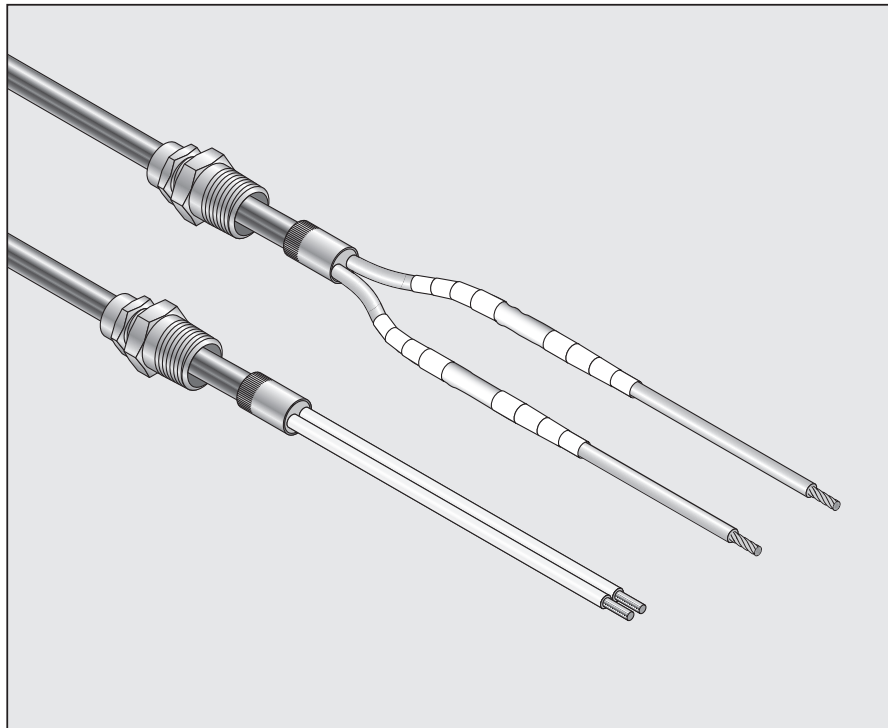


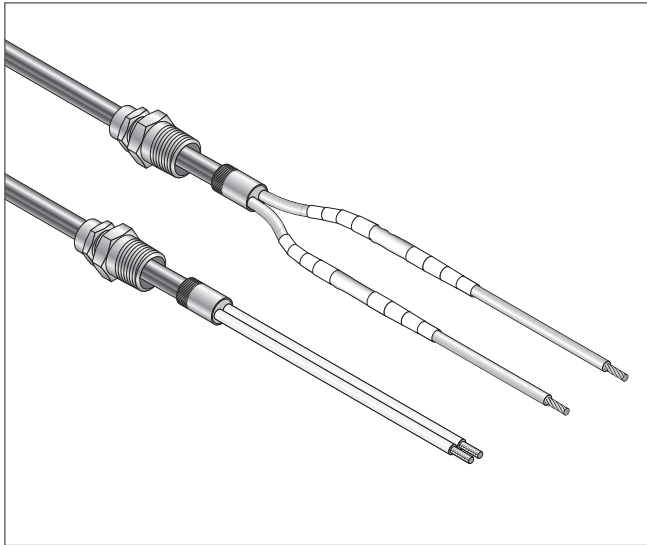


**PYROTENAX**

## Pyropak Termination Kit

Installation Instructions for Fire-Rated Three-Way  
Splice Mineral Insulated (MI) Cable





## DESCRIPTION

This termination kit is used to field terminate copper sheathed nVent PYROTENAX System 1850 MI cables used in a fire-rated three-way splice system. The cable ends must be sealed using the mastic sealing compound prior to assembling the splice itself.

For compliance with NEC (NFPA 70, 2014 edition) article 728.5F, this kit must be installed using System 1850 cables if the intent is to create a 1-hour fire-rated circuit.

The Components supplied with this splice kit must be used to complete the termination. Substituting other materials or components will void the 1-hour fire-rating and approvals.

Refer to installation instruction manual H60149 for details on the fire-rated three-way splice assembly.

## TOOLS REQUIRED

- PYROTENAX Sheathmaster sheath stripping tool for cables up to 3/4 in (1.9 cm) diameter or Ratchet Type stripping tool for cables larger than 3/4 in (1.9 cm) diameter
- Diagonal (side) cutter and tube cutter (if stripping cable sheath as shown in Appendix C)
- PYROTENAX handvise
- PYROTENAX crimping and compression tool for the pot / fiber disk
- Pyropotter tool
- Medium grit Emery Cloth (80 to 180 grit)
- Allen key (see Pyropotter instruction for the size)
- Adjustable pliers / vise grips
- Jumper cable
- Multimeter or continuity tester
- Hacksaw
- Flat file
- Scribe or pick
- Permanent marking pen
- Clean dry cloth or rag
- Tape measure or ruler
- Crimping tool for crimp connectors (See Table 2 for details)
- 500 Vdc megohmmeter
- Safety goggles and gloves
- Oxy-acetylene or mapp gas torch (to dry out cable)
- Flat head screwdriver

## APPROVALS

System 1850 Cables:



Terminations for System 1850 Cables:



### WARNING:

This component is an electrical device that must be installed correctly to ensure proper operation and to prevent shock or fire. Read these important warnings carefully and follow all installation instructions.

- When MI cable is stripped and terminated, sharp metal edges can cause cuts and loose powder can cause eye irritation. To prevent injury, gloves and safety glasses must be worn when carrying out these operations.

### CAUTION:

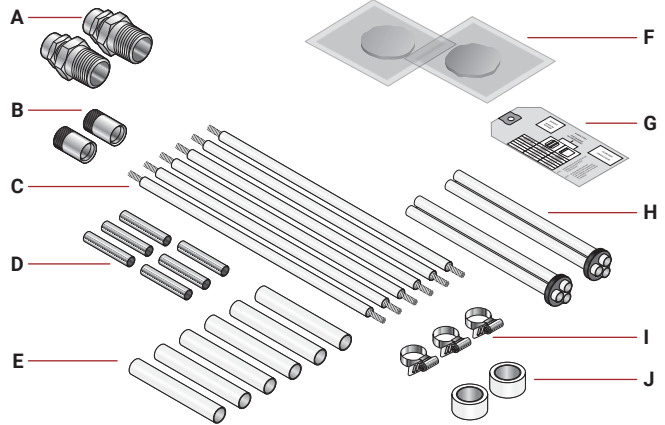
**HEALTH HAZARD.** Consult your nVent representative or call (800) 545-6258 for MSDS safety information regarding the mastic sealing compound.

- Store all splice kit components indoors in a clean, dry area.
- To prevent burns when drying out the cable (Appendix D), allow it to cool until warm to the touch before completing the remaining termination instructions.

**KIT CONTENTS: The Pyropak kit contains sufficient material to terminate both ends of a cable.**

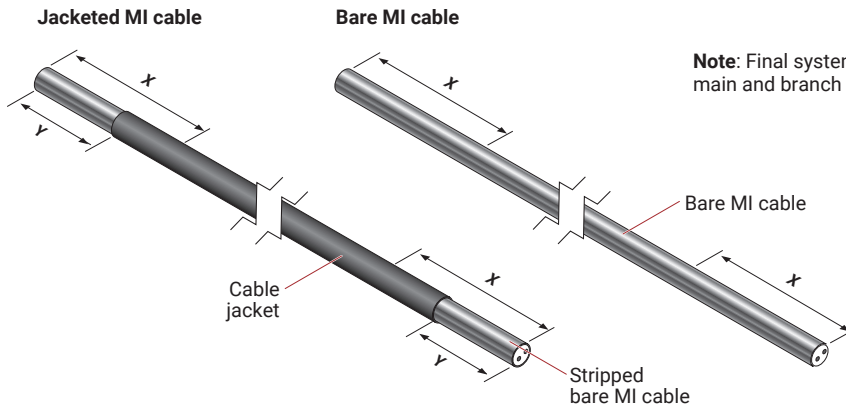
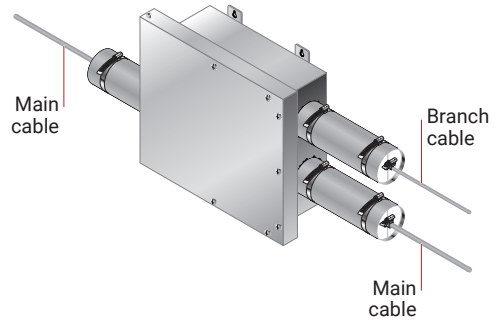
Item	Qty	Description
A	2	Brass gland connectors
B	2	Brass self threading pots
C**	*	Stranded wire with insulating sleeving
D**	*	Crimp connector
E**	*	Insulating sleeving for crimp connector
F	*	Mastic Sealing compound
G	1	Torque tag
H	2	Spacer disk and insulating sleeving assembly
I	3	Collar stop clamp (2x for main power, 1x for branch line)
J**	*	3M glass cloth electrical tape 69

\* Quantity depends on number and size of conductors  
 \*\* For splicing 6 AWG and larger conductors



1

- Ensure that both ends of the MI cable are straight for at least "X" length from the cable end. If the cable has a polymer jacket, also remove "Y" length of the jacket from each end, starting from the cable end. See Table 1 for details.



**Note:** Final system assembly showing the main and branch cable locations

**Table 1: Jacketed Cable Strip Back Length**

Termination Type		X = min straight cable length	Y = length of jacket to be removed
Field Termination	Main cable with 14 AWG to 8 AWG conductors	40 in (102 cm)	34 in (86 cm)
	Main cable with 6 AWG to 1 AWG conductors	40 in (102 cm)	26 in (66 cm)
	Branch cable 14 AWG to 6 AWG	40 in (102 cm)	32 in (81 cm)

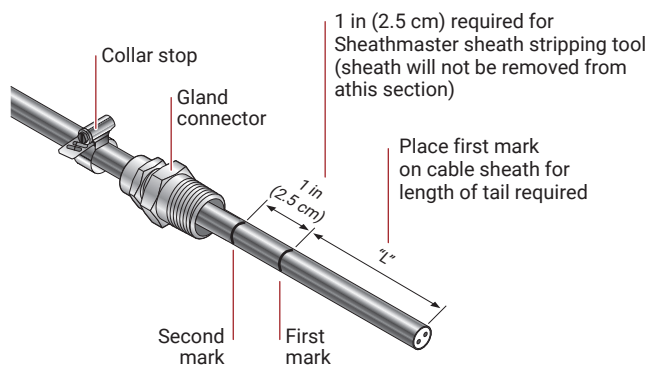
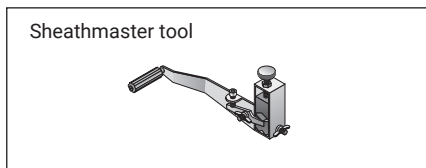
**Important:** The magnesium oxide insulation in mineral insulated cable will absorb moisture when exposed to air for any length of time. It is desirable, therefore, to immediately seal the end of the cable once started. If insulation resistance (IR) tests low, refer to Appendix D.

- With a hacksaw, cut the end of the MI cable square and file end smooth. Remove burrs if necessary.
- Insert the collar stop clamp followed by the gland connector.
- Determine the brass cable gland thread size (3/4 in, 1 in or 1-1/4 in NPT). Locate the corresponding strip-back length in Table 2 and mark the MI cable sheath at length "L" shown in the table. This is the length of sheath to remove.
- If using the Sheathmaster sheath stripping tool, place a second mark 1 in (2.5 cm) behind this first mark as shown. If using the Ratchet Type stripping tool, place the second mark 1-1/2 in (3.8 cm) behind the first mark. The sheath will only be stripped back to the first mark exposing the solid conductor. The second mark from the end is used to

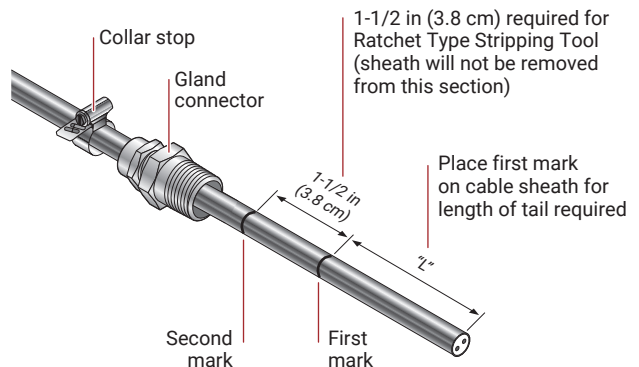
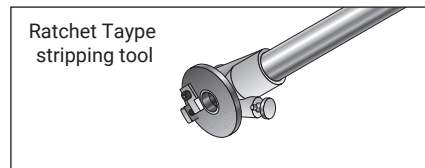
position the handvise for final stripping.

- For details on using the Sheathmaster tool, refer to instruction H59039 supplied with the tool; for the Ratchet Type tool, refer to instruction H57842. An alternate method of stripping the cable sheath using a tubing cutter and side cutters is shown in Appendix C.

**Using Sheathmaster sheath stripping tool**



**Using Ratchet Type stripping tool**

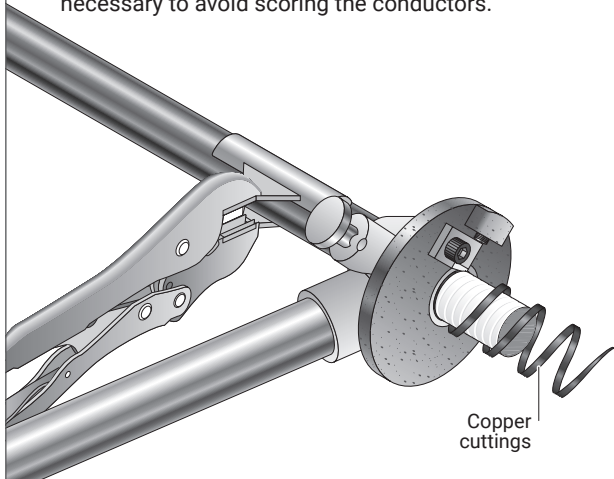


**Table 2: Strip-Back Length, Tolerance ± 1/8 in (3 mm)**

Brass Gland Size (NPT)	Strip Back Length "L" (Main cable in & Main Cable out with 14 AWG to 8 AWG conductors)	Strip Back Length "L" (Main cable in & Main Cable out with 6 to 1 AWG conductors)	Strip Back Length "L" (Branch cable)
3/4 in	13 in (33 cm)	4 in (10 cm)	13 in (33 cm)
1 in	13 in (33 cm)	4 in (10 cm)	13 in (33 cm)
1-1/4 in	13 in (33 cm)	4 in (10 cm)	13 in (33 cm)

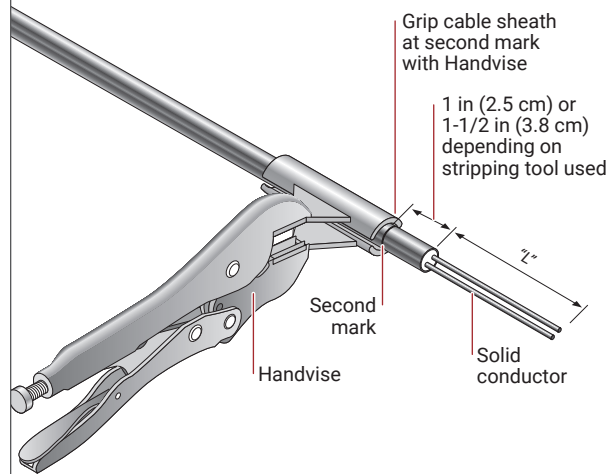
3

- Instructions' Steps 3 through 26, apply to terminating both ends of the MI cable. Always complete the termination on one side before beginning the other.
- Grip the cable with the Handvise
- Using the sheath stripping tool (Ratchet Type tool shown), begin stripping the copper sheath back towards the first mark.
- After the first 1/2 in (13 mm) of the outer sheath has been removed, make sure that the blade did not cut into the inner conductors. Adjust the blade depth if necessary to avoid scoring the conductors.



4

- For final stripping, grip the cable with the Handvise at the second mark. When the stripping tool touches the edge of the Handvise, it will stop and make a clean cut on the cable sheath at the first mark. At this point, the correct length "L" of solid conductor will have been exposed.



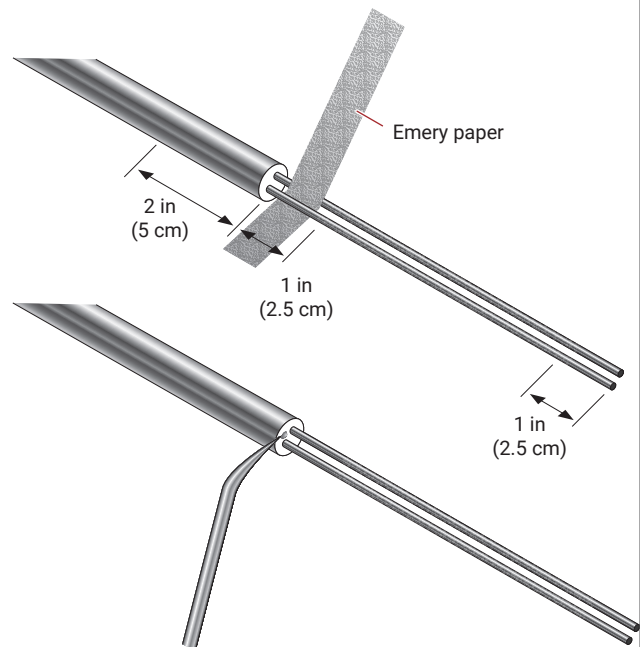
5

- Straighten the conductors and ensure that the conductors are evenly spaced.
- Clean the conductors with a clean, dry rag or cloth to remove loose powder from the conductors. Next, polish all around entire length of solid conductors, where shown, and 2 in (5 cm) of sheath behind the conductors with emery paper to achieve a clean surface.
- Visually inspect the magnesium oxide insulation at the face of the cable for traces of copper filings and burrs and if present, gently remove with a pick.

**Note:** If using a pick to remove copper filings from the face of the cable, do not remove more powder from the face of the cable than is necessary.

**Note:** Do not blow out copper filings that may be present in the MgO powder as this can introduce moisture into the end of the cable, resulting in decreased insulation resistance.

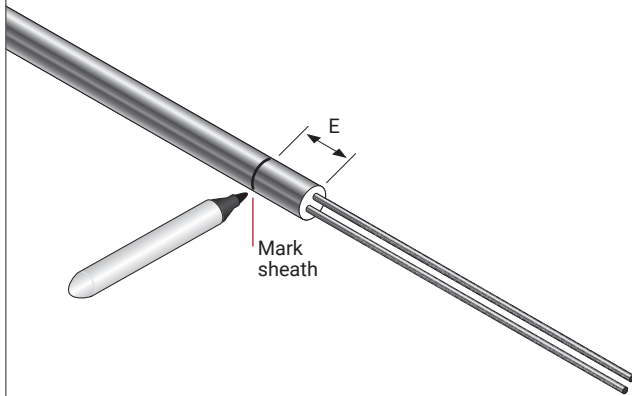
**Note:** Only polish the cable sheath; do not sand excessively as reducing the sheath thickness will prevent the self threading pot from grabbing onto the cable.



6

- Place a mark at a length "E" (refer to table below) from end of cable.

Pot (Gland) Size	Length "E" to mark
3/4 in (19 mm)	7/16 in (11 mm)
1 in (25 mm)	9/16 in (14 mm)
1-1/4 in (32 mm)	5/8 in (16 mm)

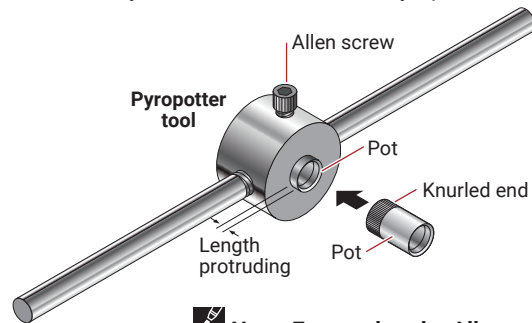


7

- Place the self-threading pot into the non-threaded end of the Pyropotter tool with the larger hole of the pot facing outwards and protruding past the end of the tool by the length shown in the table. Refer to Pyropotter tool instruction H59038 for details on using the tool.

Pyropotter Size	Length of pot protruding
3/4 in (19 mm)	3/8 in (9.5 mm)
1 in (25 mm)	3/8 in (9.5 mm)
1-1/4 in (32 mm)	5/8 in (16 mm)

- Next, tighten the Allen screw on to the pot. Use a 3/16 in Allen key for the 3/4 in Pyropotter tool and a 5/16 in Allen key for the 1 in and 1-1/4 in Pyropotter tool.

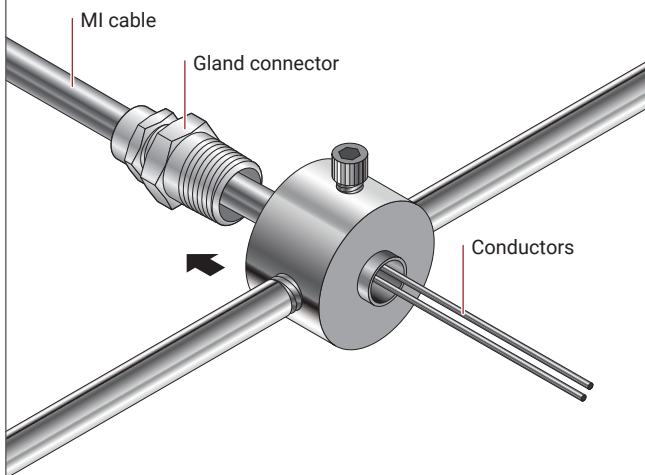


**Note:** Ensure that the Allen screw is tightened onto the knurled end of the pot.

8

- Slide the assembly over the exposed conductors, threaded end of Pyropotter first, until it stops at the face of the cable.
- Screw the gland connector (already on the cable) all the way into the threaded end of the Pyropotter tool; finger-tight is sufficient.

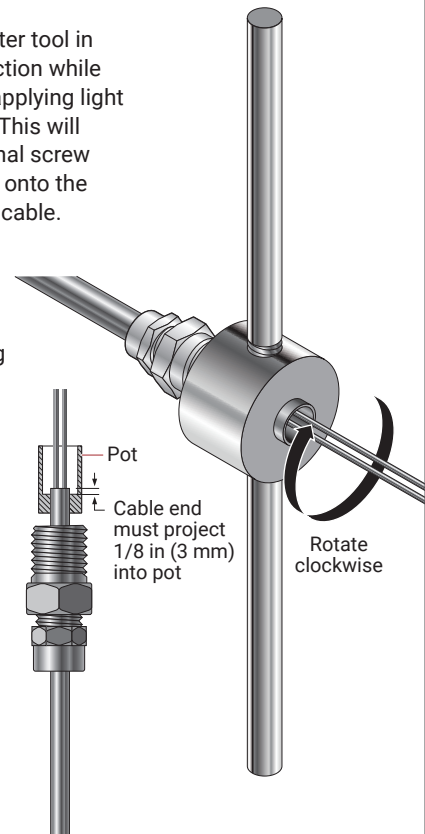
**Note:** This step perfectly aligns the pot with the cable.



9

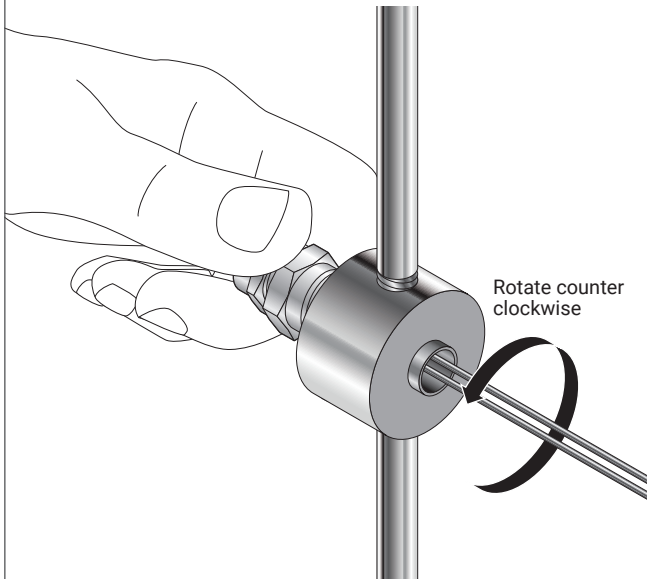
- Turn the Pyropotter tool in a clockwise direction while simultaneously applying light pressure axially. This will engage the internal screw thread of the pot onto the sheath of the MI cable.

- Continue rotating the assembly until the end of the copper sheath projects 1/8 inch (3 mm) inside the pot.



10

- To remove the tool, hold the gland connector firmly in one hand and rotate the tool in a counter-clockwise direction. This unlocks the Pyropotter tool from the gland/pot assembly and permits the easy removal of the tool from the cable.



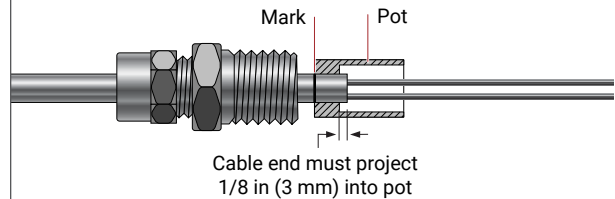
11

- Verify that the back of the pot aligns with the mark made on the copper sheath in Step 6. If the pot is behind the mark on the cable, vise grips may be used to screw the pot to the mark.

**Important:** Cable end must project 1/8 in (3 mm) into pot in order to make an effective seal.

- Check inside of the pot for loose filings and remove them with a small tool or a pick. Do not remove more powder than is necessary.

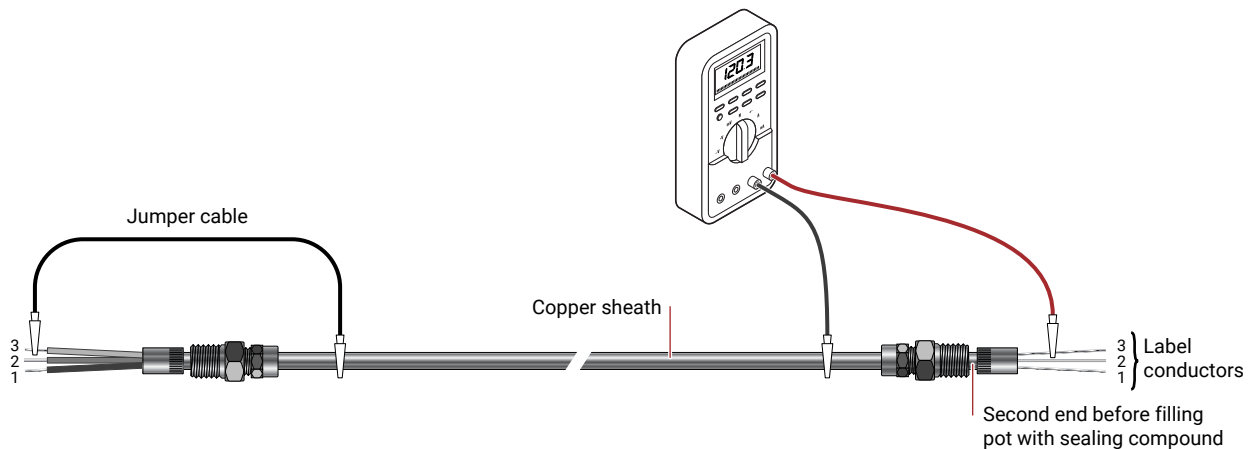
**Note:** Do not blow out copper filings (in the MgO or in the pot) as it can introduce moisture into the end of the cable, resulting in decreased insulation resistance. A bulb syringe may be used instead.



12

- When terminating first end of a multiconductor cable, proceed to Step 13. When terminating the second end of a multiconductor cable, you must first test the end-to-end continuity of the conductors with a continuity tester or multimeter to ensure that each conductor will be terminated with the same marker and/or color/number at both ends. The procedure to identify matching conductors at the cable ends is shown in Appendix B.

**Important:** Small ~ 0.2 in x 0.2 in (5 mm x 5 mm) vinyl cloth wire markers may be used to identify conductors. Do not use any other type of wire markers.



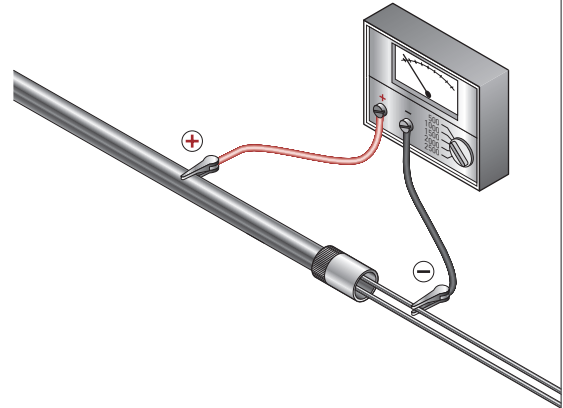
13

- Using a 500-Vdc megohmmeter, check the insulation resistance (IR) of the cable to ensure it is free of grounds and shorts. Check IR between conductor(s) and sheath, and between each pair of conductors. See Appendix A for detailed test procedure and IR test criteria.

**Note:** Low IR results indicate that moisture is present in the end of the MI cable and must be removed before termination. If neither cable end has yet been terminated and IR readings are low, dry out both ends following the procedure in Appendix D or cut of shorted end and retest. Once IR readings are satisfactory, continue to the next step.

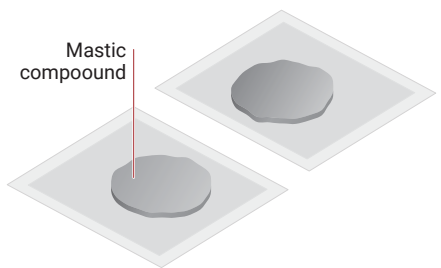
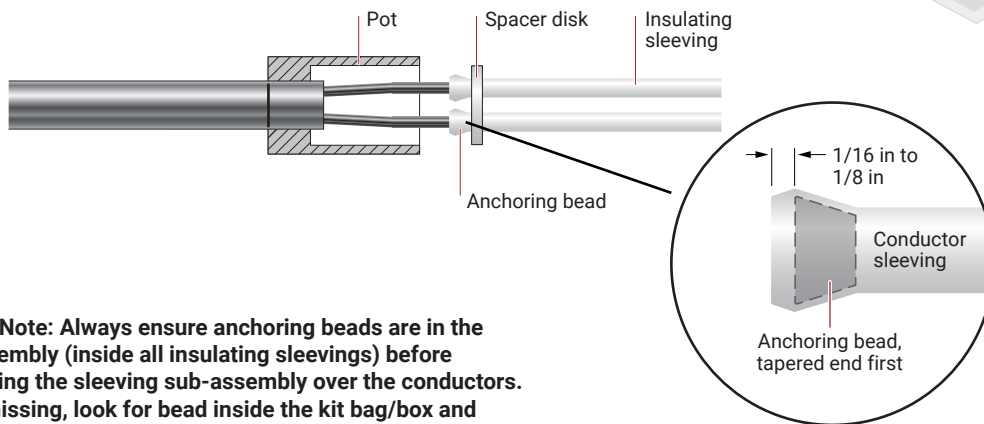
**Note:** Opposite end of cable must also be dry and free of grounds and shorts to obtain an acceptable IR reading.

- If moisture was removed from the end of the cable using the procedure in Appendix D, allow the cable to cool until warm to the touch and continue with the steps to seal the end of the cable.
- Once IR readings are satisfactory, immediately apply the mastic sealing compound as described in the steps following. A delay will cause the IR to drop and the cable must be retested prior to sealing the end.



14

- Slide spacer disk and insulating sleeving sub-assembly over conductors, anchoring bead end first.
- Complete the following steps immediately to ensure that the end is properly sealed with mastic compound.




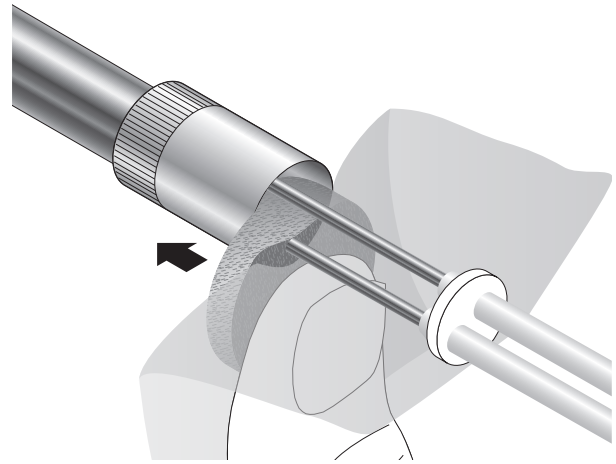
**Note:** Always ensure anchoring beads are in the assembly (inside all insulating sleeveings) before sliding the sleeving sub-assembly over the conductors. If missing, look for bead inside the kit bag/box and re-insert the bead into the sleeving, tapered end first. Push the bead in so that it is entirely covered by the sleeving but is not pushed beyond 1/16 in to 1/8 in past the sleeving end.



15

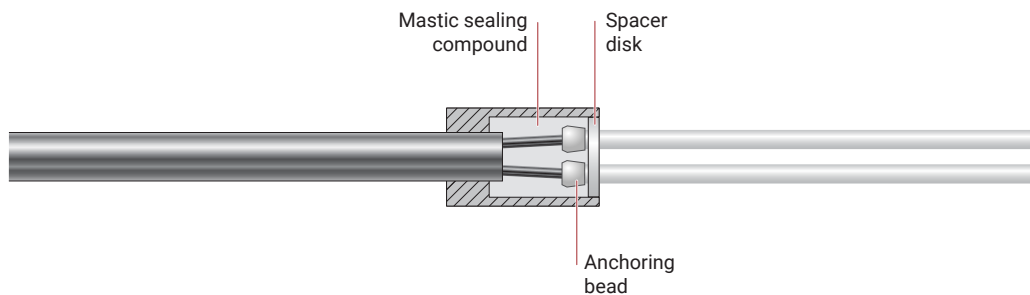
- Withdraw spacer disk and sleeving sub-assembly slightly to allow sealing compound to be packed into the pot.
- Ensure conductors are spaced an equal distance apart from each other and the inside of the pot.
- The pot should still be warm following the drying out procedure, if not, heat the cable and then the pot with the torch until just warm to the touch before filling with mastic sealing compound.
- Open the mastic compound package on three sides. Do not allow compound to become contaminated with any foreign matter once package is opened. Press mastic sealing compound into pot with thumb behind the wrapper to ensure cleanliness, pressing from one side only to prevent air pockets.
- Continue filling the pot until the Mastic sealing compound comes out the opposite side of the pot and the pot is slightly overfilled.

 **Note:** Store mastic sealing compound at room temperature or an inside shirt pocket until ready to use. Mastic compound may be installed as low as 14°F (-10°C) providing compound is kept warm prior to use.



16

- Using a screwdriver or other tool, push spacer disk into open end of the pot. Pull gently on the sleeving to ensure the anchoring beads are snug against inside face of the spacer disk. Do not push on the sleeving as it may be forced back through the cap and butt against the end of the cable, preventing the compound from making an effective seal.

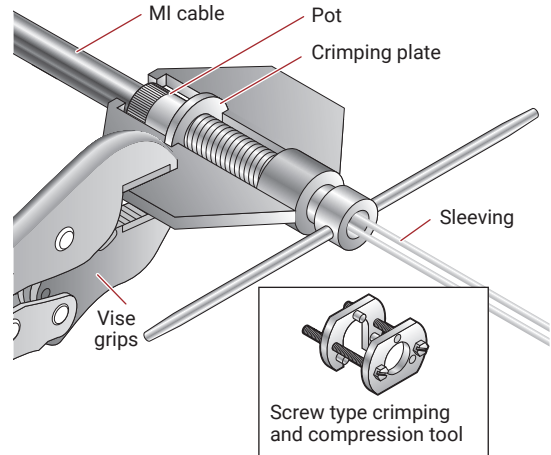


- Place the pot into the body of the crimping and compression tool (hand adjustable type shown) making sure that the sleeving is inserted through the center of the MI crimping tool. The end of the pot with the spacer disk must fit inside the three cone shaped points on the crimping plate of the MI Crimp tool.

**Note:** Hold the tool firmly, with vise grips if needed, to prevent the tool from turning the pot.

- Apply even pressure on the spacer disk by tightening the tool until the spacer disk is snugly seated inside the opening of the pot and the cone-shaped points have crimped the side of the pot. This will retain the spacer disk in position.

**Note:** It is normal for the mastic sealing compound to squeeze out the side of the pot as pressure is applied with the crimping and compression tool.

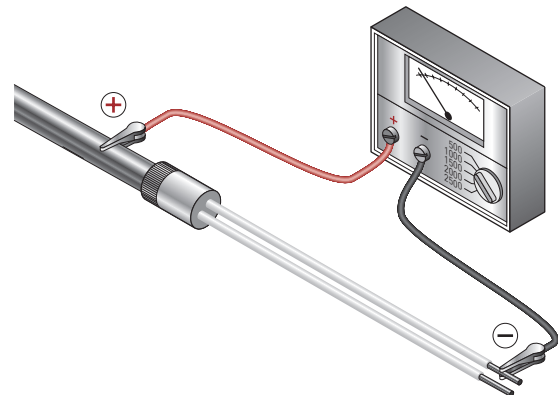


On completion of the termination, check the IR again with the 500-Vdc megohmmeter (see Appendix A).

**Note:** Under adverse weather conditions, IR readings may be lower than the values shown in Appendix A.

- If terminating a 14 AWG to 8 AWG main cable or if terminating a 14 AWG to 6 AWG branch cable, the termination is now complete. If the other end of the cable has not yet been terminated, complete the termination following the same procedure and continue with Step 21 (skipping Steps 19 & 20).
- If terminating a 6 AWG to 1 AWG main cable, continue with Step 19.


**Note:** Due to the geometry of the wiring inside the enclosure, the branch cable termination cannot accommodate a crimped stranded tail as there is not enough space between the branch cable entry and the branch circuit fuse holders.




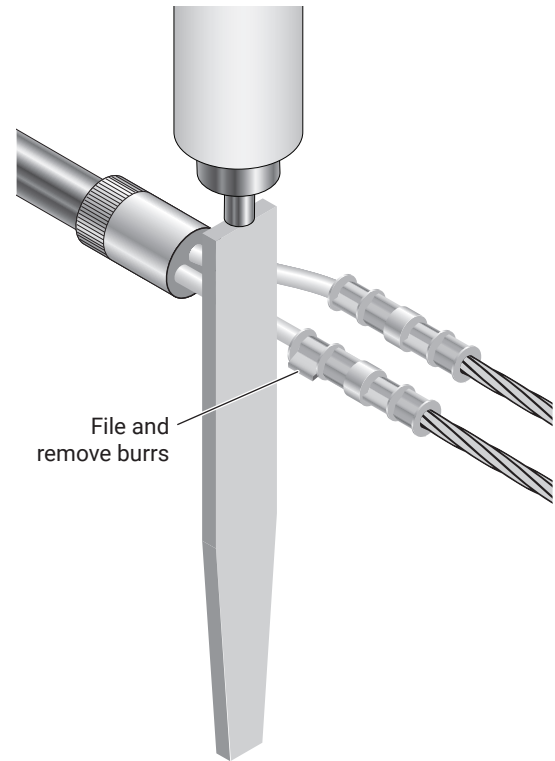
## 19 (6 AWG to 1 AWG main cable - Main Power Line only)

- For 6 AWG to 1 AWG main cable, the conductors need to be trimmed to 2.5 in (6.4 cm) long, measured from the top of the cap. Next, strip back the necessary sleeving to expose the bare conductor; remove just enough sleeving so that the conductor fits to the center-stop of the crimp connector.
- Clean the bare conductor ends with emery cloth to make good electrical connections. Place crimp connector over bare conductor of one end ensuring end of conductor goes all the way to the center stop of the crimp connector.
- Using approved die type hydraulic compression tool or hand tool as appropriate (see Table 3), with the correct die color code, crimp connector on to the solid conductor using 1 or 2 crimps per end as indicated in Table 3 for the specific conductor size.
- Repeat the above bulleted instruction and crimp the provided stranded wire (other end of the crimp).
- Repeat the two bulleted instructions above for the other conductors until all have a crimped stranded tail.

 **Important:** Where multiple crimps per end are required, make the outside crimp first.

 **Important:** Inspect the crimp connector for any burrs or sharp edges, and remove them with a flat file (or for smaller cables, using side-cutters).


 **Note:** Only 6 AWG to 1 AWG main power cables require the conductor trimming so that a more flexible wire (stranded) can be attached to the solid MI conductor. This will make the connections into the terminals easier.



**Table 3: Crimp Connector Die Selection**

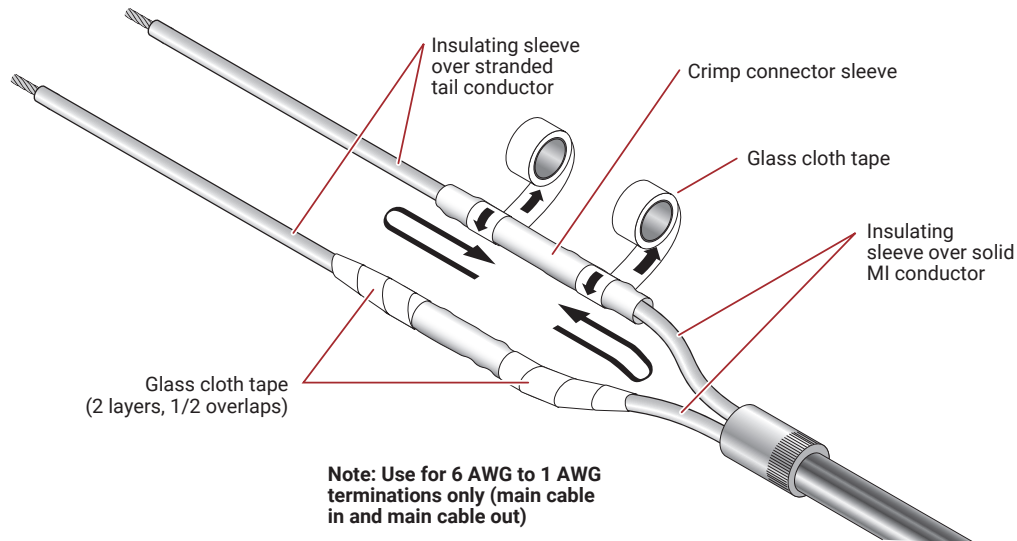
Conductor Size AWG/kcmil	ILSCO Die Color Code	ILSCO Hex Die Index	Manufacturer Part No.	No. of Crimps per End	Tool Required (or equivalent)
6	Blue	—	CT-6	2	ILC-10-N
4	Gray	—	CT-4	2	ILC-10-N
3	Gray	—	CT-3	2	ILC-10-N
2	Brown	—	CT-2	2	ILC-10-N
1	Green	4	A8140	2	ILC-12-N

 **Note:** Only ILSCO hex dies are to be used where die is specified. Failing to do so will void the connector approval and could result in splice failure.

 **Note:** Connector must be crimped using tools as listed in the table above. Other equivalent tools may be used provided that they can accept the required ILSCO dies. For 1 AWG conductor size, the following approved ILSCO die type tools may also be used: ILC-12, ILC-12H, ILC-12H-N, ILC-14, or ILC-14H.

## 20 (for 6 AWG and Larger Conductors - Main Power Line only)

- Slide the stranded wire insulating sleeve over the stranded wire until it touches the crimp connector but does not cover it.
  - Slide the crimp connector sleeve (short piece of insulating sleeving) over the crimp connector and center it over the connector; there should be 1/4 in to 1/2 in (6 mm to 12 mm) overlap with the conductor sleeving on either side.
  - Each end of the crimp connector sleeve is to be taped to the conductor insulating sleeve (solid MI conductor insulating sleeve on one side and stranded tail insulating sleeve on the other side). A minimum of two layers of tape is to be
- applied at either end of the crimp, using half overlaps. Tape the stranded conductor entry first starting from the crimp connector, moving to the conductor insulating sleeve and back to the crimp connector as shown on the illustration. Repeat to seal the solid MI conductor side.
- Repeat the above steps for all the remaining conductors
  - If the other end of the cable has not yet been terminated, complete the termination following the same procedure.



## 21

- 
- The diagram shows two types of terminations for a completed MI cable unit. Label 1 points to a 'Stripped back solid conductor termination (14 AWG to 8 AWG main; 14 AWG to 6 AWG branch)'. Label 2 points to a 'Crimped stranded conductor termination (6 AWG to 1 AWG main)'.
- 1 This illustration shows the completed MI cable unit with stripped back solid conductor terminations for 14 AWG to 8 AWG main cable or 14 AWG to 6 AWG branch cable.
  - 2 This illustration shows the completed MI cable unit with crimped stranded conductor terminations for 6 AWG to 1 AWG main cable.
- The cable is now ready to be installed in the fire-rated three-way splice system. See installation manual H60149 for splice installation details.

## Appendix A: Insulation Resistance (IR) Test

### Test Equipment

- 500-Vdc Megohmmeter

### IR Testing

• IR testing is conducted using a megohmmeter and tests the integrity of the cable between the conductor and the copper sheath and between conductor pairs.

### Test Criteria

- When received:
- Check cable on reel. Note that ends may need to be prepared to allow insulation resistance (IR) readings to be taken. IR readings must not be less than 200 M $\Omega$  under any conditions.
- After installing termination kit:
- In a warm, dry environment, IR readings should be 200 M $\Omega$  or higher.
- In an outdoor environment or indoors in wet or humid conditions, IR readings should all be above 100 M $\Omega$ .
- Similar cables exposed to similar conditions should all have IR readings in the same general range. Where a large difference in readings is encountered, high readings can be accepted; low readings (below 100 M $\Omega$ ) should be checked as described below.

**Note:** Under some installation conditions it may not be possible to obtain IR readings above 100 M $\Omega$ . If IR readings are between 25 M $\Omega$  and 100 M $\Omega$ , wait 24 hours and recheck the IR using the same equipment. If the IR reading has not decreased, the termination is good - a constant low IR reading can result from moisture entrained in the cable while making a good seal; this moisture will not increase. If the IR reading has decreased, the cable must be re-terminated - a low IR reading can result from a poorly made seal which will allow continuing moisture ingress, requiring that the termination be redone.

If the IR reading is less than 25 M $\Omega$ , the cable must be re-terminated following the "drying out" procedure in Appendix D.

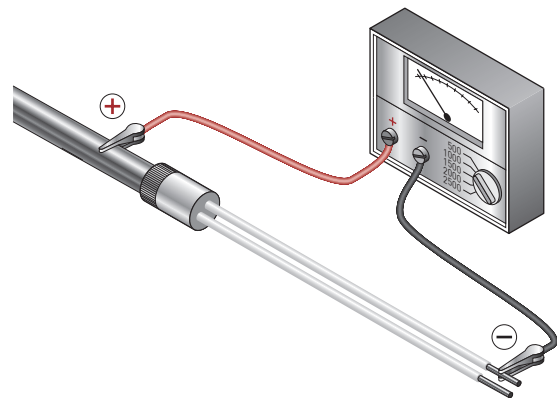
### Test Procedure

1. Set megohmmeter test voltage at 0 Vdc or off.
2. Connect the positive (+) (earth) lead to the cable sheath.
3. Connect the negative (-) (line) lead to the conductor.
4. Turn on the megohmmeter and set the voltage to 500 Vdc; apply the voltage for one minute. Meter needle should stop moving. Rapid deflection indicates a short. Note the insulation resistance value. It should correspond to the values shown under Test Criteria.
5. Turn off the megohmmeter.

**WARNING: Shock Hazard.** The MI cable can store a large electrical charge after the insulation resistance test is performed. To prevent personal injury from electrical shock, fully discharge the cable prior to disconnecting the megohmmeter. Many meters will discharge automatically. However, it may be necessary to short the cable leads. Contact your supervisor or the instrument manufacturer to verify the safest practice.

6. If the megohmmeter does not self-discharge, discharge phase connection to ground with a suitable grounding rod. Disconnect the megohmmeter.

**Note:** Depending on the type of cable being tested, you will need to repeat the steps in this procedure for each of the conductors present in the MI cable. Also repeat testing for all conductor pair combinations (i.e. connect the leads from the megohmmeter to each conductor pair). If IR readings are low, follow the drying out procedure in Appendix D.

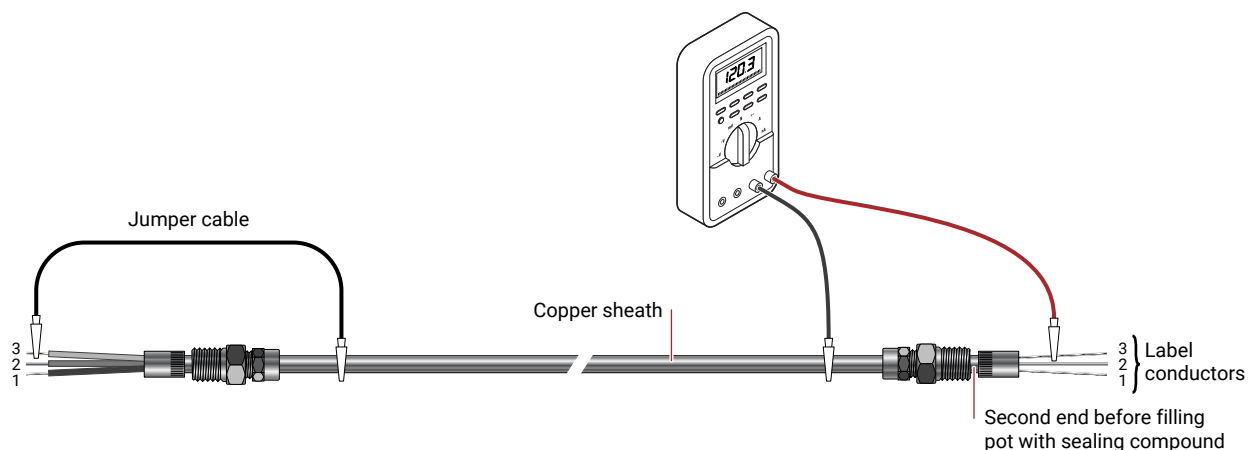


## Appendix B: Identifying Conductors

**Note:** If one end of the cable has been terminated, the conductors should be rung out with a continuity tester (or multimeter) to ensure that each conductor has the same colored sleeving at both ends.

1. Start with the end of MI cable which has just been terminated. Connect one end of a jumper cable to one of the conductors and the other end to the outer copper sheath of the cable (see Figure 1). Alternately, electrical tape may be used to connect the conductor to the cable sheath.
2. Ensure that the test leads are placed into the correct terminals on the multimeter; the black test lead connects into the common or black terminal and the red test lead into volts/ohms terminal.
3. Turn the multi-meter on. If your multi-meter does not automatically change settings, set it to the lowest "Ohms" setting.
4. On the other end of the MI cable which has not been sealed, clip the black lead to the outer copper sheath of the MI cable. Now, alternately touch the red lead from the multi-meter to each conductor.
5. When you touch the matching conductor (i.e. the conductor shorted to the sheath on the other end), the multimeter will indicate a low "Ohms" reading. The resistance of all other conductors should show infinity or "OL" (overlimit).
  - Label the conductor on both ends to identify them when making the second termination using high temperature wire markers. This is necessary so that each conductor is terminated with the same colored sleeving on both ends.
6. Repeat the above procedure to identify all of the conductors in the MI cable (i.e. move the jumper cable to the next conductor and repeat the procedure to identify the same conductor on the other end).

**Important:** Small ~ 0.2 in x 0.2 in (5 mm x 5 mm) vinyl cloth wire markers may be used to identify conductors. Do not use any other type of wire markers.

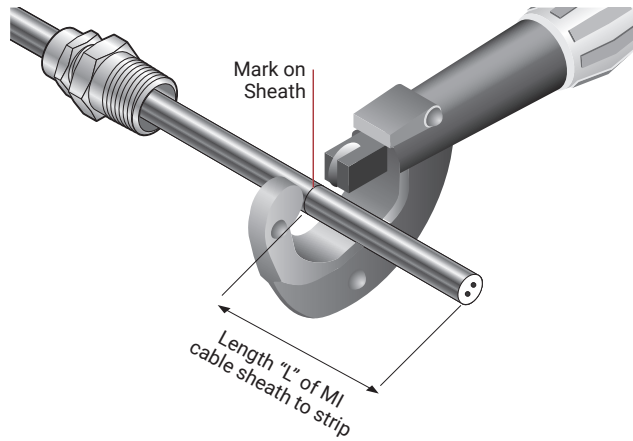


## Appendix C: Stripping PYROTENAX Copper Sheath MI Cable

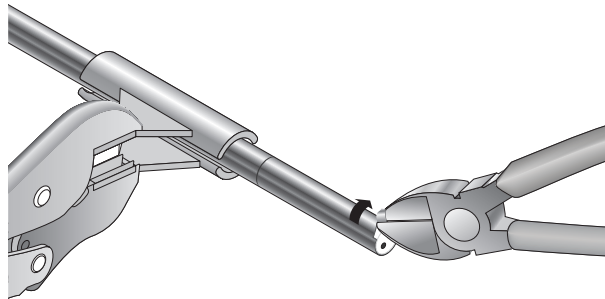
### Using diagonal cutters

Measure, from cable end, length of cable sheath to strip and mark sheath with marking pen. Use a tube cutter to score around the sheath at the mark. This will cause the sheath to peel away at the score providing a smooth end when the sheath is stripped. The correct depth of score is half the thickness of the sheath.

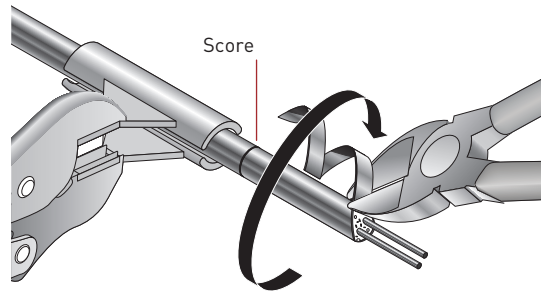
Do not cut completely through the cable sheath as this will cause the sheath to curve inwards toward the conductor(s).



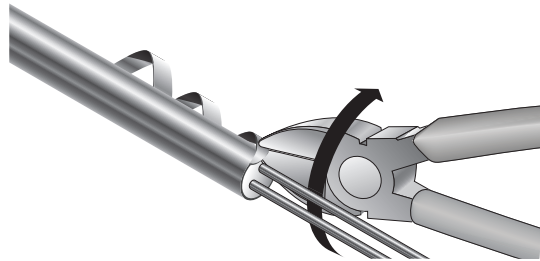
Hold the cable with the handvice behind the score on the sheath. Grip the edge of the sheath between the jaws of the side cutters and twist clockwise (twist counter-clockwise if left-handed), then take a new grip and rotate through a small angle.



Continue this motion in a series of short "rips", keeping the side cutters at about 45° to the line of the cable, removing sheath spirally. Remove compacted powder insulation to expose conductors.



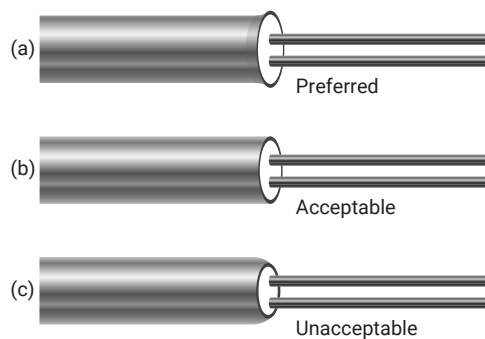
Continue removing the sheath to the score mark. When about to break into the score, bring side cutters to right angle with cable. Finish off with point of side cutters held parallel to the cable. The sheath will peel away leaving a clean cut when the score mark is reached.



The cable sheath is correctly stripped, with the sheath flared slightly outwards, as shown in (a).


In (b) the sheath is neither flared outwards nor beveled inwards, but is acceptable.


Ensure that the sheath is not curved or beveled inward as shown in (c). This will occur if the score made with the tube cutter is too deep. In this case, remove a further 1/4 in (6 mm) of sheath. Cable is now ready to be sealed.



## Appendix D: Improving Insulation Resistance

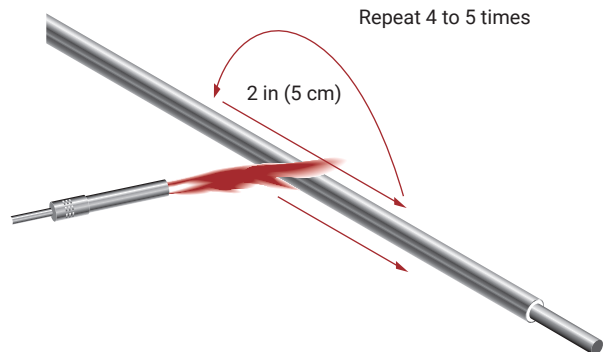
- To maintain the high performance of MI cable, the cable must be properly stored and the ends must remain sealed.
- Damaged terminations or heat-shrinkable end caps that are damaged, missing, or removed will cause the magnesium oxide insulation (white powder) to absorb moisture, resulting in low IR readings. The cable must be "heated out" to remove the moisture and bring the IR back to an acceptable level. Drying out the MI cable to remove any moisture will normally be unnecessary providing the termination seal is completed within a few minutes of removing the sheath.
- If moisture is found in the cable when checking IR, it may be removed using one of the following methods:
  1. If excess cable is available, 6 to 12 in (15 to 30 cm) of cable may be removed from the end before sealing the cable.
  2. Apply heat to the cable following the procedure below.

 **Note: Moisture will not normally penetrate more than 12 in (30 cm) into the cable.**

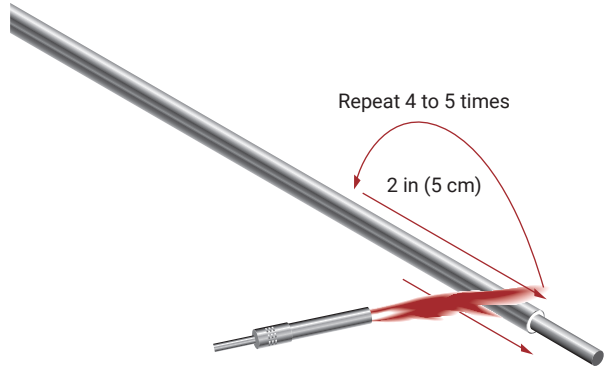
 **Note: Use heat resistant gloves and eye protection when heating the cable.**

- If moisture is detected in the cable, use an oxyacetylene or mapp gas torch with a large flame and "heat out" the cable beginning 12 in (30 cm) back from the end. Gradually move the flame toward and past the cable end. PYROTENAX copper sheath cables should be heated to a bluish-gray color. Take care not to overheat any one area of the cable sheath as this could damage the cable.
- Use a short sweeping motion of the torch and heat about 2 in (5 cm) of cable at a time, repeating 4 to 5 times.

- Move the flame towards the cable end as shown. Do not sweep the flame in the opposite direction as this will drive the moisture back into the cable.



- Gradually move the flame toward the end while maintaining the short sweeping motion of the torch. If you heat toward the cable end too quickly you may skip over the moisture and drive it further back into the cable.



- It may be necessary to repeat the above procedure several times to completely remove all moisture from the cable. Allow the cable to cool before repeating.

### NORTH AMERICA

Tel: +1.800.545.6258  
Fax: +1.800.527.5703  
Tel: +1.650.216.1526  
Fax: +1.650.474.7711  
thermal.info@nvent.com



[nVent.com/PYROTENAX](http://nVent.com/PYROTENAX)

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