

Highly expanded, polyolefin heat-shrinkable tubing

RP-4800 is a radiation-crosslinked polyolefin material with a 4:1 expansion ratio. It was developed for a wide range of applications where a large expansion is required, such as harness repair. This high expansion simplifies installation and speeds repairs. The high expansion of RP-4800 tubing eliminates the need to remove connectors or large

transitions and allows for easy harness assembly and repair. This heat-shrinkable, flexible, flame-retardant tubing is also compatible with Raychem adhesives, providing a complete environmental seal.

RP-4800 tubing has excellent physical and mechanical properties that meet both military and industrial

requirements. It is highly abrasion-resistant and shows no significant degradation when exposed to common solvents and chemicals, including aviation fuel and hydraulic fluid.

RP-4800 tubing remains flexible at low temperatures and, for short periods, can withstand temperatures of up to 300°C without dripping or flowing.

Temperature rating

| | |
|-----------------------------------|----------------|
| Full recovery temperature: | 121°C |
| Continuous operating temperature: | -55°C to 135°C |

Specifications*



| Type | Raychem | Military | UL |
|---------|---------|--------------------------|--------|
| RP-4800 | RT-1122 | AMS-DTL-23053/5, Class 1 | E35586 |

*When ordering, always specify latest issue.

Dimensions (millimeters/inches)



| Part number | Inside diameter | | d (max.) | | Wall thickness | |
|---------------|-----------------|----------------------|-------------------------|-------------------------|----------------|---------------------------|
| | D (min.) | Expanded as supplied | Recovered after heating | Recovered after heating | W | Recovered after heating** |
| RP-4800-No.1 | 25.40 | 1.00 | 6.99 | 0.275 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.2 | 50.80 | 2.00 | 13.97 | 0.550 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.3 | 76.20 | 3.00 | 20.57 | 0.810 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.4 | 101.60 | 4.00 | 26.67 | 1.050 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.5 | 25.40 | 1.00 | 11.74 | 0.462 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.6 | 60.33 | 2.37 | 17.27 | 0.680 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.7 | 76.20 | 3.00 | 21.34 | 0.840 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.8 | 95.25 | 3.75 | 23.62 | 0.930 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.9 | 114.30 | 4.50 | 36.83 | 1.450 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.10 | 38.10 | 1.50 | 9.53 | 0.375 | 1.14 ± 0.18 | 0.045 ± 0.007 |
| RP-4800-No.11 | 19.05 | 0.75 | 4.57 | 0.180 | 1.14 ± 0.18 | 0.045 ± 0.007 |

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

Ordering information

| | |
|----------------------|---|
| Colors | Standard Black |
| | Nonstandard Brown, red, orange, yellow, green, blue, violet, gray, and white |
| Size selection | Always order the largest size that will shrink snugly over the component being covered. |
| Standard packaging | On spools or in 4-foot lengths |
| Ordering description | Specify product name, size, and color; for example, RP-4800-No.6-0 (0=Black). |

Specification values

| | Property | Unit | Requirement | Method of test | |
|---|---|---|---|-------------------------------------|----------------------------|
| Physical | Dimensions | mm (<i>inches</i>) | See reverse | ASTM D 2671 | |
| | Longitudinal change | percent | +0, -10 | ASTM D 2671 | |
| | Tensile strength | psi (<i>MPa</i>) | 1500 (<i>10.3</i>) minimum | ASTM D 2671 | |
| | Ultimate elongation | percent | 200 minimum | ASTM D 2671 | |
| | Secant modulus (expanded) | psi (<i>MPa</i>) | 2.5 x 10 ⁴ (<i>172</i>) maximum | ASTM D 2671 | |
| | Specific gravity | | 1.35 maximum | ASTM D 2671 | |
| | Low-temperature flexibility (4 hours at -55°C/-67°F) | | No cracking | See note below | |
| | Heat shock (4 hours at 250°C/482°F) | | No dripping, flowing or cracking | See note below | |
| Heat resistance (336 hours at 175°C/347°F) | | | ASTM D 2671 | | |
| Followed by test for: | | | | | |
| | Ultimate elongation | percent | 150 minimum | ASTM D 2671 | |
| Electrical | Dielectric strength | volts/mil (<i>volts/mm</i>) | 500 (<i>19,680</i>) minimum | ASTM D 2671 | |
| | Volume resistivity | ohm-cm | 10 ¹⁴ minimum | ASTM D 2671 | |
| Chemical | Corrosive effect (16 hours at 175°C/347°F) | | No removal of copper | See note below | |
| | Copper stability (168 hours at 160°C/320°F) | | No brittleness, glazing, cracking, or severe discoloration of tubing. | See note below | |
| | Followed by test for: | | | | |
| | | Ultimate elongation | percent | 200 minimum | ASTM D 2671 |
| | | Flammability, average time of burning | seconds | 60 maximum 25% maximum flag burn | ASTM D 2671 Procedure B |
| | | Fungus resistance | | Rating of 1 or less | ASTM G 21 |
| | | Water absorption (24 hours at 23°C/73°F) | percent | 0.5 maximum | ASTM D 2671 |
| | | Fluid resistance (24 hours at 23°C/73°F) in: JP-8 fuel (MIL-T-5624) Skydrol 500 Hydraulic fluid (MIL-H-5606) Aviation gasoline 100/300 (MIL-G-5572) Water | | | ASTM D 2671 |
| | Followed by tests for: | | | | |
| | | Dielectric strength | volts/mil (<i>volts/mm</i>) | 400 (<i>15,760</i>) minimum | ASTM D 2671 |
| | Tensile strength | psi (<i>MPa</i>) | 1000 (<i>6.9</i>) minimum | ASTM D 2671 | |

Note: Consult RT-1122 for specific details about test procedures.

Skydrol is a trademark of Monsanto Company.

Raychem is a trademark of Tyco Electronics Corporation.

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

Tyco Electronics Corporation

300 Constitution Drive
Menlo Park, CA 94025-1164
USA
Tel: (800) 926-2425 (US & Canada)
Tel: +1 (650) 361-3860 (All other countries)

Faraday Road
Dorcan, Swindon, SN3 5HH
United Kingdom
Tel: +44 1793 528171

3816 Noborito, Tama-ku
Kawasaki, Kanagawa 214-8533
Japan
Tel: +81 44 900 5102

Asia Pacific Headquarters
26 Ang Mo Kio, Industrial Park 2
Singapore 569507
Tel: +65 4866 151

All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. Tyco Electronics Corporation makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. Tyco Electronics Corporation's only obligations are those in the Standard Terms and Conditions of Sale for these products and in no case will Tyco Electronics Corporation be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Tyco Electronics Corporation's Specifications are subject to change without notice. In addition, Tyco Electronics Corporation reserves the right to make changes in materials or processing without notification to the Buyer which do not affect compliance with any applicable specification.

For more information about this product visit www.tycoelectronics.com