



# EPS-300 Tubing

Adhesive-Lined, 3:1, Flexible, Polyolefin

## Data Sheet

### Product Description

3M™ EPS-300 is a thin-wall 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-300 rapidly shrinks to a skintight fit, forcing the melted adhesive to flow and cover the substrate. The adhesive forms a flexible bond with a wide variety of rubbers, plastics and metals. Upon cooling, the adhesive solidifies, forming a permanent, non-drying, flexible and water resistant barrier. EPS-300 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-300 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-300 Tubing has a 3:1 shrink ratio. When freely recovered, the tubing will shrink to 33% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

### Standard Colors

Black and clear in all sizes. Red in 1/2", 3/4" and 1" only. Clear tubing is not flame retardant or UL approved.

### Standard Packaging

Four-foot lengths. Cut pieces and other lengths (including spooled) are available subject to factory quotation.

### Ordering Information

Order EPS-300 Tubing by product name, size equivalent to the expanded inside diameter, package type and color. Other sizes are available subject to factory quotation. Always order the largest size that will shrink snugly over the item to be covered.

Example: EPS-300, 1/2", 4 ft., black.

### Standard Sizes and Dimensions

Ordering Size	Expanded I.D.		Recovered I.D.		Total Recovered Wall Thickness		Meltable Recovered Wall Thickness	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
1/8	.125	(3,18)	.040	(1,02)	.040	(1,02)	.020	(0,51)
3/16	.187	(4,75)	.062	(1,57)	.040	(1,02)	.020	(0,51)
1/4	.250	(6,35)	.080	(2,03)	.040	(1,02)	.020	(0,51)
3/8	.375	(9,53)	.120	(3,05)	.055	(1,40)	.025	(0,62)
1/2	.500	(12,70)	.160	(4,06)	.070	(1,78)	.030	(0,76)
3/4	.750	(19,05)	.250	(6,35)	.085	(2,16)	.035	(0,89)
1	1.000	(25,40)	.320	(8,13)	.100	(2,54)	.040	(1,02)
1-1/2	1.500	(38,10)	.510	(12,95)	.100	(2,54)	.040	(1,02)

### Typical Properties

#### Applicable Specification

MIL-DTL-23053/4, Class 3; UL File E-157227; ABS

#### Physical

Tensile Strength 2100 PSI  
Ultimate Elongation 450%  
Longitudinal Change +1, -15%  
Secant Modulus (2%) 17,000 PSI  
Specific Gravity 1.3

\*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 meets UL224  
All-Tubing Flame Test (jacket)

#### 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

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.