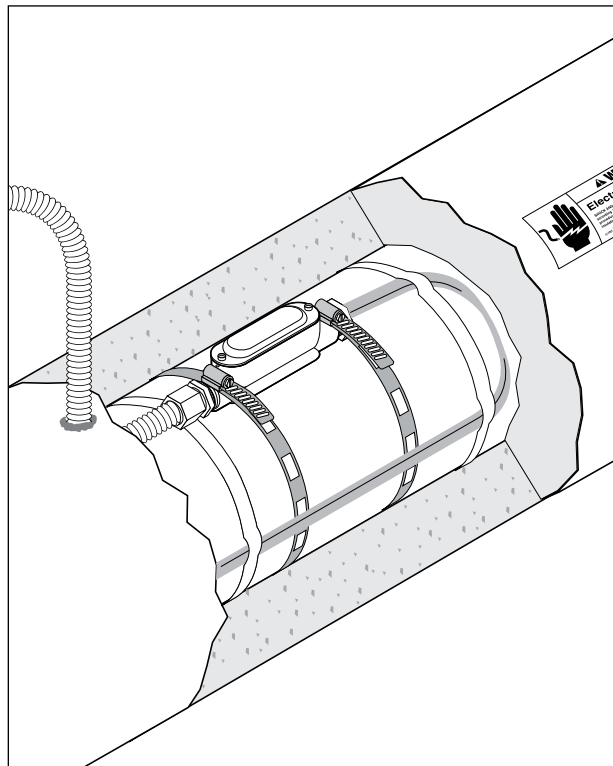
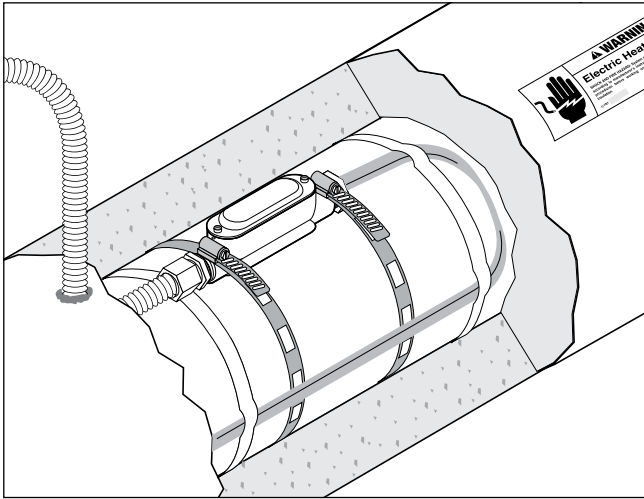


3SC-12PT

Power connection kit installation instructions





APPROVALS

Hazardous Locations



Class I, Div. 2, Groups B, C, D
Class II, Div. 2, Groups F, G
Class III



Class I, Div. 2, Groups A, B, C, D
Class II, Div. 2, Groups F, G
Class III

For T-Rating, see design documentation

DESCRIPTION

The Raychem 3SC-12PT is a NEMA 4 rated power connection kit designed for use with Raychem 3SC30, 40, 50 (-CT), 3SC/H30, 40, 50 (-CT) and 3SC/F30, 40, 50 (-CR) series heating cables in hazardous locations.

This kit may be installed at temperatures as low as -40°F (-40°C).

For technical support, call Chemelex at (800) 545-6258.

TOOLS REQUIRED

- Utility knife
- Wire strippers
- Disposable towel or rag
- Adjustable wrench
- Solder tool or torch (with small tip)
- Thomas & Betts WT2000 crimp tool or equivalent (P/N 273435-000) Crimp tools can be ordered from Chemelex.
- Diagonal cutters
- $\frac{1}{4}$ in. hex key
- Slotted screwdriver

ADDITIONAL MATERIALS REQUIRED

- Glass cloth tape:
 - GT-66 for installation temperature above 40°F (4°C)
 - GS-54 for installation temperature above -40°F (-40°C)
- Agency approved junction box suitable for the area classification
- Circuit identification tag (P/N P000000311)

⚠ 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 and carefully follow all of the installation instructions.

- To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with the requirements of Chemelex, agency certifications, and national electrical codes, ground-fault equipment protection must be used. Arcing may not be stopped by conventional circuit breakers.
- Component approvals and performance are based on the use of Chemelex-specified parts only. Do not use substitute parts or vinyl electrical tape.
- Damaged conductors can overheat or short. Do not break conductor wire strands when scoring the jacket or removing insulation.
- Keep components and heating cable ends dry before and during installation.
- Use only fire-resistant insulation materials, such as fiberglass wrap or flame-retardant foam.
- Soldering tools or torches can cause fire or explosion in hazardous areas. Be sure there are no flammable materials or vapors in the area before using these tools.
- Wrap exposed conductors with provided tape strips to prevent shorts.

⚠ CAUTION:

HEALTH HAZARD: Hot solder can burn eyes and skin. Fumes during soldering are irritating to eyes and may cause headache and respiratory system irritation or damage. Prolonged or repeated exposure to rosin flux fumes during soldering may result in allergic reaction in a sensitive person, resulting in asthma symptoms. Consult MSDS VEN0043 for further information.

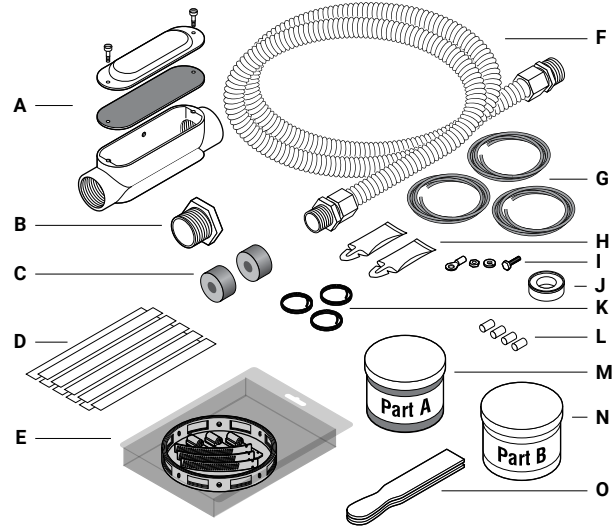
Silicone rubber compound Part A and Part B may generate flammable and explosive hydrogen gas if it comes in contact with an acidic, basic or oxidizing material. Personal contact with the silicone rubber compound may cause slight eye or skin irritation. Consult MSDS VEN0030 and VEN0031 for further information.

CHEMTREC 24-hour emergency telephone: (800) 424-9300

Non-emergency health and safety information: (800) 545-6258.

KIT CONTENTS:

Item	Qty	Description
A	1	Box with cover, gasket, and 2 screws
B	1	Bushing
C	2	Grommets
D	10	Tape strips (8 required, 2 extra)
E	1	Pipe clamp banding kit
F	1	Armor assembly
G	3	Cold leads
H	2	Cable lubricants
I	1	Ring terminal, bolt, lock washer and nut
J	1	Teflon® tape
K	3	Coils of Kester® 48 core LF solder for nickel
L	4	Parallel splices, spare included
M	1	KE 1204 silicone rubber potting compound Part A
N	1	KE 1204 silicone rubber potting compound Part B
O	2	Stir sticks
P	2	Material Safety Data Sheets (not shown)



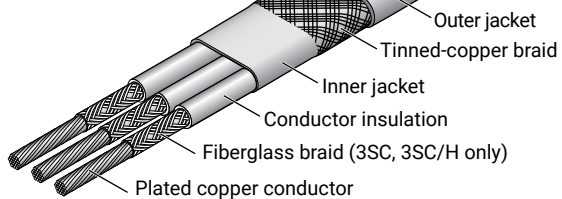
Heating Cable Construction

Heating cable types

3SC30, 40 and 50 (-CT)

3SC/H30, 40 and 50 (-CT)

3SC/F30, 40 and 50 (-CR)



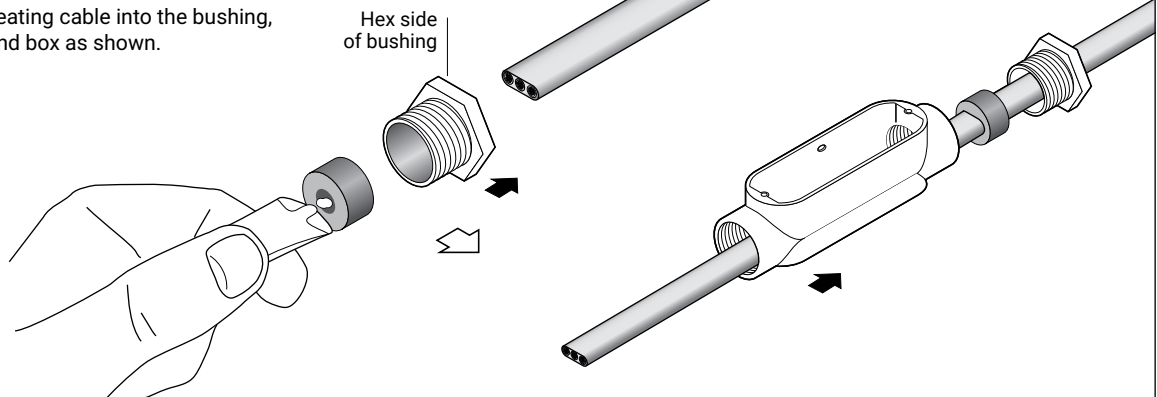
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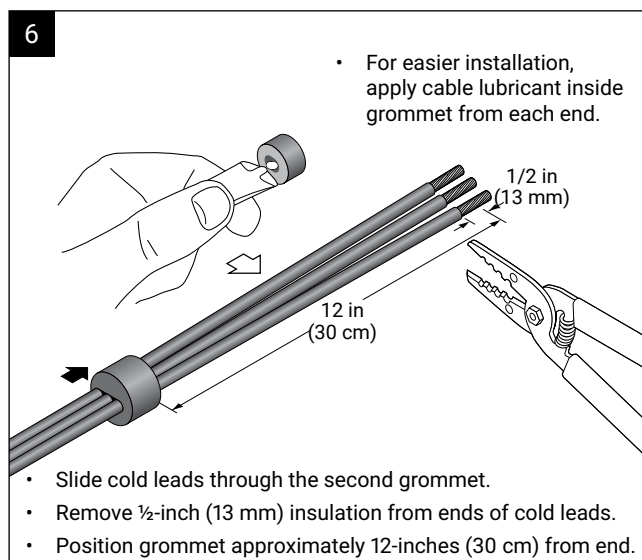
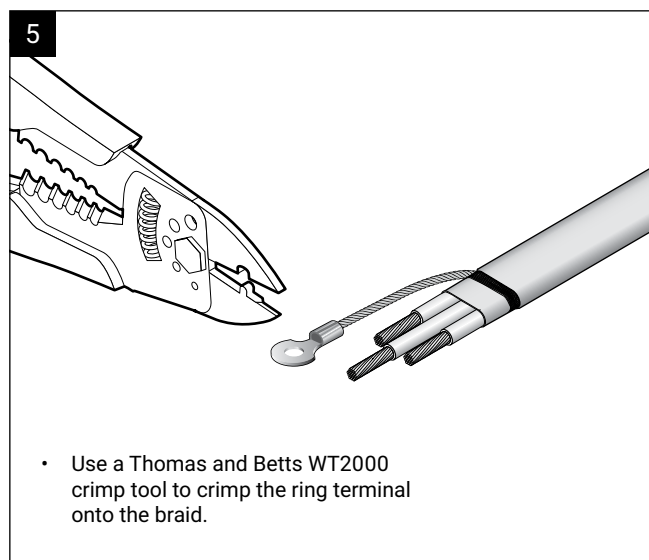
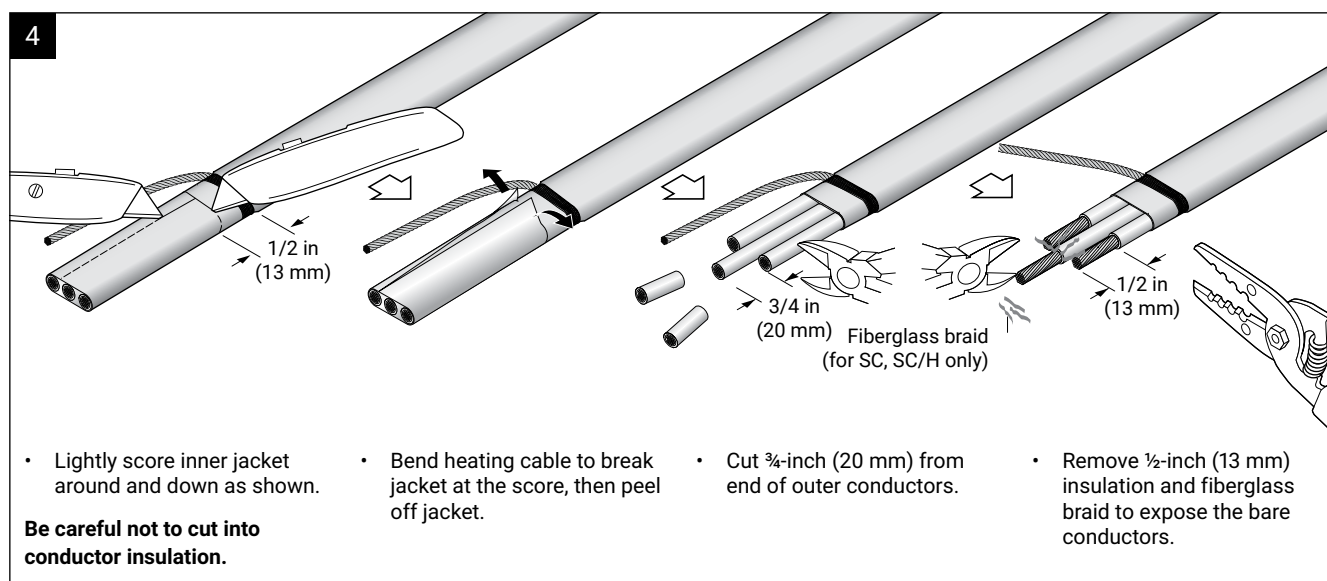
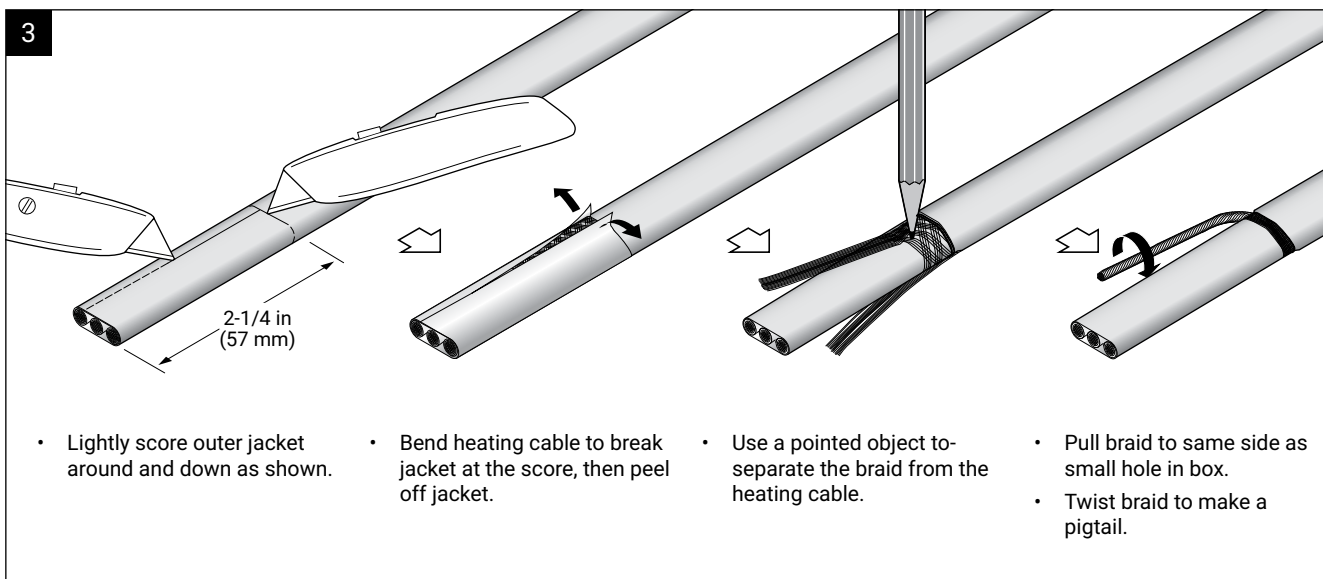
- Allow approximately 18 inches (46 cm) of heating cable for this installation.

18 in.
(46 cm)

2

- For easier installation, apply cable lubricant inside grommet from each end.
- Insert the heating cable into the bushing, grommet, and box as shown.





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⚠ WARNING: Using the wrong splice can cause overheating. Use only the splice specified for the cable type.

Heating cable ⁽¹⁾	Heating cable conductor size	Power connection wire size	Thomas & Betts splice catalog no.
3SC30-CT	18 AWG	12 AWG	C10-PS-D
3SC40-CT	16 AWG	12 AWG	C10-PS-D
3SC50-CT	14 AWG	12 AWG	C10-PS-D

⁽¹⁾ The above table is also applicable for 3SC/H30, 40, 50 (-CT) and 3SC/F30, 40, 50 (-CR) heating cables.

For replacement crimps, call Chemelex at (800) 545-6258.

- Crimp cold lead wires to heating cable conductors.
- Smooth down any sharp wires after crimping to prevent wires from poking through the tape in step 9.

Crimp each splice twice

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⚠ WARNING: Fire and Health Hazard

Soldering tools or minitorches can cause fire or explosion in hazardous areas.

Be sure there are no flammable materials or vapors in the area before using these tools.

Follow all site safety guidelines when working in hazardous areas.

Refer to solder material safety data sheet packaged with kit.

Do not overheat or char the conductor insulation. Inhalation of fumes can cause polymer fume fever, flu-like symptoms, irritation, and difficulty breathing.

- Use only solder provided with kit. Only Kester 48 core LF has been qualified with SC cables.
- Heat each splice using a soldering tool, or a propane or MAPP gas torch.
Note: MAPP gas may be required if the connections are being soldered at temperatures below -4°F (-20°C). Heat the center of the splice until it is hot enough to melt the solder placed at both ends.

Allow the connections to cool before proceeding to the next step.

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IMPORTANT: To ensure proper electrical insulation, use the specified high temperature Teflon® tape provided with the kit. Do not use common vinyl tape that does not have adequate temperature rating.

- Use release liner to guide tape while wrapping the tape strips around the connection. Use two strips of tape, covering splice and ¼-inch (6 mm) of conductor insulation (approximately three overlapped layers).
- Wrap braid with one tape strip.
- Wrap the three connections tightly with white Teflon tape.

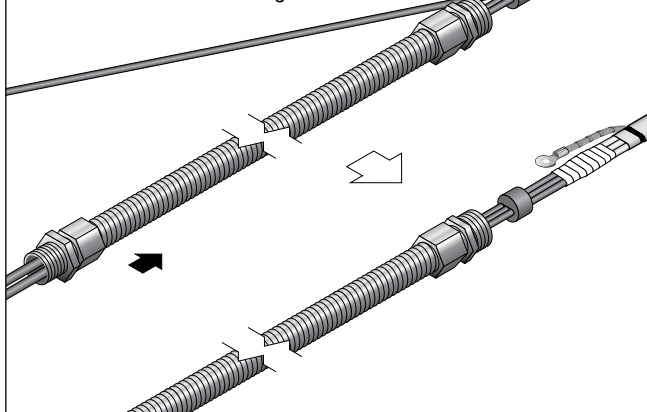
1/4 in
(6 mm)
min.

6 in (15 cm)
tape strips

Release liner
(remove and discard)

10

- Slide two wires through armor.
- Straighten wires so they are not twisted.
- Insert third wire through armor.

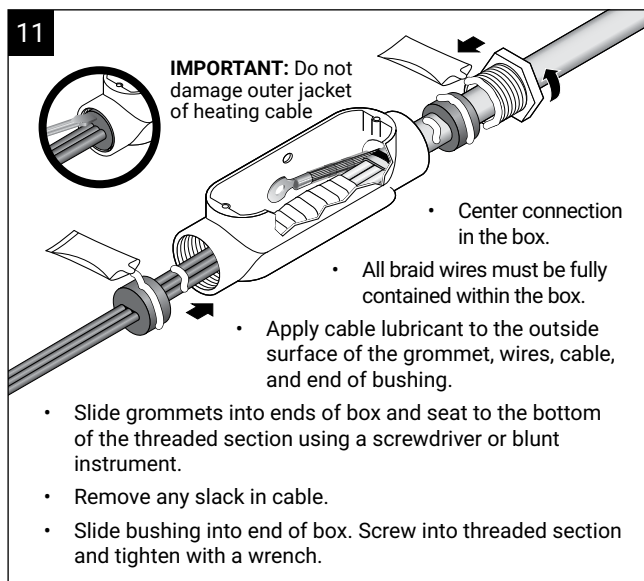


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IMPORTANT: Do not damage outer jacket of heating cable

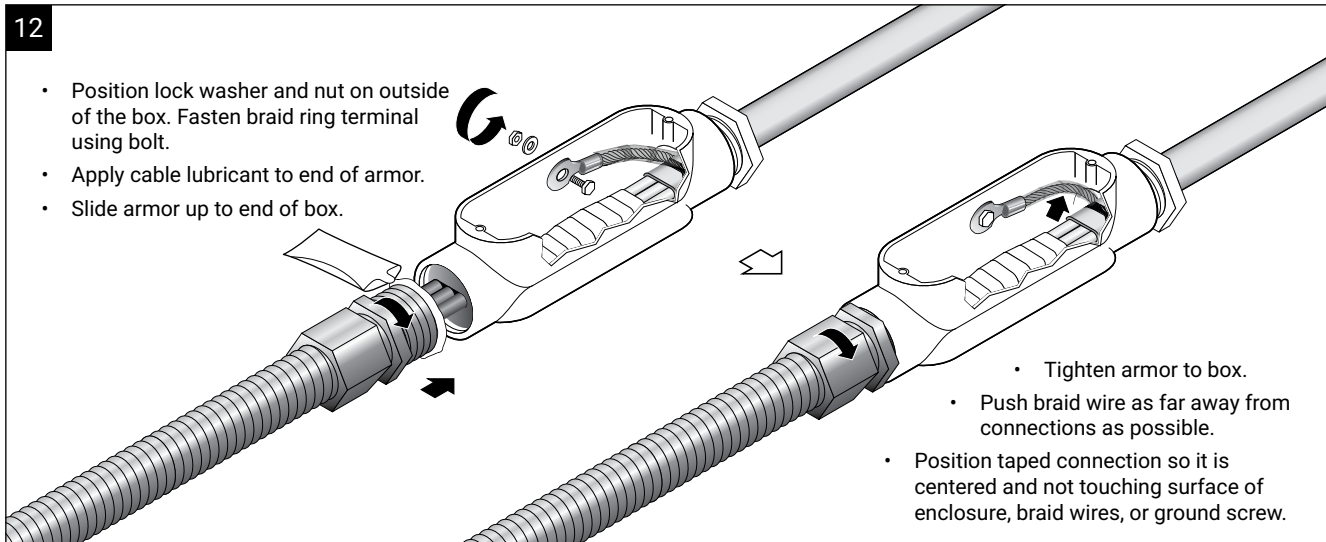


- Center connection in the box.
- All braid wires must be fully contained within the box.
- Apply cable lubricant to the outside surface of the grommet, wires, cable, and end of bushing.
- Slide grommets into ends of box and seat to the bottom of the threaded section using a screwdriver or blunt instrument.
- Remove any slack in cable.
- Slide bushing into end of box. Screw into threaded section and tighten with a wrench.



12

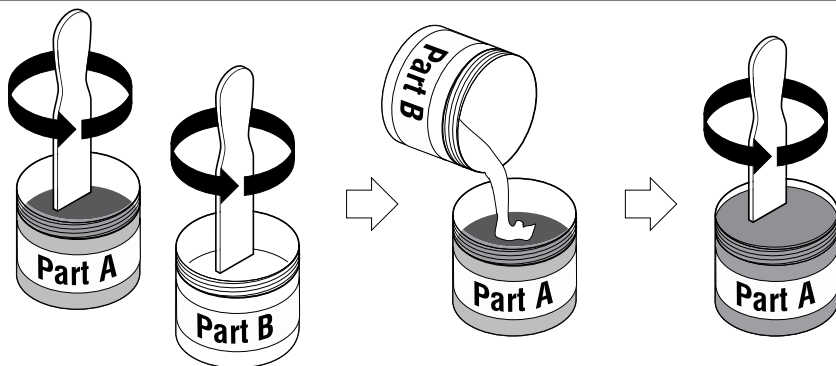
- Position lock washer and nut on outside of the box. Fasten braid ring terminal using bolt.
- Apply cable lubricant to end of armor.
- Slide armor up to end of box.



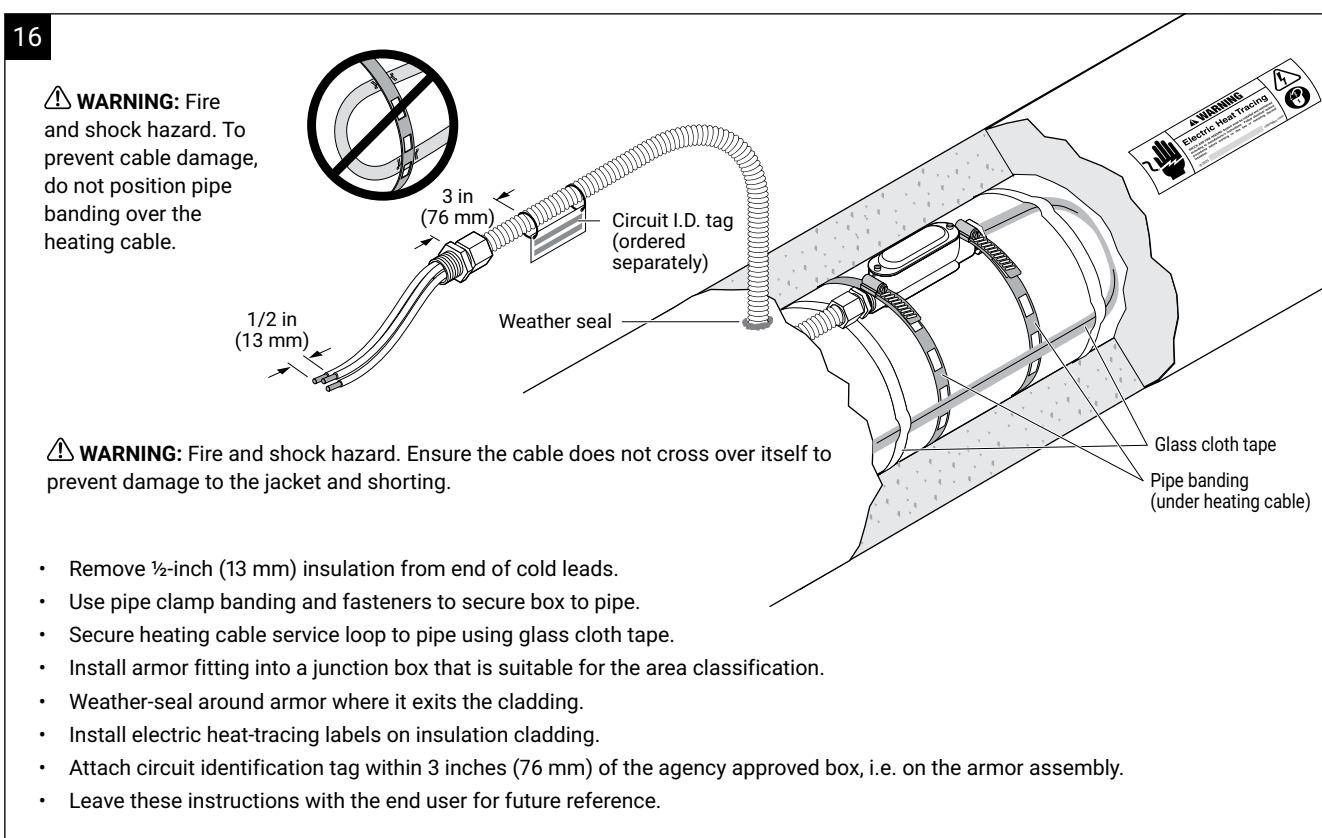
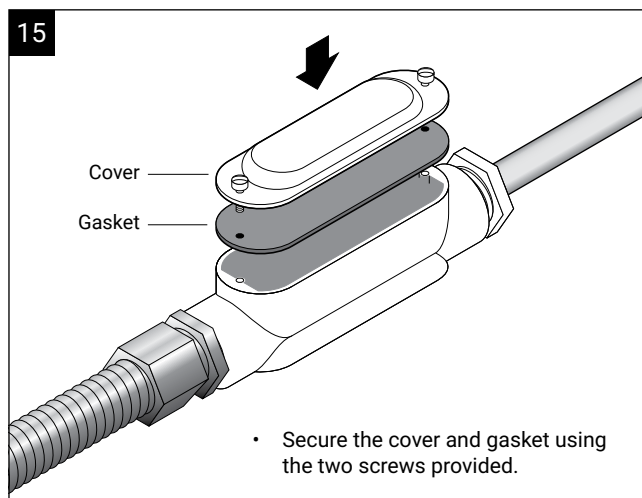
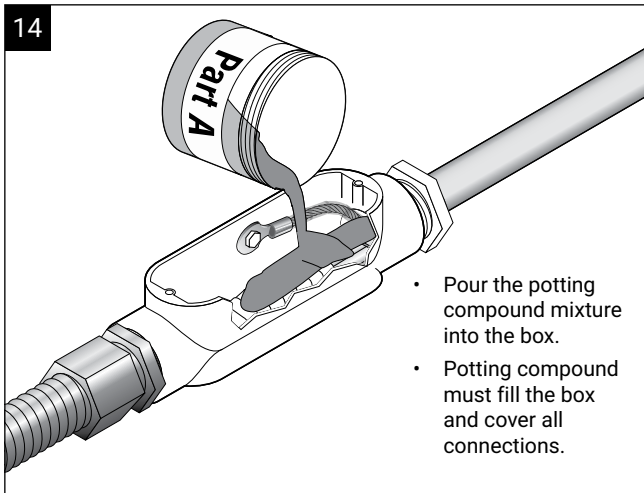
- Tighten armor to box.
- Push braid wire as far away from connections as possible.
- Position taped connection so it is centered and not touching surface of enclosure, braid wires, or ground screw.

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⚠ WARNING: Health Hazard
Refer to silicone rubber material safety data sheet packaged with kit.



- Open the two containers: one labeled Part A, and the other Part B.
- Use separate wooden sticks to stir the contents of each container until smooth and homogeneous.
- Pour all the contents of the container labeled Part B into the container labeled Part A and mix thoroughly until the color is uniform.



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