Installation Instructions 655/675LR and K655/K675LR Elbow Connectors

CONTENTS: *Elbow, Cable Adapter, Compression Lug, Insulating Plug, Lubricant, Stud Prepack, Crimp chart, Installation Instructions.*

The 655/675LR and K655/K675LR connectors are designed to: 1) provide fully shielded, fully submersible deadfront cable connections to high voltage apparatus and 2) provide a means to splice and tap 600-ampere (655/K655LR) or 900-ampere (675/K675LR) systems. The connectors are rated for use on 15kV and 25kV class systems respectively.

DANGER

All apparatus must be de-energized during installation or removal of part(s).

Do not touch or move energized products by hand.

Excess distortion of the assembled product may result in its failure.

Inspect parts for damage, rating and compatibility with mating parts.

This product should be installed only by competent personnel trained in good safety practices involving high voltage electrical equipment. These instructions are not intended as a substitute for adequate training or experience in such safety practices.

These instructions do not attempt to provide for every possible contingency.

Failure to follow these instructions will result in damage to the product and serious or fatal injury.

This product is supplied with a protective shipping cover. Remove this shipping cover and replace with the appropriate HV insulated cap or connector before submerging or energizing the circuit.

FOR MORE INFORMATION ON PARTS, INSTALLATION RATINGS AND COMPATIBILITY, CALL THE NEAREST ELASTIMOLD OFFICE.

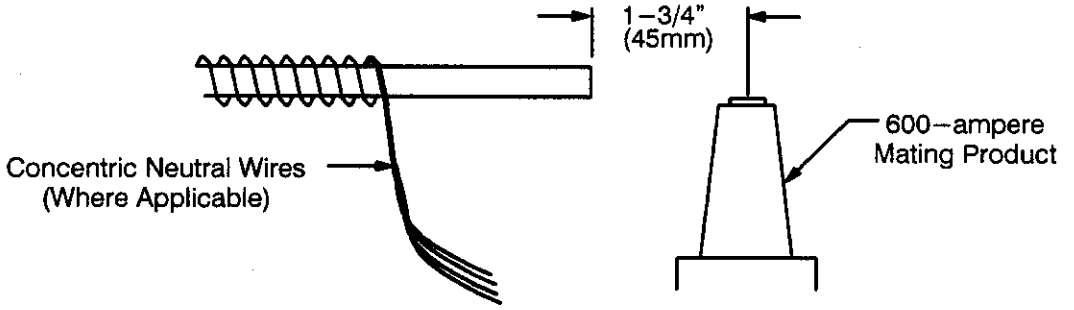
IMPORTANT

1. Check contents of package to insure they are complete and undamaged.
2. Check all components to insure proper fit with cable and/or mating products.
3. Read entire installation instructions before starting.
4. Have all required tools at hand and maintain cleanliness throughout the procedure.

GENERAL INSTRUCTIONS

STEP 1

Position the cable so it is located in the final assembled position with enough slack to provide adequate clearance for removing the elbows. For concentric neutral cable, unwind the concentric neutral wires. Cut the cable 1-3/4" (45mm) from center line of the mating product.



STEP 2

Clean the outer surface of the cable a distance of 24" (610mm) or up to the bent back concentric neutral wires.

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A Unit of Thomas & Betts Corporation

STEP 3 CABLE PREPARATION Follow the STEPS A, B or C that apply to the cable being prepared.

A. If a 20MA or 21MA grounding device or 600ECS Jacket Cable Seal is being used, refer to the Installation Instructions supplied with those products for removal of cable outer jacket, shield connection and grounding.

B. UNISHIELD* AND LEAD SHEATH CABLE

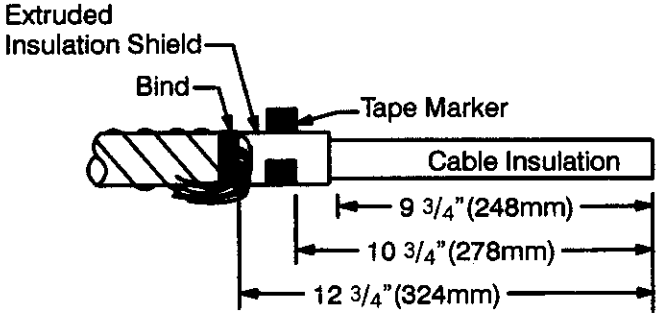
For UNISHIELD* or LEAD SHEATH cable a 10TL cable shield adapter is required. Refer to the Installation Instructions supplied with the 10TL cable shield adapter for cable preparation.

**Unishield is a registered Trade Mark of ANACONDA WIRE and CABLE COMPANY.*

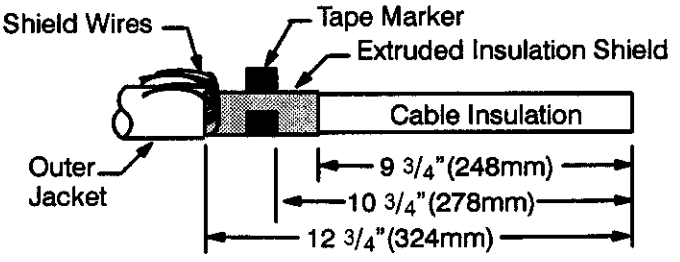
C. JACKETED AND NON-JACKETED CABLE

Remove the outer jacket (where applicable) and prepare cable as shown.

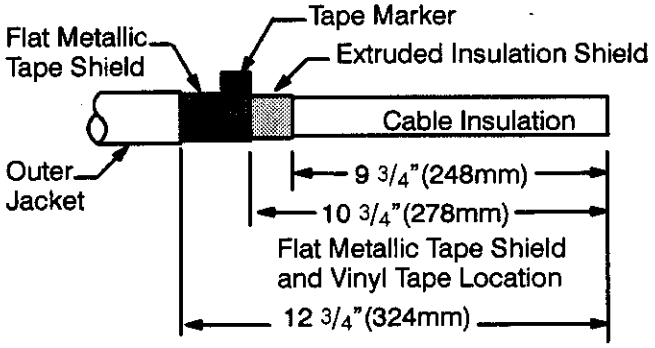
1. NON-JACKETED CONCENTRIC NEUTRAL WIRES



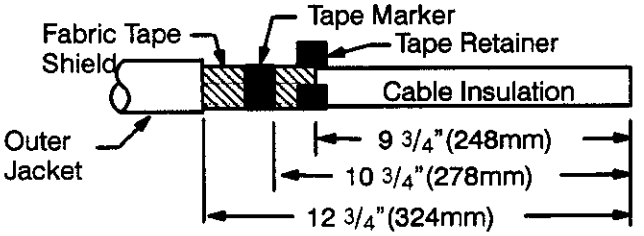
2. JACKETED SHIELD WIRES



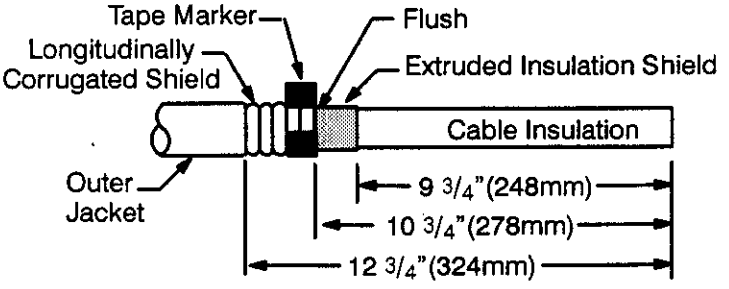
3. JACKETED FLAT METALLIC TAPE SHIELD



4. JACKETED FABRIC TAPE SHIELD

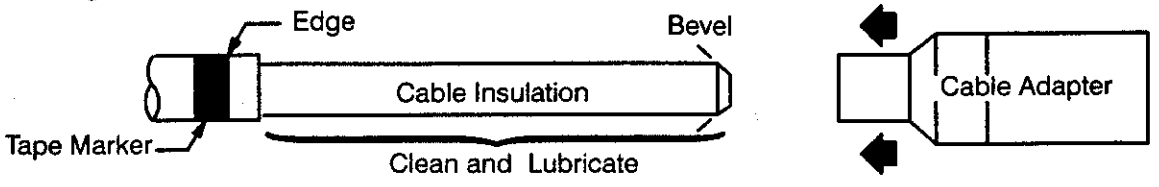


5. JACKETED LONGITUDINALLY CORRUGATED SHIELD



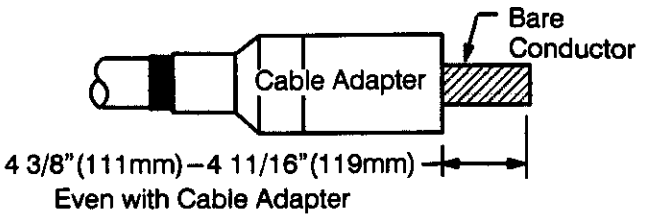
STEP 4 CABLE ADAPTER

Bevel the end of the cable insulation at a 45° angle, approximately 1/4" (6mm) back. Thoroughly clean, then lubricate cable insulation always working toward cable insulation shield. Install cable adapter, small end first, until it is flush with the edge of the tape marker.



STEP 5 CONDUCTOR

Remove the protruding cable insulation by cutting it even with the end of the cable adapter. Do not cut or nick the cable adapter or the conductor. The length of exposed conductor should be between 4 3/8" to 4 11/16". Otherwise redo assembly.

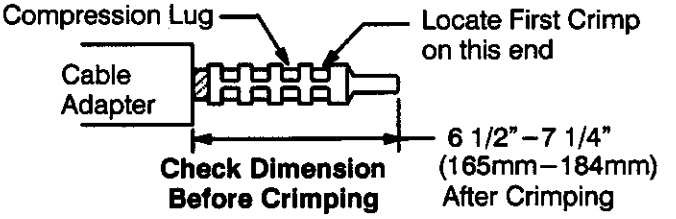


STEP 6 COMPRESSION LUG

Copper Conductor: Fully insert conductor into compression Lug.

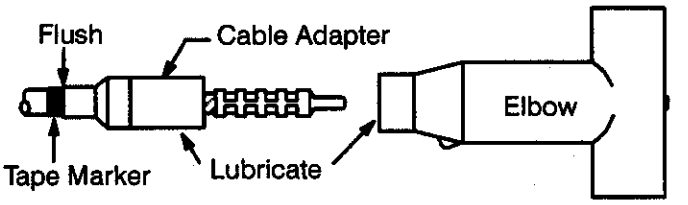
Aluminum Conductor: Wire brush conductor and immediately fully insert conductor into compression lug.

Measure the "Check Dimension" before crimping. This dimension should be less than 6 1/2" otherwise redo assembly. Crimp the compression lug following the crimping instructions supplied with the lug. Wipe all excess inhibitor from compression lug and cable adapter surface after crimping. The distance from the end of the compression lug to the cable adapter after crimping should be between 6 1/2" to 7 1/4" (165mm – 184mm). Otherwise redo assembly.



STEP 7 ELBOW

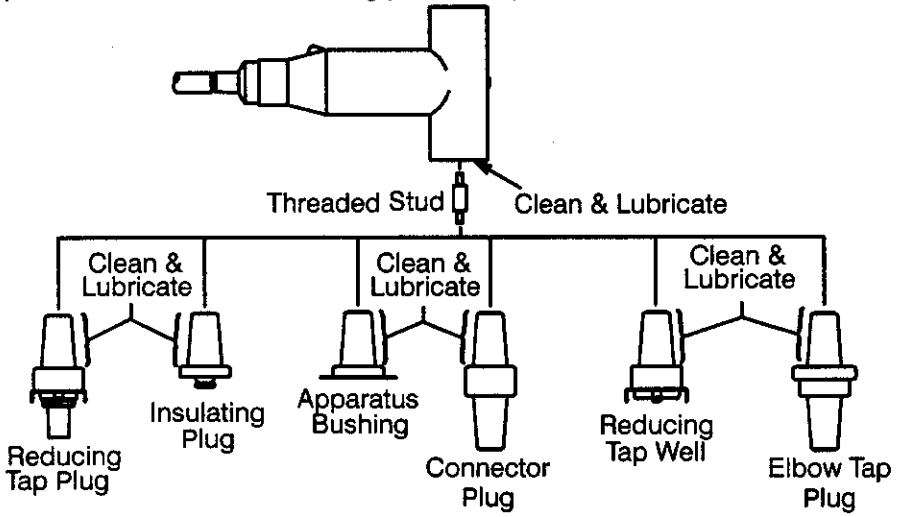
Lubricate cable adapter and inside of elbow cable entrance. Install elbow onto cable adapter until the elbow can not advance further. Make sure cable adapter is still flush with tape marker. If not, reposition cable adapter. Remove tape marker.



STEP 8 MATING PRODUCTS

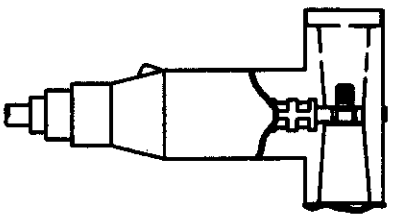
DO NOT CONNECT OR DISCONNECT MATING PRODUCTS WHILE ENERGIZED.
DO NOT ENERGIZE WHILE DISCONNECTED.

Remove protective caps from the elbow and the mating part. Hand tighten the threaded stud supplied with the elbow into mating part, if the mating part is not equipped with a stud. Clean and lubricate both the elbow and the mating part with lubricant supplied. (Keep surfaces of elbow and mating part clean.)



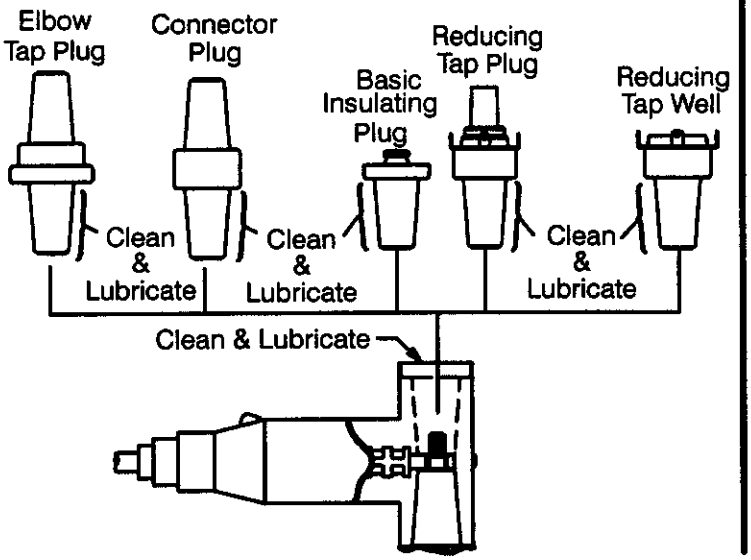
STEP 9

Push elbow onto mating part, lining up the hole in the compression lug with the stud on the mating part.



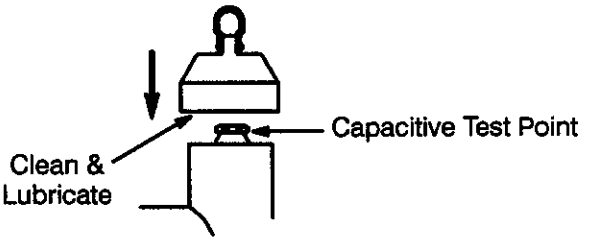
STEP 10

Clean and lubricate the mating part for the opposite end of the elbow. Insert the mating part into the elbow. Engage the threads and hand tighten. Torque mating part according to the instructions supplied with the mating part.



STEP 11

If an insulating plug is used as a mating part, clean and lubricate inner surface of the voltage detection cap and place on elbow. Push down hard until cap snaps into place. Follow voltage test directions below.

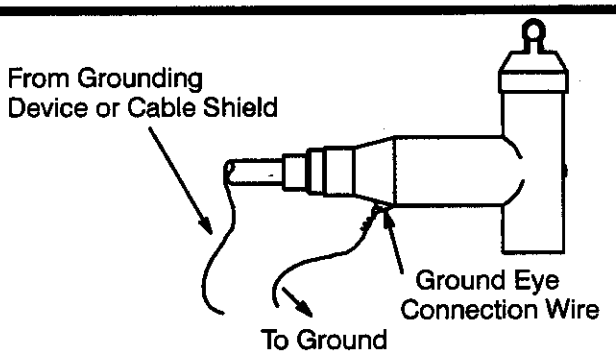


STEP 12

Insert one end of a piece of wire with ampacity at least equivalent to No. 14 AWG Copper through the grounding eye and twist to make a small loop. Do Not damage the eye. Connect wire to ground using a suitable connector.

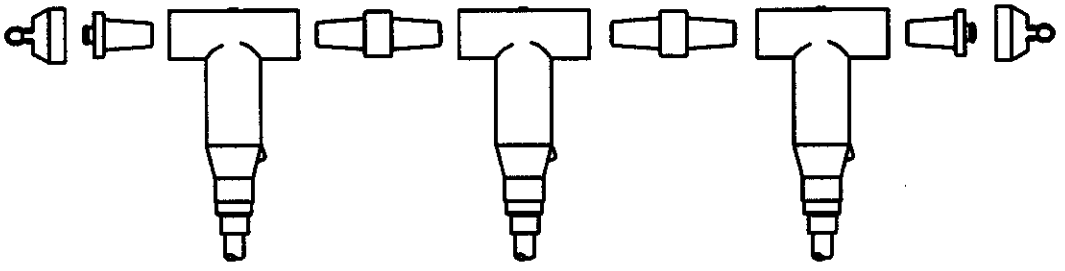
The shield of the cable must be grounded. Ground according to the instructions supplied with the grounding device. If no grounding device is used, the shield must be grounded through an alternate method.

It is also recommended that the jacket of the cable be waterproofed at this point to prevent moisture from entering the cable.



STEP 13

CAUTION: When constructing 600amp L–Kits be sure to tighten each component to specified torque per instructions provided.



VOLTAGE TEST

The ELASTIMOLD elbow connector is equipped with a integral capacitance test point that can be used to establish whether or not the circuit is energized. When using the test point, complete the following steps:

1. Remove test point cap with a hotstick. When removing cap, PEEL OFF AT AN ANGLE rather than pulling directly in line with the test point assembly. **CAUTION:** The voltage test point is a capacitance device; it is not directly connected to the connector. It requires the use of specially designed instruments. DO NOT USE CONVENTIONAL VOLTAGE MEASURING EQUIPMENT;NO INDICATION WILL BE OBTAINED.
2. Using a suitable sensing device, proceed to determine if cable is energized. **DO NOT USE CONVENTIONAL VOLTAGE MEASURING EQUIPMENT. WARNING: THE VOLTAGE TEST POINT IS A CAPACITANCE DEVICE, IT IS NOT DIRECTLY CONNECTED TO THE CONDUCTOR. CONTAMINATION: MOISTURE, DIRT, ETC., AROUND THE TEST POINT, OR USE OF THE WRONG MEASURING EQUIPMENT CAN PROVIDE A FALSE "NO VOLTAGE" INDICATION ON AN ENERGIZED ELBOW. TO PREVENT SERIOUS OR FATAL INJURY TREAT THE ELBOW AS ENERGIZED UNTIL THE "NO VOLTAGE" TEST POINT INDICATION IS CONFIRMED BY OTHER MEANS.**
3. After voltage detection has been made, clean and lubricate the inside surface of the cap with silicone grease and replace it on the test point.