

Rugged, heavy wall, adhesive-lined, polyolefin heat-shrinkable tubing

Rugged, heavy wall RHW tubing is specifically designed for insulating, protecting and sealing electrical connections and joints in low-voltage cables. RHW is the ideal choice whenever maximum mechanical protection is required in an electrical insulation system. It provides splice insulation thickness equal to or greater than standard wire insulation manufactured to common industry standards.

RHW withstands mechanical abuse for increased product reliability. It is highly resistant to impact and abrasion and

provides a high level of strain relief when installed on splices and joints. It is also resistant to chemicals, moisture and oils.

Adhesive-lined RHW provides a complete moisture-proof seal, preventing corrosion of underlying components. The thermoplastic adhesive in RHW will adhere to most common insulation materials including crosslinked poly, PVC, neoprene, hypalon and EPR, as well as to most metals including lead, aluminum and steel.


Installation requires no special skills. When heated, RHW tubing shrinks quickly to insulate and encapsulate electrical connections and cable joints. While the tubing is shrinking, the internal adhesive lining melts and flows to environmentally seal the connection.

RHW is the ideal choice for applications where maximum reliability and product performance, and simplified installation are required. Because RHW is heat-shrinkable, a minimum number of sizes are needed to cover a wide range of cable and splice diameters.

Temperature rating

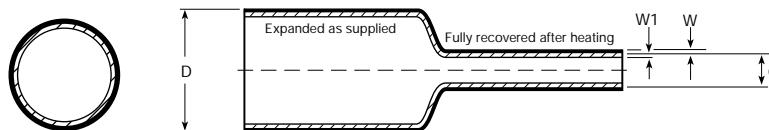
| | |
|-----------------------------------|----------------|
| Full recovery temperature: | 125°C |
| Continuous operating temperature: | -55°C to 110°C |

Specifications*

| | | |
|------|---------|--|
| Type | Raychem |  |
| RHW | RHW SCD | UL** |
| | | File E115664 |

*When ordering, always specify latest issue. **Sizes 9/3 through 70/21 only.

Dimensions (millimeters/inches)



| Size | Inside diameter | | Recovered wall thickness** | | | | Size | Inside diameter | | Recovered wall thickness** | | | | | | | |
|-------|-------------------------------|----------------------------------|----------------------------|-------------------------|----------------------|-------------------------|------|-------------------------------|----------------------------------|----------------------------|-------------------------|----------------------|-------------------------|-----|-------|------|-------|
| | D (min.) Expanded as supplied | d (max.) Recovered after heating | W (nom.) Jacket wall | W1 (nom.) Adhesive wall | W (nom.) Jacket wall | W1 (nom.) Adhesive wall | | D (min.) Expanded as supplied | d (max.) Recovered after heating | W (nom.) Jacket wall | W1 (nom.) Adhesive wall | W (nom.) Jacket wall | W1 (nom.) Adhesive wall | | | | |
| 9/3 | 9 | 0.354 | 3 | 0.118 | 2.0 | 0.079 | 0.25 | 0.010 | 70/21 | 70 | 2.756 | 21 | 0.827 | 4.4 | 0.173 | 0.40 | 0.016 |
| 13/4 | 13 | 0.512 | 4 | 0.158 | 2.4 | 0.094 | 0.30 | 0.012 | 85/25 | 85 | 3.346 | 25 | 0.984 | 4.3 | 0.169 | 0.40 | 0.016 |
| 20/6 | 20 | 0.787 | 6 | 0.236 | 2.5 | 0.098 | 0.35 | 0.014 | 105/30 | 105 | 4.134 | 30 | 1.181 | 4.3 | 0.169 | 0.45 | 0.018 |
| 33/8 | 33 | 1.299 | 8 | 0.315 | 3.2 | 0.126 | 0.35 | 0.014 | 130/36 | 130 | 5.118 | 36 | 1.417 | 4.3 | 0.169 | 0.45 | 0.018 |
| 43/12 | 43 | 1.693 | 12 | 0.472 | 4.3 | 0.169 | 0.40 | 0.016 | 160/50 | 160 | 6.299 | 50 | 1.968 | 4.3 | 0.169 | 0.45 | 0.018 |
| 51/16 | 51 | 2.008 | 16 | 0.630 | 4.5 | 0.177 | 0.40 | 0.016 | 180/50 | 180 | 7.087 | 50 | 1.968 | 4.3 | 0.169 | 0.50 | 0.020 |

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

Ordering information

| | |
|----------------------|--|
| Color | Black (all sizes); red (sizes 9/3, 13/4, 20/6 and 33/8 only) |
| Size selection | Always order the largest size that will shrink snugly over the component being covered. |
| Standard packaging | 1200MM lengths |
| Marking | Tubing will be marked with the product name, size and batch number. Sizes 9/3 through 70/21 will also be marked with the UL logo. |
| Ordering description | Specify product name, size, cut length, coating option and color; for example, RHW-20/6-1200/ADH-0 (ADH = Adhesive-lined, 0=Black). |

Specification values

| | Property | Unit | Requirement | Method of test |
|---------------------|--|----------------------------|------------------------------|----------------------------|
| Material | Dimensions | mm (<i>inches</i>) | See reverse | ASTM D 412 |
| | Longitudinal change | percent | +5, -15 | ASTM D 792 |
| | Tensile strength | psi (<i>MPa</i>) | 1750 (<i>12</i>) minimum | ASTM D 412 |
| | Ultimate elongation | percent | 350 minimum | ASTM D 792 |
| | Specific gravity | | 1.2 maximum | ASTM D 792 |
| | Hardness | Shore D | 40 to 60 | ASTM D 2240 |
| | Low temperature flexibility (4 hours at -55°C/-67°F) | | No cracking | ASTM D 2671 |
| Electrical | Heat resistance (168 hours at 150°C/302°F) Followed by test for: | | | |
| | Ultimate elongation | percent | 350 minimum | ASTM D 2671 |
| | Dielectric strength | volts/mil (<i>kV/mm</i>) | 430 (<i>170</i>) minimum | ASTM D 149 |
| | Dielectric withstand, 2200 V | seconds | 60 minimum | UL 486D |
| Chemical | Volume resistivity | ohm-cm | 1 x 10 ¹² minimum | ASTM D 257 |
| | Corrosive effect (16 hours at 150°C/302°F) | | Noncorrosive | ASTM D 2671 Procedure A |
| | Fungus resistance | | Rating of 1 or less | ASTM G 21 |
| | Water absorption (24 hours at 23°C/73°F) | percent | 0.1 maximum | ASTM D 570 |
| | Fluid resistance (168 hours at 23°C/73°F) in: VDE 0370 oil Followed by tests for: | | | ASTM D 2671 |
| | Tensile strength | psi | 80% minimum of original | ASTM D 2671 |
| Ultimate elongation | percent | 80% minimum of original | ASTM D 2671 | |

Typical performance values

| | Property | Unit | Performance | Method of Test |
|---|----------------------|--------------|----------------------------|----------------|
| Adhesive Properties | Softening point | °C | 90 ± 10 | ASTM E 28 |
| | Peel Strength | | | ASTM D 1000 |
| | Copper | | 10 lbs./in. width | |
| | Polyethylene | | 10 lbs./in. width | |
| | Adhesive Shear | psi | 150 minimum | ASTM D 1002 |
| | Aluminum to aluminum | | | |
| | Water absorption | percent | 0.5 maximum | ASTM D 570 |
| Corrosive effect (16 hours at 121°C/250°F) | | Noncorrosive | ASTM D 2671 Procedure A | |

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

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