

# 3M™ Three-Conductor In-line Splice Kits, 5750 Series

Data Sheet

June 2012

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## Description

3M™ Three-Conductor In-line Splice Kits 5750 Series (which includes the 5751, 5752, and 5753 kits) are designed for use on 3-conductor non-shielded armored and non-armored solid dielectric cables rated up to 5 kV.

The 5750 series splices utilize several technologies to accommodate the various functions of a 3-conductor non-shielded power cable: 3M™ Cold Shrink Insulators for electrical insulation; Scotch® Tapes for strand shielding and grading of the connector area on 5 kV cables; constant force springs for connecting ground braids to cable armor; and 3M™ Scotchcast™ Flame-Retardant Compound 2131 for replacing cable armor and/or jacket.

The completed splices are designed for use in cable tray, weather exposed or direct burial locations and carry Mine Safety and Health Administration Acceptance 07-KA060007-MSHA when installed in accordance with the included instructions.

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## Kit Contents

Each kit contains the following materials as appropriate to make one splice:

- 3M™ Cable Repair Spacer Webs
- 3M™ Cold Shrink Insulator Assemblies
- 3M™ Scotchcast™ Flame-Retardant Compound 2131
- Scotch® Electrical Semi-conducting Tape 13
- Scotch® Linerless Rubber Splicing Tape 130C
- 3M™ Three-M-Ite™ Elek-Tro-Cut™ Abrasive Cloth 80J Grit
- Scotch® Electrical Shielding Tape 24
- Scotch® Super 33+™ Vinyl Electrical Tape
- Scotch® Electrical Grounding Braid 25
- 3M™ Cable Cleaning Preparation Kit CC-2
- Constant Force Springs
- Wrap-around Mold, Mold Straps, Funnels & Funnel Supports
- Instruction Booklet

The kits are designed for use with Copper or Aluminum in-line compression connectors, such as the 3M™ Scotchlok™ Connectors 10000 and 20000 Series. (Connector not included in kit due to kit range and conductor size specificity.)

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## Features

- **Complete Kit** – everything included to make one 3-conductor splice (connector not included)
- **3M™ Cold Shrink Insulators** – EPDM phase insulation installs quickly, without the need for heat or special tools.
- **3M™ Scotchcast™ Flame-Retardant Compound 2131** – self-curing resin bonds to most modern cable jackets and requires no torch or other external heat source
- **Semi-Flexible Resin Jacketing** – forms a thick, tough replacement for cable armor and/or jacket; abrasion resistant, moisture resistant and flame-retardant
- **Solderless ground braid** – constant force springs do not require soldering

## Applications

3M™ Three-Conductor Inline Splice Kits 5750 Series collectively accommodate the following cable ranges for Copper or Aluminum conductors:

- 5 kV cable from 6 AWG to 750 kcmil (14-400 mm<sup>2</sup>)
- 1 kV cable from 1 AWG to 750 kcmil (50-400 mm<sup>2</sup>)
- In-line splicing of 3-conductor non-shielded, armored or non-armored power cables up to 5 kV
- For use with solid dielectric cables
- For indoor and outdoor applications including cable tray, cable rack, cable hangers, junction box, aerial, weather exposed, and wet or dry locations.

## Sizing

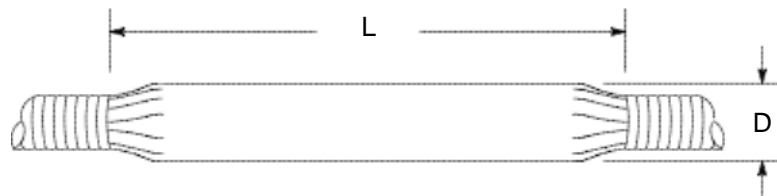
### A. Splice Selection Table

Kit No.	Insulation O.D. Range	1 kV Conductor Sizes Copper or Aluminum	5 kV Conductor Sizes Copper or Aluminum
5751	0.50 – 0.95 in. (13 – 24 mm)	1 – 3/0 AWG (50 – 95 mm <sup>2</sup> )	6 – 1 AWG (14 – 50 mm <sup>2</sup> )
5752	0.66 – 1.25 in. (17 – 31 mm)	4/0 AWG – 350 kcmil (120 -185 mm <sup>2</sup> )	1/0 AWG – 350 kcmil (60 – 185 mm <sup>2</sup> )
5753	0.95 – 1.80 in. (24 – 46 mm)	350 – 750 kcmil (185 – 400 mm <sup>2</sup> )	350 – 750 kcmil (185 – 400 mm <sup>2</sup> )

### B. Typical Dimensions

Kit Number	Typical Length (L) inches (mm)	Typical Diameter (D) inches (mm)	
		Minimum	Maximum
5751	19 (483)	1.5 (38)	2.5 (64)
5752	28 (711)	2.5 (64)	4.0 (102)
5753	42 (1067)	3.5 (89)	6.0 (152)

\* Splice diameter varies according to cable size (O.D.).



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## Installation

3M™ Three-Conductor In-line Splice Kits 5750 Series kits are designed for use with 3M™ Scotchlok™ Connectors 10000 and 20000 Series Copper and Aluminum in-line compression connectors.

### Typical De-Mold/Cure Time:

To test for cure, the compound in the splice mold funnels is checked for tack. When the compound is no longer tacky, the splice is considered ready to de-mold. Full strength and bond are attained after the resin has fully cured. Cure and de-mold time may vary, depending on ambient conditions. Some approximate times are indicated in the table below.

Ambient Temperature	Approximate De-Mold Time	Approximate Cure Time
70°F (21°C)	1.5 – 2 hrs	16 – 24 hrs
50°F (10°C)	3.5 – 4 hrs	24 – 30 hrs
32°F (0°C)	6 – 8 hrs	36+ hrs
Below 32°F (0°C)	Not recommended	

**NOTE:** Values are typical, not to be considered minimum or maximum. Always confirm that material is no longer tacky prior to de-molding.


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## EHS



### CAUTION

Working around energized high-voltage systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling high-voltage 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. 
- Read all Health Hazard, Precautionary and First Aid statements found in the Material Safety Data Sheet (MSDS) and/or product label prior to handling or use.

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## Shelf Life & Storage

This product has a 3-year shelf life from the date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

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## Availability

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1.800.245.3573.

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

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