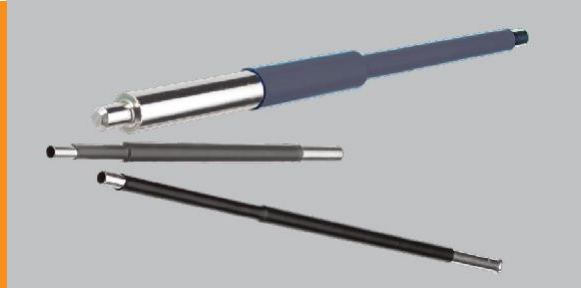


MT-1000

PVDF Heat Shrink Tubing

Applications

- Abrasion protection for laparoscopic and in-vivo instruments
- High performance insulation for electrosurgical devices
- Strain relief applications



PROFILE

- Shrink ratio <_ 2:1
- Full recovery at 175°C (347°F) minimum
- Supports sterilization environments: gamma, ethylene oxide (ETO), steam, dry heat and autoclave
- Manufactured to ISO 10993 standards
- Registered with the FDA: MAF-444
- Custom sizing, colors, finishing and value-add options available
- Radiopacity can be customized

ABOUT

- MT-1000 is a crosslinked polyvinylidene fluoride (PVDF) heat shrink tubing. PVDF offers excellent chemical and abrasion resistance, high dielectric strength and superior tensile strength. Its homogeneous structure (properties evenly distributed) contributes to its consistency and high performance, thereby reducing the likelihood that flaws, defects, pinholes, seams, cracks or inclusions will occur after the product is fully recovered at the temperature stated above
- MT-1000 is sometimes shipped in the air-spooled condition which helps maintain tubing shape and form. Use of only part of the air-spooled MT-1000 reel may result in loss of air pressure and shape to the remaining product on the reel, which could cause the remaining product to kink or twist. Due to the pliable nature of the product, full recovery of the MT-1000 at the temperature set forth above will remove twists and kinks so the product can be used.
- MT-1000 is rigid and highly lubricious and works very well at providing abrasion protection for rigid laparoscopic and in-vivo instruments.

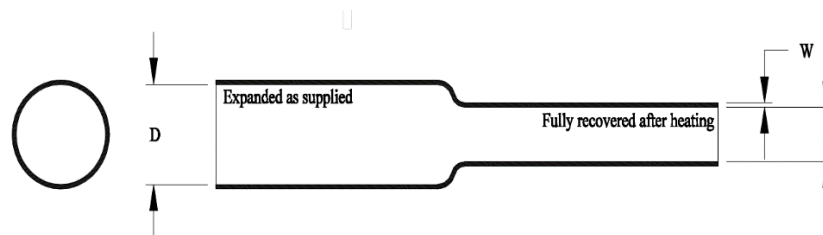


TABLE 1: DIMENSIONS

Standard Sizes	As Supplied		Recovered							
	Inside Diameter Minimum (D)		Inside Diameter Maximum (d)		Wall Thickness (in., mm.) (W)					
	in.	mm.	in.	mm.	Minimum	Maximum	Minimum	Maximum	Nominal	
3/64	0.046	1.17	0.023	0.58	.008	0.20	0.12	0.31	.010	0.25
1/16	0.063	1.60	0.031	0.79	.008	0.20	0.12	0.31	.010	0.25
3/32	0.093	2.36	0.046	1.17	.009	0.20	0.12	0.31	.010	0.25
1/8	0.125	3.18	0.062	1.58	.009	0.20	0.12	0.31	.010	0.25
3/16	0.187	4.75	0.093	2.36	.009	0.20	0.12	0.31	.010	0.25
1/4	0.250	6.35	0.125	3.18	.011	0.28	0.15	0.38	.013	0.33
3/8	0.375	9.53	0.187	4.75	.011	0.28	0.15	0.38	.013	0.33
1/2	0.500	12.70	0.250	6.35	.011	0.28	0.15	0.38	.013	0.33
3/4	0.750	19.05	0.375	9.53	.014	0.36	0.20	0.51	.017	0.43

TABLE 2: PROPERTIES

Property	Unit	Requirement	Test Method
Physical			
Dimensions*	inches (<i>mm</i>)	In accordance with Table 1	
Longitudinal change*	percent	+0, -10 maximum	ASTM D 2671
Concentricity as supplied*	percent	70 minimum	ASTM D 2671
Tensile strength*	psi (<i>MPa</i>)	5000 minimum (<i>34.5</i>)	ASTM D 2671,
Ultimate elongation*	percent	150 minimum	20"/minute
Secant modulus* (expanded)	psi (<i>MPa</i>)	1 x 10 ⁵ minimum (<i>690</i>)	ASTM D 2671
Heat resistance 168 hours at 250 ± 5°C (482°F) Followed by test for: Ultimate elongation	percent	50 minimum	ASTM D 2671, 20"/minute
Electrical			
Dielectric strength Sizes 3/64 through 1/2 Sizes 3/4 through 2	volts/mil (<i>volts/mm</i>)	800 minimum (<i>31.500</i>) 600 minimum (<i>23.600</i>)	ASTM D 2671
Dielectric withstand 3000V, 60Hz	sec	60 minimum	ASTM D 2671
Chemical			
Fluid resistance 24 hours at 23 ± 3°C (73 ± 5°F) Isopropyl alcohol 5% saline solution Disinfectant Followed by tests for: Dielectric strength Sizes 3/64 through 1/2 Sizes 3/4 through 2			ASTM D 2671
Tensile strength	psi (<i>MPa</i>)	5000 minimum (<i>34.5</i>)	ASTM D 2671, 2"/minute
Heavy metals analysis Cadmium Mercury Lead Bismuth Antimony	ppm	1 maximum (total of all metals)	USP XXII Physiochemical tests-plastic (Note 1)

*Denotes lot acceptance test

Note 1: Sample preparation and extraction is per USP XXII. Metals analysis may be colorimetric as described in USP XXII or by equivalent quantitative analytical method.

te.com/medical

AMERICAS
+1 866 251 3352

EMEA
+49 6151 607 1999

ASIA
China +86 400 820 6015
Japan +81 44 844 8041
Korea +82 2 3415 4506
Singapore +86 512 6255 4384

TE Connectivity, TE, TE connectivity (logo) and Raychem are trademarks.
© 2020 TE Connectivity Ltd. family of companies. All Rights Reserved.

Revised August 2022