

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

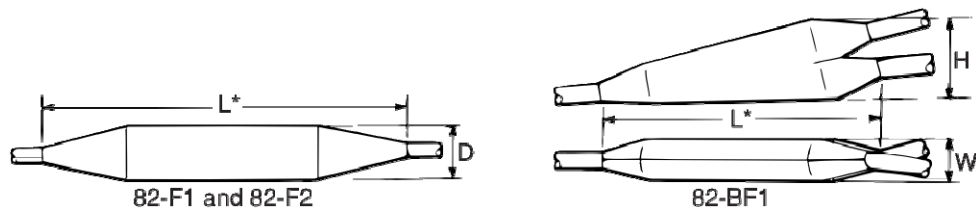
A. Splice Selection Table

| 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

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|  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 [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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