

## 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 |

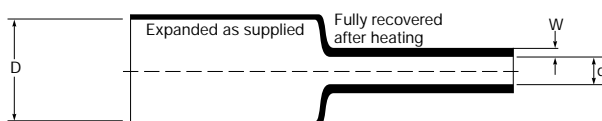
### Specifications\*



| 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                     |  | Wall thickness                    |               |
|---------------|-------------------------------------|--|-----------------------------------|---------------|
|               | D (min.)<br>Expanded<br>as supplied | d (max.)<br>Recovered after<br>heating | W<br>Recovered after<br>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<br>Nonstandard   | Black<br>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 <sup>4</sup> ( <i>172</i> ) maximum                                | ASTM D 2671                |
|            | Specific gravity  |                               | 1.35 maximum  | ASTM D 2671                |
|            | Low-temperature flexibility<br>(4 hours at -55°C/-67°F)   |                               | No cracking   | See note below             |
|            | Heat shock<br>(4 hours at 250°C/482°F)  |                               | No dripping, flowing<br>or cracking   | See note below             |
|            | Heat resistance<br>(336 hours at 175°C/347°F)   |                               |   | ASTM D 2671                |
| Electrical | Followed by test for:   |                               |   |                            |
|            | Ultimate elongation   | percent                       | 150 minimum   | ASTM D 2671                |
|            | Dielectric strength   | volts/mil ( <i>volts/mm</i> ) | 500 ( <i>19,680</i> ) minimum   | ASTM D 2671                |
| Chemical   | Volume resistivity  | ohm-cm                        | 10 <sup>14</sup> minimum  | ASTM D 2671                |
|            | Corrosive effect<br>(16 hours at 175°C/347°F)   |                               | No removal of copper  | See note below             |
|            | Copper stability<br>(168 hours at 160°C/320°F)  |                               | No brittleness, glazing,<br>cracking, or severe<br>discoloration of tubing. | See note below             |
|            | Followed by test for:   |                               |   |                            |
|            | Ultimate elongation   | percent                       | 200 minimum   | ASTM D 2671                |
|            | Flammability, average time<br>of burning  | seconds                       | 60 maximum<br>25% maximum flag burn   | ASTM D 2671<br>Procedure B |
|            | Fungus resistance   |                               | Rating of 1 or less   | ASTM G 21                  |
|            | Water absorption<br>(24 hours at 23°C/73°F)   | percent                       | 0.5 maximum   | ASTM D 2671                |
|            | Fluid resistance<br>(24 hours at 23°C/73°F) in:<br>JP-8 fuel (MIL-T-5624)<br>Skydrol 500<br>Hydraulic fluid<br>(MIL-H-5606)<br>Aviation gasoline 100/300<br>(MIL-G-5572)<br>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.

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

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