EPS-200 Tubing

Adhesive-Lined, 2:1, Flexible, Polyolefin

Data Sheet

Product Description

3M™ EPS-200 is a 2:1 thin-wall tubing offering the advantages of integral adhesive-lined construction. The tubing is made from a flame-retardant, flexible polyolefin with a thin layer of special thermoplastic adhesive. The heat-shrinkable outer wall is selectively cross-linked while maintaining the high flow and excellent adhesion of the inner sealant liner.

When heated in excess of 121°C (250°F), EPS-200 rapidly shrinks to a skintight fit, forcing the melted adhesive lining 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-200 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-200 offers convenient protection of electronic components, wire splices or bundling of wires. Automotive, truck and marine wiring splices and connections are quickly and easily protected from harsh environments.

Shrink Ratio

EPS-200 Tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors

Black. Other colors and clear are available subject to factory quotation. The clear tubing is not flame retardant.

Standard Packaging

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

Ordering Information

Order EPS-200 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-200, 3/8", 4 ft., black.

Standard Sizes and Dimensions

Ordering Size	Expanded I.D. (Minimum) in.	(mm)	Recovered I.D. (Maximum) in.	(mm)	Total Recovered Wall Thickness (Nominal) in.	(mm)	Meltable Recovered Wall Thickness (Nominal) in.	(mm)
1/8	.125	(3,18)	.063	(1,60)	.027	(0,68)	.004	(0,10)
3/16	.187	(4,75)	.093	(2,36)	.027	(0,68)	.004	(0,10)
1/4	.250	(6,35)	.125	(3,18)	.030	(0,76)	.005	(0,13)
3/8	.375	(9,53)	.187	(4,75)	.031	(0,79)	.005	(0,13)
1/2	.500	(12,70)	.250	(6,35)	.032	(0,81)	.006	(0,15)
3/4	.750	(19,05)	.375	(9,53)	.037	(0,94)	.006	(0,15)
1	1.000	(25,40)	.500	(12,70)	.046	(1,17)	.008	(0,20)
1-1/2	1.500	(38,10)	.750	(19,05)	.049	(1,24)	.008	(0,20)
2	2.000	(50,80)	1.000	(25,40)	.060	(1,52)	.015	(0,38)

Typical Properties

Applicable Specification
MIL-DTL-23053/4, Class 2; UL File E-39100

Physical

Tensile Strength	2100 PSI
Ultimate Elongation	450%
Longitudinal Change	+1, -5%
Secant Modulus (2%)	17,000 PSI
Specific Gravity	1.3
*Heat Aging (168 hrs. @ 175°C)	Elongation 175%
*Heat Shock (4 hrs. @ 225°C)	No dripping, flowing, cracking
*Low Temperature Flexibility (4 hrs. @ –55°C)	No cracking
Flammability	Self-extinguish meets UL224 All-Tubing Flame Test (jacket)

Electrical

Dielectric Strength	800 V/mil
Volume Resistivity	10^{14} ohm-cm

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

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.

Limited Warranty – 3M expressly warrants that for a period of ninety days from the date of purchase, 3M static control products will be free of defects in materials (parts) and workmanship (labor). Defects occurring during the warranty period will be repaired or products will be replaced at 3M's option and expense, if 3M receives notice during the warranty period. Defective products must be returned to 3M with proof of purchase date.

Warranty Exclusions – THE FOREGOING EXPRESS WARRANTYIS MADE IN LIEU OF ALLOTHER PRODUCT WARRANTIES, EXPRESS AND IMPLIED, INCLUDING FITNESS AND MERCHANTIBILITY. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean, or repair products.

Limit of Liability – In no event will 3M or Seller be responsible or liable for special, incidental, or consequential losses or damages, whether based in tort or contract. Fulfillment of 3M's warranty obligations will be Customer's exclusive remedy and 3M's and Seller's limit of liability for any breach of warranty or otherwise.

For your nearest distributor or to order, call 1-800-328-1368

3M Electrical Specialties Division
6801 River Place Blvd.
Austin, TX 78726-9000

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Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9