

Very flexible, flame-retardant, polyolefin heat-shrinkable tubing

MIL-LT tubing is a very flexible, low-shrink-temperature, heat-shrinkable product for a variety of military applications. It meets the requirements of AMS-DTL-23053/5, Classes 1 and 3, and is used for insulation, identification, strain relief, wire bundling, and color coding.

MIL-LT tubing hot-stamps extremely well. Made from flame-retardant polyolefin, the tubing has excellent physical, chemical, and electrical properties that meet military requirements for highly reliable, general-purpose tubing.

Only a few sizes of MIL-LT tubing are required to cover many substrate diameters.

Temperature rating

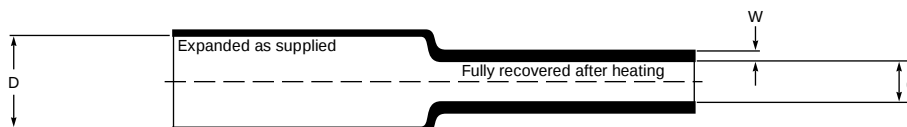
Full recovery temperature:	90°C
Continuous operating temperature:	-55°C to 135°C

Specifications*

Type	Raychem	Military
MIL-LT	RT-1171	AMS-DTL-23053, Cl. 1 and 3

*When ordering, always specify latest issue.

Dimensions (millimeters/inches)



Size	Inside diameter		Wall thickness		Size	Inside diameter		Wall thickness	
	D (min.) Expanded as supplied	d (max.) Recovered after heating	W Recovered after heating**			D (min.) Expanded as supplied	d (max.) Recovered after heating	W Recovered after heating**	
3/64	1.2 0.046	0.6 0.023	0.40 ± 0.08 0.016 ± 0.003		1/2	12.7 0.500	6.4 0.250	0.64 ± 0.08 0.025 ± 0.003	
1/16	1.6 0.063	0.8 0.031	0.43 ± 0.08 0.017 ± 0.003		3/4	19.1 0.750	9.5 0.375	0.76 ± 0.08 0.030 ± 0.003	
3/32	2.4 0.093	1.2 0.046	0.51 ± 0.08 0.020 ± 0.003		1	25.4 1.000	12.7 0.500	0.89 ± 0.12 0.035 ± 0.005	
1/8	3.2 0.125	1.6 0.062	0.51 ± 0.08 0.020 ± 0.003		1 1/2	38.1 1.500	19.1 0.750	1.02 ± 0.15 0.040 ± 0.006	
3/16	4.8 0.187	2.4 0.093	0.51 ± 0.08 0.020 ± 0.003		2	50.8 2.000	25.4 1.000	1.14 ± 0.16 0.045 ± 0.007	
1/4	6.4 0.250	3.2 0.125	0.64 ± 0.08 0.025 ± 0.003		3	76.2 3.000	38.1 1.500	1.27 ± 0.20 0.050 ± 0.008	
3/8	9.5 0.375	4.8 0.187	0.64 ± 0.08 0.025 ± 0.003		4	101.6 4.000	50.8 2.000	1.40 ± 0.23 0.055 ± 0.009	

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering information

Colors	Standard	Black, white, red, blue, yellow and green
	Nonstandard	Brown, orange, violet, and gray
Size selection	Always order the largest size that will shrink snugly over the component being covered.	
Standard packaging	On spools	
Ordering description	Specify product name, size, and color; for example, MIL-LT 1/4-0 (0=Black).	

Specification values

	Property	Unit	Requirement	Method of test
Physical	Dimensions	mm (<i>inches</i>)	See reverse	ASTM D 2671
	Longitudinal change	percent	+0, -5	ASTM D 2671
	Tensile strength	psi (<i>MPa</i>)	1500 (10.3) minimum	ASTM D 2671
	Ultimate elongation	percent	200 minimum	ASTM D 2671
	Secant modulus (recovered)	psi (<i>MPa</i>)	1.3 x 10 ⁴ (89) maximum	ASTM D 2671
	Concentricity (expanded)	percent	70 minimum	ASTM D 2671
	Restricted shrinkage (30 minutes at 175°C/347°F) Proof voltage: 2000 V/a-c		No cracks	ASTM D 2671 Procedure A
	Specific gravity (recovered)		1.35 maximum	ASTM D 2671
	Low-temperature flexibility (4 hours at -55°C/-67°F)		No cracking	AMS-DTL-23053
	Heat shock (4 hours at 250°C/482°F)		No dripping, flowing, or cracking	ASTM D 2671
	Heat resistance (168 hours at 175°C/347°F) Followed by tests for:			ASTM D 2671
	Tensile strength	psi (<i>MPa</i>)	1500 (10.3) minimum	ASTM D 2671
	Ultimate elongation	percent	200 minimum	ASTM D 2671
	Color		MIL-STD-104	MIL-STD-104
	Color stability (24 hours at 175°C/347°F)		MIL-STD-104	ASTM D 2671
	Shore A Hardness		85 ± 5	ASTM D 2240
Electrical	Dielectric strength	volts/mil (<i>kV/mm</i>)	500 (19.7) minimum	ASTM D 2671
	Volume resistivity	ohm-cm	10 ¹⁴ minimum	ASTM D 2671
Chemical	Copper mirror corrosion (16 hours at 175°C/347°F)		Noncorrosive	ASTM D 2671 Procedure A
	Copper contact corrosion (16 hours at 175°C/347°F)		No pitting or blackening of copper	ASTM D 2671 Procedure B
	Flammability		No flaming or glowing longer than 1 minute from any flame application; 25% maximum flag burn; no burning of cotton. Self-extinguishing within 15 seconds, no burning or charring of indicator.	ASTM D 2671 Procedure C
	Fungus resistance		Rating of 1 or less	ASTM G 21
	Water absorption (recovered) (24 hours at 23°C/73°F)	percent	0.5 maximum	ASTM D 2671
	Fluid resistance (24 hours at 23°C/73°F) in: JP-8 fuel (MIL-T-5624) Skydrol 500 Hydraulic fluid (MIL-H-5606) Aviation gasoline 100/300 Lubricating oil (MIL-L-7808) Lubricating oil (MIL-L-23699) Deicing fluid (MIL-A-8243) 5% NaCl			ASTM D 2671
	Followed by tests for:			
	Dielectric strength	volts/mil (<i>kV/mm</i>)	400 (15.8) minimum	ASTM D 2671
	Tensile strength	psi (<i>MPa</i>)	1000 (6.9) minimum	ASTM D 2671

Note: Consult RT-1171 for specific details about test procedures.

Skydrol is a trademark of Monsanto Company.

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Users should independently evaluate the suitability of the product for their application.

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