

ASTRATITE® TYPE ASR TUBING

Class 135°C • Semi-Rigid Polyolefin Tubing
UL Recognized Component: Class 125°C, File No. E31622
Canadian Standards Association: File No. 37065
ASTM D3149, Type III and Type IV
MIL-I-23053/6, Class 1 and 2



DESCRIPTION

ASTRATITE Type ASR tubing is a semi-rigid cross-linked polyolefin heat shrinkable tubing that will recover to half its original diameter when heated to 135°C or higher. During the shrinking operation, the tubing will encapsulate any device inside of it at the time and will assume the contour of that device. It is useful for skin-tight covering of splices, resistors, diodes, mechanical parts, terminations, etc. Type I tubing is self-extinguishing when tested according to Federal Standard No. 228. Type II tubing is the corresponding clear tubing and it is flammable. Both are formulated for long-term heat and corrosion resistance, low temperature flexibility and chemical resistance. Continuous operating range is -55°C to +135°C. Type I tubing conforms to MIL-I-23053/6 and SAE Aerospace Material Specification AMS 3638. Type II tubing conforms to MIL-I-23053/6 and SAE Aerospace Material Specification 3639.

DIMENSIONS

Size	Minimum Expanded I.D.		Maximum Recovered I.D.		Nominal Recovered Wall	
	Inch	(mm)	Inch	(mm)	Inch	(mm)
3/64	.046	(1.17)	.023	(0.58)	.020	(0.41)
1/16	.063	(1.60)	.031	(0.79)	.020	(0.43)
3/32	.093	(2.36)	.046	(1.17)	.020	(0.51)
1/8	.125	(3.18)	.062	(1.60)	.020	(0.51)
3/16	.187	(4.75)	.093	(2.36)	.025	(0.51)
1/4	.250	(6.35)	.125	(3.18)	.025	(0.64)
3/8	.375	(9.52)	.187	(4.75)	.030	(0.64)
1/2	.500	(12.70)	.250	(6.35)	.030	(0.64)
3/4	.750	(19.05)	.375	(9.52)	.030	(0.76)
1	1.000	(25.40)	.500	(12.70)	.035	(0.89)

PACKAGING

4 foot cut lengths — Size 1/8" to 1".
 Spools of continuous lengths — Size 3/64" to 3/8".
 Cut to customer specifications.

STANDARD COLORS

Type I — Black
 Type II — Translucent
 Other colors available on special order.



PERFORMANCE CHARACTERISTICS

Property	Specification	Typical Value
Tensile Strength	ASTM D638	2700 psi
% Elongation	ASTM D638	450%
Dielectric Withstand	2500 V/1 min	Pass
Dielectric Strength	500 V/mil	975 V/mil
Heat Aging	340°C / 168 h	275% elongation
Heat Shock	250°C / 4 h	No cracking
Low Temperature Flexibility	-55°C / 4 h	No cracking
Corrosive Effect (mirror)	175°C / 16 h	No corrosion
Color Stability	175°C / 48 h	No change
Flammability — Type I only	Fed. Std. No. 228	Self-extinguishing
Volume Resistivity — Type I	ASTM D257	10 ¹⁴ ohm-cm
— Type II		10 ¹⁶ ohm-cm
Longitudinal Change	200°C / 3 min	-3% Typ. 5% Max.
Secant Modulus	UL 224	5 x 10 ⁴ psi
Water Absorption	ASTM D570	0.15%
Solvent Resistance	25°C / 24 h JP 4 Water Av Gas Hyd. Fluid Skydrol 500	2200 psi 1000 V/mil
Specific Gravity — Type I	ASTM D792	1.20
— Type II		0.97