

**HF**

High-flex heat-shrinkable tubing

Fax-on-Demand: (800) 260-9099  
(650) 361-6523FAX ID Description  
2280 Data sheetBefore ordering check with  
factory for most current data.**Applications**

Developed for cable jacketing applications where cable flexibility is important, high-flex (HF and HFR-FR) tubing is ideal for jacketing cables where sharp bends or turns are required. Also ideal for situations where the cable is subject to motion. Such situations are common for industrial machinery, transportation equipment, robotics, welding, and many other cabling applications. To complete the cable jacket seal, the ends may be sealed for further water and corrosion protection by using available tape sealant or adhesive.

**Features/Benefits**

- Offers high flexibility.
- Provides excellent insulation and abrasion-protection, per U.S. Mine Safety and Health Administration (MSHA) regulations.
- Comes in flame-retardant material; specify "FR" (see below).
- HFR-FR has the following agency approvals:
  - ABS (American Bureau of Shipping)
  - DNV (Det Norske Veritas)
  - Lloyd's (Lloyd's Register of Shipping)

**Installation**

Minimum shrink temperature: 80°C

Minimum full recovery temperature: 121°C

**Specifications/Approvals**

Series	Military	Agency	Raychem
HF	MIL-DTL-23053/15A*, Method B		Nemosyne HFFR
HFR-FR		ABS, DNV, Lloyd's Register	RW-2023

\*Formerly MIL-I-23053/15A.

**Product Dimensions**

Part number	Agency approved part number	Standard nominal length (m/ft)	Inside diameter (mm/in)		Nominal wall thickness (mm/in)
			Minimum expanded as supplied	Maximum recovered after heating	Recovered** (after unrestricted shrinkage)
HF04	HFR-FR 10/4	1.2, 7.5 (4, 25)	10.16 (.40)	3.81 (.150)	1.52 (.060)
HF07	HFR-FR 19/6	1.2, 7.5 (4, 25)	19.05 (.75)	5.59 (.220)	1.52 (.060)
HF11		1.2, 7.5 (4, 25)	27.94 (1.10)	9.52 (.375)	2.67 (.105)
HF13	HFR-FR 33/10	1.2, 7.5 (4, 25)	33.02 (1.30)	9.52 (.375)	2.67 (.105)
HF15		1.2, 7.5 (4, 25)	38.10 (1.50)	12.70 (.500)	3.05 (.120)
HF17	HFR-FR 43/13	1.2, 7.5 (4, 25)	43.14 (1.70)	12.70 (.500)	3.05 (.120)
HF20	HFR-FR 51/19	1.2, 7.5 (4, 25)	50.80 (2.00)	19.05 (.750)	3.56 (.140)
HF27	HFR-FR 69/23	1.2, 7.5 (4, 25)	68.58 (2.70)	22.86 (.900)	3.94 (.155)

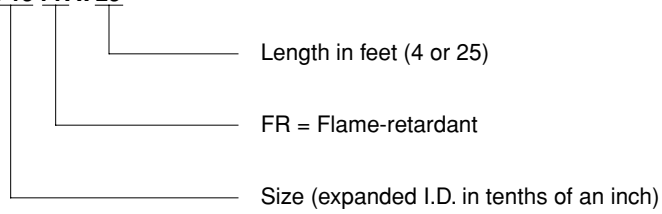
\*\*Wall thickness will be less if tubing recovery is restricted during shrinkage.

## Ordering Information and Part Numbering System

Contact factory for other than standard lengths. Standard color is black.

For tape sealant information, see SFTS on page 5-4.

### HF15 FR x 25



### HFR-FR 33/10 120 -0

