

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		Wall thickness		Weight as supplied (max.)	
	D (min.) Expanded as supplied	d (max.) Recovered after heating	W Recovered after heating**		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
<b>Physical</b>	Dimensions	mm ( <i>inches</i> )	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. ( <i>kg./100 m</i> ) max.	See reverse	See note below
	Recovery angle	degrees	5 maximum	See note below
	Tensile strength	psi ( <i>Mpa</i> )	4000 ( <i>27.6</i> ) minimum	ASTM D 2671
	Ultimate elongation	percent	300 minimum	ASTM D 2671
	Secant modulus (as supplied)	psi ( <i>Mpa</i> )	25,000 to 100,000 ( <i>172 to 690</i> )	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. ( <i>kg.</i> )	5 ( <i>2.3</i> ) 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	
<b>Electrical</b>	Dielectric strength	volts/mil ( <i>kV/mm</i> )	500 ( <i>19.7</i> ) minimum	ASTM D 2671
	Volume resistivity	ohm-cm	10 <sup>11</sup> minimum	ASTM D 2671
<b>Chemical</b>	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 ( <i>Mpa</i> )	4000 ( <i>27.6</i> ) minimum	ASTM D 2671
	Ultimate elongation	percent	300 minimum	ASTM D 2671
	Dielectric strength	volts/mil ( <i>kV/mm</i> )	500 ( <i>19.7</i> ) 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 gasoline 100/300 (MIL-G-5572) Water Lubricating oil (MIL-L-23699)			ASTM D 2671
Followed by tests for:				
Dielectric strength	volts/mil ( <i>kV/mm</i> )	400 ( <i>15.8</i> ) minimum	ASTM D 2671	
Tensile strength	psi ( <i>Mpa</i> )	2000 ( <i>13.8</i> ) minimum	ASTM D 2671	

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

Raychem is a trademark of Tyco Electronics Corporation.

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

### Tyco Electronics Corporation

300 Constitution Drive  
Menlo Park, CA 94025-1164  
USA  
Tel: (800) 926-2425 (US & Canada)  
Tel: +1 (650) 361-3860 (All other countries)

Faraday Road  
Dorcan, Swindon, SN3 5HH  
United Kingdom  
Tel: +44 1793 528171

3816 Noborito, Tama-ku  
Kawasaki, Kanagawa 214-8533  
Japan  
Tel: +81 44 900 5102

Asia Pacific Headquarters  
26 Ang Mo Kio, Industrial Park 2  
Singapore 569507  
Tel: +65 4866 151

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#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.