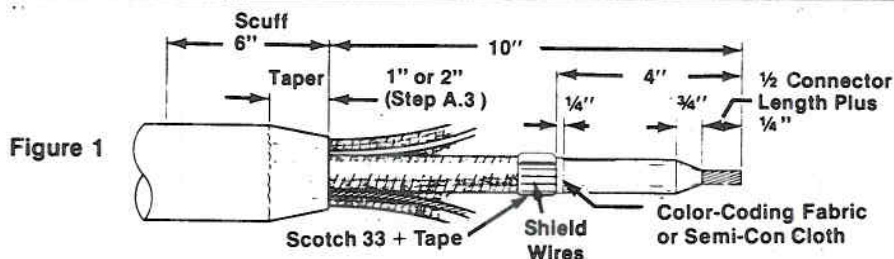
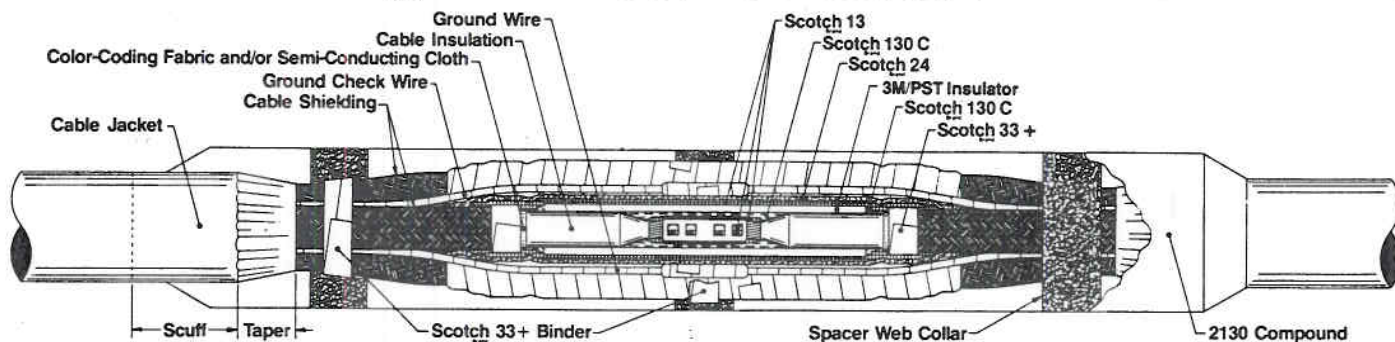


5, 8 & 15 KV Cable Types SHD-GC; MPF-GC; MPF



A. Prepare Cables

1. Position cables and cut so conductor ends butt squarely.
 2. Remove cable jackets for 10" (250 mm). (Figure 1)
 3. FULLY taper jacket ends: 1" (25 mm) for jackets less than 3/16" (5 mm) thick
2" (50 mm) for jackets of 3/16" (5 mm) and thicker
 4. Scuff jacket ends for 6" (150 mm) with coarse #80 abrasive provided. Clean dust from scuffed area. (Figure 1)
 5. Remove cable fillers back to jackets.
 6. Apply 2 wraps of tightly stretched Scotch 33 + Vinyl Tape around each conductor, 4" (100 mm) from end. (Figure 1)
 7. Bend shielding back over the 33 + Tape. **USE CARE TO EVENLY DISTRIBUTE WIRES.** (Figure 1)
- NOTE: FOR RIBBON (TAPE) SHIELDING, CUT SHIELDING OFF AT 33 + TAPE AND PROCEED TO STEP 9.**
8. Trim shielding to 3/4" (20 mm) and overwrap with a layer of 33 + Tape. (Figure 1)
 9. Remove cable color-coding fabric and/or semi-conducting cloth, leaving 1/4" (6 mm) exposed beyond shielding. (Figure 1)
 10. Remove insulation from ends of conductors for 1/2 connector length plus 1/4" (6 mm). **CONNECTOR LENGTH SHOULD NOT EXCEED 2 1/2" (60 mm).**
 11. Clean and smooth exposed insulations using Scotch A-2 Cable Preparation Kit provided. (Figure 1)
 12. Pencil insulations for 3/4" (20 mm); buff **SMOOTH AND EVEN** with A-2 Kit's fine #120 abrasive. (Figure 1)



ISSUE	DATE	REV.	CH.	Scotchcast® Mine and Portable Cable Splice Kit 8096-4 Shielded Cable: 5 & 8 KV Type SHD-GC: 4 AWG-4/0 Type MPF-GC and MPF: 1/0-300 kcmil 15 KV Type SHD-GC: 2 AWG-1 AWG Type MPF-GC & MPF: 2 AWG - 3/0
2	4/1/84			
NOT TO SCALE		CH PJM 3/27/84		
DR. J. F. Krenik		APP A. J. Schommer 3/27/84		
2047-X147				
Electro-Products Division/3M St. Paul, MN 55144 Made in U.S.A.				Mine Safety & Health Administration Acceptance No. D-142-E MSHA

B. Connect Power Conductors

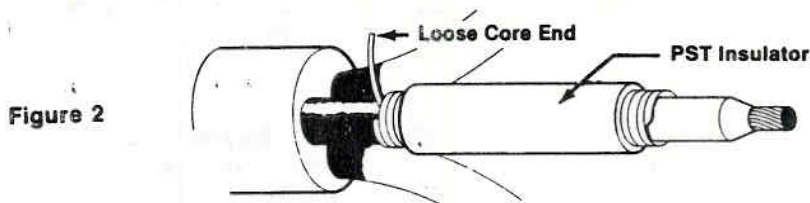


Figure 2

1. Select one cable end and slide a PST Insulator onto each power conductor, putting the loose core ends on first. (Figure 2)
2. Phase match conductors to appropriate color codes.
3. Join power conductors with proper connectors and appropriate crimping tool and die. **MAKE CERTAIN CONDUCTORS BUTT INDENTS IN CENTER OF CONNECTORS.**

NOTE: GROUND WIRES AND GROUND CHECK WILL BE JOINED LATER.

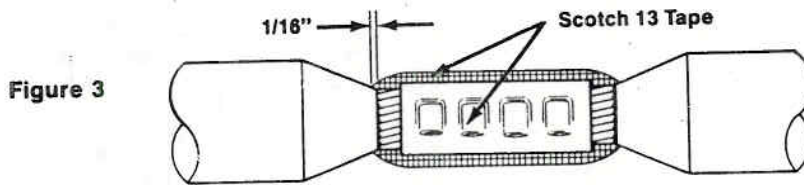


Figure 3

4. Fill connector indents with Scotch 13 Semi-conducting Tape; smoothly apply 2 half-lapped layers, highly elongated over exposed conductor and connector area, **OVERLAPPING 1/16" (2 mm) ONTO INSULATION PENCILS.** (Figure 3)

C. Apply Primary Insulation

NOTE: On large 15 kv cables additional Scotch 130C, 13 and 24 Braid Tapes may be needed.

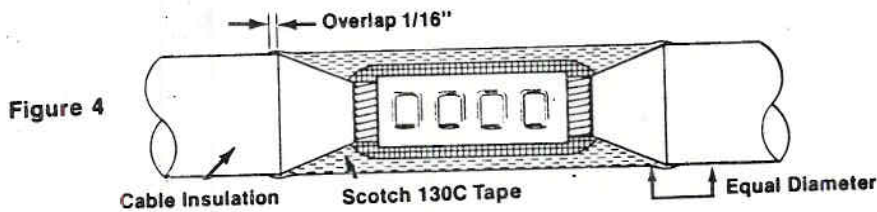


Figure 4

1. Smoothly fill in connector area with half-lapped, highly elongated Scotch 130C Splicing Tape; **BUILD UP TO DIAMETER OF CABLE INSULATION**, overlapping 1/16" (2 mm) beyond pencils. (Figure 4)

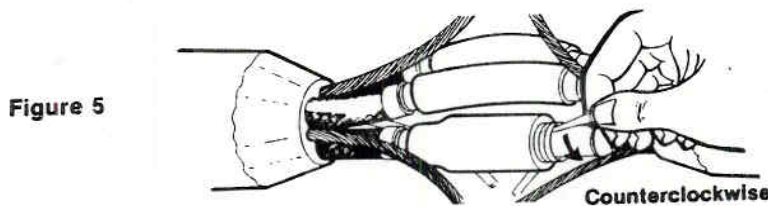


Figure 5

2. Slide PST over taped connection. As the core is removed, the rubber tube will elongate 1/4". Position PST so tube is centered over connection when core is removed.
 3. Remove cores by **UNWINDING COUNTERCLOCKWISE.** (Figure 5).
- NOTE: An occasional tug of the strand while unwinding will aid in removal of core.**

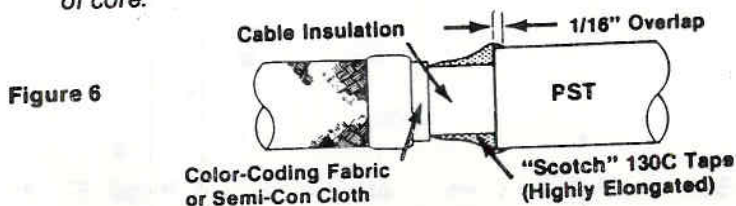


Figure 6

4. Apply highly elongated Scotch 130C Tape to cable insulation at ends of PSTs, forming tapers to PSTs. Extend tapers from cable color-coding fabric and/or semi-conducting cloth to $\frac{1}{16}$ " (2 mm) onto PSTs. (Figure 6) **FOR 15KV ONLY:** Extend tapers from cable color-coding fabric and/or semi-conducting cloth to PSTs. Wrap an additional 2 half-lapped layers of 130C Tape over PSTs.

5. Wrap 1 half-lapped layer of Scotch 13 Tape over previously applied 130C Tape and PST's extending $\frac{1}{2}$ " (12 mm) onto exposed cable metallic shielding. (Main illustration — front page)

6. Wrap 1 half-lapped layer of Scotch 24 Shielding Tape over the semi-conducting tape, extending $\frac{1}{2}$ " (12 mm) onto exposed cable metallic shielding. Secure ends with 2 wraps of tightly applied Scotch 33 + Tape. (Main illustration — front page)

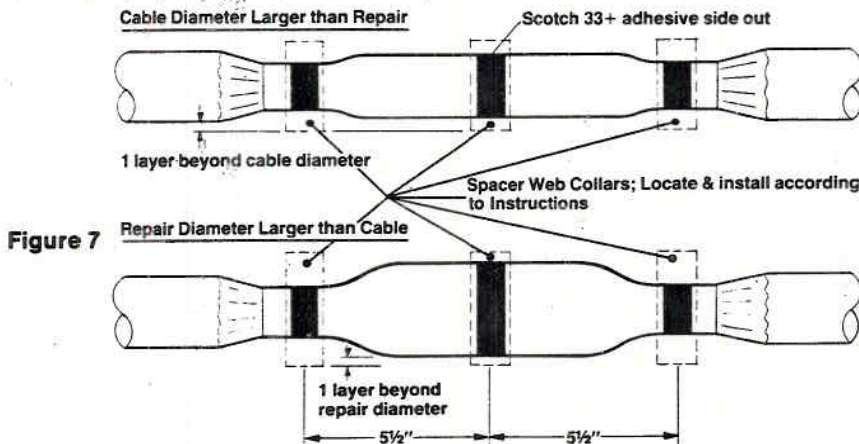
D. Connect Ground Wires

1. Join ground wires with proper connectors and appropriate crimping tool and die. Half-lap or overwrap entire length of ground wires with 33+ Tape. **FOR CABLES WITH GROUND CHECK CONDUCTOR, PROCEED TO NEXT STEP, D.2.**

2. **GROUND CHECK;** remove conductor insulation for $\frac{1}{2}$ connector length. Join wires with proper connector. Insulate connection with 2 half-lapped layers of Scotch 33+ Tape, extending 1" (25 mm) onto conductor insulations. Half-lap or overwrap remaining exposed ground check insulation with 33+ Tape.

NOTE: THE GROUNDS AND GROUND CHECK ARE TAPED SO THEY REMAIN FLEXIBLE AND DON'T BOND TO THE RESIN, THIS PREVENTS BREAKAGE UNDER WORKING CONDITIONS.

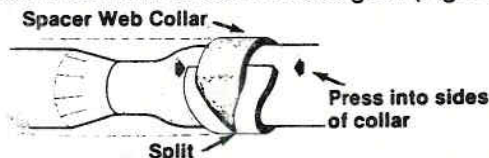
E. Install Spacer Web



1. Bind conductors together with bands of **INVERTED 33 + Tape** (adhesive side out) located per spacer web positions shown in Figure 7.

2. Wrap on spacer web collars; build **EQUAL** diameters to 1 layer greater than repair or cable diameter whichever is largest. (Figure 7) Locate and install collars.

Figure 8

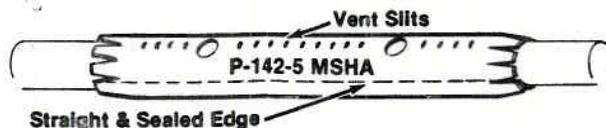


3. Split ends of spacer web and press into sides of collars. (Figure 8)

F. Install Mold

1. **Inspect Mold:** On previously used mold, make certain vent slits are clear of compound.

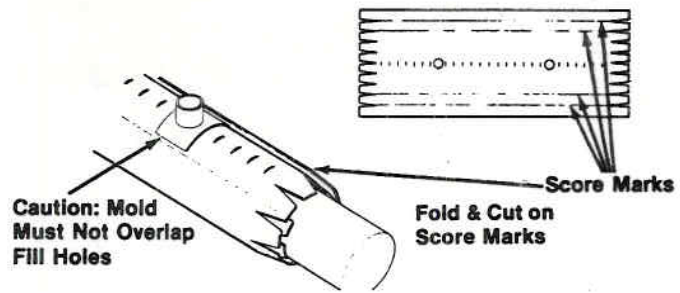
Figure 9



2. With cable straight, center Mold over repair area with vent slits on top (printing on mold should be readable). Wrap snugly around, tucking one edge under. (Figure 9)

NOTE: TUCKED EDGE MUST BE STRAIGHT TO FORM A SEAL

Figure 10



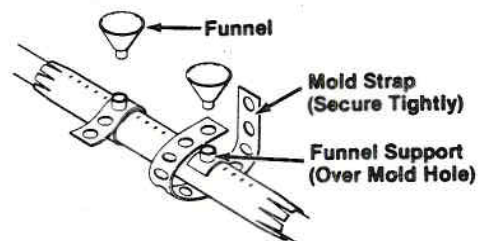
3. On small cables, where Mold overlaps Mold fill-holes, reduce Mold width by folding, then cutting on appropriate score marks. (Figure 10)

4. Reposition Mold according to Step F.2.

NOTE: IF NECESSARY, SLIGHTLY ADJUST MOLD POSITION SO SPACER WEB COLLARS ARE NOT BLOCKING MOLD FILL-HOLES.

Caution: Mold must not overlap fill-holes.

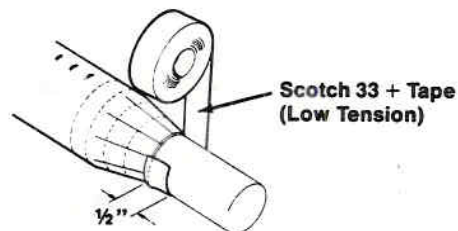
Figure 11



5. Position Funnel Supports over mold holes and secure tightly with Mold Straps. (Figure 11)

NOTE: MOLD, FUNNEL SUPPORTS AND MOLD STRAPS MAY BE MOVED AROUND AT THIS TIME, TO ADJUST FOR FINAL POSITION.

Figure 12



6. Bundle Mold's notched ends evenly around cable, maintaining cable centering. Starting 1/2'' (12 mm) on cable jacket, apply 1 half-lapped layer of 33 + tape over notches. (Figure 12)

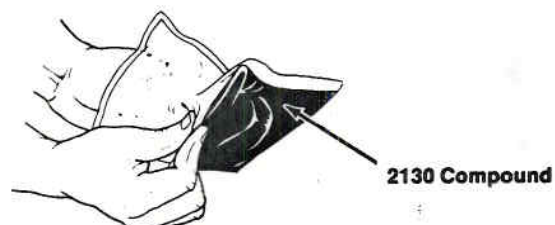
NOTE: TENSION 33 + TAPE ONLY ENOUGH TO CONFORM TO MOLD.

7. Install Funnels into Funnel Support holes. (Figure 11)

G. Pour Compound

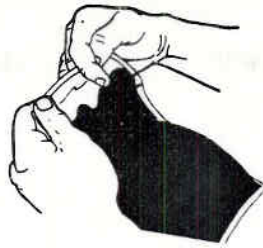
1. Premix **BLACK** side of Unipak 2130 Compound by squeezing to a smooth consistency.

Figure 13



2. Firmly grasp each flat side of the Unipak container 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 13)

Figure 14

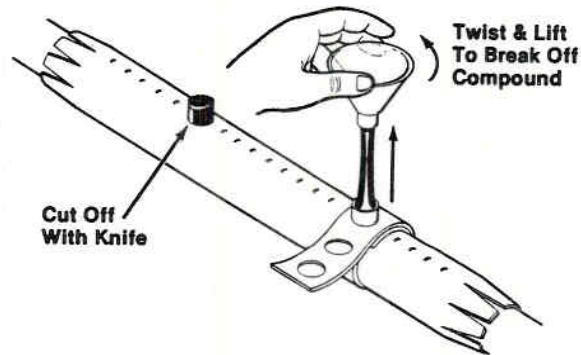


3. Alternately squeeze ends of Unipak forcing compound rapidly back and forth, strip compound from corners of Unipak container between fingers. Mix until color is completely uniform — 30 to 40 VIGOROUS SQUEEZES. **DO NOT EXCEED 1 MINUTE.** (Figure 14)
4. Clip off a corner of Unipak and immediately pour into funnels, alternating back and forth between them.
5. Fill Mold until Compound fills funnels to ½ full.
6. Allow compound to cure.
7. Check Compound in Funnels for curing.

NOTE: REPAIR MAY BE DEMOLDED WHEN COMPOUND IS NO LONGER TACKY.

H. Demold

Figure 15



1. Remove Funnels by twisting and lifting, breaking off from compound. (Figure 15)
2. Remove Mold Straps and Funnel Supports. (Figure 15)
3. Carefully cut off spout compound protrusions from repair, using a knife. (Figure 15)
4. Remove 33 + Tape from Mold ends.
5. Remove Mold from cable repair, working from ends toward center.

Important Notice to Purchaser:

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