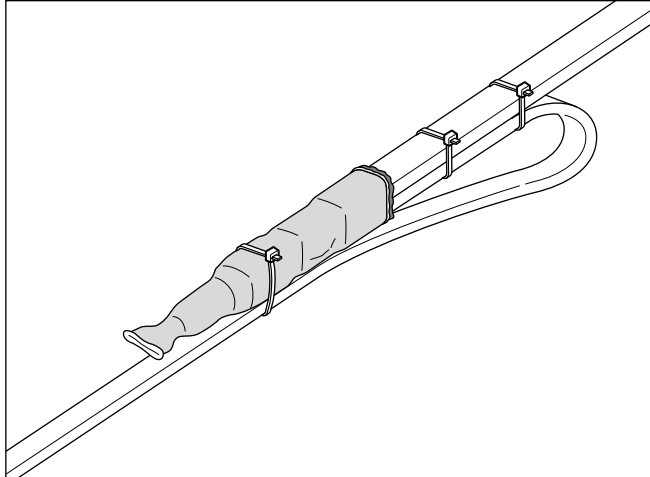


Installation Instructions



Description

The FTC-HST is used with RaySol System heating cables to make splice connections (on slab bottoms only), and with IceStop and XL-Trace Systems to make splice and tee connections. Materials for 2 splice or tee connections are included in each kit. For complete system installation information, consult the appropriate Installation Instruction and Operating Manual: RaySol, XL-Trace, or IceStop. If you do not have the appropriate Installation and Operation Manual, or require additional information, call (800) 545-6258.

Tools Required

- Diagonal cutters
- Utility knife
- Crimp tools (Ideal 30-425 and T&B WT112M or WT2000)
- Heat gun or torch (Raychem FH2616A-1 or equal)
- Hammer and nail (for IceStop gutter/downspout applications only)
- Needlenose pliers

Important: First verify heating cable is appropriate for the application. The cable type is printed on the outer jacket:

- IceStop: Roof and gutter de-icing
- XL-Trace: Above ground pipe freeze protection
- RaySol: Floor warming

The minimum installation temperature for the FTC-HST splice and tee is 0°F (-18°C).

Approvals



718K Pipe Heating Cable or
877Z De-icing and Snow
Melting Equipment or
9J86 Radiant Heating Cable



Desig. 3A, 3B, 3C;
XL-Trace and IceStop
2B, 2E; IceStop
Desig. 1B; RaySol and
IceStop

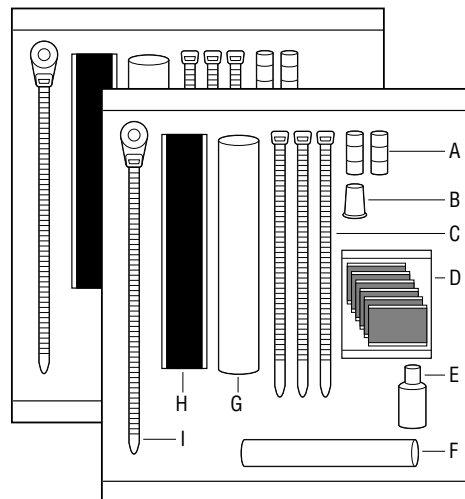


XL-Trace and
IceStop GM-XT
only

Class 1, Div. 2,
Groups A, B, C, D
hazardous locations with
IceStop GM-1XT and
GM-2XT only

Kit Contents

Item	Qty	Description
A	4	Insulated bus wire crimps
B	2	Uninsulated braid crimps
C	6	Cable ties
D	12	Mastic strips
E	1	Heat-shrinkable cap
F	2	Heat-shrinkable tubes (6" long, 1" dia.)
G	2	Heat-shrinkable tubes
H	2	Black cloth tapes (6" long)
I	2	Clamp ties



WARNING:

These components are electrical devices. They must be installed correctly to ensure proper operation and to prevent shock or fire. Carefully follow all of the installation instructions and read these important warnings.

- 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 Raychem and the 1996 National Electrical Code, ground-fault equipment protection must be used on each heating cable branch circuit. Arcing may not be stopped by conventional circuit breakers.
- Component approvals and performance are based on the use of specified parts only. Do not use substitute parts or vinyl electrical tape.
- The black heating-cable core is conductive and can short. It must be properly insulated and kept dry.

- Keep components and heating cable ends dry before and during installation.
- Damaged bus wires can overheat or short. Do not break bus wire strands when scoring the jacket or core.
- Bus wires will short if they contact each other. Keep bus wires separated.
- Heat-damaged components can short. Use a heat gun or a torch with a soft, yellow flame. Keep the flame moving to avoid overheating, blistering, or charring the heat-shrinkable tubes. Avoid heating other components. Replace any damaged parts.
- Use only fire-resistant insulation materials such as fiberglass wrap.
- Leave these installation instructions with the user for future reference.

CAUTION:

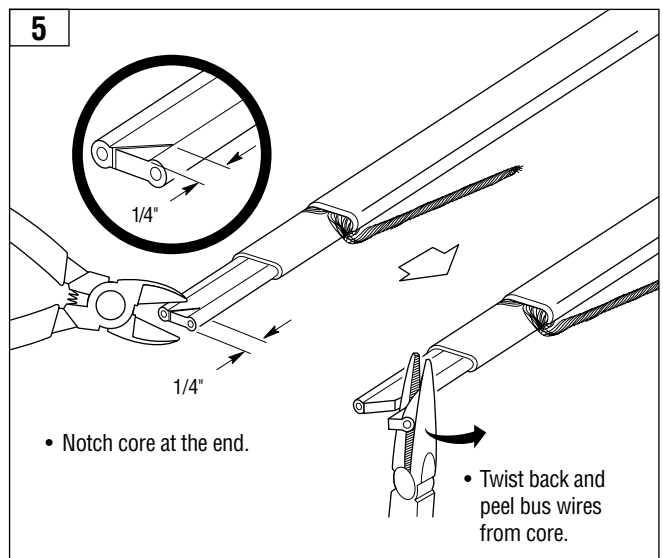
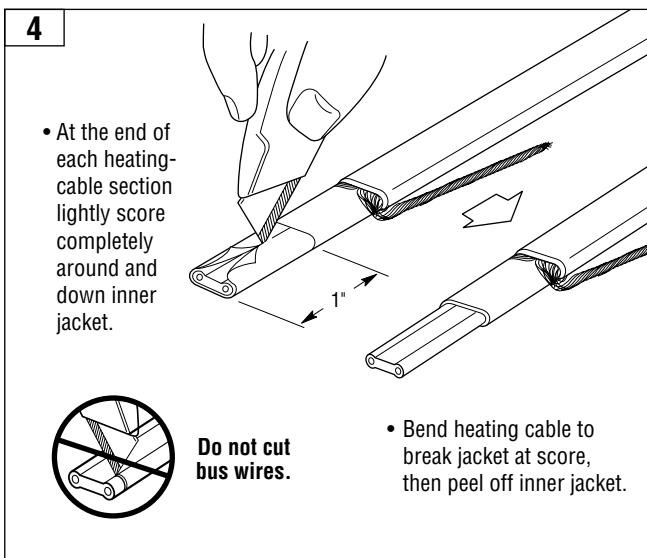
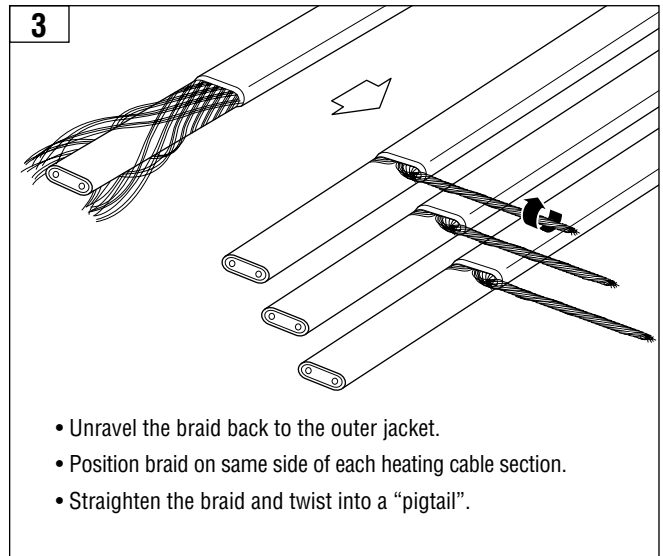
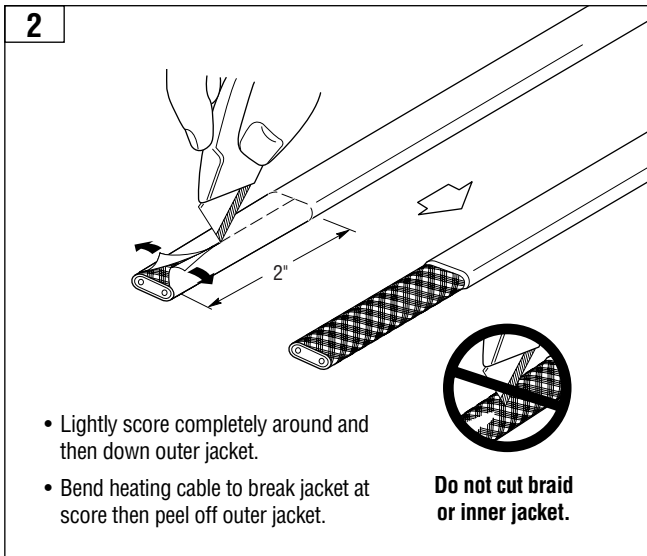
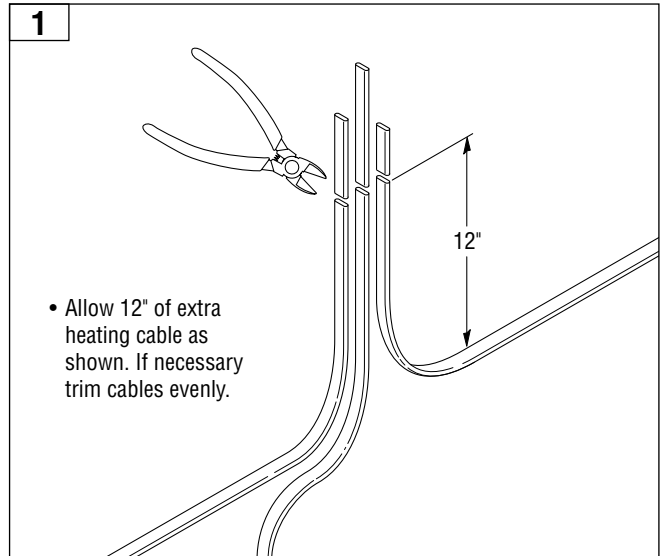
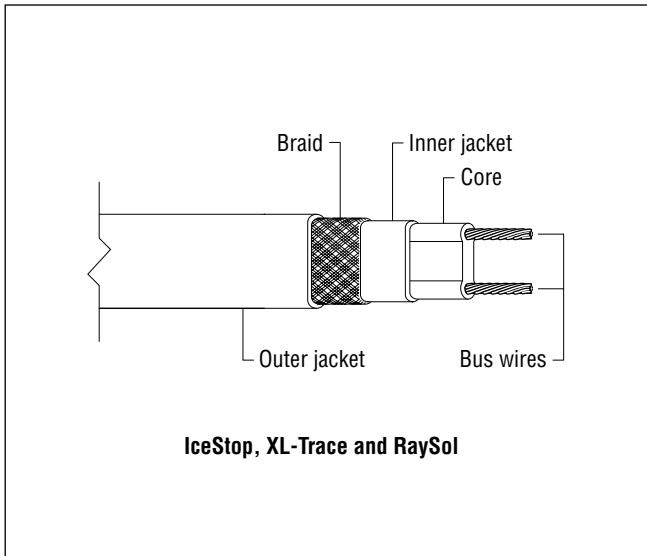
Charring or burning the heat-shrinkable tubes in this kit will produce fumes that may cause eye, skin, nose, and throat irritation. Consult Material Safety Data Sheet RAY3122.

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

Non-emergency health and safety information:
(650) 361-4907.

FTC-HST Installation Instructions

Instructions are shown for a tee connection. Splice connections are done the same way, without the third heating cable section.



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FTC-HST Installation Instructions

6

- Score between bus wires at base jacket.
- Bend core to break free at base jacket.



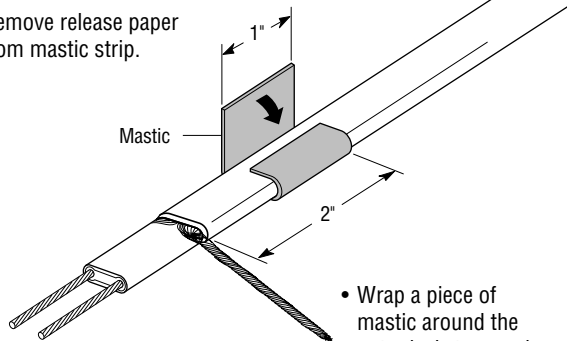
Do not cut bus wires.

- Peel core and any remaining material from bus wires.

Repeat steps 2 through 6 for other heating cable sections.

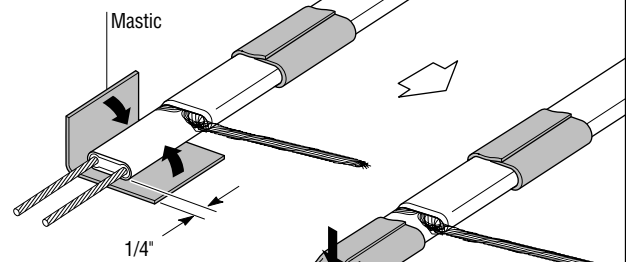
7

- Remove release paper from mastic strip.



- Wrap a piece of mastic around the outer jacket on each heating cable section.

8

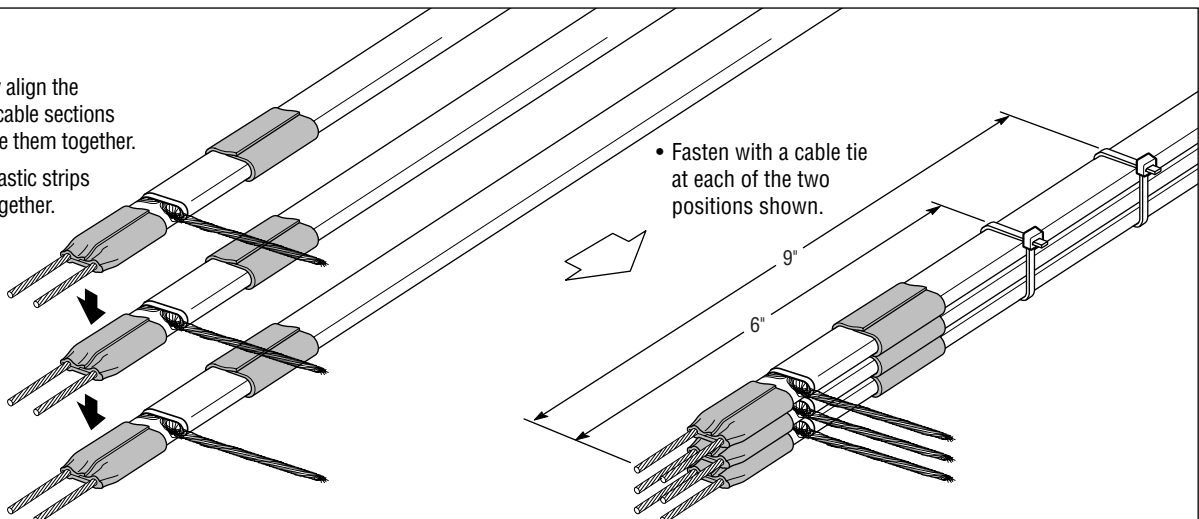


- Remove release paper from mastic strip.
- Wrap a piece of mastic around the end of each heating cable section and position as shown.

- Pinch the mastic in the center to completely seal the core at the end of each heating cable.

9

- Carefully align the heating cable sections and place them together.
- Press mastic strips firmly together.

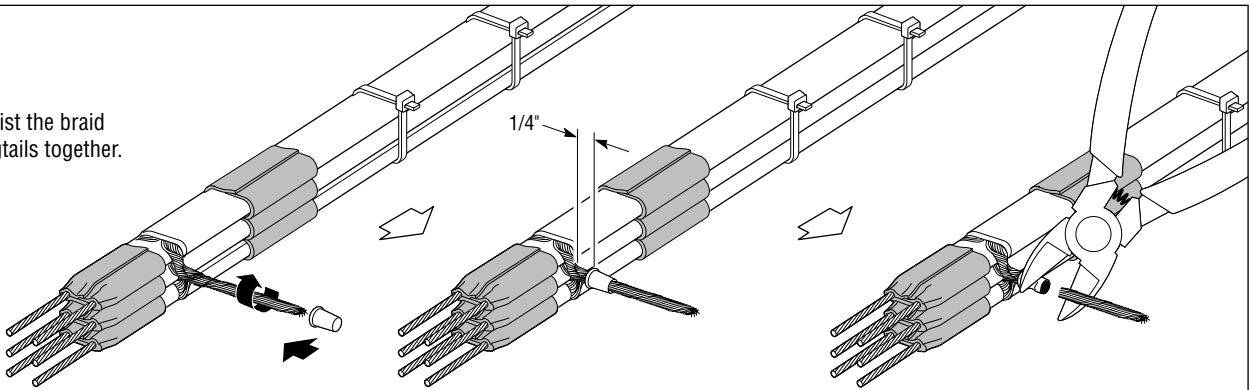


- Fasten with a cable tie at each of the two positions shown.

FTC-HST Installation Instructions

10

- Twist the braid pigtails together.



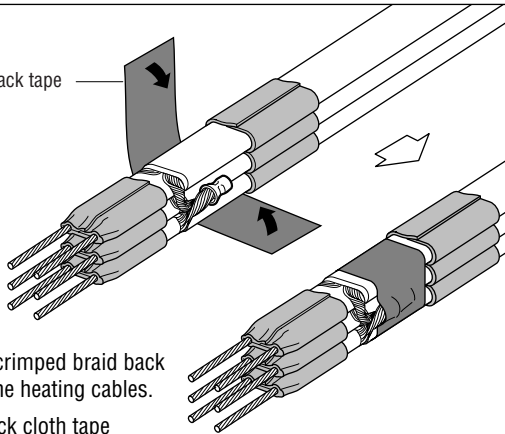
- Slide insulated crimp over braid to within 1/4" of heating cable as shown.

- Crimp the braid, using the Ideal crimp tool.

- Cut off the extra braid.

11

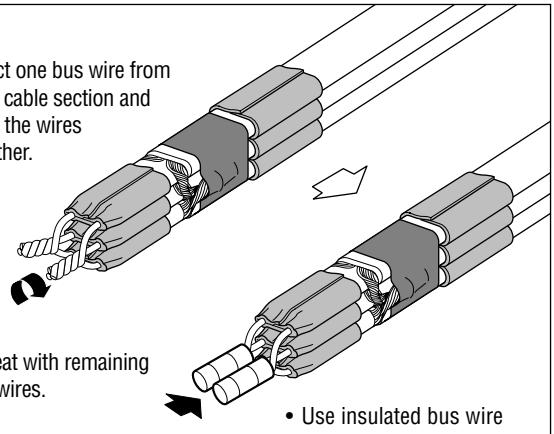
Black tape



- Fold the crimped braid back against the heating cables.
- Wrap black cloth tape evenly around crimp and heating cables. Cover crimp completely.

12

- Select one bus wire from each cable section and twist the wires together.



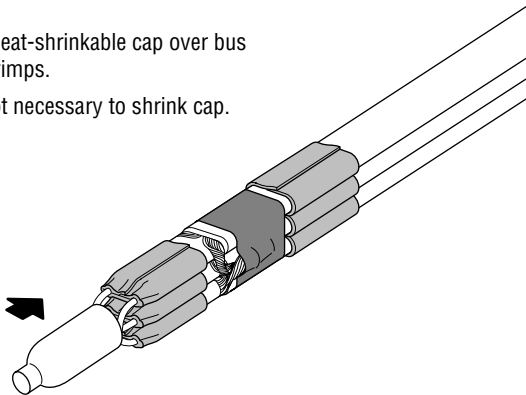
- Repeat with remaining bus wires.

Be careful not to twist together bus wires from the same heating cable.

- Use insulated bus wire crimps and T&B crimp tool to crimp each set of bus wires together.

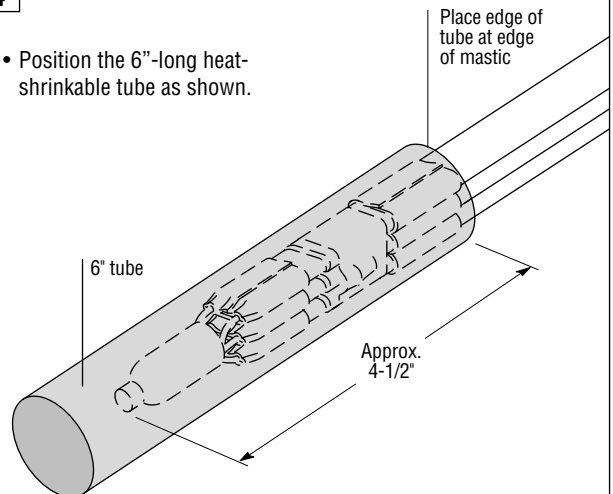
13

- Slide heat-shrinkable cap over bus wire crimps.
- It is not necessary to shrink cap.



14

- Position the 6"-long heat-shrinkable tube as shown.



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FTC-HST Installation Instructions

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• **Shrink the tube completely.** Start at end farthest from the cap and work toward the open end.

• **Keep heating after tube has shrunk, to melt adhesive and mastic inside tube. Total heating time should be about 5 minutes.**

Ring of mastic and adhesive will appear

• Immediately after shrinking, pinch the end of the tube with needle-nose pliers until the end stays sealed; this normally takes 10 seconds.

CAUTION: To avoid burns allow heated sections to cool before touching.

Important: Additional heat is needed after the tube is shrunk to melt mastic and adhesive inside.

16a For all applications except IceStop in gutters and downspouts

Secure end of connection to heating cable

• After the connection has cooled, fold over the connection and fasten it with the third cable tie.

16b IceStop gutter and downspout applications

GM-RAKE

- Secure heating cable with down-spout hanger (GM-RAKE).
- Fasten clamp tie to center of connection.
- Use a hammer, nail, and clamp tie to secure connection and keep it off of the gutter bottom as shown.

16c For RaySol splice applications in conduit

Notes

Notes

FTC-HST Installation Instructions

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