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

| 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 |
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

<table>
<thead>
<tr>
<th>Kit Number</th>
<th>Cable O.D. Range</th>
<th>Connector Type</th>
<th>Number of Conductors</th>
<th>Connection Max. O.D.</th>
<th>Voltage Rating (Maximum)</th>
<th>Conductor Size Range (AWG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>82-F1</td>
<td>0.25-0.80 (6-20)</td>
<td>Compression Inline</td>
<td>1</td>
<td>0.62 (16) Connector</td>
<td>5000</td>
<td>6-1/0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.90 (23) Connector Bundle</td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>82-F2</td>
<td>0.80-1.20 (20-30)</td>
<td>Compression Inline</td>
<td>1</td>
<td>0.82 (21) Connector</td>
<td>5000</td>
<td>2/0-4/0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.30 (33) Connector Bundle</td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>82-BF1</td>
<td>0.25-0.80 (6-20)</td>
<td>Compression “C” Tap</td>
<td>1</td>
<td>--</td>
<td>1000*</td>
<td>up to 1/0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>**</td>
</tr>
</tbody>
</table>

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

B. Typical Dimensions

* "L" based on length of untrimmed mold. Trimming of mold ends to fit cable diameter reduces this dimension accordingly.
3M™ Scotchcast™ Flexible Power Cable Splicing Kits 82-F and 82-BF

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.

<table>
<thead>
<tr>
<th>Ambient Temperature</th>
<th>Approximate De-Mold Time</th>
<th>Approximate Cure Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>70°F (21°C)</td>
<td>1.5 – 2 hrs</td>
<td>16 – 24 hrs</td>
</tr>
<tr>
<td>50°F (10°C)</td>
<td>3.5 – 4 hrs</td>
<td>24 – 30 hrs</td>
</tr>
<tr>
<td>32°F (0°C)</td>
<td>6 – 8 hrs</td>
<td>36+ hrs</td>
</tr>
<tr>
<td>Below 32°F (0°C)</td>
<td>Not recommended</td>
<td></td>
</tr>
</tbody>
</table>

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 [Where to Buy] or call 1.800.245.3573.

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