

Semirigid, flame-retardant, polyolefin heat-shrinkable tubing

Heat-shrinkable CRN tubing is ideally suited for wire strain-relief applications. It provides excellent strain-relief and insulation of weak points such as wire splices and terminations. CRN tubing helps ensure a reliable connection because it transfers the flex stress away from typically sensitive points such as solder and crimp joints.

CRN tubing has a broad range of uses including component protective covering and packaging. The flame-retardant material is fabricated from radiation-crosslinked polyolefin and exhibits excellent mechanical and chemical properties. It meets major military and industrial specifications for an all-purpose, semirigid tubing.

CRN tubing is abrasion-resistant. It's superior chemical properties permit satisfactory performance after exposure to common chemicals and solvents.

Only a few sizes of CRN tubing are required to cover a wide range of substrate diameters.

Temperature rating

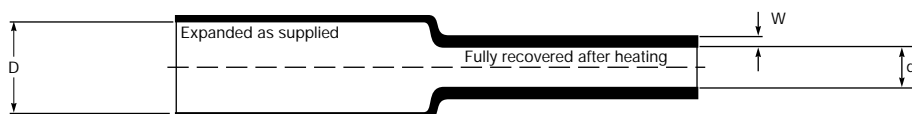
| | |
|-----------------------------------|----------------|
| Full recovery temperature: | 135°C |
| Continuous operating temperature: | -55°C to 135°C |

Specifications*

| Type | Raychem | Military | UL | CSA |
|---------------------|---------------|-----------------------|--------|----------------------|
| CRN Type 1 (colors) | RT-360 Type 1 | AMS-DTL-23053/6 Cl. 1 | E35586 | LR31929 (Black only) |
| CRN Type 2 (clear) | RT-360 Type 2 | AMS-DTL-23053/6 Cl. 2 | | |

*When ordering, always specify latest issue.

Dimensions (millimeters/inches)



| Size | Inside diameter | | Wall thickness | |
|------|-------------------------------------|--|-----------------------------------|---------------|
| | D (min.) Expanded as supplied | d (max.) Recovered after heating | W Recovered after heating** | |
| 3/64 | 1.2 0.046 | 0.6 0.023 | 0.51 ± 0.08 | 0.020 ± 0.003 |
| 1/16 | 1.6 0.063 | 0.8 0.031 | 0.51 ± 0.08 | 0.020 ± 0.003 |
| 3/32 | 2.4 0.093 | 1.2 0.046 | 0.51 ± 0.08 | 0.020 ± 0.003 |
| 1/8 | 3.2 0.125 | 1.6 0.062 | 0.51 ± 0.08 | 0.020 ± 0.003 |
| 3/16 | 4.8 0.187 | 2.4 0.093 | 0.64 ± 0.08 | 0.025 ± 0.003 |
| 1/4 | 6.3 0.250 | 3.2 0.125 | 0.64 ± 0.08 | 0.025 ± 0.003 |
| 3/8 | 9.5 0.375 | 4.8 0.187 | 0.76 ± 0.08 | 0.030 ± 0.003 |
| 1/2 | 12.7 0.500 | 6.4 0.250 | 0.76 ± 0.08 | 0.030 ± 0.003 |
| 3/4 | 19.0 0.750 | 9.5 0.375 | 0.89 ± 0.12 | 0.035 ± 0.005 |

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

Ordering information

| | | |
|----------------------|---|--------------------------------------|
| Colors | Standard Nonstandard | Black Clear (not flame-retardant) |
| Size selection | Always order the largest size that will shrink snugly over the component being covered. | |
| Standard packaging | 4-foot lengths | |
| Ordering description | Specify product name, size, and color; for example, CRN 1/4-0 (0 = Black). | |

Specification values

| | Property | Unit | Requirement Type 1 (Colors) | Requirement Type 2 (Clear) | Method of test |
|------------|--|-------------------------------|--|--|---|
| Physical | Dimensions | mm (<i>inches</i>) | See reverse | See reverse | ASTM D 2671 |
| | Longitudinal change | percent | 5 maximum | 5 maximum | ASTM D 2671 |
| | Tensile strength | psi (<i>MPa</i>) | 2000 (<i>13.8</i>) minimum | 2000 (<i>13.8</i>) minimum | ASTM D 2671 |
| | Ultimate elongation | percent | 200 minimum | 200 minimum | ASTM D 2671 |
| | Secant modulus (expanded) | psi (<i>MPa</i>) | 2.5 x 10 ⁴ (<i>172</i>) minimum | 2.5 x 10 ⁴ (<i>172</i>) minimum | ASTM D 2671 |
| | Specific gravity | | 1.35 maximum | 1.0 maximum | ASTM D 792 |
| | Low-temperature flexibility (4 hours at -55°C/-67°F) | | No cracking | No cracking | AMS-DTL 23053 ASTM D 2671 Procedure C |
| | Heat shock (4 hours at 250°C/482°F) | | No dripping, flowing, or cracking | No dripping, flowing, or cracking | AMS-DTL 23053 ASTM D 2671 |
| | Heat resistance (168 hours at 175°C/347°F) | | | | ASTM D 2671 |
| | Followed by test for: | | | | |
| | Ultimate elongation | percent | 150 minimum | 150 minimum | ASTM D 2671 |
| Electrical | Dielectric strength | volts/mil (<i>volts/mm</i>) | 500 (<i>19,680</i>) minimum | 500 (<i>19,680</i>) minimum | ASTM D 2671 |
| | Volume resistivity | ohm-cm | 10 ¹⁴ minimum | 10 ¹⁶ minimum | ASTM D 2671 |
| Chemical | Copper mirror corrosion (16 hours at 150°C/302°F) | | No removal of copper | No removal of copper | ASTM D 2671 Procedure A |
| | Copper contact corrosion (168 hours at 150°C/302°F) | | No pitting or blackening of copper | No pitting or blackening of copper | ASTM D 2671 Procedure B |
| | Flammability | | Self-extinguishing within 1 minute; 25% of indicator burned or charred; no falling, burning particles. | Not applicable | ASTM D 2671 Procedure B |
| | Fungus resistance | | | | ISO 846 Method B |
| | Followed by tests for: | | | | |
| | Tensile strength | psi (<i>MPa</i>) | 2000 (<i>13.8</i>) minimum | 2000 (<i>13.8</i>) minimum | ASTM D 2671 |
| | Ultimate elongation | percent | 200 minimum | 200 minimum | ASTM D 2671 |
| | Dielectric strength | volts/mil (<i>volts/mm</i>) | 500 (<i>19,680</i>) minimum | 500 (<i>19,680</i>) minimum | ASTM D 2671 |
| | Water absorption (24 hours at 23°C/73°F) | percent | 0.5 maximum | 0.2 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 (100/130) (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 | 400 (<i>15,760</i>) minimum | ASTM D 2671 |
| | Tensile strength | psi (<i>MPa</i>) | 1600 (<i>11.0</i>) minimum | 1600 (<i>11.0</i>) minimum | ASTM D 2671 |

Note: Consult RT-360 for specific details about test procedures.

Raychem is a trademark of Tyco Electronics Corporation.

*Trademark of the Monsanto Company.

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[CRN-3/64-0-STK](#)