

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.

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