DESCRIPTION
The nVent RAYCHEM FTC-XC Power Connection and End Seal Kit is for use with XL-Trace-CR and -CT heating cables installed in conduit or in direct buried pipe applications, and for RaySol floor warming applications. Materials for one power connection and one end seal are included in this kit. These installation instructions must be used in conjunction with the XL-Trace and RaySol System Installation and Operation Manuals. For technical support contact your nVent representative or call nVent at 800-545-6258.

TOOLS REQUIRED
- Utility knife
- Needle nose pliers
- Diagonal cutters
- Heat gun or propane torch

ADDITIONAL MATERIALS REQUIRED (not provided in this kit)
- Two UL Listed or CSA Certified junction boxes suitable for the location, with a clearance hole for 1/2-inch conduit or 1/2-inch NPT threaded hub. (For RaySol applications, the power connection end seal may be terminated in a single box, if desired.)

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<td>Gel-filled end seal</td>
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<td>B</td>
<td>2</td>
<td>Black heat-shrinkable tubes (1/8 in x 51/2 in)</td>
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<td>C</td>
<td>1</td>
<td>Green/yellow heat-shrinkable tube (1/4 in x 6 in)</td>
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<td>D</td>
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<td>H</td>
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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 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 nVent, agency certifications, and national electrical codes, ground-fault equipment protection must be used. Arcing may not be stopped by conventional circuit breakers.
- Bus wires will short if they contact each other. Keep bus wires separated.
- Keep components and heating cable ends dry before and during installation.
- The black heating cable core is conductive and can short. It must be properly insulated and kept dry.
- Component approvals and performance are based on the use of nVent-specified parts only. Do not use substitute parts or vinyl electrical tape.
- Leave these instructions with end user for reference and future use.
- Component approvals and performance are based on the use of nVent-specified parts only. Do not use substitute parts or vinyl electrical tape.

Health Hazard: Overheating heat-shrinkable tubes will produce fumes that may cause irritation. Use adequate ventilation and avoid charring or burning. Consult MSDS RAY3122 for further information.
CHEMTREC 24-hour emergency telephone: (800) 424-9300
Non-emergency health and safety information: (800) 545-6258.
Heating Cable Construction

Power Connection Installation for XL-Trace -CR and -CT, and RaySol Heating Cables

1. • Lightly score completely around and then down outer jacket.
• Bend heating cable to break jacket at score; peel off outer jacket.

2. • Gently spread apart braids as shown.
• Bend heating cable and work it through the opening in the braid.

3. • Position the braid on one side of the heating cable.
• Straighten the braid and twist into a "pigtail".
• Lightly score completely down and around the inner jacket.
• Bend heating cable to break jacket and score; peel off inner jacket.

4. • Notch core at end.
• Peel bus wires from core.

5. • Score between bus wires at base jacket.
• Bend core to break free at base jacket.
• Peel core and any remaining material from bus wires.

6. • Slide 5 1/2 in black shrink tubes into place against conductive core.
• Shrink tubing by moving heat source continuously from side to side.

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CAUTION: Health Hazard.
Consult material safety data sheet RAY3122.
7. Center 1 in black shrink tube over end of heating cable as shown.

8. Heat tube evenly until it shrinks and adhesive flows out both ends.
   - Immediately pinch with pliers between wires while tube is still hot. Hold for 10 seconds to ensure seal.

9. Slip green/yellow tube over braid and shrink.

10. Install junction box and make connection as shown.

11. Attach circuit tag to heating cable using cable tie provided (RaySol only).

12. Attach warning label on junction box cover.
End Seal Installation for XL-Trace -CR and -CT, and RaySol Heating Cables

1. Clearly cut off the end of cable.
2. Score down and around outer jacket 1 inch from the end.
3. Remove the outer jacket.
4. Do not cut or damage inner jacket. If damaged, remove damaged section and repeat step 1.

- Remove exposed braid.

Note: The end seal is designed to be installed only once; it cannot be removed from the heating cable once installed.

Typical XL-Trace Direct Buried Pipe Application

- Power connection box
- End seal box
- 3/4 in conduit
- Waterproof thermal insulation

Typical RaySol Floor Warming Application

- Power connection box
- End seal box
- 3/4 in conduit

North America
Tel +1.800.545.6258
Fax +1.800.527.5703
thermal.info@nvent.com

Europe, Middle East, Africa
Tel +32.16.213.511
Fax +32.16.213.604
thermal.info@nvent.com

Asia Pacific
Tel +86.21.2412.1688
Fax +86.21.5426.3167
cn.thermal.info@nvent.com

Latin America
Tel +1.713.868.4800
Fax +1.713.868.2333
thermal.info@nvent.com