

3M™ Tubing TMW

Adhesive Lined, Translucent, Semi-Rigid Polyolefin

Data Sheet

January 2019

Description

3MTMW tubing is a semi-rigid, translucent heat-shrinkable polyolefin tubing that is coextruded and selectively cross-linked with an integral, meltable inner wall.

When heated in excess of 135°C (275°F), 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 helps provide 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 -55°C (-67°F) to 110°C (230°F) and will withstand higher operating temperatures for brief periods. Adhesive reflow will occur at temperatures above 80°C (176°F).

Regulatory Information

For RoHS and REACH information, please visit www.3M.com/regs

Typical Applications

The primary application for 3M TMW tubing 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

3M TMW tubing 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 be covered. Nonstandard diameters and cut lengths are available subject to factory quotation. Example: TMW Red 183-1.50

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

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Standard Sizes and Dimensions (without adhesive)

3M Product Number	Expanded I.D. (Min.) In. (mm)	Recovered I.D. (Max.) 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	.183 (4,65)	.060 (1,52)	.049 (1,24)	.018 (0,46)	.750 (19,05)	.020 (0,51)
TMW Red 183-1.500	.183 (4,65)	.060 (1,52)	.049 (1,24)	.018 (0,46)	1.500 (38,10)	.030 (0,76)
TMW Blue 220-0.750	.220 (5,59)	.070 (1,78)	.049 (1,24)	.018 (0,46)	.750 (19,05)	.020 (0,51)
TMW Blue 220-1.500	.220 (5,59)	.070 (1,78)	.049 (1,24)	.018 (0,46)	1.500 (38,10)	.030 (0,76)
TMW Yellow 255-0.875	.255 (6,47)	.095 (2,41)	.059 (1,50)	.018 (0,46)	.875 (22,22)	.020 (0,51)
TMW Yellow 255-1.700	.255 (6,47)	.095 (2,41)	.059 (1,50)	.018 (0,46)	1.700 (43,18)	.030 (0,76)
TMW Pink 330-1.000	.330 (8,38)	.165 (4,19)	.059 (1,50)	.018 (0,46)	1.000 (25,40)	.020 (0,51)
TMW Pink 330-1.850	.330 (8,38)	.165 (4,19)	.059 (1,50)	.018 (0,46)	1.850 (46,99)	.030 (0,76)

Typical Properties

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.

Application Specifications: UL Recognized, File E-157227 and CSA Certified, CSA LR38227

Physical Property	Typical Value
Tensile Strength	2500 PSI
Ultimate Elongation	400%
2% Secant Modulus	32,000 PSI
Longitudinal Change	+1, -10%
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

* Outer wall only

Electrical Property	Typical Value
Dielectric Strength	900 V/mil
Volume Resistivity	10 ¹⁴ ohm-cm

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Typical Properties (Cont.)

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

Shelf Life & Storage

3MTMW Tubing 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).

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78-9237-1403-0 Rev A

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