tyco Electronics

RNF-150

Raychem

High-performance, thin-wall, flexible, fluoropolymer heat-shrinkable tubing

RNF-150 is a highly flame-resistant thin-wall heat-shrinkable tubing that has excellent durability. It is manufactured from a modified fluoropolymer whose properties include toughness, chemical resistance, and high-temperature performance.

A very thin wall gives RNF-150 excellent flexibility.

Applications include insulation, jacketing, and identification of wire bundles; light-duty harnesses; insulation and protection of terminals and wire connections; and packaging of components. RNF-150 is not recommended for use in direct contact with ketones.

RNF-150 is UL-recognized at 150°C, 600 V, with a UL VW-1 flame retardance rating and meets the requirements of AMS-DTL-23053/18, Class 2.

Temperature rating

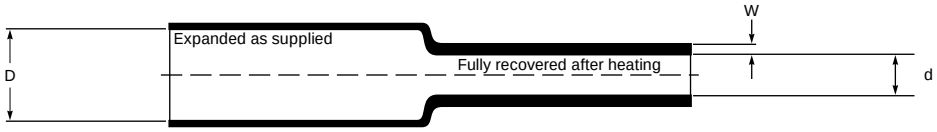
Full recovery temperature:	150°C
Continuous operating temperature:	–55°C to 155°C
Recommended maximum temperature for use as a primary insulator:	135°C

*Specifications**

Type	Raychem	Military	UL
RNF-150	RT-370	AMS-DTL-23053/18, Class 2	E85381 VW-1

*When ordering, always specify latest issue.

*Dimensions (*millimeters*/inches)*



Size	Inside diameter D (min.) Expanded as supplied		d (max.) Recovered after heating		Wall thickness W Recovered after heating**		Weight as supplied (max.) lb./100 ft.	kg./100 m
3/64	1.2	*0.046*	0.6	*0.023*	0.25 ± 0.05	*0.010 ± 0.002*	0.10	*0.15*
1/16	1.6	*0.063*	0.8	*0.031*	0.25 ± 0.05	*0.010 ± 0.002*	0.13	*0.19*
3/32	2.4	*0.093*	1.2	*0.046*	0.25 ± 0.05	*0.010 ± 0.002*	0.17	*0.25*
1/8	3.2	*0.125*	1.6	*0.062*	0.25 ± 0.05	*0.010 ± 0.002*	0.22	*0.33*
3/16	4.8	*0.187*	2.4	*0.093*	0.25 ± 0.05	*0.010 ± 0.002*	0.31	*0.46*
1/4	6.4	*0.250*	3.2	*0.125*	0.30 ± 0.08	*0.012 ± 0.003*	0.40	*0.60*
3/8	9.5	*0.375*	4.8	*0.187*	0.30 ± 0.08	*0.012 ± 0.003*	0.73	*1.09*
1/2	12.7	*0.500*	6.4	*0.250*	0.30 ± 0.08	*0.012 ± 0.003*	0.96	*1.43*
3/4	19.1	*0.750*	9.5	*0.375*	0.43 ± 0.08	*0.017 ± 0.003*	1.92	*2.85*
1	25.4	*1.000*	12.7	*0.500*	0.48 ± 0.08	*0.019 ± 0.003*	2.78	*4.14*

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

Ordering information

Colors	**Standard**	Black
	Nonstandard	White
Size selection	Always order the largest size that will shrink snugly over the component being covered. Special order sizes may be made available upon request.	
Standard packaging	On spools	
Ordering description	Specify product name, size, and color; for example, RNF-150 1/4-0 (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
	Concentricity as supplied	percent	70% minimum	ASTM D 2671
	Weight per length as supplied	lb./100 ft. *(kg./100 m)* max.	See reverse	See note below
	Recovery angle	degrees	5 maximum	See note below
	Tensile strength	psi *(Mpa)*	4000 *(27.6)* minimum	ASTM D 2671
	Ultimate elongation	percent	300 minimum	ASTM D 2671
	Secant modulus (as supplied)	psi *(Mpa)*	25,000 to 100,000 *(172 to 690)*	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
	Dynamic cut-through (135°C/*275°F*)	lb. *(kg.)*	5 *(2.3)* minimum	ASTM D 3032 See note below
	Heat resistance (336 hours at 225°C/*437°F*)			ASTM D 2671
	Followed by test for:			
	Ultimate Elongation	percent	250 minimum	ASTM D 2671
	Color		MIL-STD-104, Class I	MIL-STD-104
Electrical	Dielectric strength	volts/mil *(kV/mm)*	500 *(19.7)* minimum	ASTM D 2671
	Volume resistivity	ohm-cm	10^{11} minimum	ASTM D 2671
Chemical	Corrosive effect		Noncorrosive	ASTM D 2671
	Copper mirror corrosion (16 hours at 160°C/*320°F*)		Copper removal 5% maximum	ASTM D 2671 Procedure A
	Copper contact corrosion (16 hours at 175°C/*347°F*)		No blackening or pitting of copper	ASTM D 2671 Procedure B
	Copper stability (168 hours at 180°C/*356°F*)		No brittleness, glazing, or severe discoloration of tubing. No pitting or blackening of copper.	ASTM D 2671 Procedure B
	Followed by test for:			
	Ultimate elongation	percent	250 minimum	ASTM D 2671
	Flammability		25% maximum flag burn; no burning of cotton; no flaming or glowing longer than 60 seconds	UL 224, VW-1 ASTM D 2671 Procedure C
	Fungus resistance			ISO 846 Method B
	Followed by tests for:			
	Tensile strength	psi *(Mpa)*	4000 *(27.6)* minimum	ASTM D 2671
	Ultimate elongation	percent	300 minimum	ASTM D 2671
	Dielectric strength	volts/mil *(kV/mm)*	500 *(19.7)* minimum	ASTM D 2671
	Water absorption (24 hours at 23°C/*73°F*)	percent	0.5 maximum	ASTM D 2671
	Fluid resistance (24 hours at 50°C/*122°F*) in: JP-8 fuel (MIL-T-5624) Hydraulic fluid (MIL-H-5606) Aviation gasoline100/300 (MIL-G-5572) Water Lubricating oil (MIL-L-23699)			ASTM D 2671
	Followed by tests for:			
	Dielectric strength	volts/mil *(kV/mm)*	400 *(15.8)* minimum	ASTM D 2671
	Tensile strength	psi *(Mpa)*	2000 *(13.8)* minimum	ASTM D 2671

Note: Consult RT-370 for specific details about test procedures.

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

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TE Connectivity:
RNF-150-3/16-0-SP