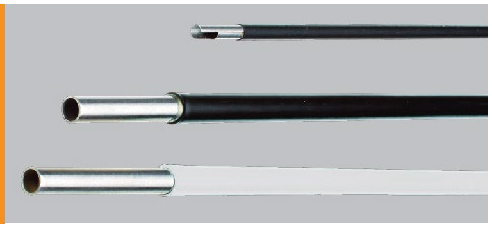
MT-3000
PVDF Heat Shrink Tubing

Applications

- Abrasion protection for surgical and in-vivo instruments
- Strain relief applications



PROFILE

- Shrink ratio <_ 3:1
- Full recovery at 150°C (302°F) minimum
- Supports sterilization environments: gamma, ethylene oxide (ETO), steam, dry heat and autoclave
- Manufactured to ISO 10993 standards
- Registered with the FDA: MAF-472
- Custom sizing, colors, finishing and value-add options available
- Radiopacity can be customized

ABOUT

- MT-3000 is a crosslinked polyvinylidene fluoride (PVDF) heat shrink tubing. PVDF offers excellent chemical and abrasion resistance, high dielectric strength and superior tensile strength.
- MT-3000 homogenous 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-3000 is sometimes shipped in the air-spooled condition which helps maintain tubing shape and form. Use of only part of the air-spooled MT-3000 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-3000 at the temperature set forth above will remove twists and kinks so the product can be used.
- MT-3000 is semi-lubricious and more flexible than our other PVDF heat shrink tubing. MT-3000 offers abrasion protection for surgical and in-vivo instruments.

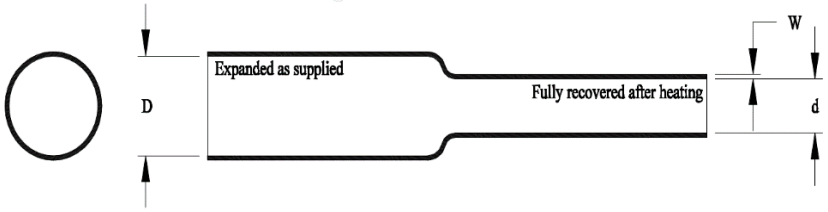


TABLE 1: DIMENSIONS

Standard Sizes	As Supplied		Recovered							
	Inside Diameter Minimum (D)		Inside Diameter Maximum (d)		Wall Thickness (in., mm.) (W)					
Size	in.	mm.	in.	mm.	Minimum		Maximum		Nominal	
3/64	.046	*1.17*	.023	*0.58*	.008	*0.20*	0.12	*0.31*	.010	*0.25*
1/16	.063	*1.60*	.031	*0.79*	.008	*0.20*	0.12	*0.31*	.010	*0.25*
3/32	.093	*2.36*	.046	*1.17*	.008	*0.20*	0.12	*0.31*	.010	*0.25*
1/8	.125	*3.18*	.062	*1.58*	.008	*0.20*	0.12	*0.31*	.010	*0.25*
3/16	.187	*4.75*	.093	*2.36*	.008	*0.20*	0.12	*0.31*	.010	*0.25*
1/4	.250	*6.35*	.125	*3.18*	.009	*0.28*	0.15	*0.38*	.012	*0.33*
3/8	.375	*9.53*	.187	*4.75*	.009	*0.28*	0.15	*0.38*	.012	*0.33*
1/2	.500	*12.70*	.250	*6.35*	.009	*0.28*	0.15	*0.38*	.012	*0.33*

TABLE 2: PROPERTIES

Property	Unit	Requirement	Test Method
Physical			
Dimensions*	inches *(mm)*	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 *(MPa)*	4000 minimum *(27.6)*	ASTM D 2671, 20"/minute
Ultimate elongation*	percent	300 minimum	
Secant modulus* (expanded)	psi *(MPa)*	50,000 maximum *(345)*	ASTM D 2671
Heat resistance 168 hours at 250 ± 5°C (482°F) Followed by test for:			ASTM D 2671, 20"/minute
Ultimate elongation	percent	250 minimum	
Electrical Dielectric strength	volts/mil *(volts/mm)*	500 minimum *(19.680)*	ASTM D 2671
Dielectric withstand 3000V, 60Hz	sec	60 minimum	ASTM D 2671
Chemical Fluid resistance 24 hours at 23 ± 3°C (77 ± 5°F) Isopropyl alcohol 5% saline solution Disinfectant Followed by tests for:			ASTM D 2671
Dielectric strength	volts/mil *(volts/mm)*	400 minimum *(15.760)*	
Tensile strength	psi *(MPa)*	3500 minimum *(24.1)*	ASTM D 2671
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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Revised August 2022