

3M™ Heat Shrink Tubing EPS-400

Adhesive-Lined, 4:1, Semi-Rigid, Polyolefin

Data Sheet

November 2018

Description

3M Heat Shrink Tubing EPS-400 is a medium-wall, semi-rigid tubing offering the advantages of integral, adhesive-lined construction. The tubing is made from flame-retardant, flexible polyolefin with an internal layer of special thermoplastic adhesive. The heat-shrinkable outer wall is selectively cross-linked, while the adhesive maintains high flow and excellent adhesion characteristics.

When heated in excess of 121°C (250°F), EPS-400 tubing rapidly shrinks to a skintight fit, forcing the melted adhesive to flow and cover the substrate. Upon cooling, the adhesive solidifies, forming a permanent, non-drying, flexible and water resistant barrier. Adhesive reflow will occur at temperatures above 80°C (176°F).

Agency Approvals & Self Certifications

Meets requirements of:

- UL Recognized, UL File E-157227 at 600 Volts and 125 °C maximum
- CSA Recognized, CSA File LR38227
- For RoHS and REACH information, please visit www.3M.com/regs

Applications

3M EPS-400 tubing offers excellent environmental protection for electronic components, wire splices, wire bundles and harness breakouts. Automotive, truck and marine wire splices and harness breakouts are also quickly and easily protected from a variety of harsh environments.

Shrink Ratio

3M EPS-400 tubing has a 4:1 shrink ratio. When fully recovered, the tubing will shrink 25% of its as-supplied diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

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

Standard Sizes and Dimensions

Ordering Size (Nominal)	Expanded I.D. (Minimum)	Recovered I.D. (Maximum)	Total Recovered Wall Thickness (Nominal)	Meltable Recovered Wall Thickness
	In. (mm)	In. (mm)	In. (mm)	In. (mm)
.300	.300 (7,62)	.060 (1,52)	.033 (0,84)	.028 (0,71)
.350	.350 (8,89)	.080 (2,03)	.038 (0,97)	.033 (0,84)
.450	.450 (11,43)	.105 (2,67)	.043 (1,09)	.053 (1,35)
.700	.700 (17,78)	.175 (4,45)	.060 (1,52)	.055 (1,40)

3M™ Heat Shrink Tubing EPS-400

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.

Physical Property	Typical Value US units (metric)
Color	Black and other color-coded sizes
Tensile Strength	1900 PSI
Ultimate Elongation	400%
Longitudinal Change	+1, -10%
Secant Modulus (2%)	33,000 PSI
Specific Gravity	1.25
Heat Aging (outer wall only) 168 hrs @ 175°C	Elongation 175%
Heat shock (outer wall only) 4 hrs @ 250 °C	No dripping, flowing, cracking
Low Temperature Flexibility (outer wall only) 4 hrs @ -55 °C	No cracking
Flammability	Self-extinguishing

Electrical Property (Test Method)	Typical Value US units (metric)
Dielectric Strength	700 V/mil
Volume Resistivity	10 ¹⁴ ohm/cm

Chemical Property (Test Method)	Typical Value US units (metric)
Corrosion Resistance (Copper mirror)	Non-corrosive
Fungus Resistance	Non-nutrient
Water Absorption	0.3%
Fluid Resistance	Excellent

Adhesive	Typical Value
Peel Strength, pli Polyethylene PVC Lead Aluminum	30 10 15 40
Corrosive Effect (Copper mirror)	Non-corrosive

3M™ Heat Shrink Tubing EPS-400

Shelf Life & Storage

3M Heat Shrink Tubing EPS-400 has a 10-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).

Availability

Standard Packaging

Four-foot lengths. Cut pieces are available subject to factory quotation.

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-800-676-8381.

3M is a trademark of 3M Company.

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability

This product will be free from defects in material and manufacture at the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any direct, indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



Electrical Markets Division

Austin, TX
800 676.8381
FAX: 800 828.9329
www.3M.com/oem

Please recycle
© 3M 2018 All rights reserved
78-8129-9269-7 Rev C

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

3M:

[EPS400-.450-48"-Black](#) [EPS400-.450-6"-Black](#) [EPS400-.350-48"-Black-Bulk](#) [EPS400-.450-48"-Black-Bulk](#)