

MEDICAL TUBING—MT1000

Raychem Modified Polyvinylidene Fluoride Heat Shrinkable Tubing

ABOUT MT1000

MT1000 is a 2:1 heat shrinkable, crosslinked medical grade modified polyvinylidene fluoride (PVDF) tubing product. The product is intended for medical field applications that demand a high level of performance and consistency. It is nearly homogenous and essentially free from flaws, defects, pinholes, seams, cracks or inclusions. The product will recover to a predetermined size upon application of heat in excess of 175°C (375°F). PVDF will support print and other value-add bonding applications. MT1000 can be designed and manufactured with an adhesive layer, as radio-opaque, and as dual wall to meet custom application requirements.

Additional advantages include:

- Product is compliant to: RoHS, USP class VI biocompatibility
- Supports sterilization environments: autoclave, gamma, ethylene oxide (EO), steam, and dry heat
- Product maintains registration at the FDA through the master file system: MAF-444
- Manufactured to ISO 10993 standards

Typical Product Applications

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

Unique Raychem Medical Tubing Product Properties

- Proven insulation properties
- Rigid product for push-ability
- Maintains lubricity in dry and wet environments
- Suitable for very high heat environment applications (class 12)
- Bondable and printable

To order product samples, please visit www.te.com/medical.

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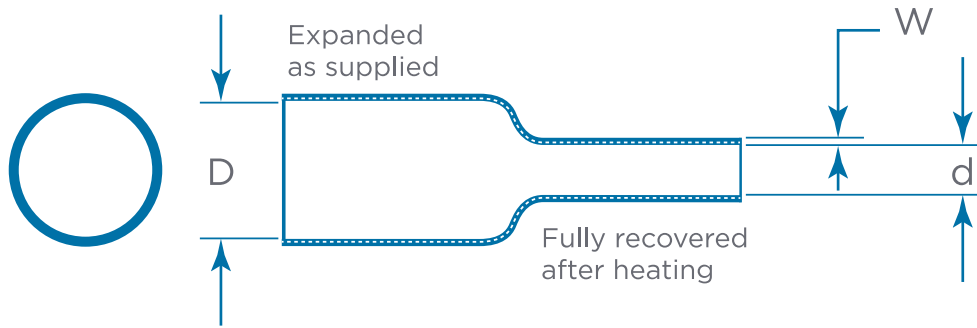


TABLE 1: DIMENSIONS

Standard Sizes	As Supplied		Recovered							
	Inside Diameter Minimum (D)		Inside Diameter Maximum (d)		Wall Thickness (in., mm.) (W)					
Size	in.	mm.	in.	mm.	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

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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			ASTM D 2671, 20"/minute
	percent	50 minimum	
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
	volts/mil (<i>volts/mm</i>)	700 minimum (<i>27,600</i>) 500 minimum (<i>19,700</i>)	
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.

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UK/Ireland:	49 896 089 184
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TE's MEDICAL BUSINESS

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