tyco Electronics

Versafit

Raychem

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

PBBs PBBEs PBBOs

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

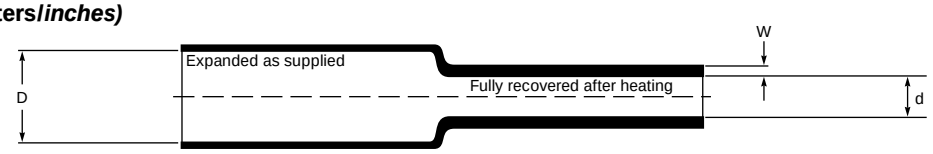
Full recovery temperature:	90°C
Continuous operating temperature:	–55°C to 135°C

*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)*



	Inside diameter				Wall thickness	
	D		d (max.)		W	
Size	Expanded as supplied		Recovered after heating		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 *(inches)*	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 *(MPa)*	1500 *(10.3)* minimum	ASTM D 2671
	Ultimate elongation	percent	200 minimum	ASTM D 2671
	Secant modulus (expanded)	psi *(MPa)*	2.5 X 10^4 *(172)* 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 *(MPa)*	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 *(kV/mm)*	500 *(19.7)* minimum	ASTM D 2671
	Restricted shrinkage		Pass	UL 224
Electrical	Dielectric strength	volts/mil *(kV/mm)*	500 *(19.7)* minimum	ASTM D 2671
	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 *(MPa)*	1500 *(10.3)* minimum	ASTM D 2671
	Ultimate elongation	percent	200 minimum	ASTM D 2671
	Dielectric strength	volts/mil *(kV/mm)*	500 *(19.7)* 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

© 1994, 1997, 2002 Tyco Electronics Corporation Printed in USA 1654051 Revised 04/04

LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

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

www.lifeelectronics.ru