tyco Electronics

RP-4800

Raychem

Highly expanded, polyolefin heat-shrinkable tubing

RP-4800 is a radiation-crosslinked polyolefin material with a 4:1 expansion ratio. It was developed for a wide range of applications where a large expansion is required, such as harness repair. This high expansion simplifies installation and speeds repairs. The high expansion of RP-4800 tubing eliminates the need to remove connectors or large transitions and allows for easy harness assembly and repair. This heat-shrinkable, flexible, flame-retardant tubing is also compatible with Raychem adhesives, providing a complete environmental seal.

RP-4800 tubing has excellent physical and mechanical properties that meet both military and industrial requirements. It is highly abrasion-resistant and shows no significant degradation when exposed to common solvents and chemicals, including aviation fuel and hydraulic fluid.

RP-4800 tubing remains flexible at low temperatures and, for short periods, can withstand temperatures of up to 300°C without dripping or flowing.

Temperature rating

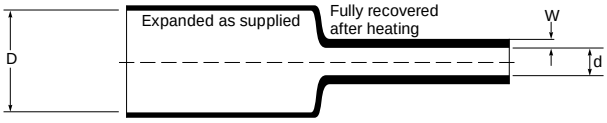
Full recovery temperature:	121°C
Continuous operating temperature:	–55°C to 135°C

*Specifications**

Type	Raychem	Military	UL
RP-4800	RT-1122	AMS-DTL-23053/5, Class 1	E35586

*When ordering, always specify latest issue.

*Dimensions (*millimeters*/inches)*



	Inside diameter				Wall thickness	
	D (min.) Expanded		d (max.) Recovered after		W Recovered after	
Part number	as supplied		heating		heating**	
RP-4800-No.1	25.40	*1.00*	6.99	*0.275*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.2	50.80	*2.00*	13.97	*0.550*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.3	76.20	*3.00*	20.57	*0.810*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.4	101.60	*4.00*	26.67	*1.050*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.5	25.40	*1.00*	11.74	*0.462*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.6	60.33	*2.37*	17.27	*0.680*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.7	76.20	*3.00*	21.34	*0.840*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.8	95.25	*3.75*	23.62	*0.930*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.9	114.30	*4.50*	36.83	*1.450*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.10	38.10	*1.50*	9.53	*0.375*	1.14 ± 0.18	*0.045 ± 0.007*
RP-4800-No.11	19.05	*0.75*	4.57	*0.180*	1.14 ± 0.18	*0.045 ± 0.007*

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

Ordering information

Colors	**Standard**	Black
	Nonstandard	Brown, red, orange, yellow, green, blue, violet, gray, and white
Size selection	Always order the largest size that will shrink snugly over the component being covered.	
Standard packaging	On spools or in 4-foot lengths	
Ordering description	Specify product name, size, and color; for example, RP-4800-No.6-0 (0=Black).	

Specification values

	Property	Unit	Requirement	Method of test
Physical	Dimensions	mm *(inches)*	See reverse	ASTM D 2671
	Longitudinal change	percent	+0, –10	ASTM D 2671
	Tensile strength	psi *(MPa)*	1500 *(10.3)* minimum	ASTM D 2671
	Ultimate elongation	percent	200 minimum	ASTM D 2671
	Secant modulus (expanded)	psi *(MPa)*	2.5×10^4 *(172)* maximum	ASTM D 2671
	Specific gravity		1.35 maximum	ASTM D 2671
	Low-temperature flexibility (4 hours at –55°C/*–67°F*)		No cracking	See note below
	Heat shock (4 hours at 250°C/*482°F*)		No dripping, flowing or cracking	See note below
	Heat resistance (336 hours at 175°C/*347°F*)			ASTM D 2671
	Followed by test for:			
	Ultimate elongation	percent	150 minimum	ASTM D 2671
Electrical	Dielectric strength	volts/mil *(volts/mm)*	500 *(19,680)* minimum	ASTM D 2671
	Volume resistivity	ohm-cm	10^{14} minimum	ASTM D 2671
Chemical	Corrosive effect (16 hours at 175°C/*347°F*)		No removal of copper	See note below
	Copper stability (168 hours at 160°C/*320°F*)		No brittleness, glazing, cracking, or severe discoloration of tubing.	See note below
	Followed by test for:			
	Ultimate elongation	percent	200 minimum	ASTM D 2671
	Flammability, average time of burning	seconds	60 maximum 25% maximum flag burn	ASTM D 2671 Procedure B
	Fungus resistance		Rating of 1 or less	ASTM G 21
	Water absorption (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 (MIL-G-5572) Water			ASTM D 2671
	Followed by tests for:			
	Dielectric strength	volts/mil *(volts/mm)*	400 *(15,760)* minimum	ASTM D 2671
	Tensile strength	psi *(MPa)*	1000 *(6.9)* minimum	ASTM D 2671

Note: Consult RT-1122 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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