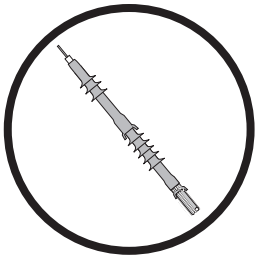


TFT-350E

35kV Cold Applied Termination System for Jacketed and Unjacketed Concentric Neutral Power Cables

Product Installation Instructions

Safety Instructions

⚠ DANGER *When installing electrical power system accessories, failure to follow applicable personal safety requirements and written installation instructions could result in fire or explosion and serious or fatal injuries.*

⚠ DANGER *As TE has no control over field conditions which influence product installation, it is understood that the user must take this into account and apply his own experience and expertise when installing product.*

⚠ DANGER *Working around energized high-voltage systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling high-voltage electrical equipment. De-energize and ground all electrical systems before installing product.*

⚠ DANGER *Power distribution and transmission products must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures.*

⚠ CAUTION *Read and understand the contents of these instructions before installation and follow all locally approved procedures and safety practices before installing or operating this equipment*

⚠ CAUTION *These instructions cannot cover all details or variations in the equipment, procedures, or processes described, nor provide directions for meeting every possible contingency during installation, operation, or maintenance. When additional information is desired to satisfy a problem not covered sufficiently for the user's purpose, please contact your TE sales representative. These instructions are not intended to supersede or replace existing safety and operating procedures.*

NOTICE *Upon receipt of a product, inspect it thoroughly for damage and loss of parts incurred during shipment. If damage or loss is discovered, file a claim with the carrier immediately or contact your TE representative.*

Kit Contents

1 Installation Instruction
2 Silicone housing on holdout
1 Stress control patch
1 Leakage current collector
Sealant tape strips

Suggested Installation Equipment (not supplied with kit)

- Cable preparation tools
- TE P63 cable preparation kit or cable manufacturer approved solvent
- Clean, lint-free cloths
- Non-conducting abrasive cloth, 120 grit or finer
- Electrician's tape
- Connector(s) and installation tools.

Customer Service

For 24 hour customer service, call 800-327-6996.

1. Select product

Check kit selection with cable diameter dimensions in Table 1.

Table 1

Kit	Nominal Conductor Size	Min/max Insulation ODs*
TFT-352E	1/0-4/0 kcmil	0.85-1.31″(22-33mm)
TFT-353E	4/0-500 kcmil	1.06-1.70″(27-43mm)
TFT-354E	500-1250 kcmil	1.49-2.20″(38-56mm)

*Insulation ODs and nominal conductor sizes are based on 100% compact and concentric stranded cable dimensions.

2. Prepare cables

Select the correct type of cable and prepare the cables as shown.

2a. JACKETED CONCENTRIC NEUTRAL CABLE

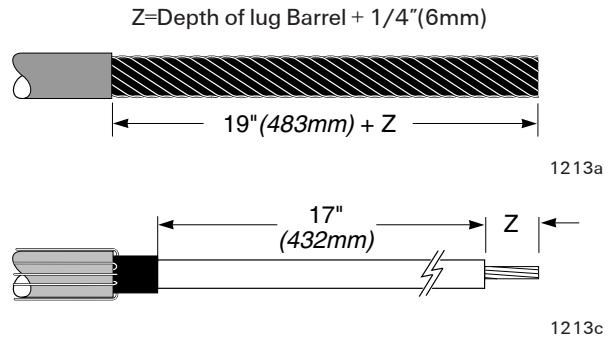
Cut back jacket to dimension shown.

Without crossing, fold back neutral wires over the cable jacket cutback

NOTICE *It may help to use a wire binder or hose clamp to secure the wires.*

Remove semi-con layer being careful not to damage the cable insulation.

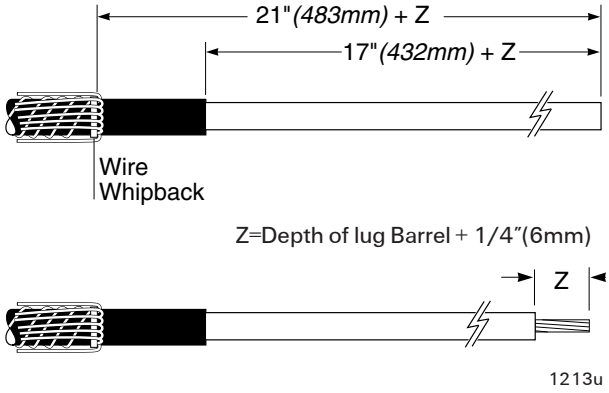
Remove the insulation to the dimension "Z" shown.



2b. UNJACKETED CONCENTRIC NEUTRAL CABLE

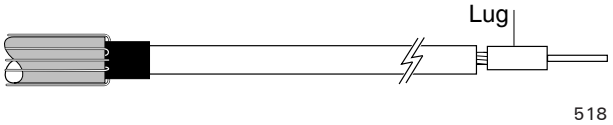
Place a cable tie at wire pullback dimension shown and bend back concentric neutral wires without crossing. Remove semi-con layer being careful not to damage the cable insulation.

Remove the insulation to the dimension "Z" shown.



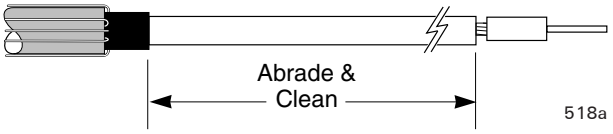
3. Make lug connection

Crimp the connector using proper die and tool. Clean lug barrel of inhibitor and dirt. Remove sharp edges of crimped lug barrel. Build up the barrel diameter to that of cable insulation using gray tape sealant, overlap 1/2″ onto insulation providing a smooth profile.



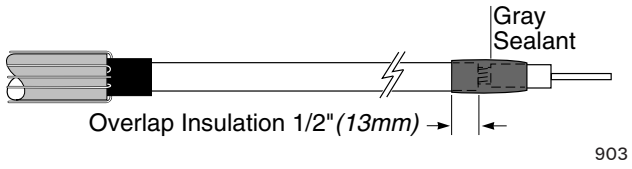
4. Abrade and clean insulation

Abrade and clean the surface of the primary insulation using an approved solvent. Be sure to remove any conductive particles or contamination.



5. Install sealant

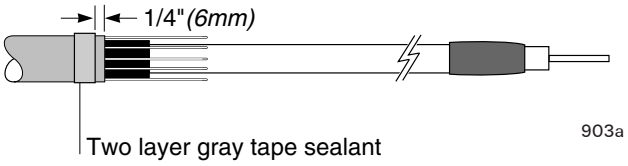
Build up the lug barrel diameter to that of cable insulation using tape sealant, then overlap tape sealant 1/2" (10mm) onto insulation to provide a smooth profile.



5a. JACKETED CONCENTRIC NEUTRAL CABLE

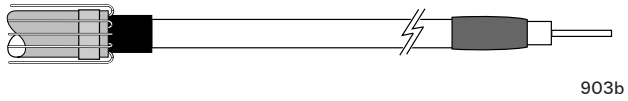
Solvent clean and abrade jacket.

Using light tension, wrap two layers of gray sealant onto jacket as shown.



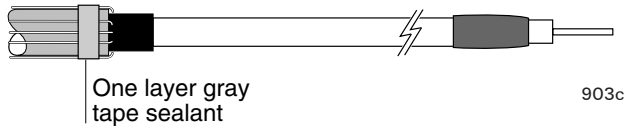
Without crossing, fold back neutral wires over the cable jacket cutback and press into the sealant .

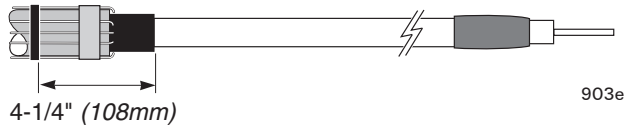
NOTICE *It may help to use a wire binder or hose clamp to secure the wires*



Wrap one layer of gray sealant over the wires and 1st layers of sealant.

To ensure the correct positioning of the termination, place a marker tape 4-1/4" (108mm) from the semi-con cutback as shown.



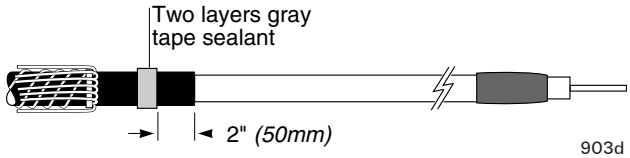


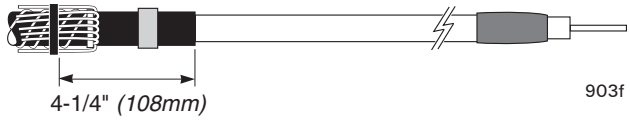
5b. UNJACKETED CONCENTRIC NEUTRAL CABLE

Clean semi-con.

Wrap two layers of gray sealant onto the semi-con layer as shown.

To ensure the correct positioning of the termination, place a marker tape 4-1/4" (108mm) from the semi-con cutback as shown.

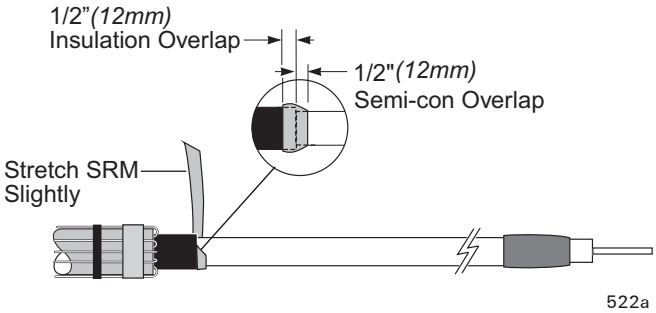




6. Apply Stress Relief Material (SRM) at semi-con cutback

Remove backing from the black angle-cut piece of SRM. Place tip of the SRM at the Semi-Con cutback. SLOWLY stretch the SRM to half its width. Tightly wrap the SRM for one full lap butted against the Semi-Con cutback. Wrap the remaining SRM 1/2"(12mm) onto the Semi-Con and 1/2"(12mm) onto the Insulation creating a ramp that tapers down onto the Insulation.

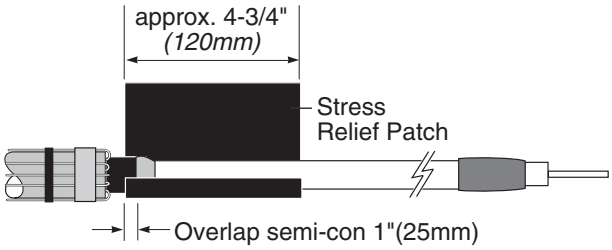
NOTICE *Keep constant tension while stretching the SRM to create a consistent thickness.*



7. Apply stress patch

NOTICE *The stress patch easily sticks to itself and loose particles.*

Remove backing paper from the patch. Using light tension, wrap the entire patch around the semi-con oriented as shown. Avoid wrinkles and creases.



905

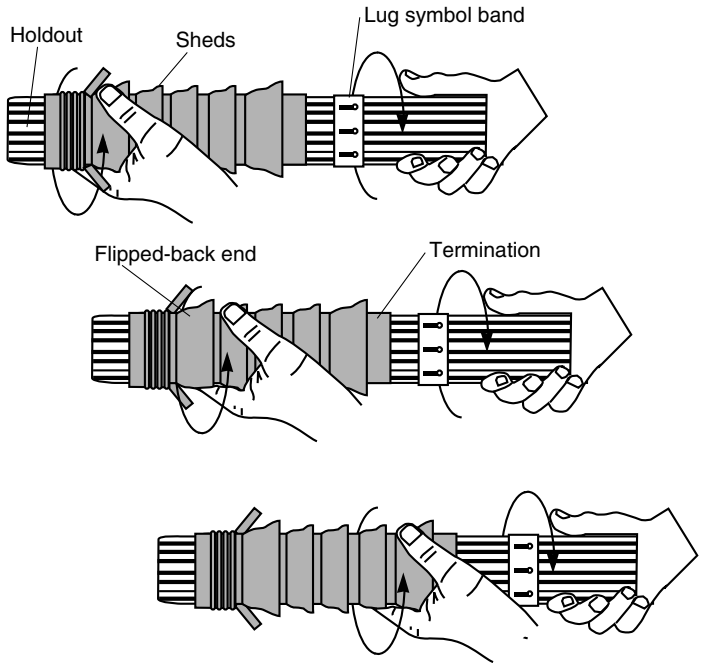
8. Loosening termination

This operation is vital to the simple installation of the product. Note that the sheds may be flipped backwards or forwards to ease the following operation and therefore may look different to that shown in the drawing. The orientation of the sheds is not important prior to fitting as they automatically align themselves after installation.

There are two terminations in this kit (one with three sheds, the other with five). Loosen both in the manner shown opposite. Install the five shedded termination first.

Hold the termination in one hand and the holdout in the other. Gripping firmly, twist the termination and holdout in opposite directions. Repeat twisting the termination and holdout, moving the hand in short increments up the termination until the entire termination is felt to move on the holdout.

Take care not to slide the termination off the end of the holdout.



523ca

9. Installing the termination

Choose the appropriate cable type Choice 1-2 and follow the directions given.

Choice 1

For Jacketed Concentric Neutral Cables

Go to Page 5.

Choice 2

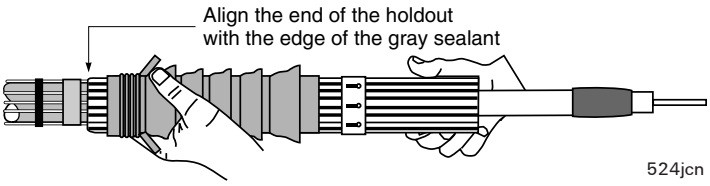
For Unjacketed Concentric Neutral Cables

Go to Page 6.

Choice 1

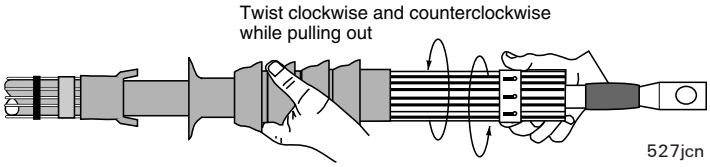
10. Installing the termination for Jacketed Concentric Neutral cables

Install the five shedded termination first. Position the holdout over the cable until it meets the jacket cutback. Twist the termination and slowly push it to the end of the holdout.



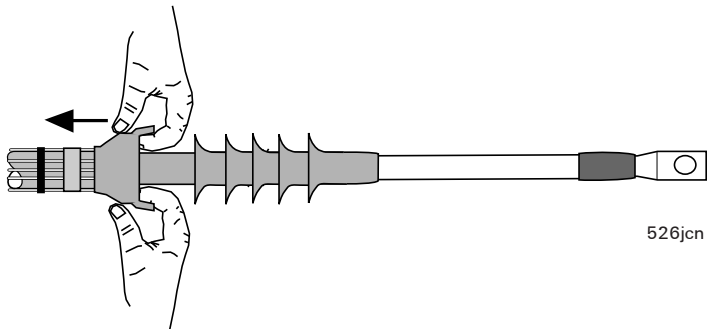
524jcn

Slide the termination completely off the holdout using a twisting and pulling motion as shown.

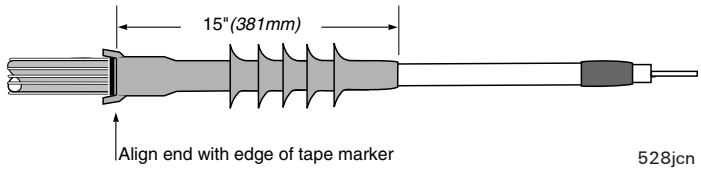


527jcn

Using the pull tabs, pull the flip-back portion away from the main termination, at the same time working the first two fingers of each hand between the flip-back and main termination. Pull the stretched out flip- back over the cable jacket and sealant.


526jcn

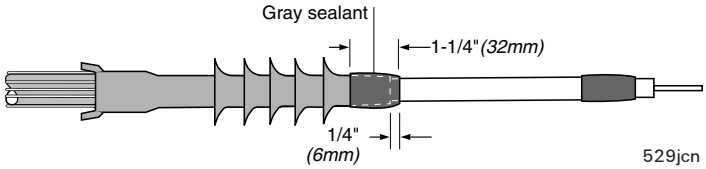
After installation, gently slide the termination so that the end aligns with the edge of the marker tape installed in step 5. Make sure the termination length is in accordance with the dimensions shown.



528jcn

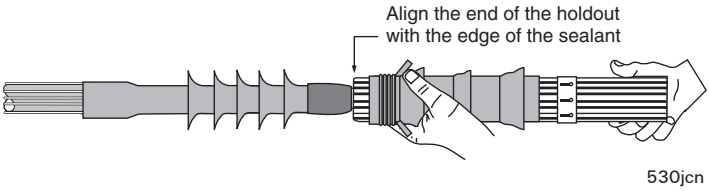
Having positioned the termination, now wrap one layer tape sealant over the end of the termination and 1/4"(6mm) onto the cable insulation as shown.

Remove tape marker.



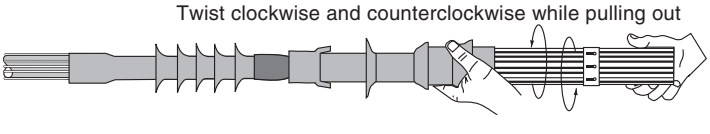
529jcn

Slide the three shedded termination over the cable until it meets the leading edge of the sealant strip as shown. Twist the termination and slowly push it to the end of the holdout.



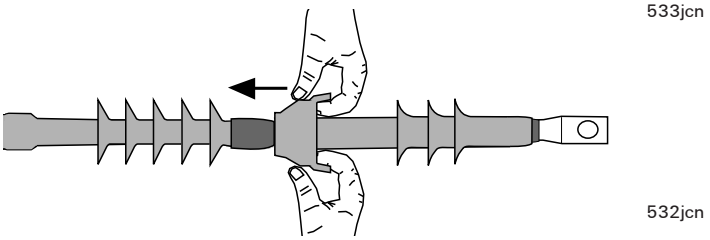
530jcn

Slide the termination completely off the holdout using a twisting and pulling motion as shown.



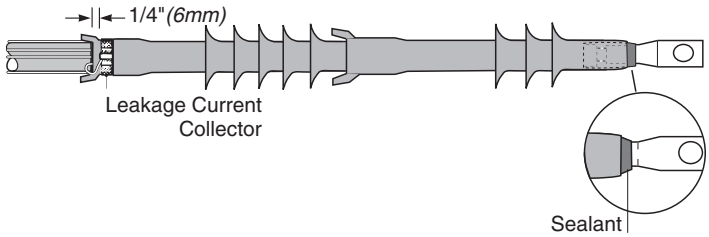
533jcn

Using the pull tabs, pull the flip-back portion away from the main termination, at the same time working the first two fingers of each hand between the flip-back and main termination. Pull the stretched out flip-back over the sealant.


532jcn

11. Complete installation

If necessary, adjust the three shedded termination to overlap the sealant on the lug barrel (see drawing below). Place the leakage current collector 1/4"(6mm) from the end of the termination as shown. Use a shield wire to connect the current collector to ground. Clean the surface of the termination to remove any dirt or grease.



534jcn

Wipe over the surface of the termination to remove any dirt or grease.

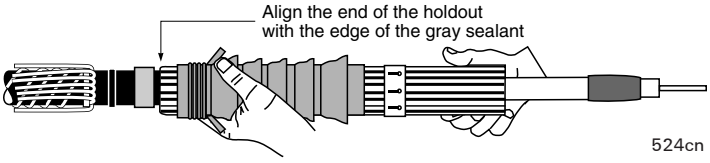
NOTICE *Be sure to position termination at lug end so that there is a bead of sealant exposed as shown.*

This completes the installation for jacketed concentric neutral cables.

Choice 2

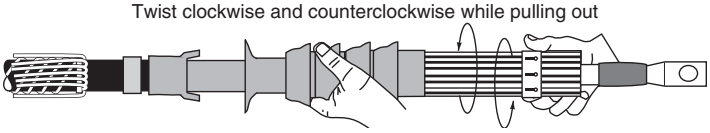
12. Installing the termination for Unjacketed Concentric Neutral cables

Install the five shedded termination first. Position the holdout over the cable until it meets the jacket cutback. Twist the termination and slowly push it to the end of the holdout.



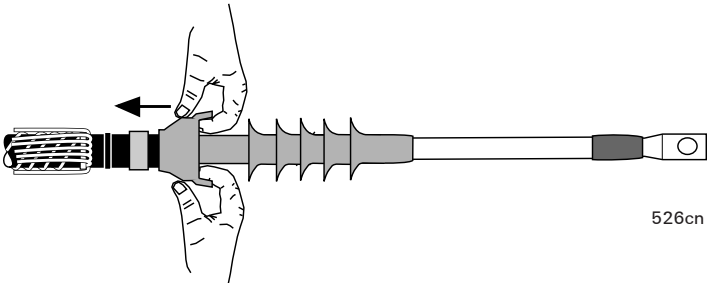
524cn

Slide the termination completely off the holdout using a twisting and pulling motion as shown.

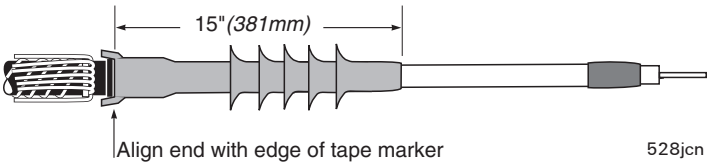


527cn

Using the pull tabs, pull the flip-back portion away from the main termination, at the same time working the first two fingers of each hand between the flip-back and main termination. Pull the stretched out flip- back over the cable jacket and sealant.


526cn

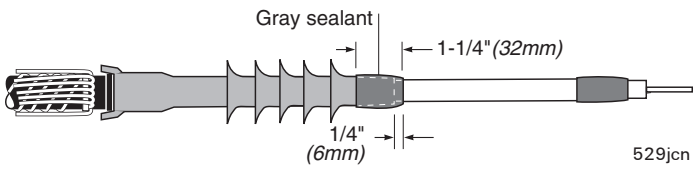
After installation, gently slide the termination so that the end aligns with the edge of the marker tape installed in step 5. Make sure the termination length is in accordance with the dimensions shown.



528jcn

Having positioned the termination, now wrap one layer tape sealant over the end of the termination and 1/4"(6mm) onto the cable insulation as shown.

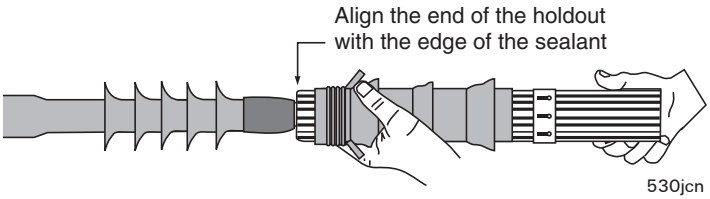
Remove tape marker.



529jcn

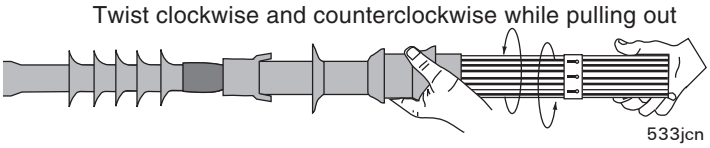
12. Installing the termination for Unjacketed Concentric Neutral cables...continued

Slide the three shedded termination over the cable until it meets the leading edge of the sealant strip as shown. Twist the termination and slowly push it to the end of the holdout.



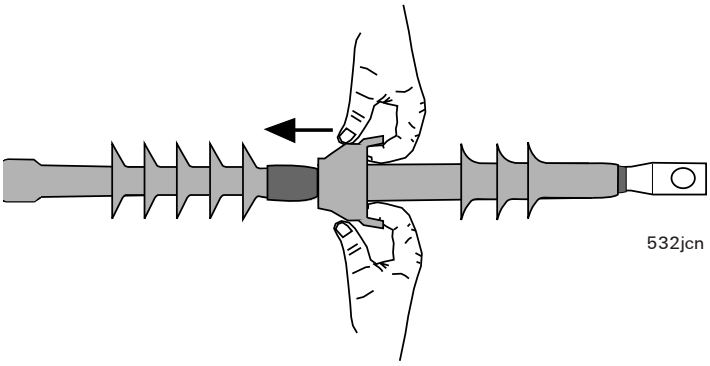
530jcn

Slide the termination completely off the holdout using a twisting and pulling motion as shown.



533jcn

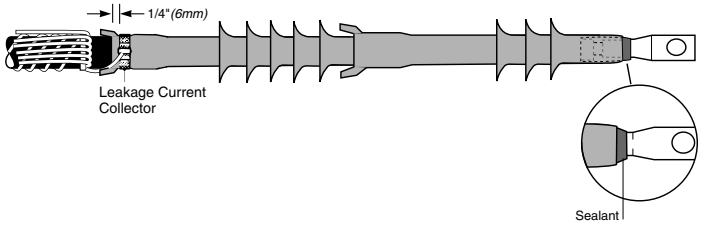
Using the pull tabs, pull the flip-back portion away from the main termination, at the same time working the first two fingers of each hand between the flip-back and main termination. Pull the stretched out flip-back over the sealant.


532jcn

13. Complete installation

If necessary, adjust the three shedded termination to overlap the sealant on the lug barrel (see drawing below). Place the leakage current collector 1/4"(6mm) from the end of the termination as shown. Use a shield wire to connect the current collector to ground. Clean the surface of the termination to remove any dirt or grease.

Wipe over the surface of the termination to remove any dirt or grease.



534cn

NOTICE *Be sure to position termination at lug end so that there is a bead of sealant exposed as shown.*

This completes the installation for unjacketed concentric neutral cables.