

**High-Ratio,  
Heat-Shrinkable Tubing**

**Product Facts**

- Offers toughness and durability
- Provides excellent insulation and abrasion protection
- Is available in flame-retardant material.
- Shrinks to fit as high as (5.6:1)
- FR callouts meet all of the requirements of AMS-DTL-23053/15\*, except for some of the tubing sizes, which do not meet the exact recovered wall thickness requirements
- HRHF and HRSR have the following agency approvals:
  - ABS (American Bureau of Shipping)
  - DNV (Det Norske Veritas)
  - Lloyd's (Lloyd's Register of Shipping)



**HRHF/HRNF/HRSR**



**Applications**

High-ratio (HR) heat-shrinkable tubing, with expansion ratios as high as 5.6 to 1, is designed to accommodate large size differences between cables and cable connectors and backshells, thus simplifying repair of damaged cable. High-ratio tubing is available in semirigid flame-retardant (SR), standard (NF), or high-flex flame-retardant (HF) material and with or without factory-applied sealants

and adhesives. The water-proofing sealant provides environmental sealing and is watertight in wet and corrosive locations. The thermoplastic adhesive coating offers excellent strain relief and environmental sealing.

**Installation**

Minimum shrink temperature: 80°C [176°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	Agency	Raychem
HRSR	AMS-DTL-23053/15*	ABS, DNV, Lloyd's	RW-2013
HRHF	AMS-DTL-23053/15*	ABS, DNV, Lloyd's	RW-2013
HRNF	—	—	RW-2013

\*Formerly MIL-I-23053/15 and MIL-DTL-23053/15.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

Product Dimensions

HRHF/HRNF/HRSR (Continued)

Size†	Inside Diameter		Recovered Wall Thickness†† Nominal After Heating
	Minimum Expanded as Supplied	Maximum Recovered After Heating	
HR**060	15.24 [0.60]	3.81 [0.150]	1.52 [0.060]
HR**125	31.75 [1.25]	5.59 [0.220]	1.52 [0.060]
HR**175	44.45 [1.75]	8.00 [0.315]	2.41 [0.095]
HR**200	50.80 [2.00]	9.52 [0.375]	2.67 [0.105]
HR**250	63.50 [2.50]	12.70 [0.500]	3.05 [0.120]
HR**300	76.20 [3.00]	19.05 [0.750]	3.05 [0.120]
HR**400	101.60 [4.00]	22.86 [0.900]	3.56 [0.140]

†For \*\* substitute HF, NF or SR for material required.

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

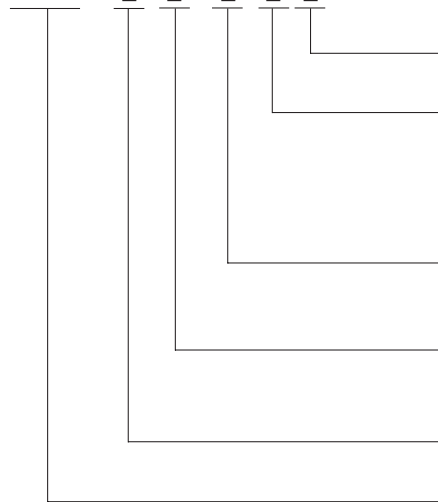
Ordering Information

Color	Standard	Black
	Nonstandard	Clear available on request (not flame-retardant; HRHF only)
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Other sizes are available upon request.	
Standard packaging	Up to 18 inch lengths maximum.	
Ordering description	See below.	

\*Cutting tolerance is ± 0.125".

Part Numbering System –

HRHF -



“NM” - no marking

**Coating**

Adhesive (/97)

Sealant (/226)

Blank for no coating

**Length** in inches (up to 18 inch length maximum)

“FR” - flame-retardant for SR and HF

“CL” - Clear, non-flame retardant; HF only

**Size**

**Product Name**

HRHF - high flex

HRNF - non-flame-retardant

HRSR - semirigid

Example: HRHF-125FR-10/226-NM