



# THE DATASHEET OF PLT1M-M



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# Cable Ties Product Selection Guide



# Comprehensive Cable Tie Solutions

Panduit offers a broad selection of industry approved styles, sizes, and materials to meet a full range of electrical, industrial, and networking applications.

**PLT Pan-Ty® Cable Ties**  
Most comprehensive product offering

**SG Super-Grip® Cable Ties**  
Withstand rough installations

**BT Dome-Top® Barb Ty Cable Ties**  
Metal locking barb; infinite adjustability

**DT Dura-Ty® Cable Ties**  
Acetal material; 20+ years outdoor service life

**CBR Contour-Ty® Cable Ties**  
Low profile head, parallel-entry, outside teeth

**HV Hyper-V™ Cable Ties**  
Teeth on both sides; 2-wedge locking design

**SST Sta-Strap® Cable Ties**  
Two-piece design, low thread force, lightweight

**ERT Elastomeric Cable Ties**  
Flexible, elastic material, UL 94V-0, releasable



	Product Family	PLT	SG	BT	DT	CBR	HV	SST	ERT
<b>Styles</b>	Locking	✓	✓	✓	✓	✓	✓	✓	
	Releasable	✓							✓
	Marker	✓		✓				✓	
	Clamp	✓		✓				✓	
	Push Mount	✓		✓					
	Specialty	✓		✓				✓	
<b>Cross Sections</b>	Miniature	✓	✓	✓		✓		✓	✓
	Intermediate	✓	✓	✓		✓		✓	
	Standard	✓	✓	✓		✓		✓	
	Heavy-Standard					✓			
	Light-Heavy	✓	✓	✓		✓	✓		
	Heavy	✓	✓					✓	
	Extra-Heavy	✓				✓			

## Cable Tie Industry Approvals

Agency	Spec/Approval	Requirement	Products
UL (Underwriters Laboratory)	UL 62275 (File E56854)	Types 1, 11, 2, 2S, 21, 21S (Note 1)	Select PLT, BT, SG, SST, and CBR Series
CSA (Canadian Standards Association)	CSA-C22.2 No. 62275 (File 31212)	Types 1, 11, 2, 2S, 21, 21S (Note 1)	Select PLT, BT, SG, SST, and CBR Series
ABS (American Bureau of Shipping)	05-HS463235-PDA	2005 Steel Vessel Rules 1-1-4/7.7, 4-8-4/21.9.32001 MODU Rules 4-3-3/5.9.1	PLT and BT Series
Bureau Veritas	Cert 05968/C0, BV File ACE 14/601/01 Product Code: 2535H	Bureau Veritas Rules for the Classification of Steel Ships	PLT, PRT, BT and CBR Series
Det Norske Veritas	E-6405	Det Norske Veritas' Rules for Classification of Ships and Mobile Offshore Units	PLT, PLC, PLM, PRT, PLWP, PRWP and PRST Series
Lloyd's Register of Shipping	89/60111 (E3)	Lloyd's Register Type Approval	PLT, PLC, PLP, PLWP, PLM, PRT, SST, SSC, SSM, BT, BC, BM, BF, B2M, B3M, BM, BW, BP, ILT and CBR Series
Russian Maritime Register of Shipping	11130200	Russian Maritime Type Approval Certificate	PLT, PLC, PLM, PLF, SG, BT, BF, BM, BC, DT and CBR Series
NRC (Nuclear Regulatory Commission)	NRC 10CFR50	Quality Assurance Criteria for Nuclear	All cable tie products
US Military Aerospace Standard	QPL-AS23190	SAE spec AS23190	Select PLT, BT, SST, and CBR Series

# Material Selection Criteria

Material	Test Method	Nylon 6.6	Weather Resistant Nylon 6.6	Impact Modified Weather Resistant Nylon 6.6	Heat Stabilized Nylon 6.6	Heat Stabilized Nylon 6.6	Heat Stabilized Weather Resistant Nylon 6.6	Flame Retardant Nylon 6.6
<b>Color</b>	—	Natural (other colors available)	Black	Black	Black	Natural	Black	Black
<b>Part Number Suffix (Material Designation)</b>	—	No Suffix	0	0	30	39	300	60
<b>Mechanical Properties</b>	<b>Tensile @ Yield @ 73°F (psi)</b>	ISO 527	12,000	12,000	9,700	12,000	12,000	11,000
	<b>Water Absorption (24 Hours)</b>	ASTM D570	1.2%	1.2%	1.2%	1.2%	1.2%	1.1%
	<b>Radiation Resistance (Rads)</b>	—	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>
	<b>Weathering Life Expectancy (Years)/UV Resistance</b>	—	1 – 2	7 – 9	7 – 9	4 – 5	1 – 2	7 – 9
	<b>Impact Resistance</b>	—	☐	☐	☐	☐	☐	☐
<b>Chemical Resistance</b>	<b>Salts</b>	—	☐	☐	☐	☐	☐	☐
	<b>Hydrocarbons (Oil, Lubricants)</b>	—	●	●	●	●	●	●
	<b>Chlorinated Hydrocarbons</b>	—	☐	☐	☐	☐	☐	☐
	<b>Acids</b>	—	●	●	●	●	●	●
	<b>Bases</b>	—	☐	☐	☐	☐	☐	☐
	<b>Acid Rain</b>	—	☐	☐	☐	☐	☐	☐
<b>Thermal Properties</b>	<b>Continuous Use Temperature Range</b>	UL 746B	-76°F – 185°F -60°C – 85°C	-76°F – 185°F -60°C – 85°C	-76°F – 185°F -60°C – 85°C	-76°F – 239°F -60°C – 115°C	-76°F – 239°F -60°C – 115°C	-76°F – 239°F -60°C – 115°C
	<b>Minimum Installation Temperature</b>	UL 62275	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)
	<b>Flammability Rating</b>	UL 94	V-2	V-2	HB	V-2	V-2	V-2
	<b>Low Smoke</b>	ASTM E662	PASS	PASS	PASS	PASS	PASS	PASS
	<b>Oxygen Index</b>	BS ISO 4589	28	28	—	28	28	28
	<b>Halogen-Free</b>	IEC 60754-2	Yes	Yes	Yes	Yes	Yes	Yes
	<b>Burning Fume Toxicity</b>	BSS-7239	PASS	PASS	PASS	PASS	PASS	PASS
	<b>Heat Deflection Temperature @ 1.8 Mpa</b>	ASTM D648 ISO 75 -1/-2	158°F 70°C	158°F 70°C	145°F 63°C	158°F 70°C	158°F 70°C	158°F 70°C
<b>Relative Price</b>	—	Low	Low	Low	Low	Low	Med	

<b>Material Availability</b>	<b>Product Family</b>		<b>Cross Sections</b>						
	<b>Pan-Ty® Cable Ties</b>	PLT	3	SM, M, I, S	LH, H, EH	3	3	3	3
	<b>Super-Grip® Cable Ties</b>	SG	3	M, I, S, LH	H	3			
	<b>Dome-Top® Barb Ty Cable Ties</b>	BT	3	M, I, S	LH	3	3	3	
	<b>Dura-Ty™ Cable Ties</b>	DT							
	<b>Contour-Ty® Cable Ties</b>	CBR	3	M, I, S, HS, LH		3	3		
	<b>Hyper-V™ Cable Ties</b>	HV			LH				
	<b>Sta-Strap® Cable Ties</b>	SST	3	M, I, S, H		3			
	<b>Elastomeric Cable Ties</b>	ERT							

Recommendation Legend				
Highest	High	Acceptable	Low	Lowest
●	◐	○	◑	●

Check mark indicates material availability in that product family for all cross sections.

Cross Sections: SM = Subminiature, M = Miniature, I = Intermediate, S = Standard, HS = Heavy-Standard, LH = Light-Heavy, H = Heavy, EH = Extra-Heavy

Flame Retardant Nylon 6.6	Weather Resistant Nylon 12	Polypropylene	Weather Resistant Polypropylene	TEFZEL®	HALAR®	PEEK	Metal Detectable Nylon	Metal Detectable Polypropylene	DT Weather Resistant Acetal	ERT Flame Retardant TPU
Natural Ivory	Black	Green	Black	Aqua Blue	Maroon	Translucent Brown	Lt. Blue	Dark Blue	Black	Black
69	120	109	100	76	702Y	71	86	186	N/A	20
11,000	6,700	4,100	4,100	7,500	7,000	15,200	—	—	6,500	4,300
1.1%	0.3%	0.1%	0.1%	<0.03%	<0.05%	0.5%	1.2%	0.1%	<0.45%	0.25%
1 x 10 <sup>5</sup>	3.5 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>	2 x 10 <sup>8</sup>	2 x 10 <sup>8</sup>	1 x 10 <sup>9</sup>	—	1 x 10 <sup>5</sup>	6 x 10 <sup>5</sup>	—
1 – 2	12 – 15	1	7 – 9	>15	>15	—	—	1	>20	7 – 9
☐	☐	☐	☐	●	●	●	☐	☐	☐	●
☐	☐	●	●	●	●	●	☐	●	☐	●
●	●	☐	☐	●	●	●	●	☐	●	☐
☐	☐	☐	☐	●	●	●	☐	☐	☐	●
●	●	●	●	●	●	☐	●	●	●	☐
☐	☐	●	●	●	●	●	☐	●	●	☐
☐	☐	●	●	●	●	☐	☐	●	☐	☐
-76°F – 212°F -60°C – 100°C	-76°F – 194°F -60°C – 90°C	-76°F – 239°F -60°C – 115°C	-76°F – 239°F -60°C – 115°C	-76°F – 338°F -60°C – 170°C	-76°F – 257°F -60°C – 125°C	-76°F – 500°F -60°C – 260°C (Note 2)	-76°F – 185°F -60°C – 85°C	-76°F – 239°F -60°C – 115°C	76°F – 185°F -60°C – 85°C	-40°F – 122°F -40°C – 50°C
-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)	-4°F or +32°F -20°C or 0°C (Note 1)
V-0	HB	HB	HB	V-0	V-0	V-0	HB	HB	HB	V-0
PASS	—	—	—	—	—	PASS	—	—	PASS	—
34	—	—	—	30	52	35	—	—	—	26
Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
PASS	—	—	—	—	—	—	—	—	—	—
154°F 68°C	122°F 50°C	122°F 50°C	122°F 50°C	—	149°F 65°C	313°F 156°C	—	—	147°F 64°C	—
Med	Med	Med	Med	High	High	High	Low	Med	Med	High
3	3	3	3	3	3	3	3	3		
3									3	
3										
										3

Note 1: Check UL file for specific part number rating

Note 2: Based upon UL RTI for electrical properties

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# Cable Tie Installation Tools

Panduit offers the most preferred hand-operated tools in the industry. These versatile tools can be used for production, maintenance or construction applications. Panduit cable tie installation tools promote worker safety, help reduce downtime, improve productivity and provide the lowest total installed cost. As with all Panduit products, quality in design and production along with customer service excellence, are assured.

## Cable Tie Tools



**GTS-E**

- Used with SM, M, I, and S cable ties
- Ergonomic design lowers the risk of repetitive motion injuries. Lowest activation and impact force to installer's hand



**GS2B-E**

- Used with SM, M, I, and S cable ties
- Metal tool with a durable powder coat finish
- Ergonomic design lowers the risk of repetitive motion injuries. Lowest activation and impact force to installer's hand



**GTH-E**

- Used with S, HS, LH, and H cable ties
- Ergonomic design lowers the risk of repetitive motion injuries. Lowest activation and impact force to installer's hand



**GS4H-E**

- Used with S, HS, LH, and H cable ties
- Metal tool with a durable powder coat finish
- Ergonomic design lowers the risk of repetitive motion injuries. Lowest activation and impact force to installer's hand



**GS4EH-E**

- Used with LH, H, and EH cable ties
- Metal tool with a durable powder coat finish
- Ergonomic design lowers the risk of repetitive motion injuries. Lowest activation and impact force to installer's hand

## Pneumatic Hand Tools



**PTS**

- Used with SM, M, I, and S cable ties
- Ergonomic design with impact resistant resin housing and black knob; replacement parts can be part of a scheduled maintenance program



**PTH**

- Used with S, HS, LH, and H cable ties
- Ergonomic design with impact resistant resin housing and red knob; replacement parts can be part of a scheduled maintenance program



**Pneumatic Tool Accessories**

- Visit [www.panduit.com](http://www.panduit.com) for our complete line of pneumatic tool accessories

# Complete Your Bundling System

## Tools



### Manual Cable Tie Installation Tools

- Designed to speed installation for lower installed cost
- Flush tie cut-off limits exposure to sharp edges
- A full line of lightweight, ergonomic hand tools available
- Panduit leads the industry in reliability and performance



### Automatic Cable Tie Installation Systems

- An efficient solution for high volume harnessing, assembly, fastening and packaging applications
- High speed tools lower installed cost and reduce operator fatigue
- Wrap, tension, and cut off cable ties in less than one second
- Microprocessor based controller monitors system performance for production data and reporting

## Services



### Custom Imprinting Service

- Products available for custom imprinting include cable ties, marker plates, marker and flag ties, hook and loop wrap ties
- Results in a professional, high quality appearance for identification and labeling as well as promotional purposes
- Options include company logos, website addresses, sequential numbering, phone numbers, graphics and text

## Related Products



### Cable Accessories

- Comprehensive line of mounts, clips, and clamps that organizes and routes cables, speeds and simplifies installations, and lowers overall installed cost. Installation methods include adhesive backed, user applied adhesive, screws, rivets and push barb
- Accessories provide long term reliability while cable clips and clamps offer a one-piece solution to save time and reduce inventory



### Stainless Steel Cable Ties

- Durable method of bundling, fastening and permanent identification in applications where severe environmental conditions exist
- Engineered for safety, productivity and durability by providing round edges and smooth surfaces, easy threading, high loop tensile strength and tight clamping



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**CTSG05-SA-ENG**  
Replaces CTSG04--SA-ENG  
6/2018

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