3M™ Cold Shrink Connector Insulators 8420 Series

Data Sheet **October 2015**

Product Description

3M Cold Shrink Connector Insulators 8420 Series are open-ended, tubular, rubber sleeves which are factory expanded and assembled onto a removable core. The core is removed after the tube has been positioned for installation over an inline connection, terminal lug, etc., allowing the tube to shrink and form a water-resistant seal. The insulating tube is made of EPDM rubber which does not contain chlorides or sulfur. Six diameter sizes will cover a range of cable up to 1000 volts for copper and aluminum conductors from 10 AWG through 1000 kcmil.

To extend the useful life of this product in applications which are continuously exposed to high levels of ultra-violet radiation, overwrap with Scotch® Super 33+™ Vinyl Electrical Tape or Scotch® Self-Fusing Silicone Rubber Electrical Tape 70.

Features

- Simple installation; requires no tools
- Accommodates a wide range of cable sizes
- No torches or heat required
- Good thermal stability
- Seals tight; retains its resiliency and pressure even after prolonged years of aging and exposure
- Excellent wet electrical properties
- Tough rubber formulation withstands backfilling
- Water-resistant; Meets the water seal requirements of ANSI C119.1
- No mastic or tape required to seal
- Resists acids and alkalis; resists ozone
- Operating temperature range: -40°F to 194°F (-40°C to 90°C)

Applications

- Primary electrical insulation for all solid dielectric (rubber and plastic) insulated wire and cable splicing rated up to 1000 volts
- Direct burial and submersible
- For indoor and outdoor use
- Physical protection and moisture sealing for air-insulated connectors and lugs such as spacer cable and lug connections to bus bar
- Insulation of secondary splices, copper or aluminum conductors
- Relocation of service
- Dig-in repairs
- Sheath repairs
- Environmental sealing for communication and other non-electrical applications
- Insulation of inline conductor transition connectors *(see Figure 1)*

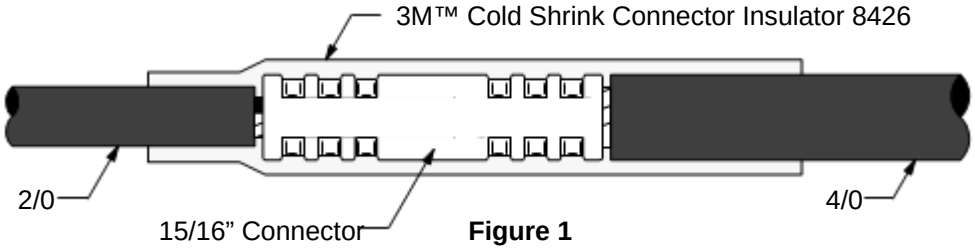

Figure 1

3M™ Cold Shrink Connector Insulators 8420 Series

Typical Physical and Electrical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

EPDM Rubber

Physical Properties (Test Method)	Typical Value US units (metric)
Color	Black
300% Modulus (ASTM D 412–75)	480 psi (3,3 MPa)
Ultimate Tensile (ASTM D 412–75) Original	1400 psi (9,6 MPa)
Ultimate Elongation (ASTM D 412–75) Original	750%
Die C Tear (ASTM D 624C–73) Original	150 pli (26,3 KN/m)
Moisture Absorption 7 days 90 °C (194 °F) H_2O	wt. gain 1.8%

Electrical Properties (Test Method)	Typical Value US units (metric)
Dielectric Strength (ASTM D 149–75) Original @ 1,78 mm	365 v/mil (14,3 Mv/m)
7 days in H2O at 90 °C (194 °F)	282 v/mil (11,1 Mv/m)

3M™ Cold Shrink Connector Insulator Selection Table

Product Number	Conductor Sizes AWG & Kcmil	Product Diameter Range (Minimum – Maximum)* Inches (mm)	Relaxed Tube Length Inches (mm)
8423–6	6 – 4	0.31 – 0.56 (7,80 – 14,3)	6.0 (152)
8424–8	10 – 1/0**	0.10 – 0.82 (2,54 – 20,9)	8.0 (203)
8425–8	2 – 1/0	0.40 – 0.82 (10,1 – 20,9)	8.0 (203)
8426–9 8426–11	2/0 – 250 2/0 – 250	0.55 – 1.18 (13,9 – 30,1) 0.55 – 1.18 (13,9 – 30,1)	9.0 (229) 11.0 (279)
8427–6*** 8427–12 8427–16	— 250 – 400 250 – 400	0.67 – 1.38 (16,8 – 35,1) 0.67 – 1.38 (16,8 – 35,1) 0.67 – 1.38 (16,8 – 35,1)	6.0 (152) 12.0 (305) 16.0 (406)
8428–6*** 8428–12 8428–18	— 450 – 800 450 – 800	0.95 – 1.94 (24,0 – 49,3) 0.95 – 1.94 (24,0 – 49,3) 0.95 – 1.94 (24,0 – 49,3)	6.0 (152) 12.0 (305) 18.0 (457)
8429–6*** 8429–9**** 8429–12 8429–18	— 900 – 1000 900 – 1000 900 – 1000	1.27 – 2.67 (32,2 – 67,8) 1.27 – 2.67 (32,2 – 67,8) 1.27 – 2.67 (32,2 – 67,8) 1.27 – 2.67 (32,2 – 67,8)	6.0 (152) 9.0 (229) 12.0 (305) 18.0 (457)
8430–9*** 8430–18	— 1250 – 2000	1.68 – 3.69 (42,6 – 93,7) 1.68 – 3.69 (42,6 – 93,7)	9.0 (229) 18.0 (457)

NOTES:

* Minimum = Seal Diameter Maximum = Connector Clearance Dimension

** Product contains range-extending adapters (Without adapters, 8424–8/8425–8 ranges are identical).

*** Primary uses: Sealing of terminal lug barrels, conduit couplings and conduit–to–cable breakouts.

**** Maximum connector length: 5.625" (For longer connector bodies, select 8429–12/8429–18 as needed).

IMPORTANT: Use wire insulation/jacket diameters and connector O.D. for final sizing confirmation.

3M™ Cold Shrink Connector Insulators 8420 Series

EHS

⚠CAUTION

Working around energized systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling electrical equipment. De-energize and ground all electrical systems before installing product.

- 3M Cold Shrink Removable Core is a mixed polymer and recyclable with other waste. other
- Read all Health Hazard, Precautionary and First Aid statements found in the Safety Data Sheet (SDS) and/or product label prior to handling or use.

Shelf Life & Storage

3M Cold Shrink Connector Insulators 8420 Series have a 5-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

Availability

Please contact your local distributor or call 1.800.245.3573.

Important Notice	All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.
Warranty; Limited Remedy; Limited Liability	This product will be free from defects in material and manufacture at the time of purchase. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. Except where prohibited by law, 3M will not be liable for any direct, indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.

3M, Super 33+ and Scotch are trademarks of 3M Company.

3M

Electrical Markets Division
6801 River Place Blvd.
Austin, TX 78726-9000
800.245.3573
FAX: 800.245.0329
www.3M.com/electrical

Please recycle
© 3M 2015 All rights reserved

78-8141-5459-3 Rev C

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