



# ISTZ35J4/J5

## Installation Instructions

### Guide TZJ UD OUTDOOR SERIES

#### Cold Shrink Outdoor Termination for 35kV, 100% and 133% Jacketed Concentric Neutral Cables

### DESCRIPTION

Hubbell Cold Shrink Terminations are designed for terminating solid dielectric – shielded medium voltage cables. Removal of the inner support core allows the termination to shrink evenly over the cable, creating a void free interface between the cable and termination housing. Hubbell Cold Shrink Terminations meet the requirements of IEEE Standard 48 – latest revision.

- 35kV Class: 200kV BIL
- Class 1 Termination

### INSTALLATION TOOLS

- Crimp Tools & Dies
- Hand Tools

### CONTENTS

- (1) Silicone Rubber Termination
- (1) Set of Mastic Strips
- (1) Instruction Sheet
- (1) Cutback Template
- (1) Connector (optional)

### No Silicone Grease Required

### Product Selection Confirmation

Check kit selection to ensure that you are installing the proper kit on the cable(s) to be terminated. If using the termination on the smallest or largest conductor size compare the cable dimensions to those of the kit.

| KIT NO.<br>OUTDOOR | Conductor Size Range |      | Insulation Diameter |           | Jacket OD Max |    |
|--------------------|----------------------|------|---------------------|-----------|---------------|----|
|                    | MIN                  | MAX  | IN                  | MM        | IN            | MM |
| 35TZ4Jxx           | 1/0                  | 350  | 1.04-1.63           | 26.5-41.4 | 1.97          | 50 |
| 35TZ5Jxx           | 350                  | 1500 | 1.34-2.32           | 34-59.1   | 2.83          | 72 |

**Important:** Read these instructions thoroughly before operating the system.

Be sure that the terminations are rated for their intended energized use.

## DANGER

All associated apparatus must be de-energized before performing any installation. Do not touch or move energized product by hand. Be sure that the connectors are rated for the intended application. Failure to follow this instruction may result in serious or fatal injury, as well as damage to the product.

## CAUTION

The equipment covered by these instructions should be installed, operated and serviced only by competent personnel familiar with safety practices. This instruction is written for such personnel and is not intended as a substitute for adequate training and experience in safe procedures for this type of equipment.

*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 for the purchaser's purposes, the matter should be referred to Hubbell Power Systems, Inc.*

## Cable Preparation Instructions

1. Shape or train cable to its termination point and cut off any excess cable, allowing enough neutral wire for grounding connection.
2. Determine crimp lug barrel depth and add 1/4" for "L" dimension

*Note: The "L" dimension is the connector barrel depth plus 1/4" (6.4mm). If no connector is used: L = 2" (50mm).*

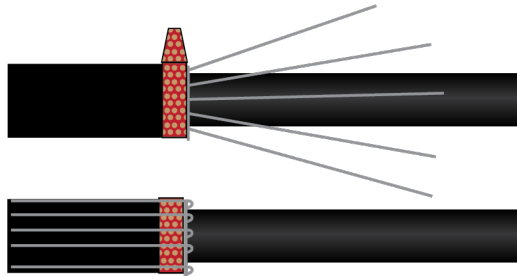
### 3. Cable Cut Back Dimensions

Prepare cable to the dimensions shown below:

- a.  $L = \text{lug barrel depth} + \frac{1}{4} (6.4\text{mm}) = \underline{\hspace{2cm}}$
- b. Jacket Cut Back length = 19" (482mm) + "L" =  $\underline{\hspace{2cm}}$

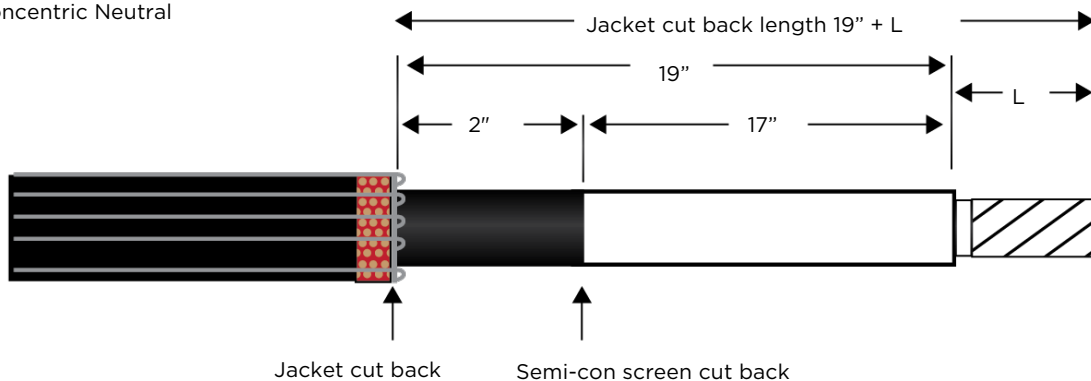
### 4. Remove cable jacket

Remove cable jacket according to the "jacket cutback length" determined in step 3. Lift the neutral wires off the cable jacket and apply one wrap of red mastic at the jacket cutback under the wires. Press evenly spaced wires into the mastic, making sure wires do not cross one another. Tap the wires flat into the sealant and along the jacket.

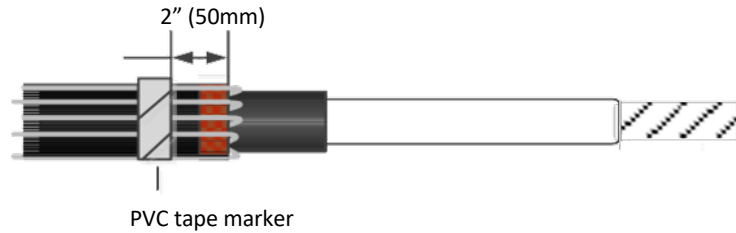


5. Remove insulation to expose the bare conductor to "L" dimension. Cut squarely making sure not to nick the conductor
6. Remove semi-con layer to 17" (431mm), to expose the insulation, as shown below. Edge of semi-con layer should be smooth and square. Do not nick the insulation while removing semi-con layer.

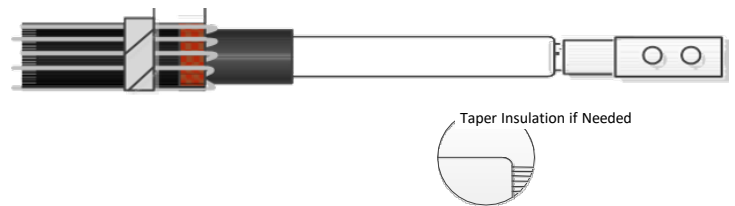
Jacket Concentric Neutral



7. Place a Tape Marker over the neutral wires at 2" as shown.

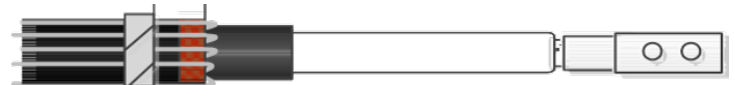


8. Install the connector in accordance with manufacturer instructions. If step between the insulation and connector is 1/8" or more, bevel the edge with a 1/8" chamfer



Note: If connector is supplied with kit, see connector installation instructions also supplied.

9. Clean the cable thoroughly with suitable solvent. If necessary, remove imbedded conductive particles with nonconductive abrasive cloth



Note: If any nicks are present in the insulation or conductor, cut off damaged portion of cable and return to step 1.

**Note:**

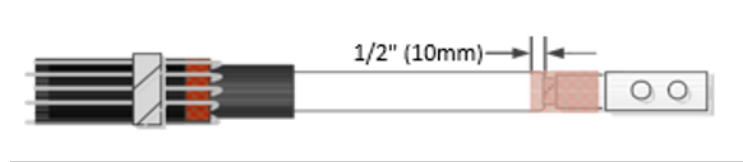
*All remnants of semi-con layer must be removed. There should be no contaminants on the cable insulation layer.*

**If abrasive must be used:**

- Use on insulation only, not on semi-con layer
- Use ONLY aluminum oxide abrasive; grit 120 or finer.
- Take care not to reduce the cable insulation diameter below that allowed by the kit.



10. **Apply red sealant mastic for only the conductor sizes shown in table 4:** Due to variations in connector types, some of the smallest conductor sizes used in the application ranges require extra sealant mastic to fill the transition over the connector barrel. Build up the lug barrel diameter to the cable insulation using supplied 1" wide CTSR red tape sealant mastic strip. Overlap at least 1/2" (10mm) onto insulation.



**Table 4** - Sizes requiring additional sealant

| Size     | Conductor Size(s) |
|----------|-------------------|
| 35TZ4Jxx | 1/0 to 300        |
| 35TZ5Jxx | 350 to 500        |

11. Position the cold shrink termination body at the edge of the 2" Tape Marker. Slowly pull ripcord counterclockwise, holding the termination body in place at the tape mark until it securely covers the mastic seal area. Continue unwinding counterclockwise while pulling the remainder of the cord. Do not put tension on the termination while unwinding rip cord

After pulling the cord, ensure all sheds are open and fully extended.

Installation is complete

NOTE: The ripcord material can be recycled as:

