

3M™ Heat Shrink Tubing FP-301VW

Flexible, Polyolefin

Data Sheet

July 2010

Description

3M™ Heat Shrink Tubing FP-301VW has the same outstanding balance of electrical, physical and chemical properties as FP-301 tubing, and is specially engineered for excellent flame resistance.

FP-301VW tubing is rated for continuous operation at -55°C (-67°F) to 135°C (275°F), and is designed to withstand elevated temperatures to 300°C (572°F) for short periods. Minimum shrink temperature for all FP-301VW tubing is 100°C (212°F).

Agency Approvals & Self Certifications

Meets requirements of:

- MIL-DTL-23053/5, Class 3
- UL Recognized, File E-39100, vw-1 and E-69751 at 600 volts maximum @ 125°C
- CSA Certified, CSA LR38227, OFT at 600 volts maximum @ 125°C

Applications

FP-301VW tubing is ideal for fire-resistant coverings of components and flammable wire assemblies.

Shrink Ratio

FP-301VW tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its as-supplied internal diameter. The recovered wall thickness is proportional to the degree of recovery. High expansion ratios available subject to factory quotation.

Standard Sizes and Dimensions

Ordering Size (Nominal)	Expanded I.D. (Minimum)		Recovered I.D. (Maximum)		Recovered Wall Thickness (Nominal)	
	In.	(mm)	In.	(mm)	In.	(mm)
3/64	.046	(1,17)	.023	(0,58)	.016	(0,41)
1/16	.063	(1,60)	.031	(0,79)	.017	(0,43)
3/32	.093	(2,36)	.046	(1,17)	.020	(0,51)
1/8	.125	(3,18)	.062	(1,57)	.020	(0,51)
3/16	.187	(4,75)	.093	(2,36)	.020	(0,51)
1/4	.250	(6,35)	.125	(3,18)	.025	(0,64)
3/8	.375	(9,53)	.187	(4,75)	.025	(0,64)
1/2	.500	(12,70)	.250	(6,35)	.025	(0,64)
3/4	.750	(19,05)	.375	(9,53)	.030	(0,76)
1	1.000	(25,40)	.500	(12,70)	.035	(0,89)
1-1/2	1,500	(38,10)	.750	(19,05)	.040	(1,02)
2	2.000	(50,80)	1.000	(25,40)	.045	(1,14)
3	3.000	(76,20)	1.500	(38,10)	.050	(1,27)
4	4.000	(101,60)	2.000	(50,80)	.055	(1,40)

3M™ Heat Shrink Tubing FP-301VW

Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Physical Property	Typical Value US units (metric)
Tensile Strength	2400 psi
Ultimate Elongation	400%
Longitudinal Change	±1 -10%
Secant Modulus (2%)	13,000 psi
Specific Gravity	1.5
Heat Aging (168 hrs. @ 175° C)	Elongation 175%
Heat shock (4 hrs. @ 250° C)	No dripping, cracking, passes mandrel wrap test
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Scant Modules (2%)	13,000 psi
Flammability Self-extinguish, Meets UL 224 VW-1 Test	Pass

Electrical Property (Test Method)	Typical Value
Dielectric Strength	900 V/mil
Volume Resistivity	10 ¹⁵ ohm/cm

Chemical Property (Test Method)	Typical Value
Corrosion Effect	Non-corrosive
Fungus Resistance	Non-nutrient
Water Absorption	0.2%
Solvent Resistance Tensile Strength Dielectric Strength	1000 PSI 400V/mil

Standard Colors

Black

Also available in Blue, Green, Red, White and Yellow. Price, MOQ and Lead Time will vary for these colors. Please contact Local Sales Representative or Customer Service Representative for more information.

3M™ Heat Shrink Tubing FP-301VW

Shelf Life & Storage 3M™ Heat Shrink Tubing FP-301VW 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).

Availability

Standard Packaging

Four-foot lengths and large spools. Cut pieces available subject to factory quotation.

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

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability

This product will be free from defects in material and manufacture at the time of purchase. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.

3M is a trademark of 3M Company.



Electrical Markets Division
6801 River Place Blvd.
Austin, TX 78726-9000
800 676.8381
FAX: 800 828.9329
www.3M.com/oem

Please recycle
© 3M 2010 All rights reserved
78-8129-9331-5 A

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Heat Shrink Tubing and Sleeves](#) category:

Click to view products by [3M](#) manufacturer:

Other Similar products are found below :

[5685710001](#) [CR9960-000](#) [5734012004](#) [607381P039](#) [611112-000](#) [6284592002](#) [CX4711-000](#) [CZ1420-000](#) [D-306-38](#) [770-006S302](#) [770-010Y106W1](#) [770-018S103](#) [770-018S202W1](#) [770-018S205W1](#) [770-020S704W1](#) [770-020S705](#) [MFP-1/4"-Clear](#) [MFP-3/64"-Clear](#) [790-3012](#) [MHHT-4-15K2-G-104](#) [8003012003](#) [MIL-LT-1-1/2-4-SP](#) [MIL-LT-1-1/2-9-STK](#) [MIL-LT-1/2-2-STK](#) [MIL-LT-3-0-SP](#) [MIL-LT-3/32-0-SP](#) [MIL-LT-3/32-6-SP](#) [MIL-LT-3/4-4-STK](#) [MIL-LT-3/4-6-SP](#) [839602-000](#) [8423-6](#) [FP301-116-48"-Clear](#) [FP301-12-6"-Clear](#) [FP301-1/4-48"-White-Hdr](#) [FP301-18-48"-Black-Hdr](#) [FP301-1/8-6"-Black](#) [FP301-18-6"-Black-Bulk](#) [FP301-316-48"-Blue-Hdr](#) [FP301-34-48"-Green-Hdr](#) [912229N002](#) [R280637030](#) [HDT-0300-48A-BLACK](#) [HDT-0400-48A-Black](#) [HDT-0800-48A-RED](#) [HDT1100-48A-BLK](#) [HDT1500-48A-BLK](#) [HDT-2000-48A-Black](#) [RHW-123-1200ADH-0](#) [RHW-70/20-1200/ADH-0](#) [DWP-125-0.450-4-55MM-CS879](#)