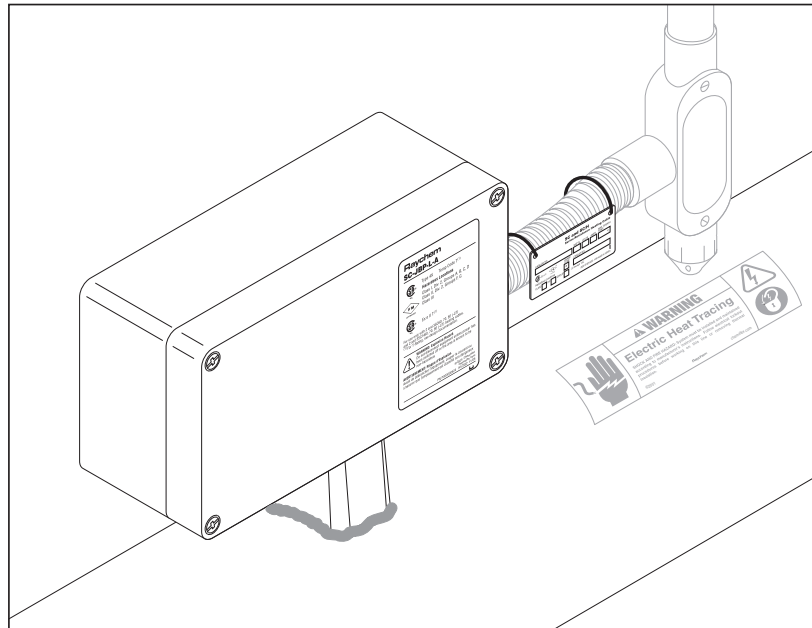
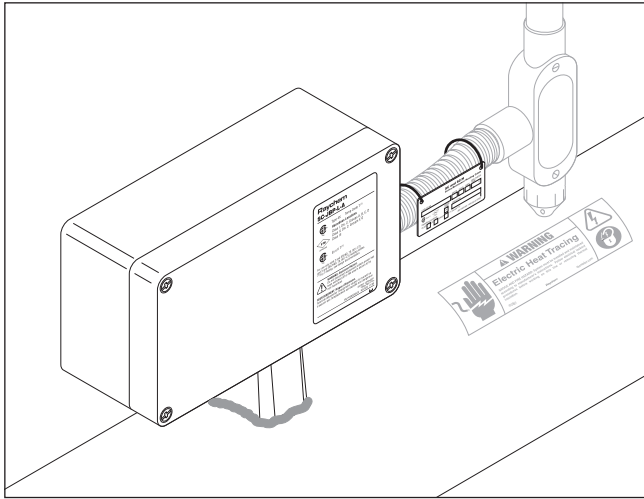


SC-JBP-L-A

Power Connection with Junction Box Installation Instructions





APPROVALS

Hazardous Locations



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

IECEX

Ex e II T* (see schedule)
Ex tD A21 IP66
IECEX BAS 06.0049X

DESCRIPTION

The Raychem SC-JBP-L-A is a NEMA 4X-rated power connection kit designed for use with Raychem 2 and 3SC60, 70, 80 (-CT), 2 and 3SC/H60, 70, 80 (-CT) and 2 and 3SC/F60, 70, 80 (-CR) series heating cables in hazardous locations.

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

For easier installation, store above freezing until just before installation.

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

TOOLS REQUIRED

- Adjustable pliers
- Slotted screwdriver
- Wire strippers
- Solder tool or torch (with small tip)
- Thomas & Betts TBM5S crimp tool (P/N P000000585) or equivalent.
- Crimp tools can be ordered from Chemelex.
- Diagonal cutters
- Utility knife

ADDITIONAL MATERIALS REQUIRED

- Pipe straps (2)
- Glass cloth tape:
 - GT-66 for installation temperature above 40°F (4°C)
 - GS-54 for installation temperature above -40°F (-40°C)
- Circuit identification tag (P/N P000000311)

OPTIONAL MATERIALS

- Recommended conduit drain:
JB-DRAIN-PLUG-3/4IN (P/N 278621-000)
- Pipe adapter to increase stand height:
SC-JB-PIPE-ADAPTER (P/N P000000648)

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.
- Be sure all power sources are de-energized before opening box.
- Keep components and heating cable ends dry before and during installation.
- Component approvals and performance are based on the use of Chemelex-specified parts only. Do not use substitute parts or vinyl electrical tape.
- 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.
- Damaged conductors can overheat or short. Do not break conductor wire strands when scoring the jacket or removing insulation.
- Use only fire-resistant insulation materials, such as fiberglass wrap or flame-retardant foam.
- Wrap exposed conductors with supplied tape strips to prevent shorts.

CAUTION:

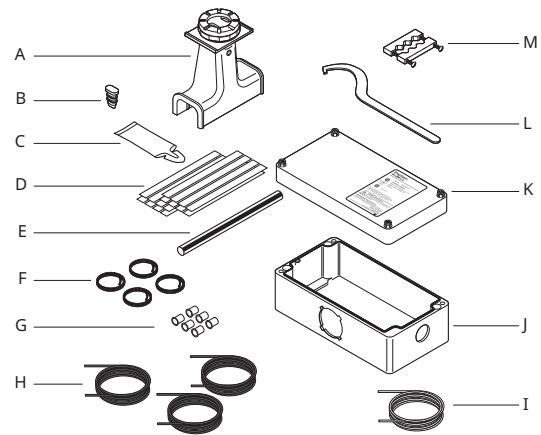
Health Hazard: Hot solder can burn eyes and skin. Fumes during soldering are irritating to eyes and may cause headache and respiratory system irritation or damage. Prolonged or repeated exposure to rosin flux fumes during soldering may result in allergic reaction in a sensitive person, resulting in asthma symptoms. Consult MSDS VEN 0043 for further information.

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

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

KIT CONTENTS

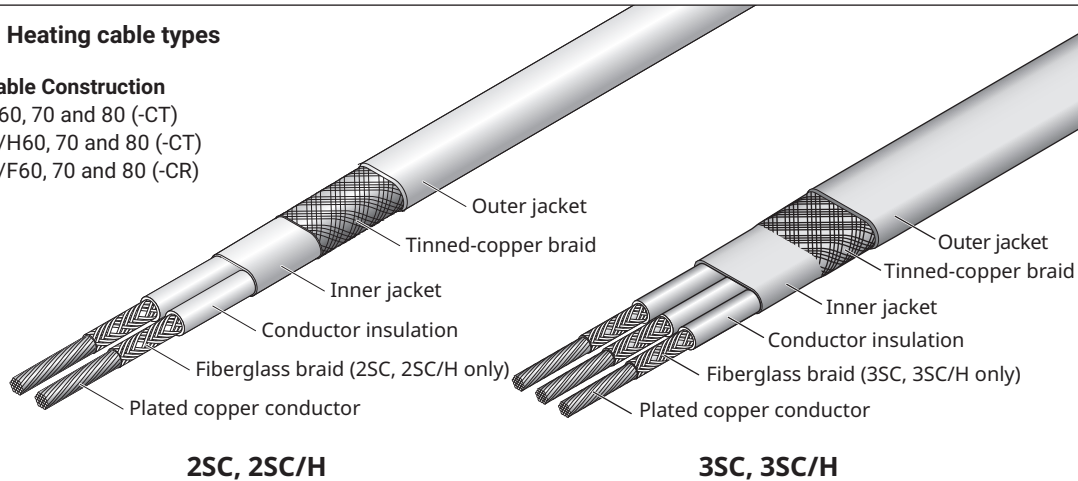
Item	Qty	Description
A	1	Stand assembly
B	1	Grommet plug
C	1	Cable lubricant
D	16	Tape strips
E	1	Green/yellow tube
F	4	Coils Kester® 48 core LF solder for nickel
G	6	Thomas & Betts splices, spares included
H	3	Cold leads
I	1	Ground lead
J	1	Junction box with through hole for 1" NPT fitting
K	1	Lid
L	1	Spanner
M	1	Strain relief



Raychem Heating cable types

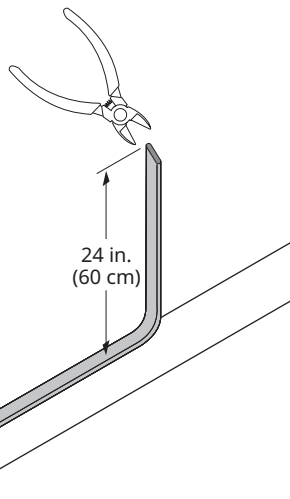
Heating Cable Construction

2 and 3SC60, 70 and 80 (-CT)
 2 and 3SC/H60, 70 and 80 (-CT)
 2 and 3SC/F60, 70 and 80 (-CR)



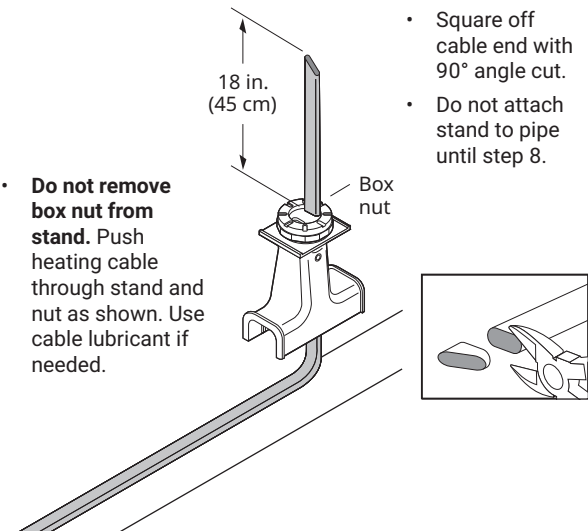
1

- Allow approximately 24 inches (60 cm) of heating cable for installation.
- Cut off heating cable end at a 45° angle for easier insertion.



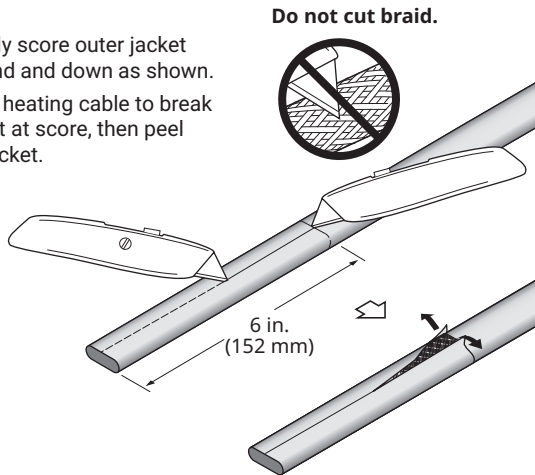
2

- Square off cable end with 90° angle cut.
- Do not attach stand to pipe until step 8.
- Do not remove box nut from stand. Push heating cable through stand and nut as shown. Use cable lubricant if needed.



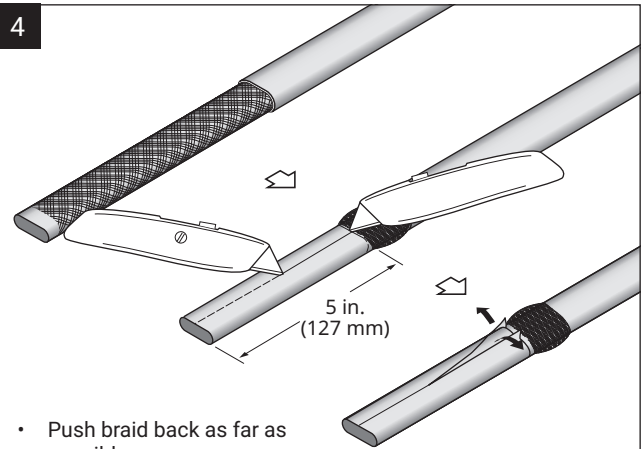
3

- Lightly score outer jacket around and down as shown.
- Bend heating cable to break jacket at score, then peel off jacket.



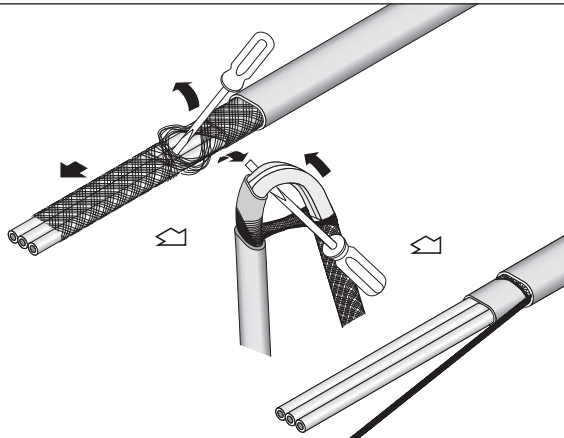
4

- Push braid back as far as possible.
- Lightly score inner jacket around and down as shown.
- Peel off inner jacket.



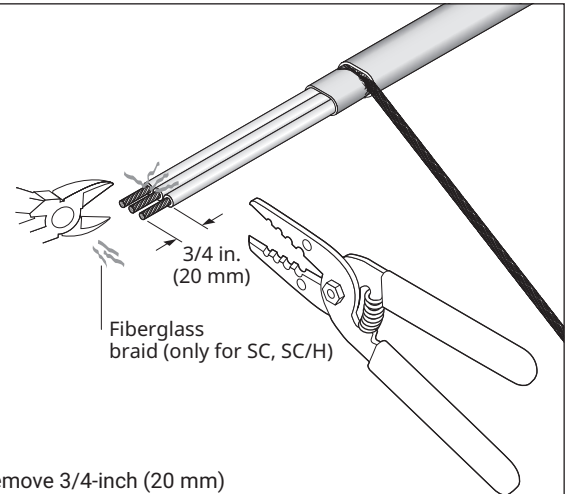
5

- Push braid forward. Use a screwdriver to open braid.
- Bend heating cable and work it through opening in braid.
- Pull braid tight to make pigtail.



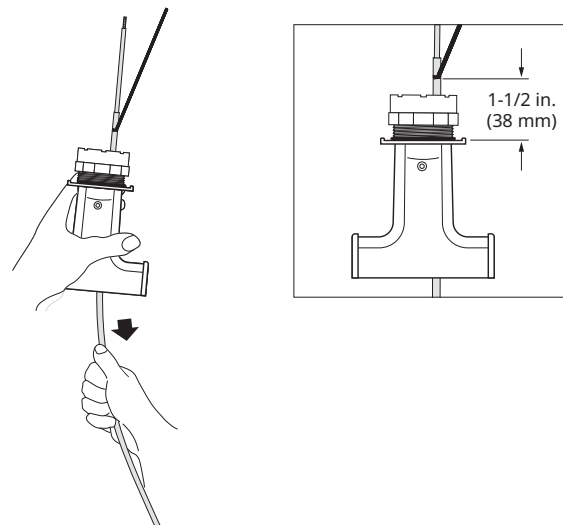
6

- Remove 3/4-inch (20 mm) insulation and fiberglass braid from end of each conductor.



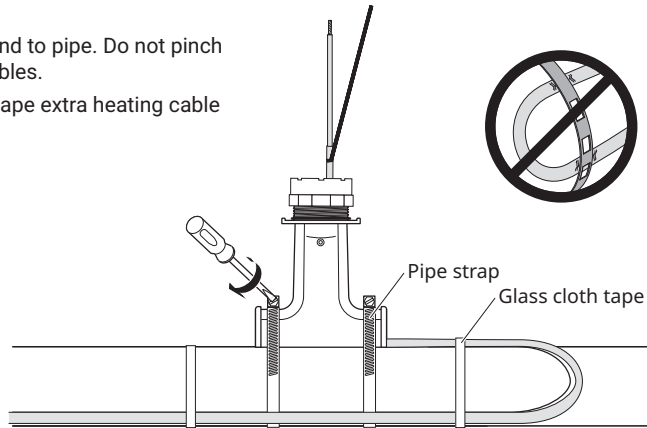
7

- Pull heating cable back into stand as shown. Use cable lubricant if needed.



8

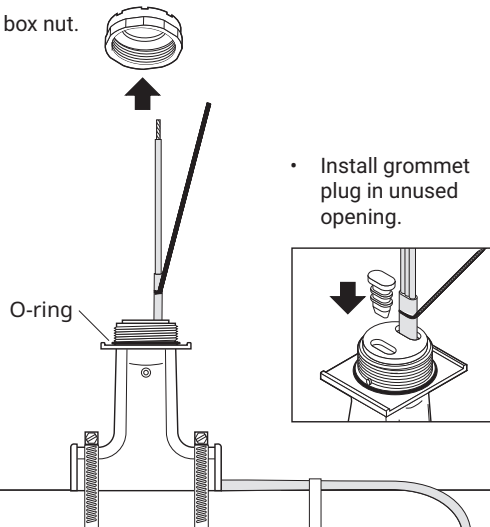
- Fasten stand to pipe. Do not pinch heating cables.
- Loop and tape extra heating cable to pipe.



⚠ WARNING: Fire and Shock Hazard.
To prevent cable damage and shorting, position pipe straps under the heating cable. Ensure the cable does not cross over itself.

9

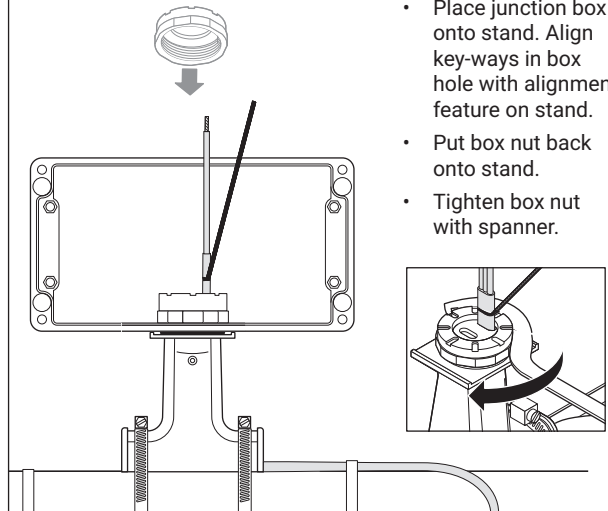
- Remove box nut.



- Install grommet plug in unused opening.

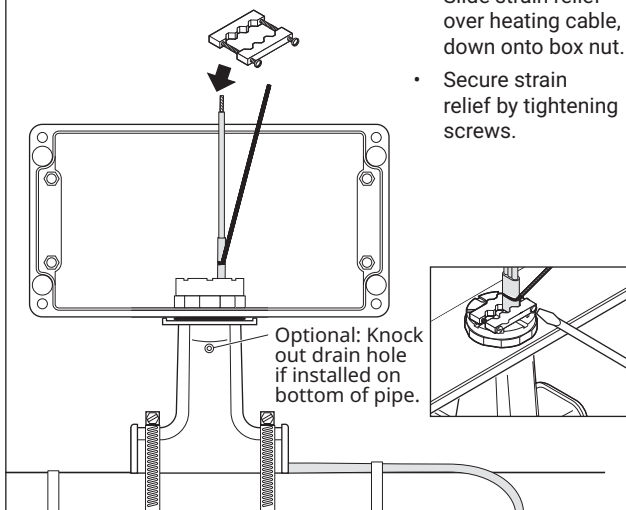
10

- Place junction box onto stand. Align key-ways in box hole with alignment feature on stand.
- Put box nut back onto stand.
- Tighten box nut with spanner.



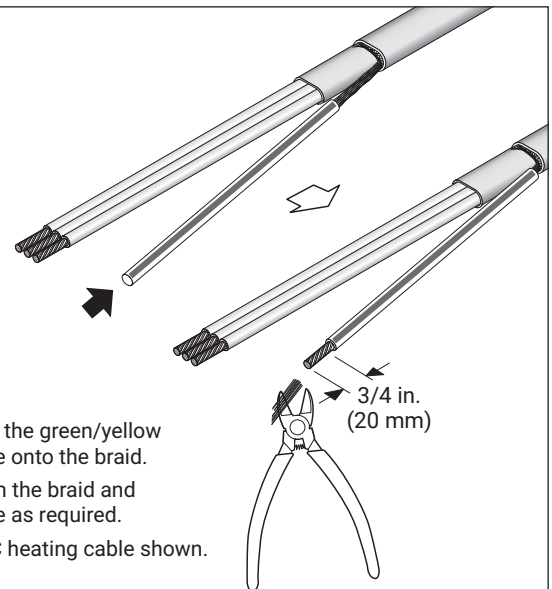
11

- Slide strain relief over heating cable, down onto box nut.
- Secure strain relief by tightening screws.



12

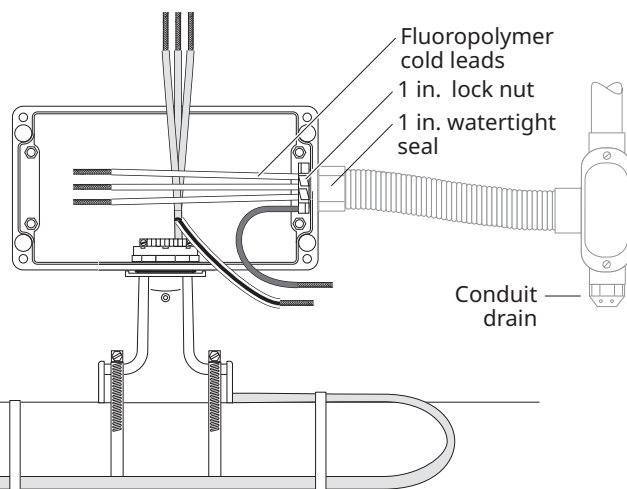
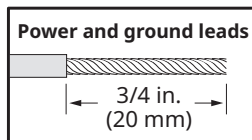
- Slip the green/yellow tube onto the braid.
 - Trim the braid and tube as required.
- 3SC heating cable shown.



13

⚠ WARNING: Fire and Health Hazard. To prevent fire or heat damage to junction box and heating cable, use only the high temperature cold leads supplied with kit to connect power to cable.

- Install conduit and fittings as shown. To minimize loosening due to vibration, use flexible conduit.
 - Use the high temperature cold leads provided. Strip off insulation from power and ground cold leads as shown.
- 3SC heating cable shown.

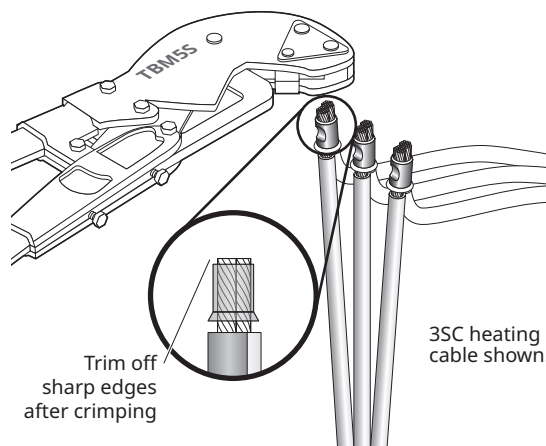


14

- Crimp cold leads and use only the specified crimp tool, die and splices to ensure a proper electrical connection (see table). Improperly crimped connection can result in overheating.
- Smooth down any sharp wires after crimping to prevent wires from poking through tape strips in Step 17.

Heating cable ⁽¹⁾	Heating cable conductor size	Thomas & Betts (T&B) Splice				
		Cold lead size	Splice catalog no.	Splice color	Crimp tool catalog no.	Crimp tool die color
2 and 3 SC60-CT	12 AWG	4 AWG	54625-TB	Green	TBM5S	Green
2 and 3 SC70-CT	10 AWG	4 AWG	54625-TB	Green	TBM5S	Green
2 and 3 SC80-CT	8 AWG	4 AWG	54625-TB	Green	TBM5S	Green

⁽¹⁾The above table is also applicable for 2 and 3SC/H60, 70, 80 (-CT) and 2 and 3SC/F60, 70, 80 (-CR) heating cables. For additional splices, call Chemelex at (800) 545-6258.

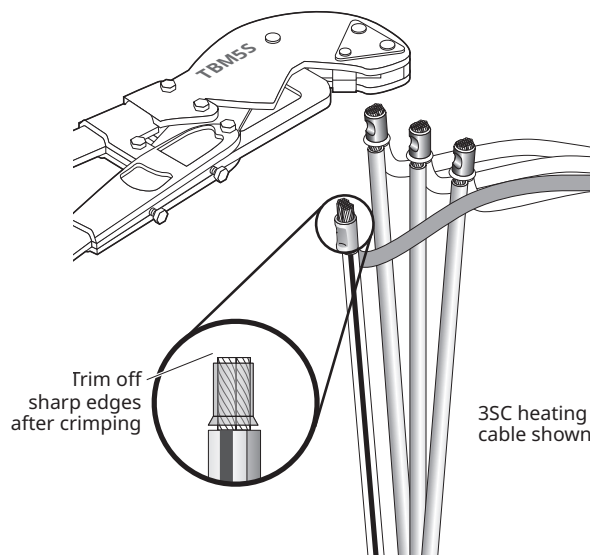


15

- Crimp ground lead to heating cable braid wire. Use the Thomas & Betts TBM5S crimp tool with the green die and splice (T&B 54625-TB).

Heating cable ⁽¹⁾	Thomas & Betts (T&B) Splice			
	Splice catalog no.	Splice color	Crimp tool catalog no.	Crimp tool die color
2SC60, 70 and 80-CT	54625-TB	Green	TBM5S	Green
3SC60, 70 and 80-CT	54625-TB	Green	TBM5S	Green

⁽¹⁾The above table is also applicable 2 and 3SC/H60, 70, 80 (-CT) and 2 and 3SC/F60, 70, 80 (-CR) heating cables. For additional splices, call Chemelex at (800) 545-6258.



16

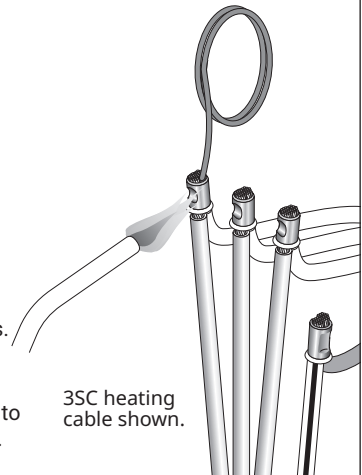
⚠ WARNING: Fire and Health Hazard. Soldering tools or minitorches can cause fire or explosion in hazardous areas. Be sure there are no flammable materials or vapors in the area before using these tools. Follow all site safety guidelines when working in hazardous areas.

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.

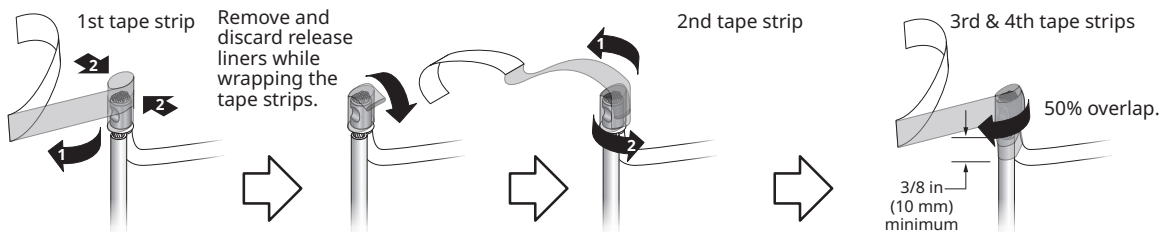
Do not direct torch flame toward conductor insulation, cold lead insulation or enclosure. Damage to insulation or enclosure can cause shorting or moisture ingress.

- Use only the solder provided with the kit. Only Kester 48 has been qualified for use with SC cables.
- Heat each splice using a soldering tool, or 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 splices to cool for several minutes before proceeding to the next step of wrapping the connection with tape.



17

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

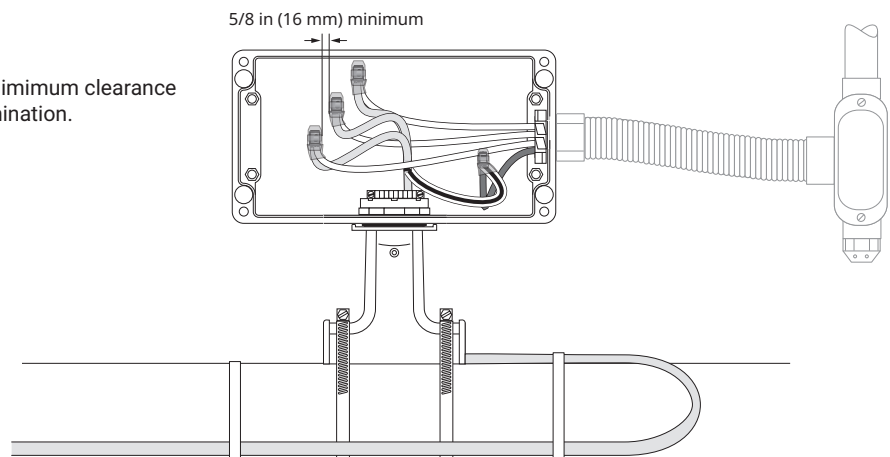


- Wrap entire length of first tape strip around end of splice to create a tube that extends over the end. Pinch end of tube.
- Fold over pinched end of tape strip as shown.
- Wrap the second tape strip across the end of the splice to cover the pinched section, then continue wrapping it around the splice.
- Wrap remaining two tape strips with a minimum 50% overlap to completely cover the metal splice, bare conductors and a minimum 3/8-inch (10 mm) of the insulation.

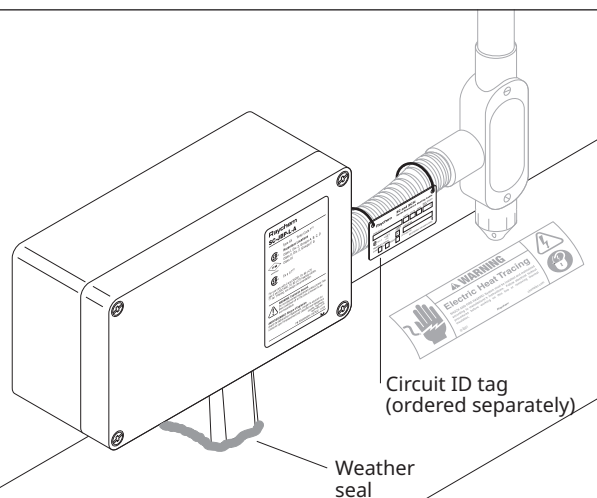
Repeat these steps for each additional splice and ground connection.

18

- Finished view of installed connections.
- Stow conductors as shown. Ensure a minimum clearance of 5/8-inch (16 mm) between each termination.



- Install lid.
- Apply insulation and cladding.
- Weather-seal stand entry.
- Install electric heat-tracing labels on insulation cladding.
- Leave these installation instructions with the end user for future reference.
- Attach the circuit identification tag within 3 inches of the power connection, i.e. on the conduit.



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