



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series

Data Sheet

November 2014

Product Description 3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series are a group of versatile splice kits for insulating and waterproofing odd-sized and odd-shaped splices in underground applications, up to 1000 volts. Splices may be inline, wye, X, butt and dead-end splice configurations (for non-shielded cable) using split bolts, H tap or C tap compression connectors.

Six kits cover a range of cable conductor sizes from 8 AWG to 2000 kcmil.

3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series are comprised of a flexible film plastic mold with a built-in porous spacer web (to ensure the proper thickness of insulating compound around the connection). The plastic mold is filled with a pliable polyurethane compound, 3M™ Scotchcast™ Electrical Insulating Resin 2104.

Agency Approvals For RoHS information, please visit www.3M.com/ROHS

Kit Contents Each kit contains sufficient quantities of the following materials to make one (1) splice, excluding the connector(s):

- 1- flexible film plastic mold with built-in spacer web and sealing strips along the adjacent edges
- 3M™ Scotchcast™ Electrical Insulating Resin 2104 in a convenient closed mixing pouch
- 1- pressure-sensitive adhesive film sealing strip
- 1- comprehensive instruction booklet showing installation techniques for typical splice configurations, in both the horizontal and vertical positions.

Splice Features

- Versatility designed into each kit accommodates a wide range of cable sizes.
- Convenient kits simplify ordering and stocking.
- All material provided (with the exception of the connector) to insulate and waterproof one splice.
- Compound has low viscosity for fast, complete filling of splice.
- Compound has low exotherm which will not damage plastic insulated cable. (Can be used for small gauge signal/control and telecommunication cable splicing.)
- Convenient closed mixing pouch permits clean, easy resin handling.
- Wrap-around polyester film mold contains porous webbing which assures proper insulation spacing around splice and connector.
- No special tools required.

3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series

- Applications** **To splice cables rated up to 1000 volts:**
- For inline, wye or 4-way splicing of non-shielded cable
 - For use on plastic or rubber-insulated cables
 - For use in direct burial applications
 - For use with underground systems:
 - Secondary distribution
 - Plant grounds
 - Parking lots
 - Airport runway lighting
 - Electric sprinkling systems
 - Sheath repair
 - Remodel wiring
 - Sealing anode leads
 - Solar farm applications
 - For joining of cable reel ends
 - For cable failures and dig-ins
-

Specifications - Product The multi-mold cable splices must be capable of normal continuous operation at 1000 volts. The splices must consist of a flexible film plastic mold with built-in spacer web to automatically provide for cable and connector centering and proper compound coverage. The applied mold shall be filled with a flexible polyurethane electrical compound capable of continuous operation at 194°F (90°C), with an emergency overload temperature rating of 266°F (130°C). Splices must have provisions for inline, wye or 4-way splicing of non-shielded, plastic or rubber insulated cables. The splices shall be suited for direct burial applications.

Engineering/ Architectural Splicing of cables rated at 1000 volts or less with conductor sizes ranging from 8 AWG to 2000 kcmil. Splices are to use inline compression, split bolt or H or C tap connectors shall be performed in accordance with instructions provided with 3M™ Scotchcast™ Multi-Mold Splice Kits 85-10, 85-12, 85-14, 85-16, 85-18 and 85-20.

- Installation Techniques** The instructions for constructing a splice are packed in each kit. The following summarizes these instructions:
- a. Scrape each cable exterior clean for a distance from connector as specified in the instructions. If cable is sheathed, pencil insulation 3/4" (19,1 mm).
 - b. Connection should be completed according to connector manufacture's instructions.
 - c. Center mold body along connector and wrap around connection. Starting at bottom of mold, seal and compress sealing putty around and between each cable to form a resin-tight seal.
 - d. Position splice so bottom of mold is not in contact with any surface. Mix resin and pour into mold.
 - e. Remove liner from film strip supplied with kit. Tape strip over mold.
-

Performance Test **Moisture Resistance**
Thermo cycling submerged in water pressurized to simulate a 6-foot head:
85 Series splices exceed 1.0×10^6 ohms insulation resistance after ten temperature cycles at 35°F (2°C) to 75°F (24°C).

3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series

Typical Physical and Electrical Properties

For 3M™ Scotchcast™ Electrical Insulating Resin 2104

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.

Physical Property (Test Method)	Typical Value US units (metric)
Color	Green
Density (ASTM D792)	0.596 oz/cu.in. (1,03 g/cu.cm.)
Hardness (ASTM D2240)	70 Shore A
Tensile Strength (ASTM D412)	444 psi (3.06 MPa)
Elongation (ASTM D412)	98%
Glass Transition Temperature (ASTM E1356-03)	-94°F (-70°C)
Maximum Exotherm (100g) (ASTM D2471-99)	150°F (65°C)
Gel Time (ASTM D2471-99)	18 minutes
Moisture Absorption	0.28% wt. gain in 168 hrs.
Adhesion to Metals (lb/in ²) (3M TM456)	
Copper	411.6
Brass	285.1
Steel	558
Aluminum	207.3
Adhesion to Cable Jackets (lb/in ²) (3M TM457)	
Vinyl	101.5
Neoprene	140.6
Nylon	>25.5
XLPE	221.5

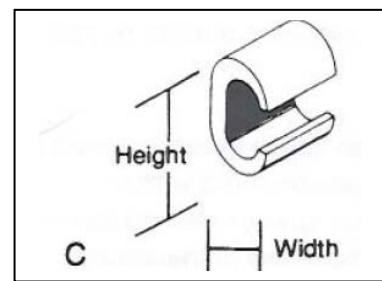
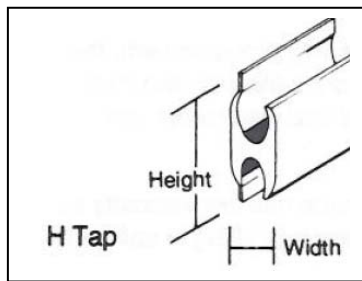
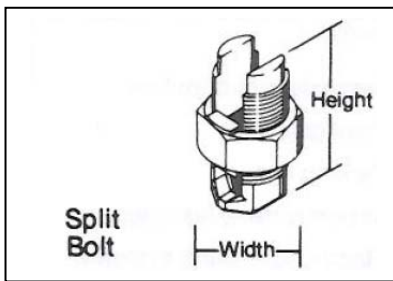
Electrical Property (Test Method)	Typical Value
Dielectric Strength (ASTM D149)	524 V/mil
Dielectric Constant @ 60Hz (ASTM D150)	
73°F (23°C)	4.59 pf
194°F (90°C)	6.8 pf
Dissipation Factor @ 60Hz (ASTM D150)	
73°F (23°C)	9.1%
194°F (90°C)	>200%

3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series

A. Splice Selection Table for Kits 85-10 thru 85-16

Kit No.	Connector Type	Maximum Conductor Size*	Max. Connector Size (Height plus Width (inches/mm))	Max. Sheath Opening (Inches/mm)	Maximum Cable O.D. (Inches/mm) Wye or 4-Way
85-10	Split Bolt	8 AWG	1 3/4" (44,5)	1 1/2" (38,1)	Run & Tap 7/16" (11,1)
	H Tap or C Compression	4 AWG	1 3/4" (44,5)		
85-12	Split Bolt	1 AWG	2 3/4" (69,9)	1 1/2" (38,1)	Run & Tap 3/4" (19,1)
	H Tap or C Compression	2/0 AWG	2 3/4" (69,9)		
85-14	Split Bolt	2/0 AWG	3 1/4" (82,6)	4 1/2" (114,3)	Run & Tap 7/8" (22,2)
	H Tap or C Compression	4/0 AWG	3 1/4" (82,6)		
85-16	Inline Compression	750 kcmil	N/A	6 (152,4)	Inline 1 1/2" (38,1)
	Split Bolt	250 kcmil (Run) 2/0 AWG (Tap)	3 3/4" (95,3)		Run & Tap 7/8" (22,2)
	H Tap or C Compression	500 kcmil (Run) 4/0 AWG (Tap)	6 (152,4)		

*Assuming wye or 4-way connection using same cable splices. For other combinations and configurations, refer to instruction sheet.



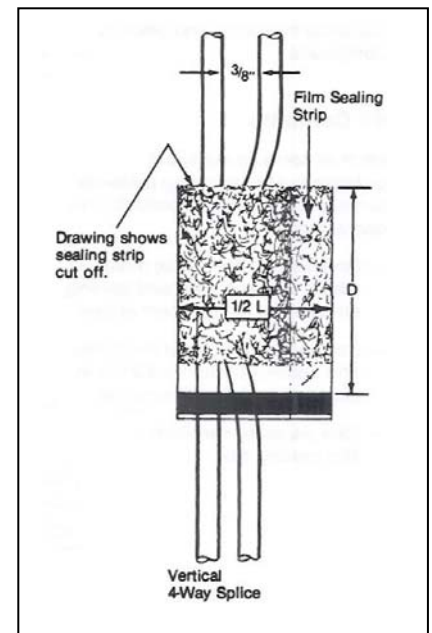
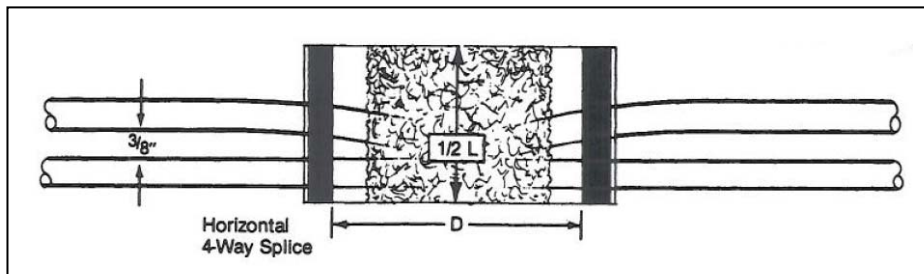
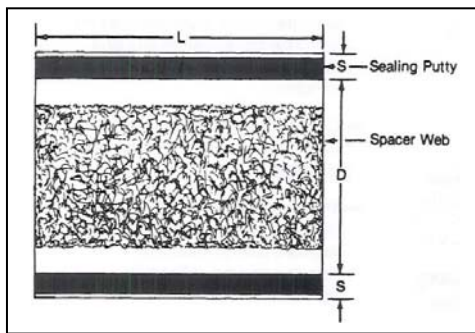
B. Splice Selection Table for 85-18 and 85-20 Kits

Kit No.	Max. Cable Size Using Single Conductor	Maximum Cables	Connector Type	Max. Sheath Opening (Inches/mm)
85-18	2000 kcmil	1 x 4-Conductor 3/0 or 4 x 1-Conductor 4/0	IPC or Other	15" (381)
85-20	N/A	1 x 4-Conductor 350 kcmil or 4 x 1-Conductor 350 kcmil	IPC or Other	19" (483)

3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series

C. Typical Dimensions

Kit No.	Dimension – Inches (mm)		
	L	D	S
85-10	5.0 (127,0)	4.25 (108,0)	0.85 (21,5)
85-12	7.0 (177,8)	4.75 (120,7)	0.85 (21,5)
85-14	8.0 (203,2)	7.75 (196,8)	0.85 (21,5)
85-16	8.0 (203,2)	10.25 (160,4)	0.85 (21,5)
85-18	15.5 (393,7)	16.25 (412,8)	0.85 (21,5)
85-20	18.0 (457,2)	20.25 (514,4)	0.85 (21,5)



3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series

Handling & Safety Precautions

CAUTION

Working around energized electrical 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.

Read all Health Hazard, Precautionary and First Aid statements found in the Safety Data Sheet (SDS) and/or product label of chemicals prior to handling or use.

Shelf-Life & Storage

3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series are stable for a period of 2 years from date of manufacture when stored at 50-80°F (10-27°C) and below 75% relative humidity.

Availability

3M™ Scotchcast™ Multi-Mold Resin Splice Kits 85 Series Kits are available in six sizes and will accommodate inline, wye and 4-way splicing of cables using split bolts, and H or C tap compression connectors. They are available from your electrical distributor. Check 3M.com/electrical "Where to Buy" for names and locations.

3M and Scotchcast are trademarks of 3M Company.

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 indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



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 2014 All rights reserved
78-8141-7839-4 Rev A