

**Halogen-Free,  
Flame-Retardant,  
Heat-Shrinkable Tubing**

**Product Facts**

- Emits minimal amounts of toxic or acid gasses during combustion
- Meets performance requirements of MIL-C-24640 and MIL-C-24643 cable jackets
- Resists moisture, fungus, and weathering
- Available in expansion ratios as high as 3:1
- XFFR has the following approvals:
  - ABS (American Bureau of Shipping)
  - Lloyd's (Lloyd's Register of Shipping)
- RoHS compliant

**XFFR**



**Applications**

XFFR halogen-free tubing can be used for re-jacketing and repairing halogen-free cables in any enclosed area where a flame-retardant, halogen-free environment is required. These environments include tunnels, buildings, mass transit vehicles, and ships. When installed with S-1305 tape, the tubing can also be used in applications requiring water sealing and protection from abrasion and corrosion.

**Installation**

Minimum shrink temperature: 70°C [158°F]  
 Minimum full recovery temperature: 121°C [250°F]

**Operating Temperature Range**

-55°C to 110°C  
 [-67°F to 230°F]

**Specifications/Approvals**

Series	Military	Industry	Raychem
XFFR	MIL-C-24640 MIL-C-24643	NES 713 NES 711	RW-2016

Available in:	Americas	Europe	Asia Pacific
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**XFFR** (Continued)

**Product Dimensions**

Size	Inside Diameter		Recovered Wall Thickness*
	Minimum Expanded as Supplied	Maximum Recovered After Heating	After Heating (Nominal)
XFFR-03	7.62 [0.300]	2.54 [0.100]	2.03 [0.080]
XFFR-04	10.16 [0.400]	3.81 [0.150]	2.03 [0.080]
XFFR-07	19.05 [0.750]	5.59 [0.220]	2.03 [0.080]
XFFR-11	27.94 [1.100]	9.52 [0.375]	2.67 [0.105]
XFFR-15	38.10 [1.500]	12.70 [0.500]	3.05 [0.120]
XFFR-20	50.80 [2.000]	19.05 [0.750]	3.05 [0.120]
XFFR-30	76.20 [3.000]	31.75 [1.250]	4.06 [0.160]

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

**Ordering Information**

Color	Standard	Black (-0)
Size selection	Always order the largest size that will shrink snugly over the component to be covered.	
Standard packaging	1.2-meter [4-foot] or 7.5-meter [25-foot] lengths.	

**Part Numbering System**

**XFFR - 03 X 4 / NM**

