

# 3M™ Scotchcast™ Flexible Power Cable Splicing Kits 82-F and 82-BF Series

Data Sheet

September 2012

**Description** 3M™ Scotchcast™ Flexible Power Cable Splicing Kits 82-F and 82-BF Series are flexible inline and tap splices for use on non-shielded portable power cables and cords. These splices are designed to be used on single or multiple conductor cables, depending on the voltage rating.

The 82-F1 and 82-F2 inline splices will accommodate a single-conductor cable rated up to 5 kV or single and multiple conductor cables and cords rated up to 1000 Volts (600/2000 Volts mine portable cable rating). The combined cable diameter range for these two is 0.25 – 1.2 inches (6 – 30 mm), with a maximum single conductor size of 4/0 AWG.

The 82-BF1 tap splice can accommodate cables and cords rated up to 1000 Volts (600/2000 Volts mine portable cable rating) ranging in diameter from 0.25 – 0.8 inches (6 – 20 mm) with a maximum single conductor size of 1/0 AWG.

These splice kits are based on 3M™ Scotchcast™ Flame-Retardant Compound 2131 for toughness, flexibility, environmental protection and flame retardancy. The completed splices carry Mine Safety and Health Administration Acceptance 07-KA060002-MSHA when installed in accordance with the included instructions.

**Kit Contents** Each kit contains the following materials as appropriate to make one splice or cable repair (connectors are not included due to kit range and conductor size specificity):

- One-piece removable mold
- 3M™ Scotchcast™ Flame-Retardant Compound 2131
- Scotch® Rubber Splicing Tape 23, for sealing mold ends
- 3M™ Three-M-Ite™ Elek-Tro-Cut™ Abrasive Cloth 80J Grit
- Instructions showing proper installation techniques for splicing non-shielded portable power cables and cords

**Features**

- **MSHA Accepted** – carries Mine Safety and Health Administration acceptance 07-KA060002-MSHA
- **3M™ Scotchcast™ Flame-Retardant Compound 2131** – self-curing resin bonds to itself and most modern cable jackets, and requires no torch or other external heat source; forms a splice or repair that is abrasion resistant and flame retardant
- **Semi-flexible compound** – allows “permanent” splice to bend with cable; for installation, handling, reeling, etc.
- **Smooth tapered splice profile** – eliminates cable hang-ups and splice end-lifting

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## Applications

3M™ Scotchcast™ Flexible Power Cable Splicing Kits 82-F and 82-BF Series may be used to splice or re-jacket non-shielded portable power cable and portable cords:

- For inline single-conductor cables rated up to 5 kV
- For tap single-conductor cables rated up to 1 kV
- For inline and tap multi-conductor cables rated up to 1 kV
- For mine portable cable rated 600/2000 Volts (07-KA060002-MSHA)
- For use with compression inline connectors (82-F) and compression "C" tap connectors (82-BF)

## Sizing

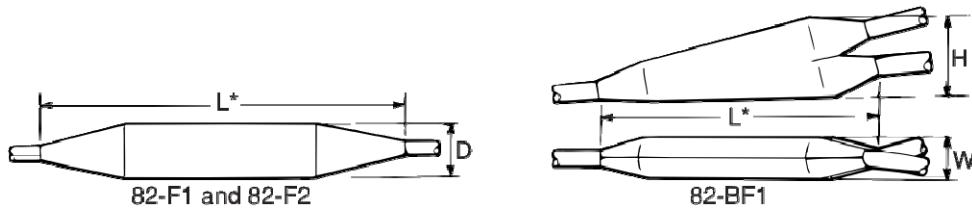
### A. Splice Selection Table

Kit Number	Cable O.D. Range Inches(mm)	Connector Type	Number of Conductors	Connection Max. O.D. Inches(mm)	Voltage Rating (Maximum)	Conductor Size Range (AWG)
82-F1	0.25-0.80 (6-20)	Compression Inline	1	0.62 (16) Connector	5000	6-1/0
			Multi	0.90 (23) Connector Bundle	1000*	**
82-F2	0.80-1.20 (20-30)	Compression Inline	1	0.82 (21) Connector	5000	2/0-4/0
			Multi	1.30 (33) Connector Bundle	1000*	**
82-BF1	0.25-0.80 (6-20)	Compression "C" Tap	1	--	1000*	up to 1/0
			Multi	--	1000*	**

\*Mine portable cable rating of 600/2000 Volts.

\*\*Base multi-conductor selection on cable O.D. range.

### B. Typical Dimensions



Kit Number	Dimensions Inches (mm)			
	L*	D	H	W
82-F1	8.0 (203)	1.1 (29)	--	--
82-F2	11.5 (292)	1.6 (40)	--	--
82-BF1	8.3 (211)	--	2.2 (56)	1.1 (28)

\* "L" based on length of untrimmed mold. Trimming of mold ends to fit cable diameter reduces this dimension accordingly.

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## Installation

3M™ Scotchcast Flexible Power Cable Splicing Kits 82-F and 82-BF are designed for use with compression inline connectors (82-F) and compression "C" tap connectors (82-BF).

### 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.

## EHS



### 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 Material Safety Data Sheet (MSDS) and/or product label prior to handling or use.

## Shelf Life & Storage

This product has a 3-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; available from [3M.com/electrical](http://3M.com/electrical) [Where to Buy] or call 1.800.245.3573.

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