



# EPS-400 Tubing

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

## Data Sheet

### Product Description

3M™ 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 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. EPS-400 is rated for operation at -55°C (-67°F) to 110°C (230°F). Adhesive reflow will occur at temperatures above 80°C (176°F).

### Typical Applications

EPS-400 offers superb 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

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

### Standard Color

Black.

### Standard Packaging

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

### Ordering Information

Order EPS-400 Tubing by product name, size equivalent to the expanded inside diameter, package type and color. Always order the largest size that will shrink snugly over the item to be covered. Example: EPS-400, 3/8", 4 ft., black.

### Standard Sizes and Dimensions

Ordering Size	Expanded I.D. (Minimum) in. (mm)	Recovered I.D. (Maximum) in. (mm)	Recovered Melt Wall (Nominal) in. (mm)	Recovered Outer Wall (Minimum) 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)

### Typical Properties

#### Applicable Specification

UL File E-157227

#### Physical

Tensile Strength 1900 PSI  
Ultimate Elongation 400%  
Longitudinal Change +1, -10%  
Secant Modulus (2%) 33,000 PSI  
Specific Gravity 1.25  
\*Heat Aging Elongation 175%  
(168 hrs. @ 175°C)

\*Heat Shock No dripping,  
(4 hrs. @ 225°C) flowing,  
cracking

\*Low Temperature Flexibility  
(4 hrs. @ -55°C) No cracking  
Flammability Self-extinguish

#### Chemical

Corrosion Resistance  
(Copper mirror) Non-corrosive  
Fungus Resistance Non-nutrient  
Water Absorption 0.3%  
Fluid Resistance Excellent

#### Adhesive

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

#### Electrical

Dielectric Strength 700 V/mil  
Volume Resistivity 10<sup>14</sup> ohm-cm

Material testing performed to MIL-I-23053/4. Technical information provided consists of typical product data and should not be used for specification purposes. Unless otherwise noted, all tests are performed at room temperature.

\* Outer wall only