TMW Tubing

Adhesive-Lined, Translucent, Semi-Rigid Polyolefin

Data Sheet

Product Description

3M™ TMW Tubing is a semi-rigid, translucent heat-shrinkable polyolefin tubing that is co-extruded and selectively cross-linked with an integral, meltable inner wall.

When heated in excess of 135ºC (275ºF), the adhesive inner wall of the tubing is softened and forced by the shrinking action of the outer wall into contact with all underlying surfaces and small voids. The adhesive forms a flexible bond with a wide variety of rubbers, plastics and metals. Upon cooling, 3M TMW tubing provides a tough, protective and insulating barrier, highly resistant to penetration by moisture, chemicals and solvents.

3M TMW tubing is rated for continuous operation at temperatures from -55ºC (-67ºF) to 110ºC (230ºF) and will withstand higher operating temperatures for brief periods. Adhesive reflow will occur at temperatures above 80°C (176°F).

Typical Applications

The primary application for 3M TMWtubing is in the manufacture of heat shrink butt connectors, disconnects, ring terminals and fork terminals. Other applications include braided-shield pigtails, mechanical assemblies, electronic components, electrical wire splices, breakouts, solder joints, delicate wire terminations and end-sealing of electrical cables.

3M TMW tubing can withstand the crimping force of standard crimp tools without puncture or splitting during heat recovery. The tubing remains round when cut, making it ideal for use in high speed processing and assembly equipment.

Standard Colors

3M TMW tubing is available color coded by diameter. Please see chart below.

Standard Packaging

TMW is supplied in cut pieces. Standard lengths are available in 10,000 piece cartons, other lengths and diameters are available subject to factory quotation.

Ordering Information

Order 3M TMW tubing in the size equivalent to the expanded inside diameter required. Always order the largest size that will shrink snugly over the component to covered. Non-standard diameters and cut lengths are available subject to factory quotation.

Example: TMW Red 183-1.50

Standard Sizes and Dimensions (without adhesive)

Product Number	Expanded I.D. (Minimum) in.	(mm)	Recovered I.D. (Maximum) in.	(mm)	Total Recovered Wall Thickness (Nominal) in.	(mm)	Meltable Recovered Wall (Nominal) in.	(mm)	Standard Cut Length in.	(mm)	Cut Length Tolerance (+/-) in.	(mm)
TMW Red 183-0.750	0.183	(4,65)	0.060	(1,52)	0.049	(1,24)	0.018	(0,46)	0.750	(19,05)	0.020	(0,51)
TMW Red 183-1.500	0.183	(4,65)	0.060	(1,52)	0.049	(1,24)	0.018	(0,46)	1.500	(38,10)	0.030	(0,76)
TMW Blue 220-0.750	0.220	(5,59)	0.070	(1,78)	0.049	(1,24)	0.018	(0,46)	0.750	(19,05)	0.020	(0,51)
TMW Blue 220-1.500	0.220	(5,59)	0.070	(1,78)	0.049	(1,24)	0.018	(0,46)	1.500	(38,10)	0.030	(0,76)
TMW Yellow 255-0.875	0.255	(6,47)	0.095	(2,41)	0.059	(1,50)	0.018	(0,46)	0.875	(22,22)	0.020	(0,51)
TMW Yellow 255-1.700	0.255	(6,47)	0.095	(2,41)	0.059	(1,50)	0.018	(0,46)	1.700	(43,18)	0.030	(0,76)
TMW Pink 330-1.000	0.330	(8,38)	0.165	(4,19)	0.059	(1,50)	0.018	(0,46)	1.000	(25,40)	0.020	(0,51)
TMW Pink 330-1.850	0.330	(8,38)	0.165	(4,19)	0.059	(1,50)	0.018	(0,46)	1.850	(46,99)	0.030	(0,76)

Typical Properties

Applicable Specification – ULFile E-157227

Physical

Tensile Strength	2500 PSI
Ultimate Elongation	400%
Longitudinal Change	+1, -10%
Secant Modulus (2%)	32,000 PSI
Specific Gravity	1.0
*Heat Aging	168 hrs. @ 175°C Elongation 175%
*Heat Shock (4 hrs. @ 250°C)	No dripping, cracking, flowing
*Low Temperature Flexibility (4 hrs. @ –55°C)	No cracking

Electrical

Dielectric Strength	900 V/mil
Volume Resistivity	10^{14} ohm-cm

Chemical

Corrosive Effect	Non-corrosive
Solvent Resistance	
Tensile Strength	1000 PSI
Dielectric Strength	400 V/mil
Water Absorption	0.1%
Fungus Resistance	Non-nutrient
Fluid Resistance	
Gasoline	>600 PSI
Hydraulic Fluid @JP4	600 V/mil
Skydrol 600	

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

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Стандарт Электрон Связь

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