
15 / 25 kV CLASS ELBOW INSTALLATION & OPERATING INSTRUCTIONS

DESCRIPTION

The CHARDON Loadbreak Elbow Connector is a fully-shielded and insulated plug-in termination for connecting underground cable to transformers, switching cabinets and junctions equipped with loadbreak bushings. The elbow connector and bushing insert comprise the essential components of all loadbreak connections. The elbow interface of the bushing insert meets the requirements of ANSI/IEEE 386 as defined below:

- 15kV 200A Class (8.3kV and 8.3/14.4kV)
- 25kV 200A Class (15.2kV and 15.2/26.3kV)
- 35kV 200A Class (21.1kV)

ELBOW KIT CONTENT:

- 1 - Standard Elbow Body
- 1 - Compression Connector
- 1 - Loadbreak Probe
- 1 - Wrench (Probe Installation Tool)
- 1 - Lubricant
- 1 - Paper towel
- 1 - Installation Instructions



CAUTION: All associated apparatus must be de-energized during installation and/or maintenance.



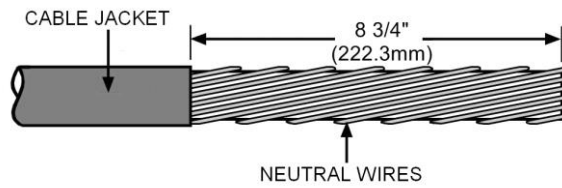
DANGER: Do not touch or move energized product by hand. Failure to follow this instruction may result in serious or fatal injury, as well as damage to the product.

SAFETY INFORMATION

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians, who are familiar with this equipment should install, operate and service it.

INSTALL PROCEDURE

STEP 1

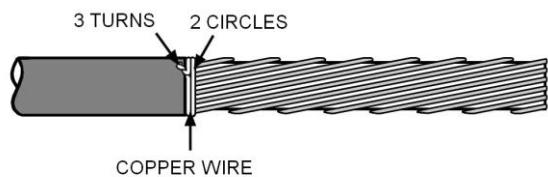


Measure down from top of the cable 8 3/4". Remove cable jacket (if jacketed cable is used) to expose neutral wires. Provide sufficient length of neutral wires for grounding after installation.

NOTE :

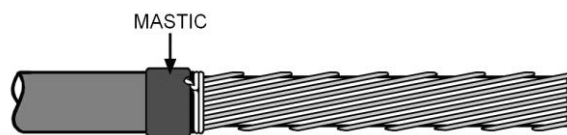
If Grounding Device of CHARDON SADP is needed, please refer to the STEP 2~ 4 of SADP grounding device instruction sheet.

STEP 2



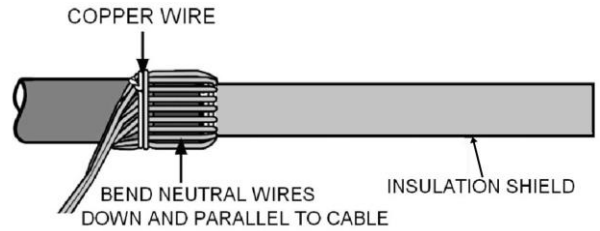
Use copper wire to secure neutral wires to insulation shield of cable as shown.

STEP 3



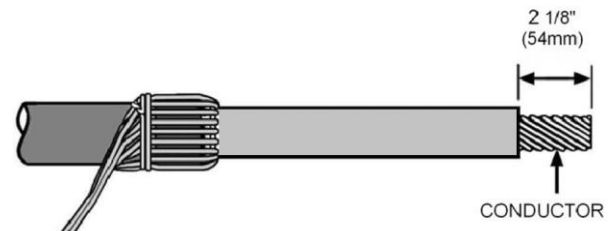
Bind end of cable jacket with mastic.

STEP 4



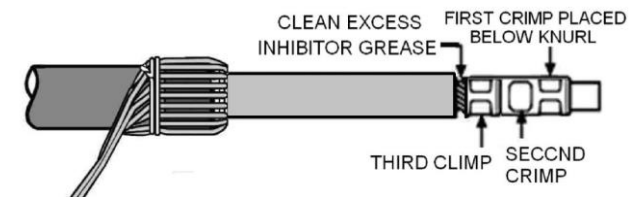
- Unwind neutral wires.
- Bend Neutral wires down and parallel to cable.
- Use copper wire to secure neutral wires to cable jacket as shown.

STEP 5



Measure down from the top of the cable 2 1/8". Remove the insulation and conductor shield to expose the bare conductor. Take care not to nick the conductor.

STEP 6



- Clean the exposed conductor using a wire brush.
- Place the bi-metal connector on the conductor. Make sure the threaded hole in connector faces the apparatus bushing.
- See Table for recommended crimp tools and dies.
- Rotate the tool between each successive crimp to prevent connector distortion.
- Re-align the connector with the cable to eliminate any bends caused by crimping.
- Clean excess grease from bi-metal connector by wiping toward threaded eye.

CABLE JACKET

INSULATION SHIELD

INSULATION

222.3mm

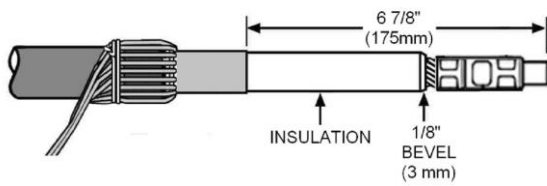
175mm

54mm

8 3/4"
(222.3mm)

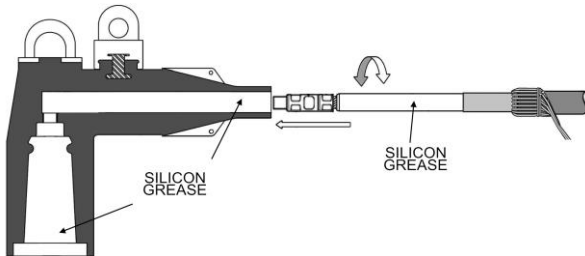
2 1/8"
(54mm)

STEP 7



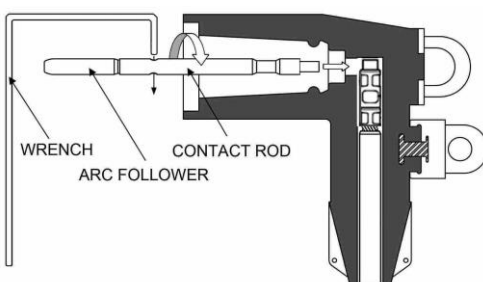
Measure down from the top of the connector 6 $\frac{7}{8}$ ". Remove the insulation shield. Take care not to nick or gouge insulation. Place a $\frac{1}{8}$ " maximum bevel on the insulation to ease elbow installation.

STEP 8



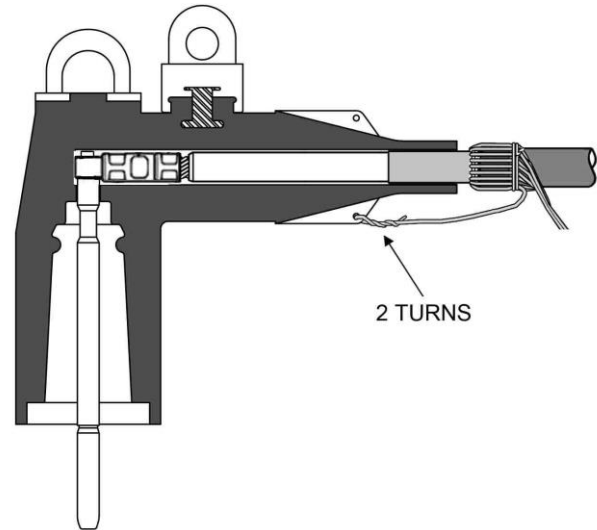
Apply proper amount of silicon grease onto the area shown above. Slide the elbow onto the cable, using a back and forth twisting motion, and Final seating of the elbow should align elbow and connector.

STEP 9



Turn the elbow until the contact rod and arc follower can be assembled into the copper connector. Insert the contact rod into the copper connector and hand tighten several turns to avoid cross threading; then tighten with wrench provided until the wrench permanently deforms. (Then discard the wrench.) If other tightening tools are used, they should produce a torque exceeding a minimum recommended 110 inch pounds for the contact rod to connector tightening. Keep the contact rod and arc follower free of dirt at all times.

STEP 10



Using one or more neutral wires, connect the concentric neutral to the elbow grounding tab near the cable entrance. A tight connection will provide positive grounding for the elbow shield.

OPERATING INSTRUCTIONS

Do not connect two different phases of a multiple- phase system. Before closing a single-phase loop, make certain both ends of the loop are the same phase.

Loadmake Operation

- Area must be clear of obstructions or contaminants that would interfere with the operation of the loadbreak elbow.
- Securely fasten a suitable live-line tool to the pulling eye.
- Place the load break elbow over the bushing, inserting the white arc follower of the probe into the bushing approximately 2 $\frac{1}{2}$ " until a slight resistance is felt.
- Immediately thrust the elbow onto the bushing with a fast, firm, straight motion, with sufficient force to latch the elbow to the bushing.
- Push again on the live-line tool, then pull gently to make sure it is secure.

Fault Close :

- It is not recommended that operations be made on known faults.
- If a fault is experienced, both the elbow connector and the bushing must be replaced.

Loadbreak Operation

- Securely fasten a suitable live-line tool to the pulling eye.
- Without exerting any pulling force, slightly rotate the connector clockwise to break surface friction between the elbow and bushing.
- Withdraw the connector from the bushing with a fast, firm, straight motion, being careful not to place the connector near a ground plane.
- Place connector on an appropriate accessory device, following the operating instructions for that accessory.
- Place an insulated protective cap with drain wire attached to system ground on any exposed energized bushing using a live-line tool.

**TABLE
Crimp Chart**

CONNECTOR	CONDUCTOR SIZE	BURNDY			Thomas and Betts		KEARNEY		ACA Conductor Accessories		Anderson Tool	Edison Electric Institute READERENCE
		TOOL	DIE		TOOL	DIE	TOOL	DIE	TOOL	DIE		
5/8" DIAMETER	NO. 4 THRU 2/0 STRANDED	Y34	A243 (2)	A25AR (2)	UT-3	5/8" (4)	O	5/8" NOSE (4)	12 A	B24 EA (2)	VC-5 VC-6	8A
		Y35 OR Y39	U243 (2)	U25ART (2)	UT-5	TV (4)		9/16" (3)				
			UBG (2)	U687 (2)			9/16" (2)					
		MD6	W243 (2)	BG(3) NOSE (2)	UT-15	54H (2)	WH2,WH3,BH4, WH4,PH2,PH13	572 (2)				
3/4" DIAMETER	3/0 – 4/0 STRANDED	Y34	U247 (2)	A27AR (2)	UT-5	TV (4)	O	737 (3)	12A	B39 EA (2)	VC-5 VC-6	10A
		Y35 OR Y39	U247 (2)	U27ART (1)								
			U467 (2)				737 (3)					
		MD6	W247 (2)		UT-15	66 (2)	WH2,WH3,BH4, WH4,PH2,PH13	747 (2)				

These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency, to be met in connection with installation, operation or maintenance. Should further information be desired, or should particular problems arise which are not covered sufficiently, please contact the Chardon Group.

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FOR FURTHER INFORMATION WRITE TO



sales@chardongroup.com

