

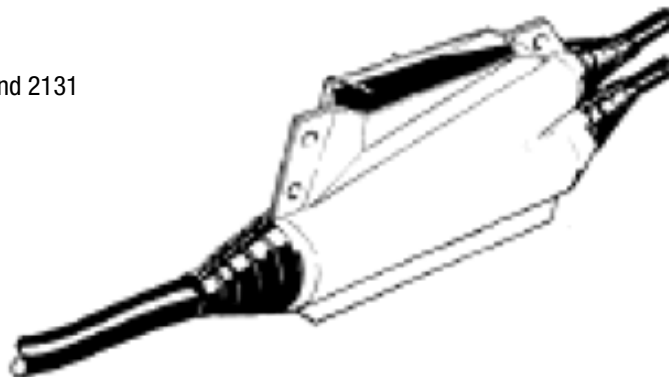
# 3M™ Scotchcast™ Flexible Power Cable Splice Kit 82-BF1

For use in weather-exposed, direct burial or submerged locations and for making tap splices on Non-shielded portable power cables and cords rated up to 1000 Volts

## Installation Instructions

### Kit Contents:

- 1 Removable Mold
- 1 Size B Bag 3M™ Scotchcast™ Flame-Retardant Compound 2131
- 3 Strips, Scotch® Rubber Splicing Tape 23
- 1 Strip 3M™ Three-M-ite™ Elek-Tro-Cut™ Abrasive Cloth



This kit will accommodate the following copper connector and conductor sizes:

Kit No.	Cable O.D. Range (inches)	Connector Types	Number of Conductors	Conductor Size Range (AWG)
82-BF1	0.25 – 0.80	Compression "C" Tap	1	Up to 1/0
			Multi	*

\* Base selection on cable O.D. range above

**DANGER:** BEFORE ATTEMPTING ANY CABLE REPAIRS, MAKE SURE THAT THE PROPER CABLE IS DISCONNECTED, LOCKED OUT AND SUITABLY TAGGED.



**Caution:** Working around energized 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.

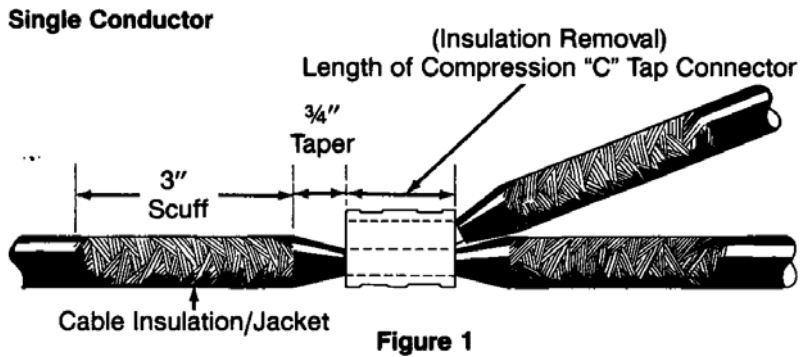
<b>Technical Information:</b> For use on Non-shielded Portable Power Cable & Portable Cords: - Up to 1000 V & 600/2000 V - Single Conductor Up to 1/0 AWG - Multi-Conductor OD Range: 0.25 " – 0.80" Mine Safety and Health Administration Acceptance: 07-KA060002-MSHA	3M™ Scotchcast™ Flexible Power Cable Tap Splice Kit 82-BF1
	78-8126-9785-8

June, 2011

**A. Prepare Cables**

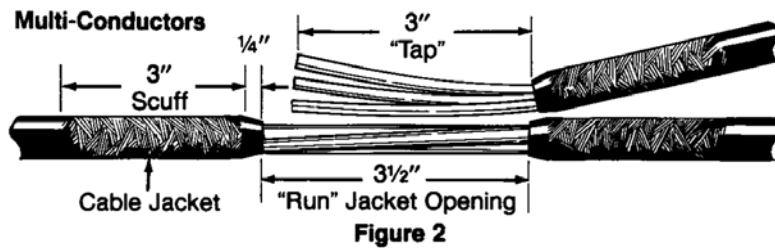
**1. Single Conductor**

- a. Remove conductor insulation (and jackets if applicable) for the length of the compression tap connector. (Figure 1)
- b. Taper ends of insulation/jackets for  $\frac{3}{4}$ ". (Figure 1)

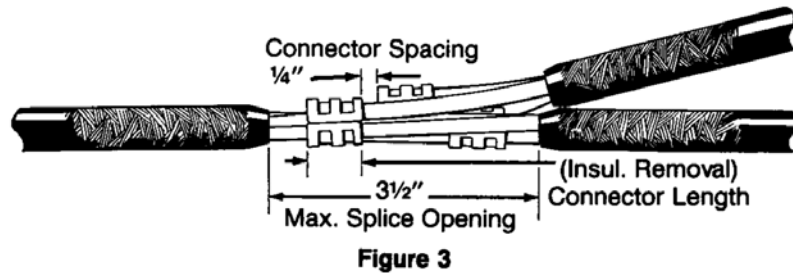


**2. Multi- Conductors**

- a. Remove cable jacket  
Run Cable: open cable jacket for  $3\frac{1}{2}$ ". (Figure 2)  
Tap Cable: Remove cable jacket for 3". (Figure 2)
- b. Taper ends of insulation/jackets for  $\frac{1}{4}$ ". (Figure 2)



- c. Cut off individual conductor ends to allow for connector staggering with a maximum splice opening of  $3\frac{1}{2}$ ". Provide for  $\frac{1}{4}$ " spacing between connector ends. (Figure 3)
- d. Remove conductor insulations for the length of the compression tap connectors. (Figure 3)



- 3. Scuff ends of cable jackets or insulation/jackets for 3" with coarse abrasive cloth provided. Remove all wax, dirt and dust from surface. (Figures 1, 2 and 3)

## B. INSTALL CONNECTOR(S)

1. **Multi-Conductors:** Phase match conductors to appropriate color codes, if applicable.
2. Join conductors with proper connector(s) and appropriate crimping tool and die.

## C. INSULATE CONNECTION(S) Multi-Conductors Only

1. Overwrap connector(s) with 4 half-lapped layers of vinyl electrical tape (e.g. Scotch® Super 33+™ Vinyl Electrical Tape) extending 1/4" onto conductor insulations.
2. Bundle conductors together with a band of vinyl tape wrapped around the center of the splice opening.

## D. Install Mold

1. Trim tapered ends of mold with knife or diagonal cutting pliers to fit cable diameters. (Figure 4)

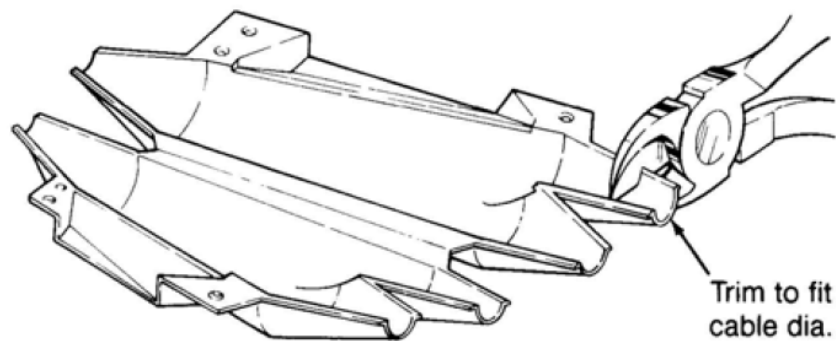


Figure 4

2. Center mold over splice and tape into place by applying Scotch® Rubber Splicing Tape 23 (provided in kit) over the mold ends and onto the cable. (Figure 5)

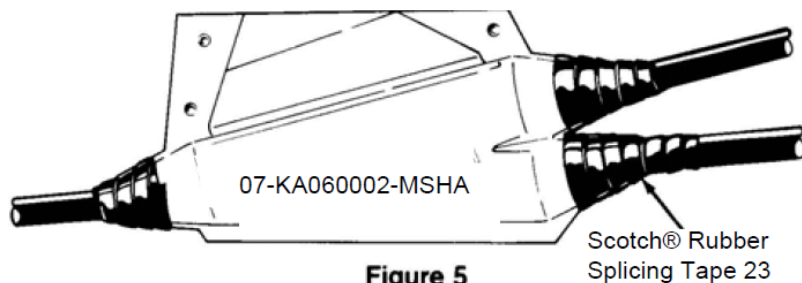
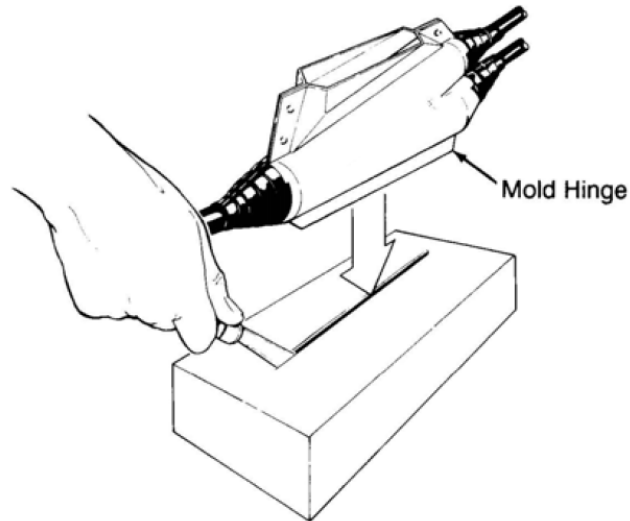


Figure 5

- Center splice within the mold by tensioning (pulling) cables from both ends.

**Hint:** Use empty kit carton as a work stand.

- Make a straight knife slit in cover of closed carton that is slightly longer than the mold's hinge. (Figure 6)

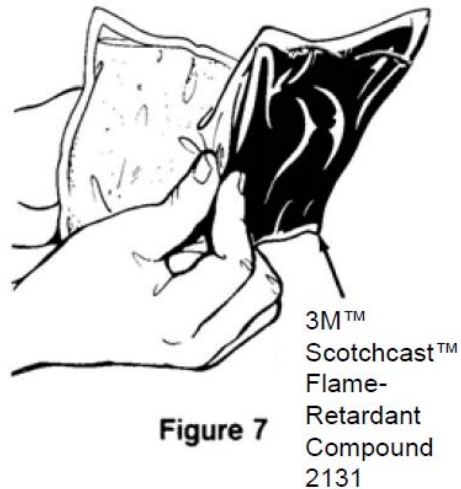


**Figure 6**

- Position carton beneath splice and press the mold's hinge into the knife slit. This holds splice in position for compound pouring. (Figure 6)

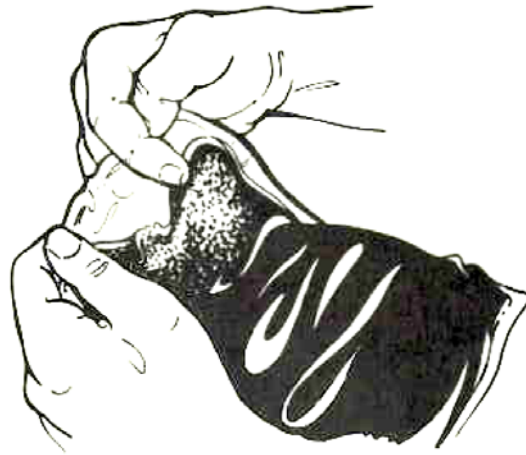
#### **E. Pour Compound**

- Premix BLACK side of 3M™ Scotchcast™ Flame-Retardant Compound 2131 pouch by squeezing to a smooth consistency and uniform color.
- Firmly grasp each flat side of the closed mixing pouch near the center barrier; at the same time pull sides of barrier apart and roll sides of thumbs through barrier. Break the barrier all the way across to the side seals. (Figure 7)



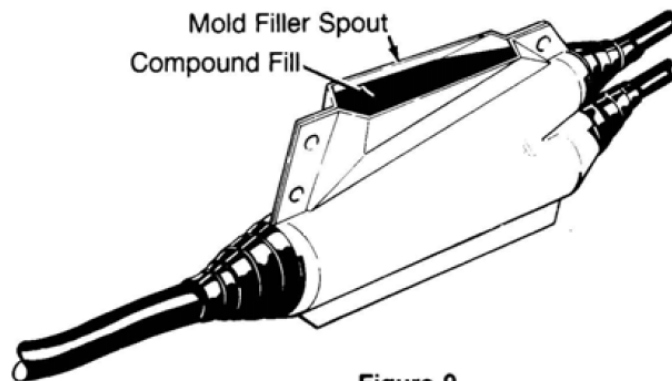
**Figure 7**

3. Alternately squeeze ends of pouch forcing compound rapidly back and forth, then strip compound from corners of pouch between fingers. Mix until color is completely uniform – 30 to 40 VIGOROUS SQUEEZES. **DO NOT EXCEED 1 MINUTE.** (Figure 8)



**Figure 8**

4. Clip off a corner of pouch and immediately pour into mold.
5. Fill mold until compound reaches a level that is within the mold's filler spout. (Figure 9)



**Figure 9**

6. Allow compound to cure. Check compound in Filler Spout for curing.  
*NOTE: Splice may be de-molded when compound is no longer tacky.*

**Typical Cure Time:** 16 – 24 hrs. @ 70°F (21°C)  
24 – 30 hrs. @ 50°F (10°C)  
36 hrs. @ 32°F (0°C)

**Typical De-mold Time:** 1.5 hrs. @ 70°F (21°C)  
4 hrs. @ 50°F (10°C)  
6 – 8 hrs. @ 32°F (0°C)

**NOTE:** Values are typical, not to be considered minimum or maximum. Always confirm based on tack and hardness of compound that resin is sufficiently cured.

## F. De-mold

1. Remove Scotch® Rubber Splicing Tape 23 from mold ends.
2. Remove mold; start removal by first separating mold halves at the filler spout.
3. Trim off excess compound from filler spout by cutting off at base. (Figure 10)

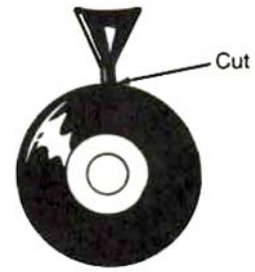


Figure 10

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