



## Raychem High Ratio Heat-Shrinkable Tubing Products : HRSR, HRHF, HRNF, HRHT & URHT

**TE Connectivity (TE) manufactures one of the world's largest ranges of heat-shrinkable tubing that provides exceptional cable protection, insulation, environmental sealing and strain relief.**

High Ratio Heat-Shrinkable tubing, with expansion ratios as low as 4:1 and as high as 8:1 are designed to accommodate large size transitions between cables, cable connectors and backshells thus simplifying repairs of damaged cable as well as sealing the back end of connectors.

### **There are five specific types of Raychem High Ratio tubing**

- HRHF : High Ratio High Flex
- HRSR : High Ratio Semirigid
- HRNF : High Ratio Non-Flame-Retardant
- HRHT : High Ratio Heat-Shrink Tubing
- URHT : Ultra High Ratio Tubing

All product families are available with or without adhesive and all are flame-retardant, excluding HRNF.

High Ratio products with thermoplastic adhesive coating offer excellent strain relief and environmental sealing. HRHF, HRSR and HRNF are also available with water-proof sealant to provide environmental sealing in wet and corrosive locations. In addition, HRHT and URHT have good fluid resistance properties as well as excellent long-term heat resistance performance.



## Features and Benefits

- Offer both single wall and dual wall products
- Offer strain relief, insulation, bundling, mechanical protection and sealant properties
- Designed to accommodate large size transitions between cables and cable connectors

## Standards and Specifications

### HRHF, HRSR & HRNF

- ABS, Lloyd's FR callouts meet the flame-retardant material requirements of AMS-DTL-23053/15

### HRHT

- SAE-AS81765/1
- UL File E85381 (R)

### URHT

- SAE-AS81765/1

## Industries

- Aerospace and Defense
- Commercial
- Industrial
- Maintenance and Repair Organizations (MRO)
- Marine
- Rail

## Temperature Rating

### Operating Temperature Range

- HRHF, HRSR & HRNF : -55°C to +110°C
- HRHT : -55°C to +135°C
- URHT : -55°C to +135°C

## Product Dimensions

Size	Minimum Expanded ID as Supplied mm [in]	Maximum Recovered ID After Heating mm [in]	Recovered Wall Thickness* After Heating (Nominal) mm [in]	Shrink Ratio
<b>HRHF/HRNF/HRSR</b>				
<b>HR** -060</b>	15.24 [0.600]	3.81 [0.150]	1.52 [0.060]	4:1
<b>HR** -125</b>	31.75 [1.250]	6.10 [0.240]	1.52 [0.060]	5.7 :1
<b>HR** -175</b>	44.45 [1.750]	8.00 [0.315]	2.41 [0.095]	5.6 :1
<b>HR** -200</b>	50.80 [2.000]	9.52 [0.375]	2.67 [0.105]	5.3 :1
<b>HR** -250</b>	63.50 [2.500]	12.70 [0.500]	3.05 [0.120]	5:1
<b>HR** -300</b>	76.20 [3.000]	19.05 [0.750]	3.05 [0.120]	4:1
<b>HR** -400</b>	101.60 [4.000]	22.86 [0.900]	3.56 [0.140]	4.4 :1
<b>HRHT***</b>				
<b>HRHT-1/X</b>	19.05 [0.750]	3.05 [0.120]	3.94 [0.155]	6.2 :1
<b>HRHT-2/X</b>	38.16 [1.500]	5.84 [0.230]	3.94 [0.155]	6.5 :1
<b>HRHT-3/X</b>	50.80 [2.00]	9.14 [0.360]	3.94 [0.155]	5.6 :1
<b>HRHT-4/X</b>	76.20 [3.000]	12.70 [0.500]	3.94 [0.155]	6:1
<b>HRHT-5/X</b>	114.30 [4.500]	19.05 [0.750]	3.94 [0.155]	6:1
<b>URHT</b>				
<b>URHT-200</b>	50.80 [2.00]	5.84 [0.230]	3.56 [0.140]	8.7 :1
<b>URHT-300</b>	76.20 [3.000]	8.64 [0.340]	3.56 [0.140]	8.8 :1

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

\*\*Product can be HRHF/HRNF/HRSR

\*\*\*"X" indicates recovered length in inches (For example, for 3.0-inch length HRHT-2/3, the tolerance shall be ± 10% of the specified recovered length)

## Ordering Information

### HRHF, HRSR & HRNF

- **Color (HRHF & HRSR)** : Black (-0)
- **Color (HRNF)** : Black (-0) and Clear (CL)
- **Standard Packaging** : Up to 18 inch length maximum\*
- **Coating** : Adhesive (/97)
  - : Sealant (/226)
  - : Leave blank for no coating
- **Size Selection** : Always order the largest size that will shrink snugly over the component to be covered
- **Ordering Description** : Specify product name, size, flame retardant, length, and coating (for example, HRHF-125FR-10/226)

\*Cutting tolerance is  $\pm 0.125$ "

### HRHT & URHT

- **Color** : Black (-0)
- **Standard Packaging** : Cut pieces
- **Coating (URHT)** : Adhesive (/42)
  - : High Performance Adhesive (/86)
- **Size Selection** : Always order the largest size that will shrink snugly over the component to be covered
- **Ordering Description** : Specify product name, size, and cut length (for example, HRHT-1/3 or URHT-200-10-0)

Part numbers in this brochure are RoHS Compliant\*, unless marked otherwise.  
\*as defined [www.tycoelectronics.com/leadfree](http://www.tycoelectronics.com/leadfree)

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