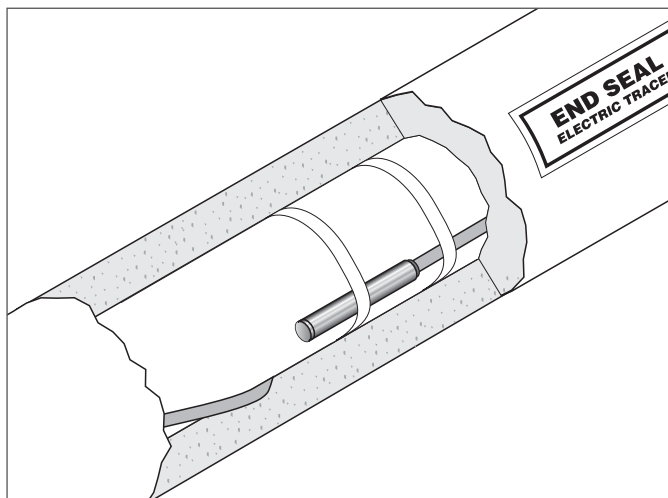


# Raychem 2SC-STC

## END TERMINATION KIT INSTALLATION INSTRUCTIONS



### APPROVALS

#### Hazardous Locations



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



Ex e II T<sup>(1)</sup>

<sup>(1)</sup> for T-Rating, see design documentation

### KIT CONTENTS

Item	Qty	Description
A	1	Metal end cap
B	1	Rubber collar
C	3	Tape strips (2 required, 1 extra)
D	1	ETL-END-SEAL label
E	1	Coil of Kester® 48 core LF solder for nickel
F	2	Parallel splices (large), spare included
G	2	Parallel splices (small), spare included
H	1	KE 1204 silicone rubber potting compound Part A
I	1	KE 1204 silicone rubber potting compound Part B
J	2	Stir sticks
K	2	Material Safety Data Sheets (not shown)

### DESCRIPTION

The 2SC-STC is a NEMA 4 rated end termination kit designed for use with Raychem 2SC30, 40, 50 (-CT), 2SC/H30, 40, 50 (-CT) and 2SC/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 easier installation, store above freezing until just before installation.

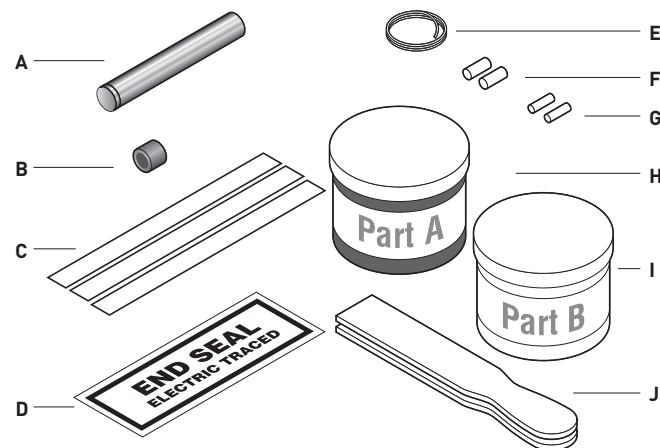
For technical support, call Pentair Thermal Management at (800) 545-6258.

### TOOLS REQUIRED

- Utility knife
  - Wire strippers
  - Soldering tool or torch (with small tip)
  - Thomas & Betts WT2000 crimp tool or equivalent (P/N 273435-000)
  - Diagonal cutters
  - Disposable towel or rag
- Crimp tools can be ordered from Pentair Thermal Management.

### 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)



### 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 Pentair Thermal Management, 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 Pentair Thermal Management-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 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 VEN0043 for further information.

Silicone rubber compound 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.

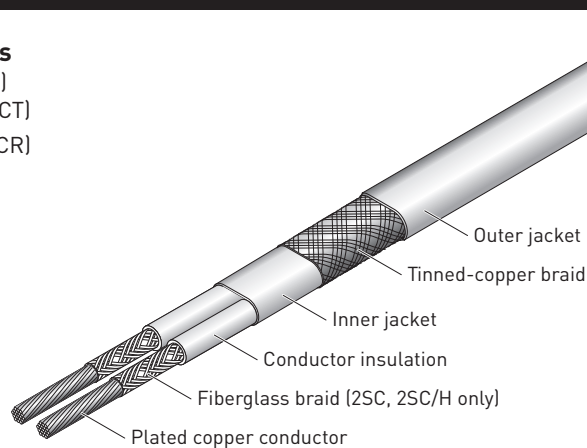
CHEMTREC 24-hour emergency telephone:  
(800) 424-9300

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

## Heating Cable Construction

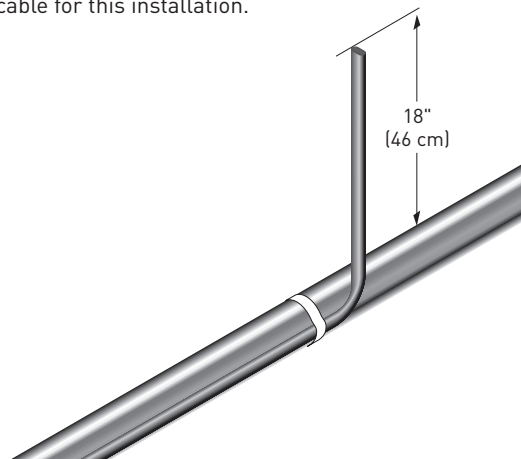
### Heating cable types

2SC30, 40 and 50 (-CT)  
 2SC/H30, 40 and 50 (-CT)  
 2SC/F30, 40 and 50 (-CR)



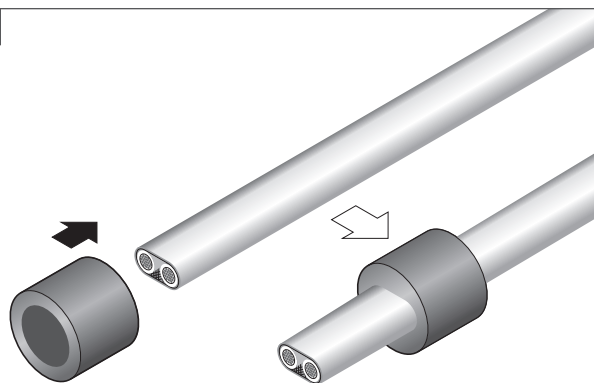
1

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



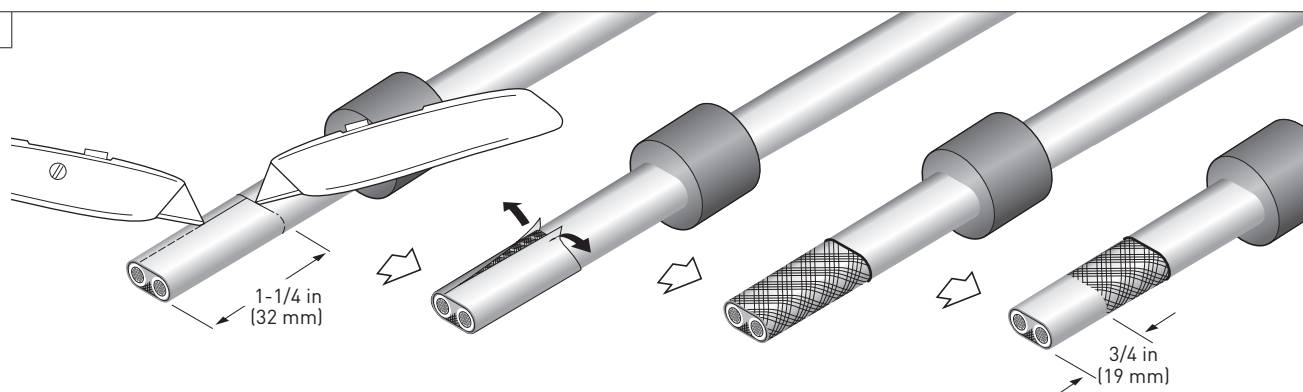
2

- Slide rubber collar onto heating cable.



3

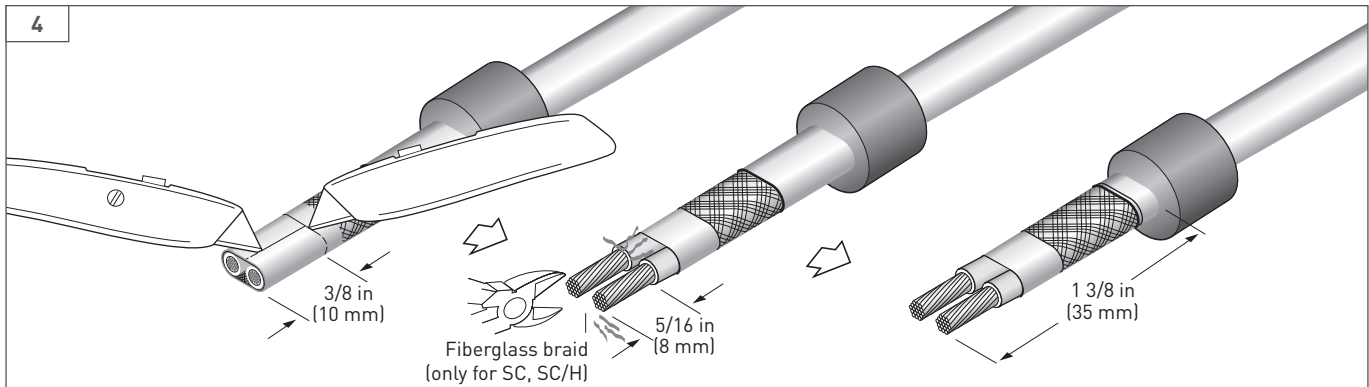
- Lightly score outer jacket around and down as shown.
- Bend heating cable to break jacket at the score, then peel off jacket.



- Remove 3/4-inch (19 mm) of braid.

**IMPORTANT: For proper function of the kit, do not remove all the braid.**

4



- Lightly score around and down to remove 3/8-inch (10 mm) inner jacket.
- Remove 5/16-inch (8 mm) insulation and fiberglass braid to expose the bare conductors.
- Position collar 1 3/8-inch (35 mm) from end of heating cable.

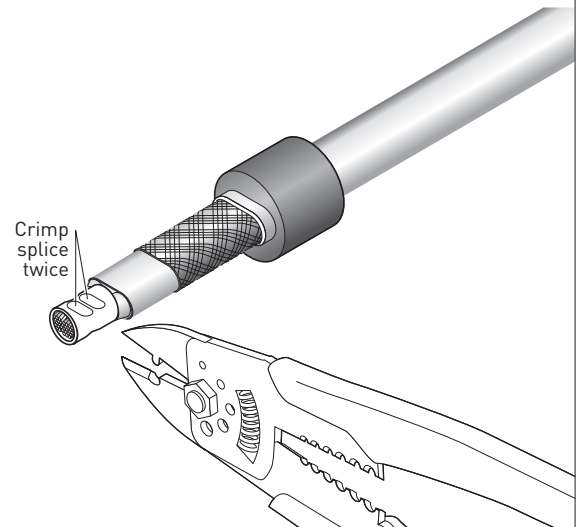
5

- Twist the conductors together.
- Use the WT2000 crimp tool and appropriate splice to crimp heating cable conductors together (see table).
- Crimp splice twice.

Thomas &amp; Betts (T&amp;B)

Heating cable <sup>(1)</sup>	Heating cable conductor size	Splice Catalog no.	Splice size	Crimp tool die
2SC30-CT	18 AWG	B14-PS-M	Small	Non-Insul
2SC40-CT	16 AWG	B14-PS-M	Small	Non-Insul
2SC50-CT	14 AWG	C10-PS-D	Large	Non-Insul

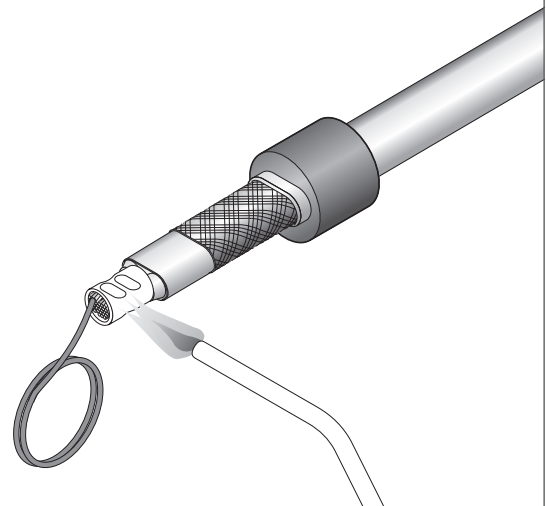
<sup>(1)</sup> The above table is also applicable for 2SC/H30, 40, 50 (-CT) and 2SC/F30, 40, 50 (-CR) heating cables. For replacement splices, call Pentair Thermal Management at (800) 545-6258.



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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.

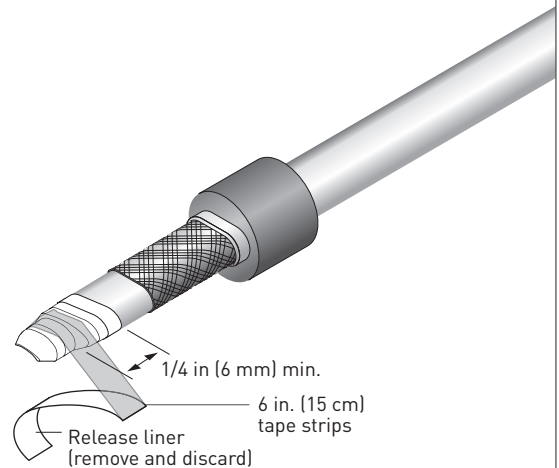
- Use only solder provided with kit. Only Kester 48 core LF has been qualified with SC cables.
- Refer to solder material safety data sheet packaged with kit.
- Heat the splice using a soldering tool, or propane or MAPP gas torch.  
**Note:** MAPP gas may be required if the connections are being soldered at temperatures below -4°F (-20°C). Heat the center of the splice until it is hot enough to melt the solder placed at the end. Allow the splice to cool before proceeding to the next step.



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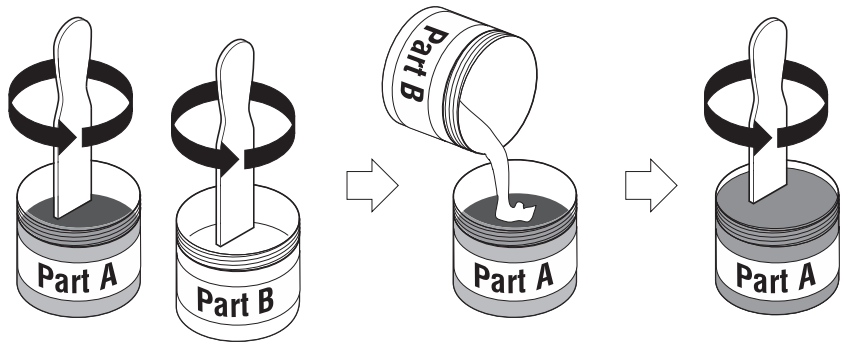
**IMPORTANT:** To ensure proper electrical insulation, use the specified high temperature Teflon® tape provided with the kit. Do not use common vinyl tape that does not have adequate temperature rating.

- Wrap the crimped connection with two strips of tape, covering splice and 1/4 inch (6 mm) of conductor insulation (approximately three overlapped layers).  
**DO NOT WRAP THE BRAID WITH TAPE**



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



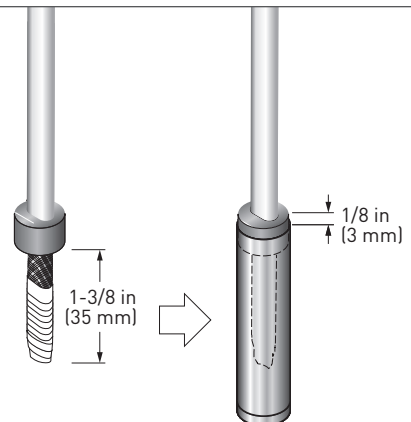
- Open the two containers: one labeled Part A, and the other Part B.
- Use separate wooden sticks to stir the contents of each container until smooth and homogeneous.
- Pour all the contents of the container labeled Part B into the container labeled Part A and mix thoroughly until the color is uniform.

9

- Pour the potting compound mixture into the metal tube.

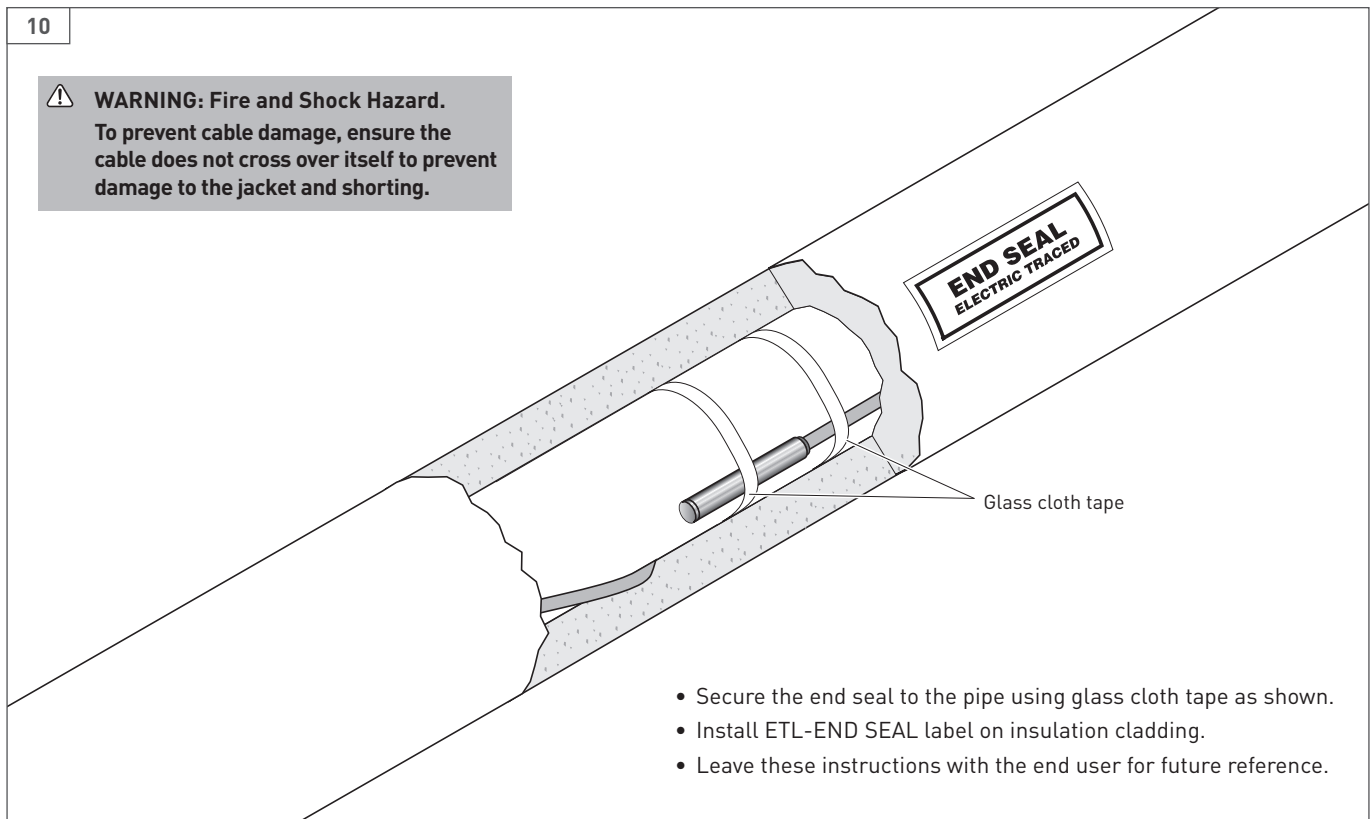


- Insert the heating cable with rubber collar into the tube as shown.
- Wipe off excess mixture.





**WARNING: Fire and Shock Hazard.**  
To prevent cable damage, ensure the cable does not cross over itself to prevent damage to the jacket and shorting.



- Secure the end seal to the pipe using glass cloth tape as shown.
- Install ETL-END SEAL label on insulation cladding.
- Leave these instructions with the end user for future reference.



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