5906C	342
C1672A	5909C	342
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C1676A	5905C	342
C2015A	3050	380
C2016A	3051	380
C2040A	3053	380
C2064A	3055	380
C2065A	3057	380
C2100A	3070	383
C2101A	3071	383
C2102A	3073	383
C2103A	3075	383
C2104A	3077	383
C2105A	3079	383
C2106A	3080	383
C2107A	3081	383
C2404A	1898/4C	309
C2405A	1899C	309
C2412A	1898/12C	309
C2420A	1898/5C	309
C2421A	1898/7C	309
C2422A	1898/9C	309
C2423A	1898/15C	309
C2424A	1898/19C	309
C2425A	1064	311
C2426A	1067	311
C2426A	2170	521
C2427A	1072	311
C2428A	1075	311
C2429A	1079	311
C2430A	1274	311
C2431A	1277	311
C2433A	1898/25C	309
C2434A	1065	311
C2435A	1069	311
C2436A	1085	311
C2437A	1275	311
C2513A	2400C	314
C2514A	2401C	314
C2515A	2460C	316
C2516A	2461C	316
C2524A	2411C	314
C2525A	2413C	314
C2526A	2403C	314
C2534A	2421C	314
C2535A	2423C	314
C2536A	2471	348
C2538A	2472	348
C2539A	2473	348
C2676A	1775C	323
C2677A	1736C	323
C2678A	1737C	323
C2768A	2258/3	319
C2882A	2254	319

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C2888A	2256	319
C2892A	2258	319
C2895A	2260	319
C4008A	1793C	308
C4010A	1302C	340
C4014A	1304C	340
C4015A	1305C	340
C4017A	1307C	340
C4062A	1173C	308
C4063A	1174C	308
C4064A	1175C	308
C4065A	1178C	308
C4067A	1181C	308
C4070A	1179C	308
C4071A	1180C	308
C4073A	1181/15C	308
C4075A	1181/20C	308
C4076A	1181/25C	308
C4077A	1181/30C	308
C4078A	1181/40C	308
C4079A	1181/50C	308
C4081A	1826C	313
C4083A	1828C	313
C4088A	1177C	308
C4844A	6415	353
C6010A	1317C	340
C6014A	1318C	340
C6015A	1319C	340
C6017A	1322C	340
C6019A	1323C	340
C6023A	1325C	340
C6026A	1327C	340
C6035A	6000C	357
C6040A	6010C	357
C6041A	6012C	357
C6042A	6014C	357
C6043A	6016C	357
C6044A	6018C	357
C6045A	6020C	357
C6046A	6022C	357
C6047A	6023C	357
C6048A	6024C	357
C6049A	6025C	357
C6050A	6018C	357
C6052A	6033C	357
C6053A	6036C	357
C6054A	6039C	357
C6056A	6042C	357
C6059A	6017C	357
C6060A	6019C	357
C6061A	6314	359
C6062A	6315	359

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C6065A	6385	360
C6066A	6386	360
C6067A	6387	360
C6101A	1897C	309
C6103A	1133C	340
C6106A	1136C	340
C6109A	1139C	340
C6118A	1132C	360
C6119A	1134C	360
C6120A	1135C	360
C6121A	1138C	360
C6348A	1172C	308
C6351A	1895C	309
C6355A	1896/5C	309
C6356A	1896/7C	309
C6357A	1896/9C	309
C6358A	1896/15C	309
C6360A	1896/12C	309
C7106A	6416	341
C7600A	1550	390
C7602A	1551	390
C7604A	1553	390
C7606A	1555	390
C7608A	1557	390
C7610A	1559	390
C7611A	1560	390
C8014	9823	246
C8109	58411	365
C8112	58612	367
C8113	58803	366
C8131	58613	367
C8132	58616	367
C8133	58616	367

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Fahrenheit-to-Celsius Conversion

Temperature Conversion Formula: °F = $^{9}/_{5}$ (°C + 32)

°F	°C	°F	°C	°F	°C	°F	°C	°F	°C
-40	-40.00	36	2.22	92	33.33	148	64.44	220	104.44
-38	-38.89	37	2.78	93	33.89	149	65.00	225	107.22
-36	-37.78	38	3.33	94	34.44	150	65.56	230	110.00
-34	-36.67	39	3.89	95	35.00	151	66.11	235	112.78
-32	-35.56	40	4.44	96	35.56	152	66.66	240	115.56
-30	-34.44	41	5.00	97	36.11	153	67.22	245	118.33
-28	-33.33	42	5.56	98	36.67	154	67.77	250	121.11
-26	-32.22	43	6.11	99	37.22	155	68.33	255	123.89
-24	-31.11	44	6.67	100	37.78	156	68.88	260	126.67
-22	-30.00	45	7.22	101	38.33	157	69.44	265	129.44
-20	-28.89	46	7.78	102	38.88	156	70.00	270	132.22
-18	-27.78	47	8.33	103	39.44	159	70.55	275	135.00
-16	-26.67	48	8.89	104	40.00	160	71.11	280	137.78
-14	-25.56	49	9.44	105	40.55	161	71.66	285	140.55
-12	-24.44	50	10.00	106	41.11	162	72.22	290	143.33
-10	-23.33	51	10.56	107	41.66	163	72.77	295	146.11
-8	-22.22	52	11.11	108	42.22	164	73.33	300	148.89
-6	-21.11	53	11.67	109	42.77	165	73.89	305	151.67
-4	-20.00	54	12.22	110	43.33	166	74.44	310	154.44
-2	-18.89	55	12.78	111	43.88	167	75.00	315	157.22
0	-17.78	56	13.33	112	44.44	168	75.55	320	160.00
1	-17.22	57	13.89	113	45.00	169	76.11	325	162.78
2	-16.67	58	14.44	114	45.55	170	76.67	330	165.56
3	-16.11	59	15.00	115	46.11	171	77.22	335	168.33
4	-15.56	60	15.56	116	46.66	172	77.77	340	171.11
5	-15.00	61	16.11	117	47.22	173	78.33	345	173.89
6	-14.44	62	16.67	118	47.77	174	78.88	350	176.67
7	-13.89	63	17.22	119	48.33	175	79.44	355	179.44
8	-13.33	64	17.78	120	48.89	176	80.00	360	182.22
9	-12.78	65	18.33	121	49.44	177	80.55	365	185.00
10	-12.22	66	18.89	122	50.00	178	81.11	370	187.78
11	-11.67	67	19.44	123	50.55	179	88.66	375	190.55
12	-11.11	68	20.00	124	51.11	180	82.22	380	193.33
13	-10.56	69	20.56	125	51.67	181	82.77	385	196.11
14	-10.00	70	21.11	126	52.22	182	83.33	390	198.89
15	-9.44	71	21.67	127	52.77	183	83.88	395	201.67
16	-8.89	72	22.22	128	53.33	184	84.44	400	204.44
17	-8.33	73	22.78	129	53.88	185	85.00	405	207.22
18	-7.78	74	23.33	130	54.44	186	85.55	410	210.00
19	-7.22	75	23.89	131	55.00	187	86.11	415	212.78
20	-6.67	76	24.44	132	55.55	188	86.66	420	215.56
21	-6.11	77	25.00	133	56.11	189	87.22	425	218.33
22	-5.56	78	25.56	134	56.66	190	87.78	430	221.11
23	-5.00	79	26.11	135	57.22	191	88.33	435	223.89
24	-4.44	80	26.67	136	57.77	192	88.86	440	226.67
25	-3.89	81	27.72	137	58.33	193	89.44	445	229.44
26	-3.33	82	27.78	138	58.88	194	90.00	450	232.22
27	-2.78	83	28.33	139	59.44	195	90.55	455	235.00
28	-2.22	84	28.89	140	60.00	196	91.11	460	237.78
29	-1.67	85	29.44	141	60.55	197	91.66	465	240.55
30	-1.11	86	30.00	142	61.11	198	92.22	470	243.33
31	-0.56	87	30.56	143	61.66	199	92.77	475	246.11
32	0	88	31.11	144	62.22	200	93.33	480	248.89
33	0.56	89	31.67	145	62.78	205	96.11	485	251.67
34	1.11	90	32.22	146	63.33	210	98.89	490	254.44
35	1.67	91	32.78	147	63.88	215	101.67	495	257.22
								500	260.00

Celsius-to-Fahrenheit Conversion

Temperature Conversion Formula: °C = $^{5}/_{9}$ (°F - 32)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
-40	-40.00	36	96.80	92	197.60	148	298.40	220	428.00
-38	-36.40	37	98.60	93	199.40	149	300.20	225	437.00
-36	-32.80	38	100.40	94	201.20	150	302.00	230	446.00
-34	-29.20	39	102.20	95	203.00	151	303.80	235	455.00
-32	-25.60	40	104.00	96	204.80	152	305.60	240	464.00
-30	-22.00	41	105.80	97	206.60	153	307.40	245	473.00
-28	-18.40	42	107.60	98	208.40	154	309.20	250	482.00
-26	-14.80	43	109.40	99	210.20	155	311.00	255	491.00
-24	-11.20	44	111.20	100	212.00	156	312.80	260	500.00
-22	-7.60	45	113.00	101	213.80	157	314.60	265	509.00
-20	-4.00	46	114.80	102	215.60	156	312.80	270	518.00
-18	-0.40	47	116.60	103	217.40	159	318.20	275	527.00
-16	3.20	48	118.40	104	219.20	160	320.00	280	536.00
-14	6.80	49	120.20	105	221.00	161	321.80	285	545.00
-12	10.40	50	122.00	106	222.80	162	323.60	290	554.00
-10	14.00	51	123.80	107	224.60	163	325.40	295	563.00
-8	17.60	52	125.60	108	226.40	164	327.20	300	572.00
-6	21.20	53	127.40	109	228.20	165	329.00	305	581.00
-4	24.80	54	129.20	110	230.00	166	330.80	310	590.00
-2	28.40	55	131.00	111	231.80	167	332.60	315	599.00
0	32.00	56	132.80	112	233.60	168	334.40	320	608.00
1	33.80	57	134.60	113	235.40	169	336.20	325	617.00
2	35.60	58	136.40	114	237.20	170	338.00	330	626.00
3	37.40	59	138.20	115	239.00	171	339.80	335	635.00
4	39.20	60	140.00	116	240.80	172	341.60	340	644.00
5	41.00	61	141.80	117	242.60	173	343.40	345	653.00
6	42.80	62	143.60	118	244.40	174	345.20	350	662.00
7	44.60	63	145.40	119	246.20	175	347.00	355	671.00
8	46.40	64	147.20	120	248.00	176	348.80	360	680.00
9	48.20	65	149.00	121	249.80	177	350.60	365	689.00
10	50.00	66	150.80	122	251.60	178	352.40	370	698.00
11	51.80	67	152.60	123	253.40	179	354.20	375	707.00
12	53.60	68	154.40	124	255.20	180	356.00	380	716.00
13	55.40	69	156.20	125	257.00	181	357.80	385	725.00
14	57.20	70	158.00	126	258.80	182	359.60	390	734.00
15	59.00	71	159.80	127	260.60	183	361.40	395	743.00
16	60.80	72	161.60	128	262.40	184	363.20	400	752.00
17	62.60	73	163.40	129	264.20	185	365.00	405	761.00
18	64.40	74	165.20	130	266.00	186	366.80	410	770.00
19	66.20	75	167.00	131	267.80	187	368.60	415	779.00
20	68.00	76	168.80	132	269.60	188	370.40	420	788.00
21	69.80	77	170.60	133	271.40	189	372.20	425	797.00
22	71.60	78	172.40	134	273.20	190	374.00	430	806.00
23	73.40	79	174.20	135	275.00	191	375.80	435	815.00
24	75.20	80	176.00	136	276.80	192	377.60	440	824.00
25	77.00	81	177.80	137	278.60	193	379.40	445	833.00
26	78.80	82	179.60	138	280.40	194	381.20	450	842.00
27	80.60	83	181.40	139	282.20	195	383.00	455	851.00
28	82.40	84	183.20	140	284.00	196	384.80	460	860.00
29	84.20	85	185.00	141	285.80	197	386.60	465	869.00
30	86.00	86	186.80	142	287.60	198	388.40	470	878.00
31	87.80	87	188.60	143	289.40	199	390.20	475	887.00
32	89.60	88	190.40	144	291.20	200	392.00	480	896.00
33	91.40	89	192.20	145	293.00	205	401.00	485	905.00
34	93.20	90	194.00	146	294.80	210	410.00	490	914.00
35	95.00	91	195.80	147	296.60	215	419.00	495	923.00
								500	932.00

Glossary

abrasion resistance Ability of a wire or cable material to resist surface wear.

accelerated aging A test in which voltage, temperature, etc., are increased above normal operating values to obtain observable deterioration in a relatively short period of time. The plotted results give expected service life under normal conditions.

accelerator A chemical additive which hastens a chemical reaction under specific conditions.

adhesive lined For heat-shrink tubing, an inner lining that, when heated, adheres to the substrate, providing additional strength and environmental sealing.

admittance The measure of the ease with which an alternating current flows in a circuit. The reciprocal of impedance.

aging The change in properties of a material with time under specific conditions.

air-spaced coaxial cable One in which air is the essential dielectric material. A spirally wound synthetic filament or spacer may be used to center the conductor.

alloy A metal formed by combining two or more different metals to obtain desirable properties.

ALS A type of cable consisting of insulated conductors enclosed in a continuous, closely fitting aluminum tube.

alternating current (AC) Electric current that continually reverses its direction. It is expressed in cycles per second (hertz or Hz).

ambient temperature The temperature of a medium surrounding an object.

ampacity See current-carrying capacity.

ampere The unit of current. One ampere is the current flowing through one ohm of resistance at one volt potential.

analog circuit Output of electrical signals as a continuous function of input, as contrasted with digital circuit.

anneal Relief of mechanical stress through heat and gradual cooling. Annealing copper renders it less brittle.

annealed wire Wire, which after final drawdown, has been heated and slowly cooled to remove the effects of cold working.

ANSI American National Standards Institute.

anti-oxidant A substance which prevents or slows down oxidation of material exposed to air.

arc resistance The time required for an arc to establish a conductive path in a material.

armor A braid or wrapping of metal, usually steel, used for mechanical protection. Generally placed over the outer jacket.

ASA American Standards Association. Former name of ANSI.

ASCII American Standard Code for Information Interchange.

ASME American Society of Mechanical Engineers.

ASTM American Society for Testing and Materials, a nonprofit industry-wide organization which publishes standards, methods of test, recommended practices, definitions and other related material.

attenuation Power loss in an electrical system. In cables, generally expressed in dB per unit length, usually 1000 ft.

audio frequency The range of frequencies audible to the human ear. Usually 30 Hz to 20,000 Hz.

AWG American Wire Gauge. A standard system for designating wire diameter.

AWM Appliance Wiring Material.

backbone wiring The physical/electrical interconnections between telecommunications closets and equipment rooms. Cross-connect hardware and cabling in the main and intermediate cross-connects are considered part of the backbone wiring.

balanced circuit A circuit so arranged that the impressed voltages on each conductor of the pair are equal in magnitude but opposite in polarity with respect to ground.

band marking A continuous circumferential band applied to a conductor at regular intervals for identification.

bandwidth The difference between the upper and lower limits of a given band of frequencies. Expressed in hertz (Hz).

baud Unit of data transmission speed representing bits per second. 9600 baud = 9600 bits per second.

bend radius The radius of curvature that a wire or cable can bend without causing any damaging effects.

Glossary

binder A spirally served tape or thread used for holding assembled cable components in place awaiting subsequent manufacturing operations.

bit error rate (BER) Discrepancy between outgoing and incoming bits transmitted between data equipment.

bit One binary digit.

bond strength Amount of adhesion between surfaces, e.g. in cemented ribbon cable.

braid A fibrous or metallic group filaments interwoven in cylindrical form to form a covering over one (1) or more wires.

braid angle The smaller of the two angles formed by the shielding strand and the axis of the cable being shielded.

braid carrier A spool or bobbin on a braider which holds one group of strands or filaments consisting of a specific number of ends. The carrier revolves during braiding operations.

braid ends The number of strands used to make up one carrier. The stands are wound side by side on the carrier bobbin and lie parallel in the finished braid.

breakdown voltage The voltage at which the insulation between two conductors is destroyed.

breakout The point at which a conductor or group of conductors is separated from a multiconductor cable to complete circuits at various points along the main cable.

building wire Wire used for light and power, 600 volts or less, usually not exposed to outdoor environment.

bunch stranding A group of wires of the same diameter twisted together without a predetermined pattern.

buried cable A cable installed directly into the earth without the use of underground conduit. Also called "direct burial cable."

byte A group of eight binary digits.

CSA Canadian Standards Association a nonprofit, independent organization which operates a listing service for electrical and electronic materials and equipment. The Canadian counterpart of the Underwriters Laboratories.

cable An insulated conductor or group of individually insulated conductors in twisted or parallel configuration with a protective jacket.

cable assembly A length of cable with connectors on one or both ends.

cable track, C track Flexible plastic or metallic tray, used to guide and protect cables in high speed motion applications.

cabling The twisting together of two or more insulated conductors to form a cable.

cabling factor Used in the formula for calculating the diameter of an unshielded, unjacketed cable. D=Kd, where the D is the cable diameter, K is the factor, and d is the diameter of one insulated conductor.

CAD/CAM Computer aided design/ computer aided manufacturing.

campus backbone Wiring between buildings that share telecommunications facilities.

capacitance The ratio of the electrostatic charge on a conductor to the potential difference between the conductors required to maintain that charge.

capacitance, direct The capacitance measured directly from conductor to conductor through a single insulating layer.

capacitance, mutual The capacitance between two conductors with all other conductors, including shield, short circuited to ground.

capacitive coupling Electrical interaction between two conductors caused by the capacitance between them.

carrier frequency The electromagnetic wave frequency selected to transmit information. Optical carrier frequency is from the infrared, visible range or ultraviolet spectrum areas (1012 Hz and above).

CE (Conformité Européenne) European Economic Community approval indicating that a product complies with a European Directive.

cellular (foamed) polyethylene Expanded or "foam" polyethylene consisting of individual closed cells suspended in a polyethylene medium.

CENELEC European Economic Community Committee for Standardization of technical requirements.

center-to-center distance See pitch.

certificate of compliance (C of C) A certificate which is normally generated by a quality control department, which shows that the product being shipped meets customer's specifications.

Glossary

certified test report (CTR) A report providing actual test data on a cable. Tests are normally run by a quality control department, which shows that the product being shipped conforms to test specifications.

characteristic impedance The impedance that, when connected to the output terminals of a transmission line of any length, makes the line appear infinitely long. The ratio of voltage to current at every point along a transmission line on which there are no standing waves.

CIP Common Industrial Protocol. A media-inpdendent application-layer protocol used by DeviceNet, ControlNet, and EtherNet/IP. Trademark of OVDA.

circuit The entire route of an electric current.

circular mil The area of a circle one mil (0.001") in diameter; 7.845 x 10^{-7} sq. in. Used in expressing wire cross sectional area.

cladding A method of applying a layer of metal over another metal whereby the junction of the two metals is continuously welded.

coaxial cable A cable consisting of two cylindrical conductors with a common axis, separated by a dielectric.

cold flow Permanent deformation of the insulation due to mechanical force or pressure (not due to heat softening).

color code A system for circuit identification through use of solld colors and contrasting tracers.

common axis cabling In multiple cable constructions, a twisting of all conductors about a "common axis" with two conductor groups then selected as pairs. This practice yields smaller diameter constructions than does a separate axis construction, but tends to yield greater susceptance to EMI and ESI.

common mode noise Noise, caused by a difference in "group potential." By grounding at either end rather than both ends (usually grounded at source) one can reduce this interference.

composite cable A cable containing more than one gauge size or a variety of circuit types, e.g., pairs, triples, quads, coaxials, etc.

compound An insulating or jacketing material made by mixing two or more ingredients.

concentric stranding A central wire surrounded by one or more layers of helically wound strands in a fixed round geometric arrangement.

concentricity In a wire or cable, the measurement of the location of the center of the conductor with respect to the geometric center of the surrounding insulation.

conductance The ability of a conductor to carry an electrical charge. The ratio of the current flow to the potential difference causing the flow. The reciprocal of resistance.

conductivity The capability of a material to carry electrical current–usually expressed as a percentage of copper conductivity (copper being 100%).

conductor An uninsulated wire suitable for carrying electrical current.

conductor spacing Distance between the closest edges of two adjacent conductors.

conduit A tube or trough in which insulated wires and cables are passed.

connector A device used to physically and electrically connect two or more conductors.

connector adapter A special type of connector that allows mating of otherwise incompatible connectors. Examples include a female adapter that mates two male connectors; or a connector that mates a 9-position connector to a 25-position connector.

contact The parts of a connector which actually carry the electrical current and are touched together or separated to control the flow.

continuity check A test to determine whether electrical current flows continuously throughout the length of a single wire or individual wires in a cable.

continuous vulcanization Simultaneous extrusion and vulcanization of rubber-like wire coating materials.

control cable A multiconductor cable made for operation in control or signal circuits.

ControlNet An industrial automation protocol that is highly scheduled and deterministic, operates at 5 Mb/s, and uses the same CIP application layer protocol as DeviceNet and EtherNET/IP. Trademark of ODVA.

copolymer A compound resulting from the polymerization of two different monomers.

Glossary

copper A reddish metal that is an excellent conductor of electricity.

copper-clad Steel with a coating of copper welded to it.

Copperweld Copperweld Steel's trademark for copper-covered steel conductor.

cord A small, flexible insulated cable.

core In cables, a component or assembly of components over which additional components (shield, sheath, etc.) are applied.

corona A discharge due to ionization of air around a conductor due to potential gradient exceeding a certain critical value.

corona resistance The time that the insulation will withstand a specified level of field-intensified ionization that does not result in the immediate complete breakdown of the insulation.

corrosion The deterioration of a material by chemical reaction or galvanic action.

coverage The percent of completeness with which a metal braid covers the underlying surface.

CRCS Continuous rigid cable support. Synonymous with tray.

creep The dimensional change with time of a material under load.

cross-linked Inter-molecular bonds between long chain thermoplastic polymers by chemical of electron bombardment means. The properties of the resulting thermosetting material are usually improved.

cross-linked polyethylene A form of polyethylene whose molecules are more closely linked to produce a greater balance of physical and electrical properties.

crosstalk A type of interference caused by signals from one circuit being coupled into adjacent circuits.

C-track A cable guide mechanism manufactured of either plastic or metal used in continuous flexing applications.

current Flow of electricity, measured in amps.

current-carrying capacity The maximum current an insulated conductor can safely carry with out exceeding its insulation and jacket temperature limitations.

cut-through resistance The ability of a material to withstand mechanical pressure, (usually a sharp edge or small radius) without separation.

CV Continuous vulcanization.

cycle life The number of repetitive flex motions that a wire or cable can withstand prior to breakdown.

decibel (dB) A unit to express differences of power level. A term that expresses two power levels used to indicate gains or losses in a system.

delay line A cable made to provide a very low velocity of propagation with long electrical delay for transmitted signals.

derating factor A factor used to reduce the current carrying capacity of a wire when used in environments other than that for which the value was established.

DeviceNet An industrial automation protocol operating in either a master/slave or distributed fashion to connect controllers to sensors. Trademark of ODVA.

dielectric Any insulating (nonconducting) material between two conductors.

dielectric constant (k) The ratio of the capacitance using the material in question as the dielectric, to the capacitance resulting when the material is replaced by air.

dielectric strength The voltage which an insulation can withstand before breakdown occurs. Usually expressed as a voltage gradient (such as volts per mil).

dielectric test A test in which a voltage higher than the rated voltage is applied for a specified time to determine the adequacy of the insulation under normal conditions.

digital Representation of data by discrete characters.

direct burial cable A cable installed directly in the earth, without a conduit.

direct current (DC) An electric current which flows in one direction.

direct current resistance (DCR) The resistance offered by any circuit to the flow of direct current.

direction of lay The lateral direction in which the strands of a conductor run over the top of the cable conductor as they recede from an observer looking along the axis of the conductor or cable. Also applies to twisted cable.

Glossary

dissipation factor The tangent of the loss angle of the insulating material. (Also referred to as loss tangent, tan δ, and approximate power factor.)

drain wire In a cable, the uninsulated wire in intimate contact with a shield to provide for easier termination of such a shield to ground.

drawing In wire manufacture, pulling the metal through a die or series of dies to reduce diameter to a specified size.

dual wall With heat shrink tubing, a construction having a double-layer construction, with the inner wall typically having an adhesive or meltable structure to bond and seal the tubing to the substrate.

duct An underground or overhead tube for carrying electrical cables.

duplex insulated In the thermocouple industry, a combination of dissimilar metal conductors of a thermocouple or thermocouple extension wire.

eccentricity Like concentricity, a measure of the center of a conductor's location with respect to the circular cross section of the insulation. Expressed as a percentage of displacement of the circle within the other.

ECTFE Ethylene chloro-trifluoroethylene.

EIA Electronic Industries Alliance.

elastomer A class of long-chain polymers capable of being crosslinked to produce elastic compounds, e.g. polychloroprene and ethylene propylene rubber.

electromagnetic Pertaining to the combined electric and magnetic fields associated with movements of electrons through conductors.

electromotive force (EMF) Pressure or voltage. The force which causes current to flow in a circuit.

electrostatic Pertaining to static electricity or electricity at rest. A constant intensity electric charge.

elongation The fractional increase in length of a material stressed in tension.

EMC Electromagnetic compatibility. No emission of interference exceeding FCC limits.

EMF See electromotive force.

EMI Electromagnetic interference.

EMP Electromagnetic pulse.

ends In braiding, the number of essentially parallel wires or threads on a carrier.

EPOS Abbreviation for electronic point-of-sale.

EPR Ethylene-propylene rubber, having similar physical properties to butyl rubber. The polymer is chemically cross-linked.

epoxy An adhesive used in the connector termination process.

EtherNet/IP An industrial automation protocol using CIP for upper layers and Ethernet for the lower layers. Trademark of ODVA.

ETFE Ethylene tetrafluoroethylene.

ETPC Abbreviation for electrolytic tough pitch copper. It has a minimum conductivity of 99.9%.

expanded diameter Diameter of shrink tubing as supplied. When heated, the tubing will shrink to its extruded diameter.

external interference The effects of electrical waves or fields which cause spurious signals other than the desired intelligence, e.g. noise.

extrusion A process of continuously applying an insulation over a conductor or jacket (rubber or plastic compounds).

FAA Federal Aeronautics Administration.

farad (F) Unit of capacitance whereby a charge of one coulomb produces a one volt potential difference.

fatigue resistance Resistance to metal crystallization which leads to conductors breaking from flexing.

feedback Transfer of some output energy of an amplifier to its input, so as to modify its characteristic.

FEP Fluorinated ethylene propylene.

FHDPE Foamed high-density polyethylene.

Fieldbus (1) A generic term for communication protocols used in industrial networks for instrumentation and control. (2) A specific set of protocols that includes Foundation Fieldbus and HSE (High-Speed Ethernet).

figure 8 cable An aerial cable configuration in which the conductors and the steel strand which supports the cable are integrally jacketed. A cross section of the finished cable approximates the figure "eight."

Glossary

filled cable A telephone cable construction in which the cable core is filled with a material that will prevent moisture from entering or passing through the cable.

filler (1) A material used in multiconductor cables to occupy large interstices formed by the assembled conductors. (2) An inert substance added to a compound to improve properties or decrease cost.

film A thin plastic sheet.

FIT® Alpha Wire registered trademark for shrinkable tubing and wire management products.

flame resistance The ability of a material not to propagate flame once the flame source is removed.

flammability The measure of the material's ability to support combustion.

flat cable Multiconductor cable arranged in a parallel type configuration manufactured with controlled tolerance spacing.

flat conductor A wire having a rectangular cross section as opposed to round or square conductors.

flat conductor cable A cable with several flat conductors.

FLC Fluorocopolymer insulating and/or jacketing compounds.

flex life The measurement of the ability of a conductor or cable to withstand repeated bending.

flexibility That quality of a cable or cable component which allows for bending under the influence of outside force, as opposed to limpness which is bending due to the cable's own weight.

foam polyethylene See cellular polyethylene.

foamed plastics Insulations having a cellular structure.

FPE Foam polyethylene.

FPP Foam polypropylene.

frequency Number of times an alternating current reverses itself in one second. Express in Hertz (hz), which is one cycle per second.

gang strip Simultaneous stripping all conductors in a flat or ribbon cable.

Gauge A term used to denote the physical size of a wire.

Giga- A numerical prefix denoting one billion (10^9).

gigahertz (GHz) A unit of frequency equal to one billion hertz.

ground A conducting connection between an electrical circuit and the earth or other large conducting body to serve as an earth thus making a complete electrical circuit.

ground fault A failure of transmission involving insulation-to-shield or insulation-to-ground wire.

halogen Elements such as fluorine, chlorine, bromine, and iodine that are highly reactive and can be harmful to people and animals.

hard-drawn copper wire Copper wire that has not been annealed after drawing.

harmonized Products meeting requirements of CENELEC for use in European Economic Community.

harness An arrangement of wires and cables, usually with many breakouts, which have been tied together or pulled into a rubber or plastic sheath, used to interconnect electric circuits.

hash mark stripe A non-continuous helical stripe applied to a conductor for identification.

heat distortion Distortion or flow of a material or configuration due to application of heat.

heat endurance The time of heat aging that a material can withstand before failing a specific physical test.

heat shock A test to determine stability of a material by sudden exposure to a high temperature for a short period of time.

helical stripe A continuous, colored, spiral stripe applied to a conductor for circuit identification.

henry (H) The unit of inductance.

hertz (Hz) The unit of frequency, expressing cycles per second.

high voltage Generally, a wire or cable with an operating voltage of over 600 volts.

hi-pot A test designed to determine the highest voltage that can be applied to a conductor without electrically breaking down the insulation.

hook-up wire A single insulated conductor used for low current, low voltage (usually under 1000 volts) applications within enclosed electronic equipment.

hygroscopic Readily absorbing and retaining moisture.

ICEA Insulated Cable Engineers Association.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Glossary

IDC Insulation displacement connector.

IEC International Electrotechnical Commission.

IEEE Institute of Electrical and Electronic Engineers.

IEEE-488 A standard for connecting test equipment. Also know as General-Purpose Interface Bus (GPIB).

impact strength A test for determining the mechanical punishment a cable can withstand without physical or electrical breakdown by impacting with a given weight, dropped a given distance, in a controlled environment.

impedance The total opposition that a circuit offers to the flow of alternating current or any other varying current at a particular frequency. It is a combination of resistance R and reactance X, measured in ohms.

IMSA International Municipal Signal Association.

index edge See reference edge.

inductance The property of a circuit or circuit element that opposes a change in current flow, thus causing current changes to lag behind voltage changes. It is measured in henrys.

inductive coupling Crosstalk resulting from the action of the electromagnetic field of one conductor on the other.

insulation A material having high resistance to the flow of electric current. Often called a dielectric in radio frequency (coaxial) cable.

insulation resistance The ratio of the applied voltage to the current between two electrodes in contact with a specific insulation.

Insulation A material having high resistance to the flow of electric current.

interconnecting cable The wiring between modules, between units, or the larger portions of a system.

interference Electrical or electromagnetic disturbances which introduce undesirable responses into other electronic equipment.

interstices Voids or valleys between individual strands in a conductor or between insulated conductors in a multiconductor cable during extreme flexing.

IPCEA Insulated Power Cable Engineers Association.

irradiated Exposure to high-energy radiation resulting in cross-linking of molecules.

irradiation In insulations, the exposure of the material to high energy emissions for the purpose of favorably altering the molecular structure.

ISA Originally, Instrument Society of America, now called International Society of Automation.

ISO International Standards Organization.

jacket An outer covering, usually non-metallic, mainly used for protection against the environment.

jumper cable A short flat cable interconnecting two wiring boards or devices.

kilo- (k) A numerical prefix denoting 1000 (10^3).

kilometer (km) 1000 meters or 3281 feet (0.621 miles).

kpsi Tensile strength in thousands of pounds per square inch.

kV kilovolt, 1000 volts

laminated tape A tape consisting of two or more layers of different materials bonded together.

lay The length measured along the axis of a wire or cable required for a single strand (in stranded wire) or conductor (in cable) to make one complete turn about the axis of the conductor or cable.

leakage current The undesirable flow of current through or over the surface of an insulation.

life cycle A test to determine the length of time before failure in a controlled, usually accelerated, environment.

limits of error The maximum deviation (in degrees or percent) of a thermocouple or thermocouple extension wire from standard EMF-temperature to be measured.

link The complete point-to-point communications path between transmitter and receiver.

litz A type of specialty cable designed to reduces AC losses in conductors from skin and proximity effects at high frequencies to make transformers and motors more efficient. Litz wire consists of individually insulated strands woven or twisted in a specific pattern so that each tends to occupy all possible positions in the cross section, thereby equalizing flux linkages and reactances.

Glossary

Loc-Trac® Alpha Wire's registered trademark for a zipper tubing closure track which does not require any sealants to keep it closed.

local area network (LAN) A baseband or broadband interactive bidirectional communication system for voice, video or data use on a common cable medium.

longitudinal shield A tape shield, flat or corrugated, applied parallel to the axis of the core being shielded.

longitudinal shrinkage A term generally applied to shrink products denoting the discrete axial length lost through heating in order to obtain the recovered diameter.

loop resistance The total resistance of two conductors measured round trip from one end.

loss Energy dissipated without accomplishing useful work.

loss factor The product of the dissipation and dielectric constant of an insulating material.

low loss A cable that has relatively small power loss over long lengths.

low-loss dielectric An insulating material that has a relatively low dielectric loss, such as polyethylene or PTFE.

LSZH Low-smoke, zero halogen. An insulating material that contains no halogens or other potentially toxic materials and that generates very low levels of smoke when burned.

magnetic field The region within which a body or current experiences magnetic forces.

magnetic flux The rate of flow of magnetic energy across or through a surface (real or imaginary).

magnetic noise Caused by change in current level, e.g. AC powerline (creates magnetic field around that cable) this magnetic field causes the magnetic noise.

mastic A meltable coating used on the inside of some shrink products which, when heated, flows to encapsulate the interstitial air voids.

MCM Thousand circular mils.

mega- (M) A numerical prefix denoting 1,000,000 (10^6).

meter Unit of measurement, one meter equals 3.28 feet.

mho The unit of conductivity. The reciprocal of an ohm.

MHz Megahertz (one million cycles per second).

micro- A numerical prefix denoting one-millionth (10^{-6}).

microwave A short (usually less than 30 cm) electrical wave.

mil A unit used in measuring diameter of a wire or thickness of insulation over a conductor. One-one thousandth of an inch (.001").

milli- (m) Prefix meaning 1/1000 (10^{-3}).

millimeter One millimeter equals 0.03937 inches.

MIL-SPEC Military Specification. A document of the U.S. Government, issued to define a product that will be used in military end-use applications.

mismatch A termination having a different impedance than that for which a circuit or cable is designed.

modulation The coding of information onto the carrier frequency. Modulation means include (among others) amplitude, frequency, or phase pulse many forms of on-off digital coding.

modulus of elasticity The ratio of stress to strain in an elastic material.

moisture absorption The amount of moisture, in percentage, that a material will absorb under specified conditions.

moisture resistance The ability of a material to resist absorbing moisture from the air or when immersed in water.

monomer The basic chemical unit used in building a polymer.

MSHA Mine Safety and Health Administration.

MTW Machine tool wire.

multiconductor More than one conductor within a single cable complex.

mutual capacitance Capacitance between two conductors when all other conductors including ground are connected together and then regarded as an ignored ground.

nano- A numerical prefix denoting one-billionth (10^{-9}).

nanosecond One billionth of a second (10^{-9} second).

NBFU National Board of Fire Underwriters.

NBS National Bureau of Standards.

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Glossary

NEC National Electrical Code. A consensus standard published by the National Fire Protection Association (NFPA) and incorporated in OSHA regulations.

NEMA National Electrical Manufacturers Association.

neoprene Thermosetting material, chemically known as polychloroprene, with excellent flame retarding and abrasion resisting qualities used as a jacketing material.

NFPA National Fire Protection Association, group that publishes the NEC.

noncontaminating PVC A polyvinylchloride formulation, which does not produce electrical contamination.

nylon A group of polyamide polymers which are used for wire and cable jacketing.

ODVA Formerly Open DeviceNet Vendors Association.

OFHC oxygen-free, high conductivity copper. It has no residual deoxidant, 99.95% minimum copper content and an average annealed conductivity of 101%.

ohm Unit of resistance such that a constant current of one ampere produces a force of one Volt.

Ohm's law 1) volts = current x resistance; 2) current = volts/ resistance; 3) resistance = volts/ current.

operating temperature range Indicates the range of temperature at which the cable or tubing can be used without loss of its physical properties.

OSHA Occupational Safety and Health Act.

outgassing Percentage of a gas released during the combustion of insulation or jacketing material.

overlap The amount the trailing edge laps over the leading edge of a tape wrap.

oxygen index Percentage of oxygen necessary to support combustion in gas mixture.

ozone Form of oxygen, produced by discharge of electricity into air and harmful to certain insulation.

pairing The union of two insulated single conductors through twisting.

PE Polyethylene.

percent conductivity Conductivity of a material expressed as a percentage of that of copper.

permittivity See dielectric constant.

phase 360 degrees represents one cycle. A fraction of one cycle is called a phase.

pick Distance between two adjacent crossover points of braid filaments. The measurement in picks per inch indicates the degree of coverage.

pico- (p) A numerical prefix denoting one-millionth of one-millionth (10^{-12}).

picofarad (pF) One trillionth of a farad (10^{-12}).

pitch In flat cable, the nominal distance between the index edges of two adjacent conductors.

pitch diameter Diameter of a circle passing through the center of the conductors in any layer of a multiconductor cable.

plastic deformation Change in dimensions under load that is not recovered when the load is removed.

plasticizer A chemical agent added to plastics to make them softer and more pliable.

plenum The air return path of a central air handling system, either ductwork or open space over a dropped ceiling.

plenum cable Cable approved by Underwriters Laboratories for installation in plenums without the need for conduit.

PLTC Power-limited tray cable.

point-to-point wiring Continuous conductors terminated at each end to circuit destinations.

polychloroprene Chemical name of neoprene.

polyester Polyethylene terephthalate, which is used extensively in the production of a high-strength moisture-resistant film used as a cable core wrap.

polyethylene A family of insulations derived from the polymerization of ethylene gas and characterized by outstanding electrical properties, including high IR, low dielectric constant, and low dielectric loss across the frequency spectrum. Mechanically rugged, it resists abrasion and cold flow.

polyhalocarbon A general name for polymers containing halogen atoms. The halogens are fluorine, chlorine and bromine.

polymer A material of high molecular weight formed by the chemical union of monomers.

Glossary

polyolefin A family of thermoplastics based upon the unsaturated hydrocarbons known as olefins. When combined with butylene or styrene polymers, they form compounds such as polyethylene and polypropylene.

polyurethane A family of flexible, abrasion resistant jackets used for Xtra-Guard® 2 harsh environment cables.

polyvinylchloride A general purpose family of insulations whose basic constituent is polyvinylchloride or its copolymer with vinyl acetate. Plasticizers, stabilizers, pigments and fillers are added in lesser quantity to improve mechanical and/or electrical properties of this material.

porosity Multiple air voids in an insulation or jacket wall.

potting The sealing of a cable termination or other component with a liquid which thermosets into an elastomer.

power Rate at which work is done in moving current, measured in watts. Power = Pressure x Current.

power factor The ratio of resistance to impedance. The ratio of the actual power of an alternating current to apparent power. Mathematically, the cosine of the angle between the voltage applied and the current resulting.

primary insulation The first layer of nonconductive material applied over a conductor, whose prime function is to act as electrical barrier (insulation).

PROFIBUS An industrial automation fieldbus.

propagation delay Time required for an electrical wave to travel between two points on a transmission line.

propagation time Time required for a wave to travel between two points on a transmission line.

propagation velocity See Velocity of Propagation.

psi Pound per square inch.

PTFE Polytetrafluoroethylene.

pulling eye A device fastened to a cable to which a hook may be attached in order to pull the cable into or from a duct.

pulse cable A type of coaxial cable constructed to transmit repeated high voltage pulses without degradation.

put-up and packaging The method of packaging product. May be expressed in units or footage. May show 4 foot lengths, spools, coils or long lengths of wire, cable and tubing products.

PV Photovoltaic.

PVC Polyvinylchloride.

PVDF Polyvinylidene fluofide.

QPL Qualified parts list.

quad A four-conductor cable.

rad The unit of radian dose which is absorbed, equal to .01 joule/kilogram.

radio frequency One suitable for radio transmission, above 104 Hz and below 3 GHz.

rated temperature The maximum temperature at which an electric component can operate for extended periods without loss of its basic properties.

rated voltage The maximum voltage at which an electric component can operate for extended periods without undue degradation or safety hazard.

REACH Registration, Evaluation and Authorization of Chemical Substances. An EU framework for regulating the production and use of chemical substances.

reactance The opposition offered to the flow of alternation current by inductance or capacitance of a component or circuit.

recovered diameter Diameter of shrinkable products after heating has caused it to return to its extruded diameter.

reference edge Edge of cable or conductor from which measurements are made. Sometimes indicated by a thread, stripe, printing or other identifying mark. Conductors are usually identified by their sequential position from the reference edge, with number one conductor closest to the edge.

reference junction The junction of a thermocouple which is at a known reference temperature. Also known as the “cold” junction, it is usually located at the emf measuring device.

reflection loss The part of a signal which is lost due to reflection of power at a line discontinuity.

reflow soldering The process of connecting two solder-coated conductive surfaces by remelting of the solder to cause fusion.

repeater A transmitter and receiver combination used to regenerate a signal along the communications path.

Glossary

resin A synthetic organic material formed by the union (polymerization) of one or more monomers with one or more acids.

resistance A measure of the difficulty in moving electrical current through a medium when voltage is applied. It is measured in ohms.

retractile cord A cable that returns by its own stored energy from an extended condition to its original contracted form.

RF Radio frequency.

RFI Radio frequency interference.

RG/U Radio Government, Universal. RG is the military designation for coaxial cable in MIL-DTL-17 and U stands for "general utility."

ribbon cable A flat cable of individually insulated conductors lying parallel and held together by means of adhesive film laminate.

ridge marker One or more ridges running laterally along the outer surface of an insulated wire for purposes of identification.

ringing out The process of locating or identifying specific conductive paths by means of passing current through selected conductors.

RJ-11 A 6-position modular plug and jack connector system.

RJ-45 An 8-position modular plug and jack connector system, widely used in local- and wide-area networks.

Rockwell hardness A test for determining hardness in which a hardened steel ball or diamond point is pressed into the material under test.

RoHS Restriction of Hardardous Substances. A regulatory framework for restricting the amounts of hazardous substances, including lead, mercury, cadmium, haxavent chromium, PBB, and PBDE, in materials.

root mean square (RMS) The effective value of an alternating current or voltage.

rope lay Cable composed of central core surrounded by one or more layers of helically laid groups of wires. Usually extremely flexible.

routing The path followed by a cable or conductor.

RS-232 A serial communications protocol using single-ended signaling for connecting data equipment at speeds up to 230.4 kb/s.

RS-422 A serial communications protocol using differential signaling for connecting equipment, at speeds to 10 Mb/s.

RS-423 A serial communications protocol using single-ended signaling for connecting data terminal equipment to data circuit-terminating equipment.

RS-485 A serial communications protocol using balanced signaling for connecting data terminal equipment to data circuit-terminating equipment, at speeds to 10 Mb/s over long distances and in noisy environments.

SAE Society of Automotive Engineers.

self-extinguishing The characteristic of a material whose flame is extinguished after the igniting flame is removed.

semiconductor A material that has a resistance characteristic between that of insulators and conductors.

semirigid PVC A hard semi-flexible polyvinylchloride compound with low plasticizer content.

separator A layer of insulating material such as textile, paper, polyester, etc. Used to improve stripping qualities, flexibility, mechanical or electrical protection to the components.

serve A filament or group of filaments such as fibers or wires, wound around a central core.

sheath The outer covering or jacket of a multiconductor cable.

shelf life Length of time under specified conditions that a material retains its usability.

shield A metallic layer, commonly aluminum or copper, of tape, braid or spiral wrapped wire construction. Its primary purpose is to prevent electrostatic or electromagnetic interference between adjacent wires and external sources.

shield coverage The physical area of a cable that is actually covered by the shielding material and is expressed in percent.

shield effectiveness The relative ability of a shield to screen out undesirable signals.

shrink ratio The ratio of shrinkage of tubing inside diameter from the expanded size to the fully recovered dimension.

shrink temperature That temperature which effects complete recovery of a shrinkable product from the expanded state.

Glossary

shrink tubing Tubing which has been extruded, cross-linked and non cross-linked, and mechanically expanded which when reheated will return to its original diameter.

signal A current used to convey information, either digital, analog, audio or video.

signal cable A cable designed to carry current of usually less than one ampere per conductor.

simplex Mode of data transmission in one direction only. Usually on a two-wire facility.

sintering A method of heat sealing. Fusion of a spirally applied tape wrap jacket by the use of high heat to a homogenous continuum. Usually employed for fluorocarbon, non-extrudable materials.

SIS XLP switchboard wire.

skin effect The phenomenon in which the depth of penetration of electric currents into a conductor decreases as the frequency increases.

sleeving A braided, extruded or woven tube.

SNR Signal-to-noise ratio.

soldering sleeves Shrinkable tubing with a solder preform used for highest reliability soldering connections or shield grounding.

solid conductor A conductor consisting of a single wire.

span In flat cables, the distance from the reference edge of the first conductor to the reference edge of the last conductor (in cables having flat conductors), or the distance between the centers of the first and last conductors (in cables having round conductors), expressed in inches or centimeters.

spark test A test designed to locate imperfections (usually pin-holes) in the insulation of a wire or cable by application of a voltage for a very short period of time while the wire is being drawn through the electrode field.

specific gravity The ratio of the density (mass per unit volume) of a material to that of water.

specific inductive capacity (SIC) See dielectric constant.

spiral wrap The helical wrap of a material over a core.

splice A mechanical device or fusion process that permanently bonds two fibers together without a connector producing extremely low loss.

spool Circular container on which wire is wound for storage or transit normally refers to sizes smaller than 18" in diameter.

stability factor The difference between the percentage power factor at 80 volts/mil and at 40 volts/mil measured on wire immersed in water at 75°C for a specified time.

static condition Used to denote the environmental conditions of an installed cable rather than the conditions existing during cable installation.

STP Shielded twisted pair cable.

strand A single uninsulated wire.

stranded conductor A conductor composed of single solid wires twisted together, either singly or in groups.

strip force The force required to remove a small section of insulating material from the conductor it covers.

structural return loss (SRL) Expresses the amount of signal lost in negative terms, and occurs when signals reflect back to points of transmission.

suggested working voltage AC voltage that can be applied between adjacent conductors.

Supra-Shield® Alpha Wire's trade name for foil/braid combination used for maximum shielding effectiveness.

surface resistivity The resistance of a material between two opposite sides of a unit square of its surface. It is usually expressed in ohms.

surge A temporary, large increase in the voltage or current in an electric circuit or cable.

sweep test A method to determine the frequency response of a cable, by generating an RF voltage whose frequency is varied at a rapid constant rate over a given range.

switchboard cable The cable used within and between the central office main frames and the switchboard.

tank test A voltage dielectric test in which the test sample is submerged in water and voltage is applied between the conductor and water as ground.

Glossary

tape wrap A spirally applied tape over an insulated or uninsulated wire.

TC Tray cable.

TC-ER Tray cable, extended run.

tear strength The force required to initiate or continue a tear in a material under specified conditions.

temperature coefficient of resistance The amount of resistance change of material per degree of temperature rise.

temperature rating The maximum and minimum temperature at which an insulating material may be used in continuous operation without loss of its basic properties.

Tempest Classified procedure which details the complex measurement of the combined reduction of all electromagnetic emissions from specified equipment.

tensile strength The pull stress required to break a given specimen.

TFE Polytetrafluoroethylene.

thermal shock A test to determine the ability of a material to withstand heat and cold by subjecting it to rapid and wide changes in temperature.

thermocouple A device for measuring temperature, at the point where two dissimilar metals are joined, and EMF output is generated when heated.

thermocouple element A thermocouple designed to be used as part of an assembly, but without associated parts such as the terminal block, connecting head, or protecting tube.

thermocouple extension cable A cable comprised of one or more twisted thermocouple extension wires under a common sheath.

thermocouple extension wire A pair of wires of dissimilar alloys having such EMF-temperature characteristics complimenting the thermocouple which is intended to be used, such that when properly connected allows the EMF to be faithfully transmitted to the reference junction.

thermocouple wire (grade) A pair of wires of dissimilar alloys having EMF-temperature characteristics calibrated to higher temperature levels than the extension type of thermocouple wire. Unlike the thermocouple extension wire, this wire may be employed as the thermocouple hot junction in addition to serving as the entire wire connection between hot and cold reference junctions.

thermoplastic A material which softens when heated or reheated and becomes firm on cooling.

thermoset A material which hardens or sets by heat, chemical or radiation cross-linking techniques and which, once set, cannot be resoftened by heating.

THHN 90°C, 600 volt, nylon jacketing building wire for dry locations.

THWN 75°C, 600 volt, nylon jacketed building wire for wet and dry locations.

tinned copper Tin coating added to copper to aid in soldering and inhibit corrosion.

topcoat conductor A conductor construction in which bare copper wires are first stranded and then coated with tin.

transformer A device for converting AC current from one voltage to another either “stepped up” or “stepped down.”

transmission cable Two or more transmission lines. If the structure is flat, it is sometimes called flat transmission cable to differentiate it from a round structure such as a jacketed group of coaxial cables. See transmission line.

transmission line A signal-carrying circuit with controlled electrical characteristics used to transmit high-frequency or narrow-pulse signals.

transmission loss The decrease or loss in power during transmission of energy from one point to another. Usually expressed in decibels.

tray A cable tray system is a unit or assembly of units or sections, and associated fittings, made of metal or other noncombustible materials forming a rigid structural system used to support cables. Cable tray systems (previously termed continuous rigid cable supports) include ladders, troughs, channels, solid bottom trays, and similar structures.

tray cable A factory-assembled multiconductor control, signal and power cable specifically approved under the National Electrical Code for installation of trays.

triad A group of 3 insulated conductors twisted together without (or with) a sheath overall. Usually color coded for identification. Also called triplex.

triaxial cable A cable construction having three coincident axes, such as conductor, first shield and second shield all insulated from one another.

Glossary

tubing A tube of extruded non-supported plastic or metallic material.

twinning Synonymous with pairing.

UF Thermoplastic underground feeder and branch circuit cable.

UHF Ultra high frequency, 300 to 3000 MHz.

UL Underwriters Laboratories, a nonprofit, independent organization, which operates a listing service for electrical and electronic materials and equipment.

UN Ungrounded neutral (refers to a type of power system).

unbalanced circuit A transmission line in which voltages on the two conductors are unequal with respect to ground; e.g. a coaxial cable.

unilay A conductor constructed with a central core surrounded by more than one layer of helically-laid strands, with all layers having a common length and direction of lay.

UTP Unshielded twisted pair cable.

UV Ultraviolet.

VDE German Society of Engineers that establishes standards and testing requirements.

velocity of propagation The speed of an electrical signal down a length of cable compared to speed in free space expressed as a percent. It is the reciprocal of the square root of the dielectric constant of the cable insulation.

VFD Variable-frequency drive.

VHF Very high frequency, 30 to 300 MHz.

volt A unit of electrical pressure. One volt is the electrical pressure that will cause one ampere of current to flow through one ohm of resistance.

voltage The term most often used in place of electromotive force, potential, potential difference, or voltage drop to designate the electric pressure that exists between two points and is capable of producing a current when a closed circuit is connected between two points.

voltage drop The amount of voltage loss from original input to point of electrical device.

voltage rating The highest voltage that may be continuously applied to a wire in conformance with standards or specifications.

voltage standing wave ratio (VSWR) The ratio of the maximum effective voltage to the minimum effective voltage measured along the length of a mismatched radio frequency transmission line.

volume resistivity (specific insulation resistance) The electrical resistance between opposite faces of a 1 cm cube.

VSWR Voltage standing wave ratio.

vulcanize To fuse under heat and pressure.

wall thickness The thickness of the applied insulation or jacket material.

water absorption Water by percent weight absorbed by a material after a given immersion period.

Watt (W) A unit of electric power. The watt is the power required to do work at the rate of one joule per second.

waveguide Hollow pipe (round or rectangular) used as transmission line for the propagation of microwaves.

wavelength The distance, measured in the direction of propagation, of a repetitive electrical pulse or waveform between two successive points.

wicking The longitudinal flow of a liquid in a wire or cable due to capillary action.

wire A slender rod or filament of drawn metal.

WTTC Wind turbine tray cable.

XLPE Cross-linked polyethylene.

Xtra-Guard® The Alpha Wire trade name for cable constructions designed for use in virtually any type of environment.

yield strength The minimum stress at which a material will start to physically deform without further increase in load.

Zipper Tubing™ Alpha Wire's trade name for a harnessing/jacketing material containing a zippertrack type closure. The zipper arrangement allows installation with no need to disconnect previously wired schemes for its installation. (See Loc-Trac®).

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

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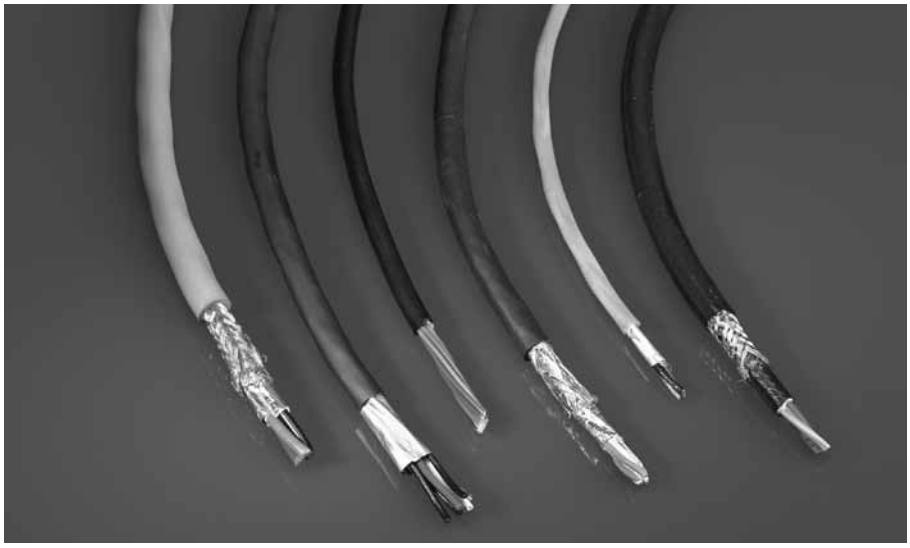

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