



Highly flame-retardant, low recovery temperature, heat-shrinkable tubing

Versafit heat-shrinkable tubing is a cost-effective choice for many commercial and military applications. Versafit tubing is made from a specially formulated, crosslinked polyolefin to provide high flame-retardance (VW-1), excellent flexibility, and a low shrink temperature (to reduce installation time).

Versafit tubing performs a variety of functions in commercial and military applications:

- Electrically insulates and protects in-line components, disconnect terminals, and splices.
- Bundles wires for very flexible light-duty harnesses.
- Identifies or color-codes wires, cables, terminals, and components. Versafit tubing hot-stamps extremely well.

Compared to noncrosslinked materials, Versafit tubing has a higher temperature rating and exhibits better

thermal stability and resistance to physical abuse.

Unlike other typical flame-retardant tubings, Versafit tubing is free of polybrominated biphenyls (PBBs) and polybrominated biphenyl oxides and ethers (PBBOs/PBBEs). In Europe, these chemicals are classified as environmentally hazardous substances.

Temperature rating

| | |
|-----------------------------------|----------------|
| Full recovery temperature: | 90°C |
| Continuous operating temperature: | -55°C to 135°C |

Specifications*

| Type | Raychem | UL | CSA | Military |
|----------|---------|----------------------------|-----------------------------|------------------------------------|
| Versafit | RW-3009 | E35586 VW-1 600V, 125°C | LR31929 VW-1 600V, 125°C | AMS-DTL-23053/5 Classes 1 and 3 |

*When ordering, always specify latest issue.

Dimensions (millimeters/inches)



| Size | Inside diameter | | d (max.) | | Wall thickness | |
|-------|---------------------------|---------------|-------------------------|-------|--------------------------------|---------------|
| | D Expanded as supplied | | Recovered after heating | | W Recovered after heating** | |
| 3/64 | 1.63 ± 0.2 | 0.064 ± 0.008 | 0.6 | 0.023 | 0.40 ± 0.08 | 0.016 ± 0.003 |
| 1/16 | 1.85 ± 0.2 | 0.073 ± 0.007 | 0.8 | 0.031 | 0.43 ± 0.08 | 0.017 ± 0.003 |
| 3/32 | 2.79 ± 0.2 | 0.110 ± 0.007 | 1.2 | 0.046 | 0.51 ± 0.08 | 0.020 ± 0.003 |
| 1/8 | 3.43 ± 0.2 | 0.135 ± 0.007 | 1.6 | 0.062 | 0.51 ± 0.08 | 0.020 ± 0.003 |
| 3/16 | 5.21 ± 0.3 | 0.205 ± 0.010 | 2.4 | 0.093 | 0.51 ± 0.08 | 0.020 ± 0.003 |
| 1/4 | 7.11 ± 0.3 | 0.280 ± 0.010 | 3.2 | 0.125 | 0.64 ± 0.08 | 0.025 ± 0.003 |
| 3/8 | 10.16 ± 0.4 | 0.400 ± 0.015 | 4.8 | 0.187 | 0.64 ± 0.08 | 0.025 ± 0.003 |
| 1/2 | 13.72 ± 0.4 | 0.540 ± 0.015 | 6.4 | 0.250 | 0.64 ± 0.08 | 0.025 ± 0.003 |
| 5/8 | 16.90 ± 0.4 | 0.665 ± 0.015 | 8.0 | 0.315 | 0.76 ± 0.08 | 0.030 ± 0.003 |
| 3/4 | 20.45 ± 0.4 | 0.805 ± 0.015 | 9.5 | 0.375 | 0.76 ± 0.08 | 0.030 ± 0.003 |
| 1 | 25.53 ± 0.4 | 1.055 ± 0.015 | 12.7 | 0.500 | 0.89 ± 0.13 | 0.035 ± 0.005 |
| 1 1/4 | 33.40 ± 0.7 | 1.315 ± 0.025 | 15.9 | 0.625 | 1.02 ± 0.15 | 0.040 ± 0.006 |
| 1 1/2 | 39.88 ± 0.8 | 1.570 ± 0.030 | 19.1 | 0.750 | 1.02 ± 0.15 | 0.040 ± 0.006 |
| 2 | 52.83 ± 1.0 | 2.080 ± 0.040 | 25.4 | 1.000 | 1.14 ± 0.16 | 0.045 ± 0.007 |
| 3 | 78.49 ± 1.0 | 3.090 ± 0.040 | 38.1 | 1.500 | 1.27 ± 0.20 | 0.050 ± 0.008 |
| 4 | 104.14 ± 1.3 | 4.100 ± 0.050 | 50.8 | 2.000 | 1.40 ± 0.23 | 0.055 ± 0.009 |

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

Ordering information

| | | |
|----------------------|---|---|
| Colors | Standard | Black, white, red, blue, yellow and green |
| | Nonstandard | Brown, orange, violet, and gray |
| Size selection | Always order the largest size that will shrink snugly over the component being covered. A variety of special order sizes are available. | |
| Standard packaging | On spools. | |
| Ordering description | Specify product name, size, and color; for example, Versafit 1/4-0 (0=Black). | |

Specification values

| | Property | Unit | Requirement | Method of test |
|-----------------------------------|---|-----------------------------|---|-----------------------------|
| Physical | Dimensions | mm (<i>inches</i>) | See reverse | ASTM D 2671 |
| | Longitudinal change | | | |
| | ASTM D 2671 | percent | +1, -5 | ASTM D 2671 |
| | UL 224 | percent | +3, -3 | UL224 |
| | Eccentricity (recovered) | percent | 30 maximum | 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 |
| | Low-temperature flexibility (1 hour at -45°C/-49°F) | | No cracking | UL 224 |
| | Heat shock (1 hour at 136°C/277°F) | | No cracking | UL 224 |
| | Heat resistance (7 days at 158°C/316°F) | | | ASTM D 2671 |
| | Followed by tests for: | | | |
| | Tensile strength | psi (<i>MPa</i>) | 70% minimum of unaged specimens | UL 224 |
| | Ultimate elongation | percent | 100 minimum | UL 224 |
| | Flexibility | | No cracking | UL 224 |
| | Dielectric withstand at 2500 V | seconds | 60 minimum | UL 224 |
| | Dielectric breakdown | volts | 50% minimum of unaged specimens | ASTM D 2671 |
| | Dielectric strength | volts/mil (<i>kV/mm</i>) | 500 (<i>19.7</i>) minimum | ASTM D 2671 |
| | Restricted shrinkage | | Pass | UL 224 |
| | Electrical | Dielectric strength | volts/mil (<i>kV/mm</i>) | 500 (<i>19.7</i>) minimum |
| Dielectric withstand at 2500 V | | seconds | 60 minimum | UL 224 |
| | Volume resistivity | ohm-cm | 10 ¹⁴ minimum | ASTM D 2671 |
| Chemical | Corrosive effect (7 days at 158°C/316°F) | | No corrosion | ASTM D 2671 |
| | Copper stability (7 days at 158°C/316°F) | | No brittleness, glazing, cracking, or severe discoloration of tubing. No pitting or blackening of copper. | ASTM D 2671 |
| | Followed by test for: | | | |
| | Ultimate elongation | percent | 100 minimum | ASTM D 2671 |
| | Flammability | | Pass | UL 224, VW-1 |
| | Water absorption (recovered) (24 hours at 23°C/73°F) | percent | 0.5 maximum | ASTM D 2671 |
| | Fungus resistance | | | ISO 846 Method B |
| | Followed by tests for: | | | |
| | Tensile strength | psi (<i>MPa</i>) | 1500 (<i>10.3</i>) minimum | ASTM D 2671 |
| | Ultimate elongation | percent | 200 minimum | ASTM D 2671 |
| Dielectric strength | volts/mil (<i>kV/mm</i>) | 500 (<i>19.7</i>) minimum | ASTM D 2671 | |

Note: Consult RW-3009 for specific details about test procedures.

Versafit and Raychem are trademarks 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

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)
Email: org@lifeelectronics.ru