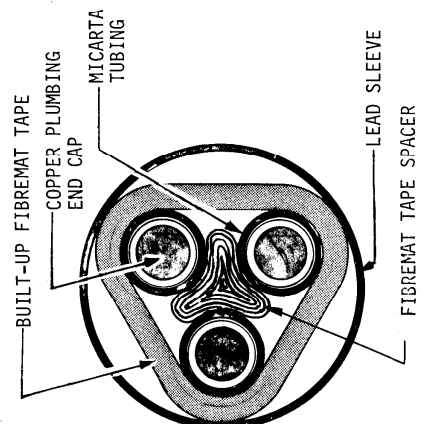
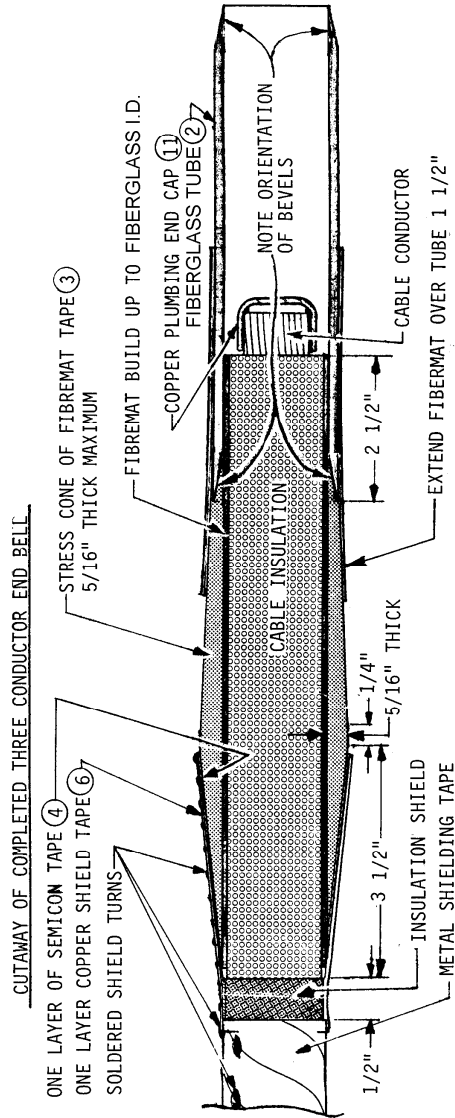
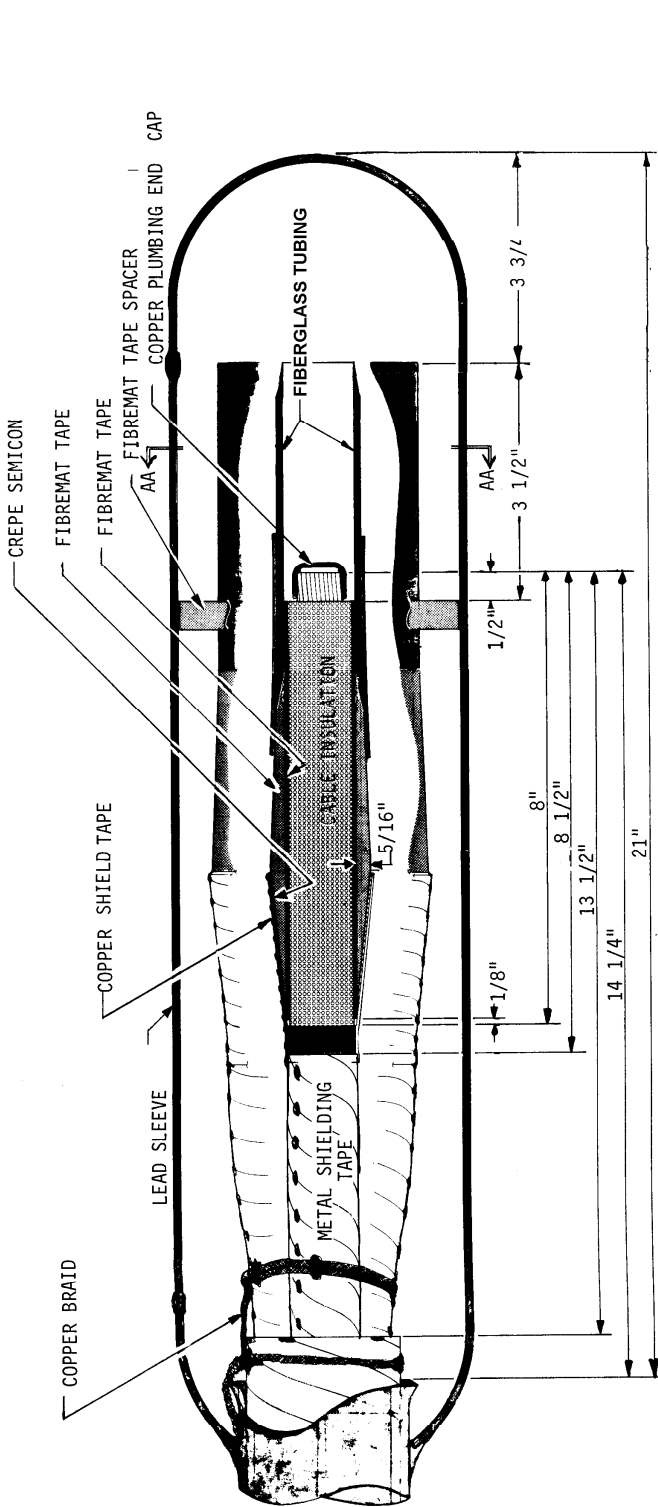


**13.8 KV END BELL, PAPER INSULATED, LEAD COVERED**



DETAIL OF SINGLE CONDUCTOR END BELL  
 REFER TO PAGE 2 FOR ASSEMBLY NOTES AND MATERIAL LIST

SECTION AA

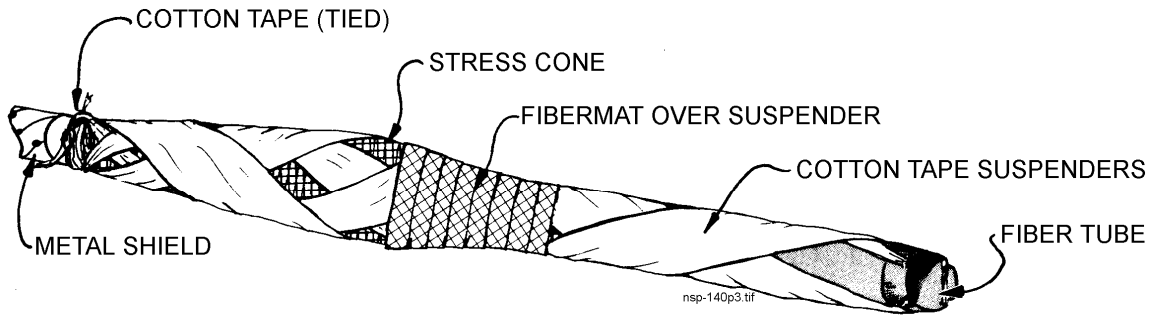
ORIGINATOR	STANDARDS COORDINATOR	STANDARDS SUPERVISOR	UNIT DIRECTOR
<i>Jim S. Horn</i>	<i>Charles L. Shaffer</i>	<i>John Chinner</i>	<i>Betty Robin</i>

**13.8 KV END BELL, PAPER INSULATED, LEAD COVERED**

1. Prepare rack backs and steps to secure the finished end bell at a slight angle (10°-30°) up from the horizontal.
2. Train the cable to final position and cut the ends squarely. The length should be as long as practical depending on the conditions in the vault or manhole. It is probable that this end bell will be removed and replaced with a straight splice or a "Y" splice in the future.
3. Remove the lead jacket for 14-1/4" and slightly bell the end.
4. Remove the binder tape and fillers for 13-1/2".

**On Each of the Three-Phase Conductors:**

5. Remove the metal shielding tape for 8-1/2".
6. Remove the insulation shield and one layer of the insulation for 8". Tear the insulation shield and insulation after tying back metal shielding at 8-1/2".
7. Remove 1/2" of the insulation and conductor shield at the conductor end to remove any contaminants left from cutting and to expose the conductor.
8. Solder a copper plumbing end cap over the exposed conductor and be sure the cap is smooth and rounded to eliminate any sharp edges or high stress points.
9. Starting 1/8" from the insulation shield, wrap half-lapped layers of fibremat tape over the insulation. This tape buildup should equal the inside diameter of the fiberglass tube. When sufficient tape has been applied, slide the fiberglass tube being used over the wrapped insulation. Be sure to have the beveled ends as shown. Locate the tube over the end of the conductor with 3-1/2" projecting beyond the end of the conductor.
10. If the fiberglass tubing will slide off with a minimum of effort, add additional layers of fibremat until snug.  
**NOTE:** On compact sector cable it may be necessary to install "suspenders" as described in Step 16.
11. Using fibremat tape, build up stress cone as shown in the detail but do not fill the area between the high point of the stress cone and the fiberglass tube if suspenders will be required.
12. Wrap one half-lapped layer of semiconducting tape over the insulation shield to the high point of the stress cone.
13. Apply one half-lapped layer of copper shielding tape over 1/2" of the metal shielding tape and the semicon on the stress cone. Solder the turns of the copper shielding together and to the metal shielding tape.
14. Connect the copper shielding tapes of the three phase conductors with copper braid and connect the braid to the lead sheath with solder.
15. If suspenders are not needed, skip to Step 17.
16. File four notches in the end of the fiberglass tubes and install two 1" wide cotton tape suspenders on each tube. Use a figure eight wrap and tie securely.
17. Continue wrapping fibremat tape between the high point of the stress cone and over the fiberglass tubes as shown covering the suspenders (if they are used).
18. Make a three-cornered spacer from fibremat tape and insert it between the phases about 3-1/2" from the open end of the tubes.



**SUSPENDERS TO HOLD FIBER TUBE IN PLACE (OPTIONAL)**

19. Using fibremat tape, bind the three phase conductors together and continue to build up the tape until the diameter is slightly less than the inside diameter of the lead sleeve to be used.
20. Slide the lead sleeve over the cable sheath and wipe the sleeve to the cable sheath.
21. Solder a ground braid to the cable sheath and connect to the system ground in the vault or manhole.
22. Secure the end bell to the steps with the finished end of the bell slightly higher than the cable end.
23. Cut one hole in the sleeve and fill it with high voltage insulating compound. Solder the hole closed when end bell is filled.

Item	Quantity	Description	Stock No.		
1	30 IN	Sleeve, Lead 4" 5"	Store-bought Store-bought		
2	3	Tube, Fiberglass, 6" Long 3/4" I.D. 1" I.D. 1-1/4" I.D.	Spare Parts Spare Parts Spare Parts		
3	2 RL	Tape, High Voltage Polyester, 3/4"	736682		
4	1 CN	Tape, Crepe, Semiconducting	736682		
5	1 QT	Compound, High Voltage Insulating	726320		
6	2 RL	Tape, Shielding, Electrical	736244		
7	1 RL	Braid, 1/4" x 3/64" Tinned Copper	618614		
8	1	Wiping Metal, 3 lb. Cake	728528		
9	3 LB	Solder, Rosin Core	728504		
10	2	Candle, Stearine	728016		
11	3	Fitting, Tube, Solder Joint	Store Bought		
Tube and Fitting Size Data					
		Fitting, I.D.		Wire Size	Tube I.D.
		1/4"		#4	3/4"
		3/8"		#1	3/4"
		1/2"		3/0	1"
		5/8"		300	1"
		3/4"	350	1"	
		7/8"	500	1-1/4"	
12	1 RL	Tape, Cotton, Woven	736170		