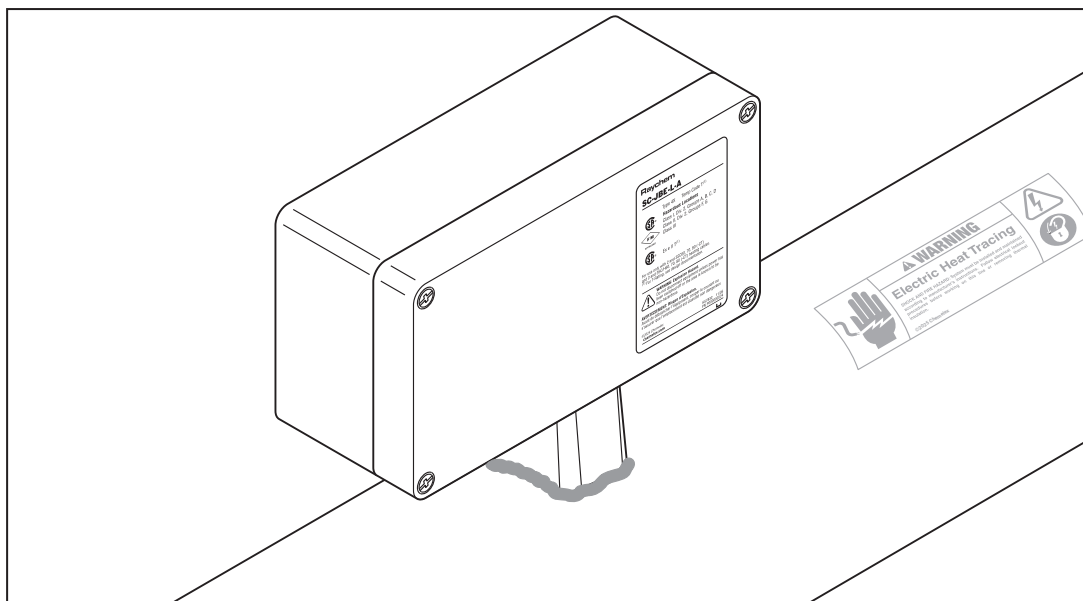
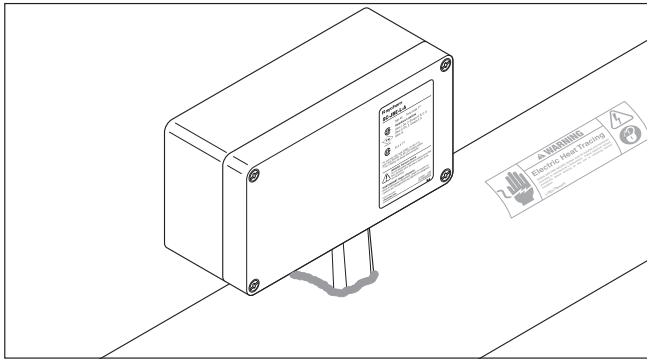


Raychem

SC-JBE-S-A

End Termination 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

KIT CONTENTS

Item	Qty	Description
A	1	Stand assembly
B	1	Grommet plug
C	1	Cable lubricant
D	4	Tape strips
E	1	Coil Kester® 48 core LF solder for nickel
F	4	Thomas & Betts splices, spares included
G	1	Junction box
H	1	Lid
I	1	Spanner
J	1	Strain relief

DESCRIPTION

The Raychem SC-JBE-S-A is a NEMA 4X-rated end termination kit designed for use with Raychem 2 and 3SC30, 40, 50 (-CT), 2 and 3SC/H30, 40, 50 (-CT) 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

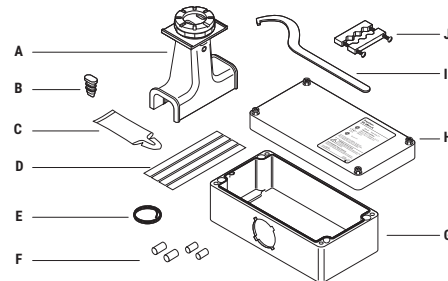
- Diagonal cutters
- Wire strippers
- Solder tool or torch (with small tip)
- Thomas & Betts WT2000 crimp tool (P/N 273435-000) or equivalent. Crimp tools can be ordered from Chemelex.
- Slotted screwdriver
- Utility knife

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)

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:

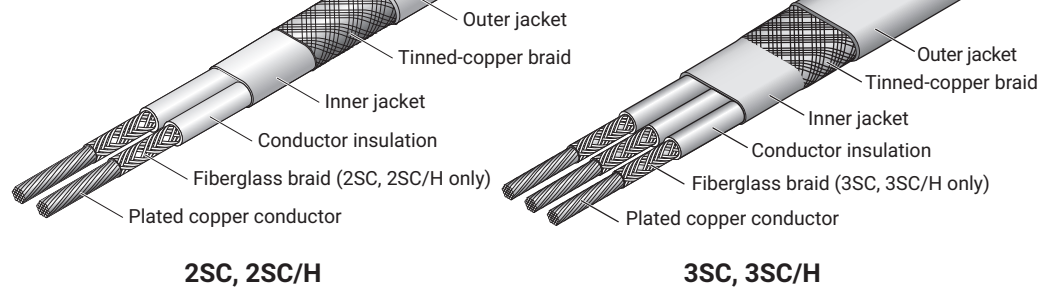
HEALTH HAZARD: Hot solder can burn eyes and skin. Fumes during soldering are irritating to eyes and may cause headache and respiratory system irritation or damage. Prolonged or repeated exposure to rosin flux fumes during soldering may result in allergic reaction in a sensitive person, resulting in asthma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

Heating Cable Types

Heating Cable Construction

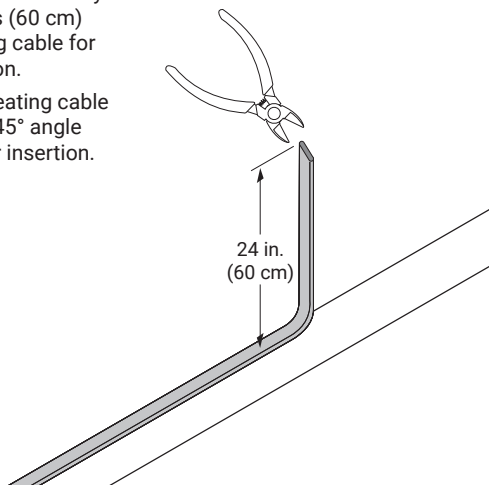
2 and 3SC30, 40 and 50 (-CT)

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



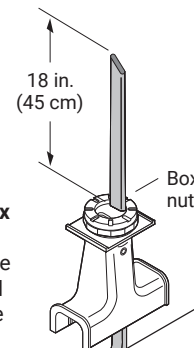
1

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

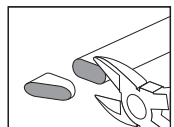


2

- **Do not remove box nut from stand.** Push heating cable through stand and nut as shown. Use cable lubricant if needed.



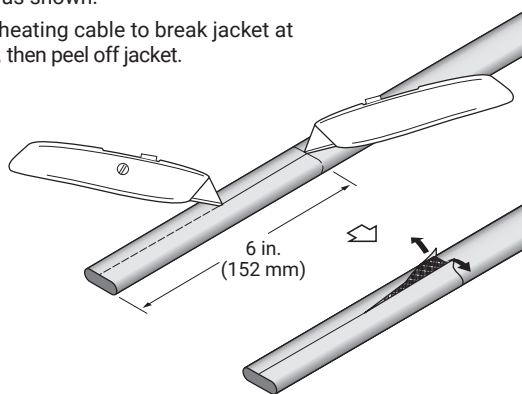
- Square off cable end with 90° angle cut.



- Do not attach stand to pipe until step 8.

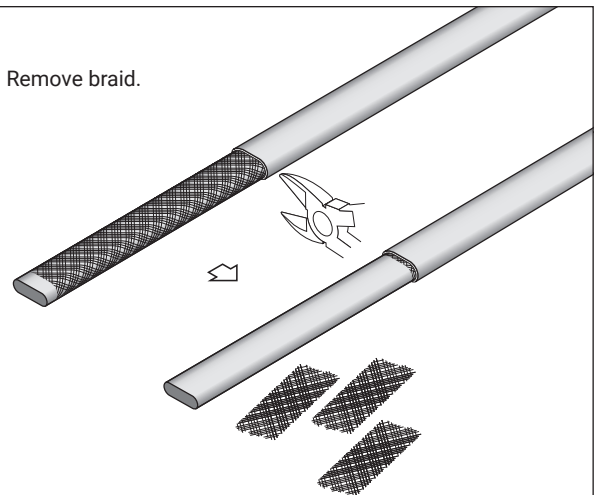
3

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



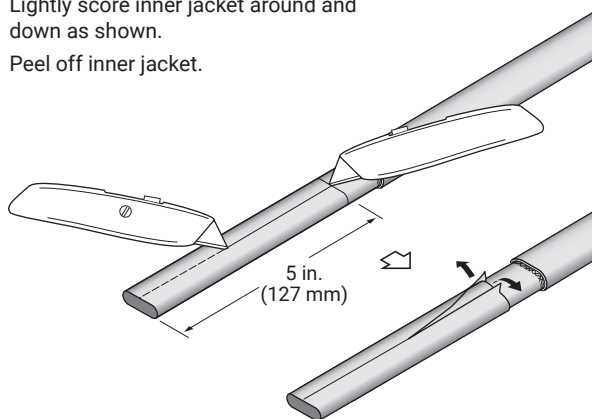
4

- Remove braid.



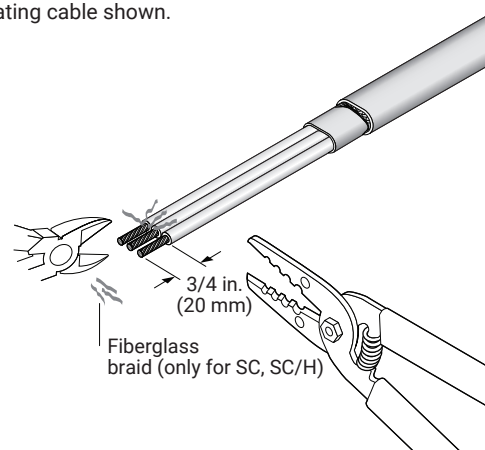
5

- Lightly score inner jacket around and down as shown.
- Peel off inner jacket.



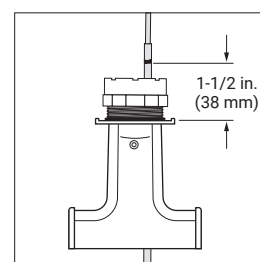
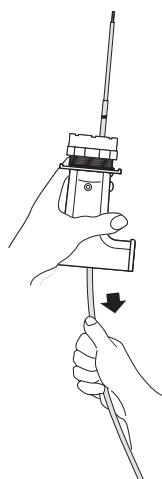
6

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



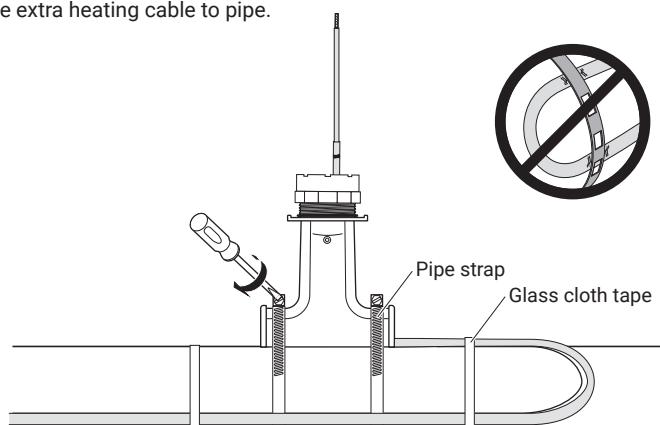
7

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

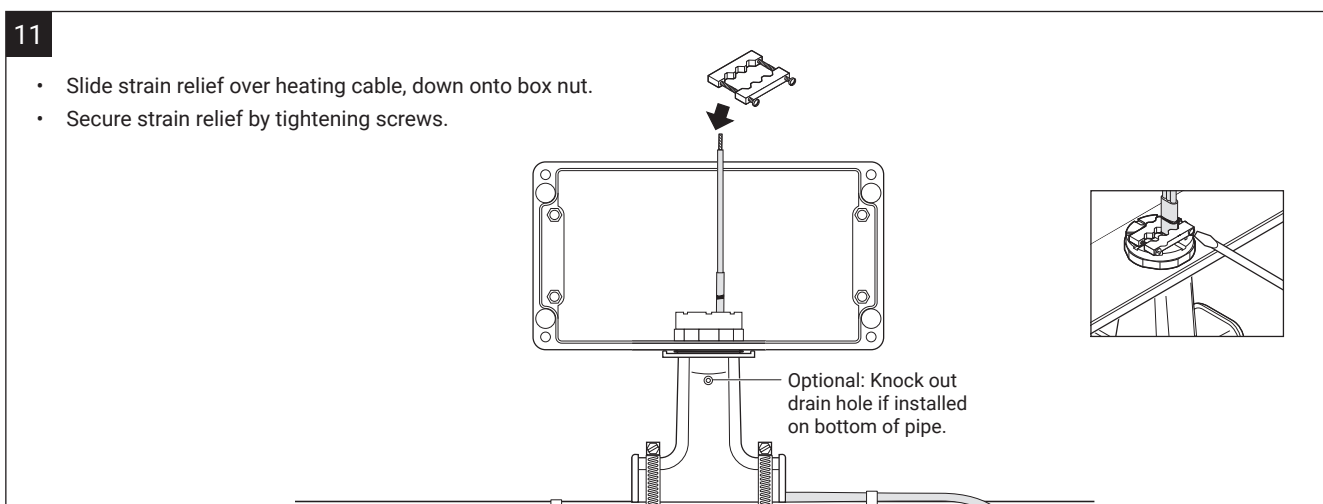
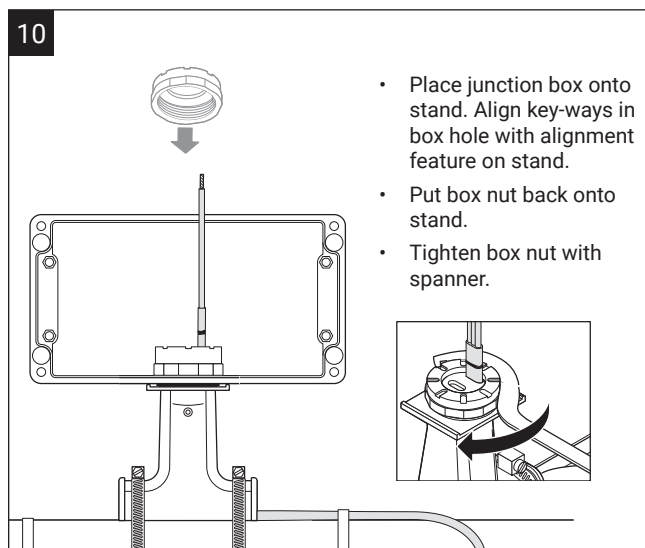
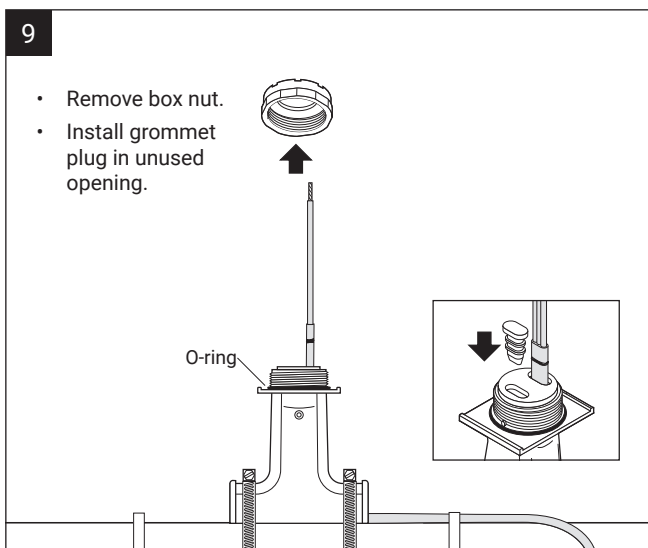


8

- 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.



12

- Crimp heating cable conductors together and use only the specified crimp tool, crimp tool die and splice 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 14.

Heating cable ⁽¹⁾	Heating cable conductor size	Thomas & Betts (T&B) Splice		Crimp tool catalog no.	Crimp tool die
		Splice catalog no.	Splice color		
2SC30-CT	18 AWG	B14-PS-M	Silver (small)	WT2000	Non-Insul
2SC40-CT	16 AWG	B14-PS-M	Silver (small)	WT2000	Non-Insul
2SC50-CT	14 AWG	C10-PS-D	Silver (large)	WT2000	Non-Insul
3SC30-CT	18 AWG	B14-PS-M	Silver (small)	WT2000	Non-Insul
3SC40-CT	16 AWG	C10-PS-D	Silver (large)	WT2000	Non-Insul
3SC50-CT	14 AWG	C10-PS-D	Silver (large)	WT2000	Non-Insul

⁽¹⁾The above table is also applicable for 2 and 3SC/H30, 40, 50 (-CT) heating cables. For additional splices, call Chemelex at (800) 545-6258.

WT2000

Trim off sharp edges after crimping

3SC heating cable shown.

13

⚠ 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.

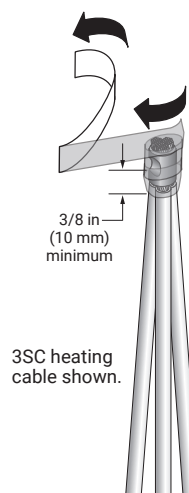
Do not direct torch flame toward conductor insulation, cold lead insulation, or enclosure. Damage to insulation or enclosure can lead to shorting or moisture.

- Use only solder provided with the kit. Only Kester 48 core LF has been qualified for use with SC cables.
- Heat splice using a soldering tool, or propane or MAPP gas torch. Note: MAPP gas may be required if the connection is 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 splice to cool for several minutes before proceeding to the next step of wrapping the connection with tape.



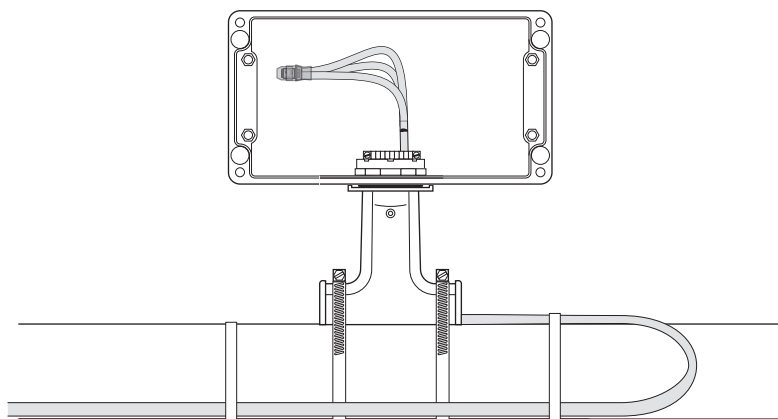
14

- Remove and discard release liners while wrapping the tape strips.
- Use at least four strips of tape to completely cover the metal splice connection, bare conductors, and a minimum of $3/8$ inch (10 mm) of the insulation (see illustration).
- 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.

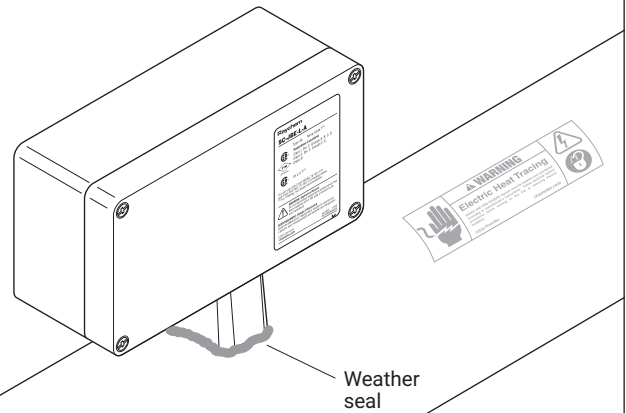


15

- Finished view of installed connections.
- Stow conductors as shown.



- 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.



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