tyco Electronics

FL2500

Raychem

Fully flame-retardant, adhesive-lined, polyolefin heat-shrinkable tubing

FL2500 dual wall tubing comprises a tough crosslinked, flame-retardant, polyolefin tubing lined with a new flame-retardant adhesive to provide the optimum solution for applications where full retardancy is preferred, or specified. Rated to 135°C for 3000 hours, it is suitable for use in the automotive harness market and other harsh environments.

FL2500 with its high-performance adhesive lining offers an economical and highly-effective method for permanently sealing and protecting splices, fusible links, terminals, and in-line components. As the tubing is heated and shrinks down onto its substrate, the adhesive lining melts and flows to fill all voids and create a complete seal against moisture, oils, chemicals, etc.

FL2500 is available in a comprehensive range of sizes to meet most component sealing requirements, and is compatible with a wide range of application equipment.

Temperature rating

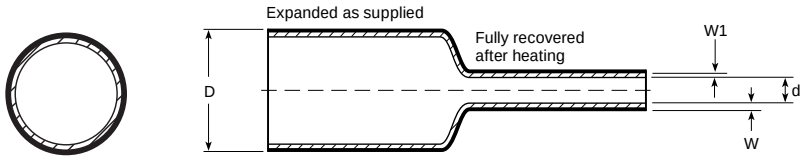
Full recovery temperature:	135°C
Continuous operating temperature	–40°C to 135°C

*Specifications**

Type	Raychem
FL2500	FL2500 SCD

*When ordering, always specify latest issue.

Dimensions (millimeters/*inches*)



	Inside diameter (including core)				Recovered wall thickness**			
	D (min.) Expanded		d (max.) Recovered after		W Total		W1 (min.) Adhesive	
Size	as supplied		heating		wall		wall	
NO. 1	7.62	*0.300*	1.65	*0.065*	1.52 ± 0.3	*0.060 ± 0.012*	0.711	*0.028*
NO. 2	9.02	*0.355*	2.29	*0.090*	1.52 ± 0.3	*0.060 ± 0.012*	0.711	*0.028*
NO. 3	11.56	*0.455*	2.54	*0.100*	2.29 ± 0.3	*0.090 ± 0.012*	1.321	*0.052*
NO. 4	17.79	*0.700*	4.45	*0.175*	2.54 ± 0.3	*0.100 ± 0.012*	1.346	*0.053*

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

Ordering information

Color	Black with a white adhesive liner
Size selection	Consult manufacturer's recommended size selection guidelines.
Standard packaging	Cut pieces. See reverse for standard cut lengths.
Marking	Tubing will be marked with the number size (for example, FL-1, FL-2, FL-3, FL-4).
Ordering description	Specify product name, size, color, and cut length; for example, FL-2500-No. 2-0-50mm (0=Black).

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Specification values

	Property	Unit	Requirement	Method of test
Material	Dimensions	mm *(inches)*	See reverse	ASTM D 2671
	Longitudinal change	percent	+0, -10	ASTM D 2671
	Tensile strength*	psi	1500 minimum	ASTM D 2671 Speed 2 in./min.
	Ultimate elongation	percent	300 minimum	ASTM D 2671 Speed 2 in./min.
	Secant modulus* (expanded form)	psi	35,000 minimum	ASTM D 2671
	Concentricity (expanded form)	percent	60 minimum	ASTM D 2671
	Dielectric strength (jacket only)**	volts/mil	500 minimum	ASTM D 149
	Volume resistivity	ohm-cm	10^{13} minimum	ASTM D 257
	Flammability		Self-extinguishing within 30 seconds	SAE J1128 See note below
	Heat shock 4 hours at 250°C		No dripping, flowing, or cracking of jacket	ASTM D 2671
Splice performance	Immersion leak resistance	micro-amps	0.25 maximum	See note below
	Thermal cycling 5 cycles, 5°C to 130°C			See note below
	Followed by test for: Immersion leak resistance	micro-amps	0.25 maximum	
	Thermal aging 168 hours at 130°C			See note below
	Followed by test for: Immersion leak resistance	micro-amps	0.25 maximum	
	Fluid resistance 24 hours at 25°C ± 3°C in: ASTM Reference Fuel C VV-F-800 Diesel Fuel 1 hour at 100°C ± 3°C in: ASTM #3 Oil			See note below
	Followed by test for: Immersion leak resistance	micro-amps	0.25 maximum	

*Calculate based on wall thickness of jacket only. **Remove adhesive manually prior to testing.
Note: Consult the FL2500 SCD for specific details about test procedures.

Standard cut lengths

Part number	Standard cut length	Cut length tolerance
FL2500-No. 1	27mm, 50 mm, 65 mm 1220 mm	± 1.5 mm ± 25.4 mm
FL2500-No. 2	27mm, 50 mm, 65 mm 1220 mm	± 1.5 mm ± 25.4 mm
FL2500-No. 3	27mm, 65 mm, 75 mm 1220 mm	± 1.5 mm ± 25.4 mm
FL2500-No. 4	27mm, 75 mm, 90 mm 1220 mm	± 1.5 mm ± 25.4 mm

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

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