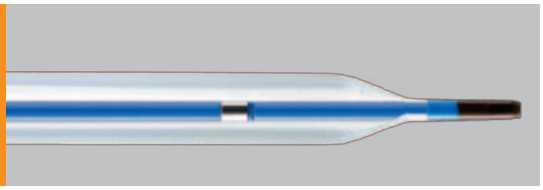
MT-LWA

Modified Polyolefin Heat Shrink Tubing

Applications

- Process aid for balloon & joint bonding
- Process aid for catheter shaft reflow



PROFILE

- Shrink ratio ≤ 4:1
- Full recovery at 110°C (230°F) minimum
- Manufactured to ISO 10993 standards
- Custom sizing, finishing options available
- Radiopacity can be customized
- Adhesive-layer option available
- Translucent for high optical clarity
- Color blending option available

ABOUT

- MT-LWA is a crosslinked modified polyolefin heat shrink tubing designed for use as a process aid in minimally invasive applications
- Its homogeneous structure (properties evenly distributed) contributes to its consistency and high performance, making our MT-LWA essentially free from flaws, defects, pinholes, seams, cracks or inclusions.
- MT-LWA offers customizable compressions strengths, shrink ratios ≤ 4:1, is peelable with axial tear propagation and you can remove it while its warm, making it an excellent choice for reflowing catheter shafts when MT-FEP isn't suitable.

TABLE 1: 2:1 EXPANSION RATIO DIMENSIONS (±)

Standard Sizes	As Supplied		Recovered			
	Inside Diameter Minimum (D)		Inside Diameter Maximum (d)		Wall Thickness (W)	
Size	in.	*mm.*	in.	*mm.*	in.	*mm.*
1/32	0.040 ± 0.005	*1.02 ± 0.13*	0.013 ± 0.002	*0.33 ± 0.05*	0.010 ± 0.002	*0.25 ± 0.05*
3/64	0.055 ± 0.005	*1.40 ± 0.13*	0.020 ± 0.003	*0.51 ± 0.08*	0.012 ± 0.002	*0.31 ± 0.05*
1/16	0.072 ± 0.005	*1.83 ± 0.13*	0.027 ± 0.004	*0.69 ± 0.10*	0.017 ± 0.003	*0.43 ± 0.08*
3/32	0.107 ± 0.008	*2.72 ± 0.20*	0.042 ± 0.004	*1.07 ± 0.10*	0.020 ± 0.003	*0.51 ± 0.08*
1/8	0.140 ± 0.010	*3.56 ± 0.25*	0.057 ± 0.005	*1.45 ± 0.13*	0.020 ± 0.003	*0.51 ± 0.08*
3/16	0.205 ± 0.010	*5.21 ± 0.25*	0.086 ± 0.007	*2.18 ± 0.18*	0.020 ± 0.003	*0.51 ± 0.08*
1/4	0.275 ± 0.015	*6.99 ± 0.38*	0.117 ± 0.008	*2.97 ± 0.20*	0.025 ± 0.003	*0.64 ± 0.08*
3/8	0.415 ± 0.020	*10.54 ± 0.51*	0.171 ± 0.016	*4.34 ± 0.41*	0.025 ± 0.003	*0.64 ± 0.08*

TABLE 2: 3:1 EXPANSION RATIO DIMENSIONS (MIN./MAX)

Standard Sizes	As Supplied		Recovered			
	Inside Diameter Minimum (D)		Inside Diameter Maximum (d)		Wall Thickness (W)	
Size	in.	*mm.*	in.	*mm.*	in.	*mm.*
.032	0.032	*0.81*	0.011	*0.28*	0.010 ± 0.002	*0.25 ± 0.05*
.047	0.053	*1.35*	0.013	*0.33*	0.012 ± 0.002	*0.31 ± 0.05*
.063	0.063	*1.60*	0.021	*0.53*	0.016 ± 0.002	*0.41 ± 0.05*
.078	0.078	*1.98*	0.025	*0.64*	0.016 ± 0.002	*0.41 ± 0.05*
.094	0.094	*2.39*	0.031	*0.79*	0.020 ± 0.003	*0.51 ± 0.08*
.110	0.110	*2.79*	0.034	*0.86*	0.020 ± 0.003	*0.51 ± 0.08*
.125	0.125	*3.18*	0.042	*1.07*	0.020 ± 0.003	*0.51 ± 0.08*
.188	0.188	*4.78*	0.063	*1.60*	0.020 ± 0.003	*0.51 ± 0.08*
.250	0.250	*6.35*	0.083	*2.11*	0.025 ± 0.003	*0.64 ± 0.08*
.375	0.375	*9.53*	0.125	*3.18*	0.025 ± 0.003	*0.64 ± 0.08*

TABLE 3: 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 (2:1 Exp. ratio) 60 minimum (3:1 Exp. ratio)	ASTM D 2671
Tensile strength*	psi *(MPa)*	1500 minimum *(10:3)*	ASTM D 2671, 20″/minute
Ultimate elongation*	percent	200 minimum	
Secant modulus* (expanded)	psi *(MPa)*	2.5 x 10^4 maximum *(172)*	ASTM D 2671
Heat resistance 168 hours at 175°C (347°F)			
Followed by test for: Ultimate elongation	percent	100 minimum	ASTM D 2671, 20″/minute
Electrical Dielectric strength	volts/mil *(volts/mm)*	500 minimum *(19.7)*	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			ASTM D 2671
Followed by tests for: Dielectric strength	volts/mil *(volts/mm)*	400 minimum *(15.7)*	
Tensile strength	psi *(MPa)*	1000 minimum *(6.9)*	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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