

3M™ Heat Shrink Tubing SMS

Adhesive-Lined, 4:1, Semi-Rigid, Polyolefin for the Automotive Industry

Data Sheet

May 2010

Description 3M™ Heat Shrink Tubing SMS is a co-extruded, dual wall product. It is a composite of a polyolefin shrinkable outer wall and a thermoplastic adhesive inner wall. SMS tubing does not degrade when exposed to automotive and marine environments and is not affected by severe vibration, extreme temperature changes, moisture or automotive fluids.

Features **All-Weather, Heat-Shrinkable, Dual Wall, Polyolefin Tubing for Automotive Wire Harnesses**

- Semi-rigid polyolefin
- Provides excellent strain relief
- Functional over wide temperature range
- Puncture resistant
- Resistant to salt water, automotive fluids and corrosive chemicals
- Fire retardant

Applications Semi-rigid SMS tubing is ideal for applications requiring moisture sealing, mechanical protection and strain relief.

The adhesive layer is compatible with typical wire insulation and is intended for moisture sealing and insulation of automotive, RV, truck, trailer, tractor, heavy equipment and marine wire splices, in-line components, fusible links and terminals.

Shrink Ratio SMS tubing has a 4:1 shrink ratio. When fully recovered, the tubing will shrink 25% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

The operating temperature range is -55°C (-67 °F) to 110°C (230 °F), with a minimum shrink temperature of 121°C (250 °F).

3M™ Heat Shrink Tubing SMS

Standard Sizes and Dimensions

Ordering Size	Maximum Expanded I.D.	Maximum Recovered I.D.	Nominal Recovered Melt Wall	Meltable Recovered Outer Wall	Color Code
.220	.220"	.045"	.030"	.027"	Yellow
.300	.300"	.060"	.033"	.028"	White
.350	.350"	.080"	.038"	.033"	Green
.450	.450"	.105"	.043"	.053"	Red
.700	.700"	.175"	.060"	.053"	Orange

Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Applicable Specification: ESB-M99D56-FORD, MS-DB56-CHRYSLER

Physical Property (Test Method)	Typical Value US units (metric)
Color	Black, and other color-coded sizes
Tensile Strength	1900 PSI
Ultimate Elongation (ASTM-D2671)	350%
Longitudinal Change (ASTM-D2671)	+0, -10%
Secant Modulus (2%) (ASTM-D882 Procedure A)	35,000 PSI
Heat Aging	135°C (Adhesive Softens)
Specific Gravity (ASTM-D792) (outer wall)	1.25
Flammability (ASTM-D2671 Procedure B)	Self Extinguishing
Thermal Cycle	5°C to 135°C
Vibration	24 hours
Cold Flex	-30°C

Electrical Property (Test Method)	Typical Value US units (metric)
Dielectric Strength (ASTM-D149) (outer wall)	500 V/mil
Dielectric Withstand	1000 Volts AC
Current Leakage	<0.250 Microamps

Chemical Property (Test Method)	Typical Value US units (metric)
Auto fluid Compatibility	8 fluids

3M test methods available upon request.

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Handling and Safety Precautions	Read all Health Hazard, Precautionary, and First Aid statements found in the Material Safety Data Sheet and/or product label prior to handling or use.
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Shelf Life & Storage	3M™ Heat Shrink Tubing SMS has a 2-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).
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Availability	Standard Packaging Cut pieces and 4 foot lengths. See price pages for standard lengths and carton quantities. Other sized, lengths and packaging options are available, subject to factory quotation.
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Printing
Custom printing to identify resistors, diodes and other components is available, subject to factory quotation.

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-800-245-0329.

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