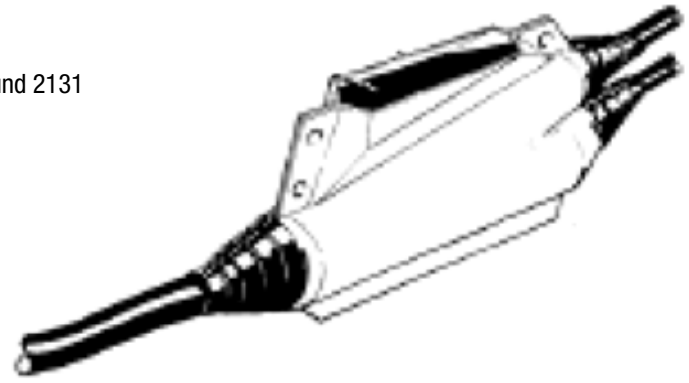
3M™ Scotchcast™ Flexible Power Cable Splice Kit 82-BF1

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.

Technical Information:	3M™ Scotchcast™ Flexible Power Cable Tap Splice Kit 82-BF1
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	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 ¾". (Figure 1)

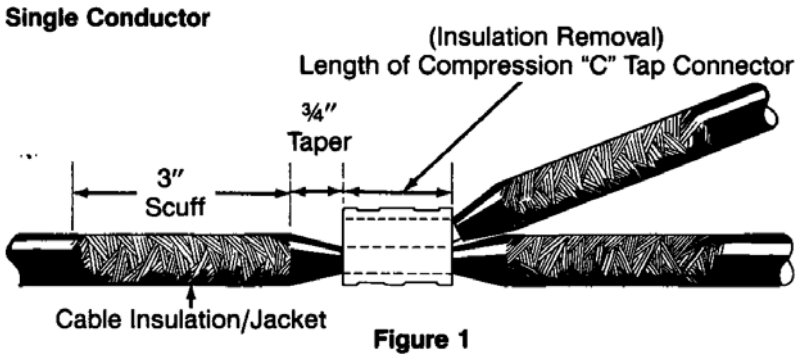


Figure 1

2. **Multi- Conductors**

   a. Remove cable jacket
   Run Cable: open cable jacket for 3½". (Figure 2)
   Tap Cable: Remove cable jacket for 3". (Figure 2)

   b. Taper ends of insulation/jackets for 1/4". (Figure 2)

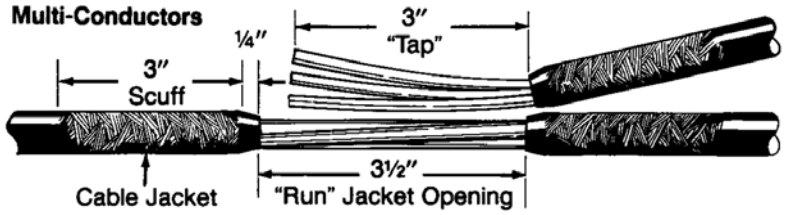


Figure 2

   c. Cut off individual conductor ends to allow for connector staggering with a maximum splice opening of 3 ½". Provide for ¼" spacing between connector ends. (Figure 3)

   d. Remove conductor insulations for the length of the compression tap connectors. (Figure 3)

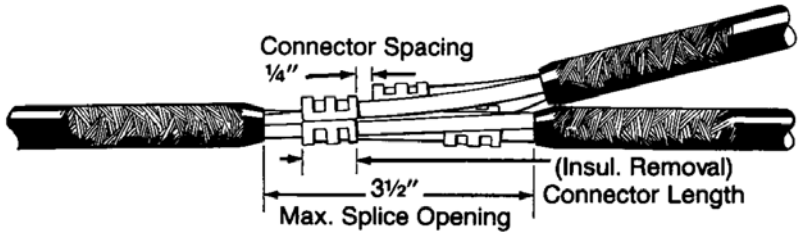


Figure 3

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)

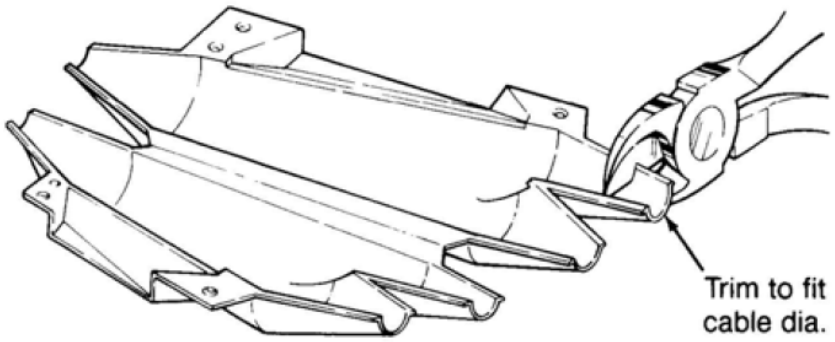


Figure 4

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)

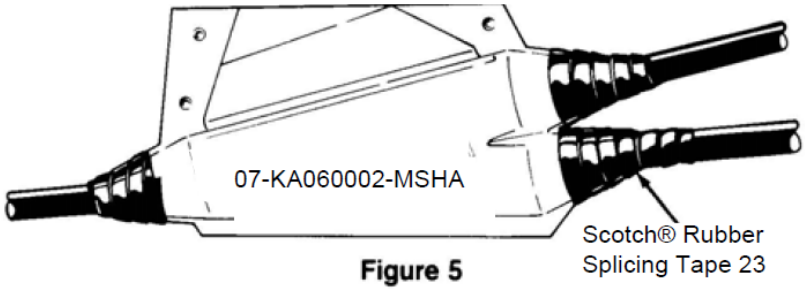


Figure 5

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

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

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

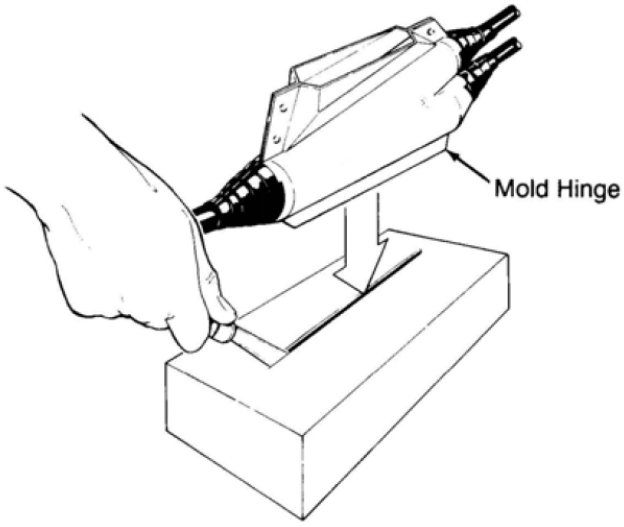


Figure 6

   b. 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

1. Premix BLACK side of 3M™ Scotchcast™ Flame-Retardant Compound 2131 pouch by squeezing to a smooth consistency and uniform color.

2. 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)

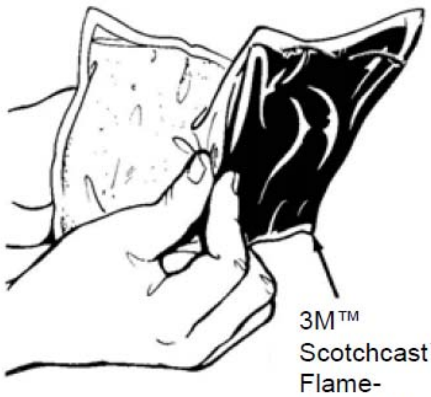


Figure 7 3M™ Scotchcast™ Flame-Retardant Compound 2131

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)

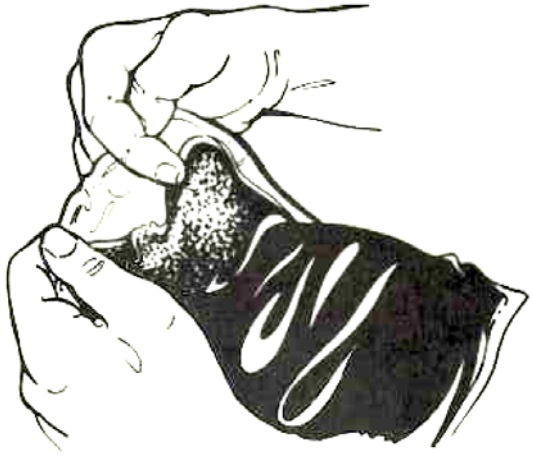


Figure 8

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)

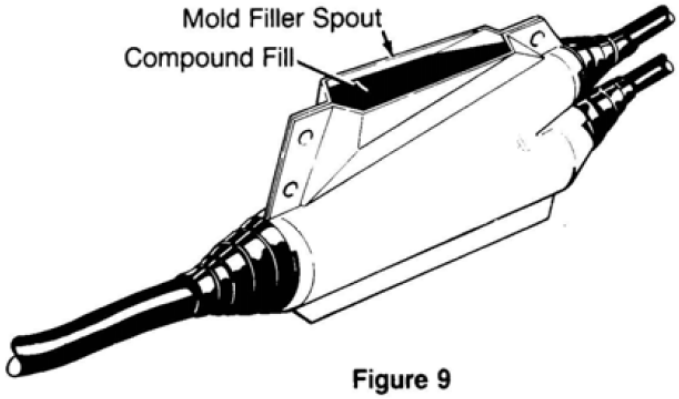


Figure 9

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. @ 70ºF (21ºC)
   24 – 30 hrs. @ 50ºF (10ºC)
   36 hrs. @ 32ºF (0ºC)

   Typical De-mold Time: 1.5 hrs. @ 70ºF (21ºC)
   4 hrs. @ 50ºF (10ºC)
   6 – 8 hrs. @ 32ºF (0ºC)

   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)

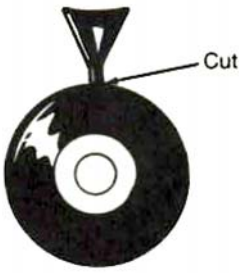


Figure 10

3M

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