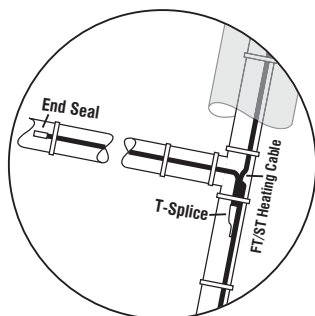


**BRI-TSP-1
T-Splice with
End Seal Kit**

This kit does not provide a power connection. You must use BRI-PEK-1 Power Connection Kit (available separately).



Description

BRI-TSP-1 T-Splice kit is for use only with FT and ST self-regulating heating cables. Materials for one tee splice connection and one end seal are included. FT and ST self-regulating heating cables can be used for both pipe freeze protection and roof, gutter, drain deicing applications.

Heating Cable Selection & Design

For production selection & design assistance please contact Britech at 1-877-335-7790.

FT/ST Heating Cable Installation

Please refer to "FT/ST Roof, Gutter & Drain Deicing Manual" and "FT/ST Pipe Heat Tracing Manual" for complete installation instructions.

KIT CONTENTS

- 2 x Insulated crimps (bus wires)
- 1 x Un-insulated crimp (braids)
- 3 x Cable ties
- 1 x Clamp tie with mounting hole
- 6 x Mastic strips
- 2 x Black cloth tapes
- 1 x Heat-shrinkable end cap
- 1 x Heat-shrinkable tube
- 1 x Cold-applied end cap
- 1 x Silicon glue
- 1 x Nozzle tip applicator

TOOLS REQUIRED

- Diagonal cutters
- Utility knife
- Needle nose pliers
- Heat gun
- Screw driver
- Crimp tool




WARNING: Burning or charring of the heat-shrink tubing included in this kit will produce fumes that may cause eye, skin, nose or throat irritation. Use heat gun carefully when applying heat-shrink tubing (see instruction #17)

APPROVALS

Certification

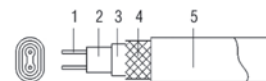
CAN/CSA-C22.2 No. 130-03

 1862457; Class: 2878-01, 2878-81
Class I, Div. 2, Groups A, B, C, D

Class II, Div. 2 Groups E, F, G
Class III

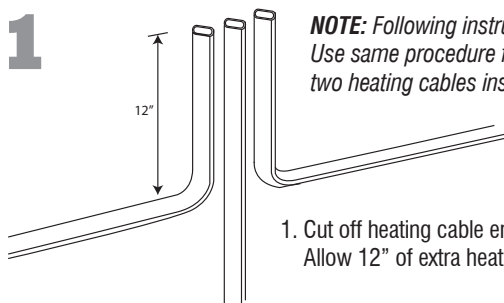
Use this kit only with FT/ST Heating Cables

**FT/ST CABLE
CONSTRUCTION**



- 1 Conductor
- 2 Heating element
- 3 Insulating sleeve
- 4 Metal jacket
- 5 Protective outer sleeve

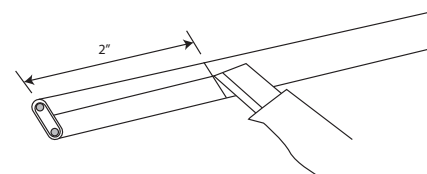
1



NOTE: Following instructions all show a tee connection. Use same procedure for splice connection but use only two heating cables instead of three.

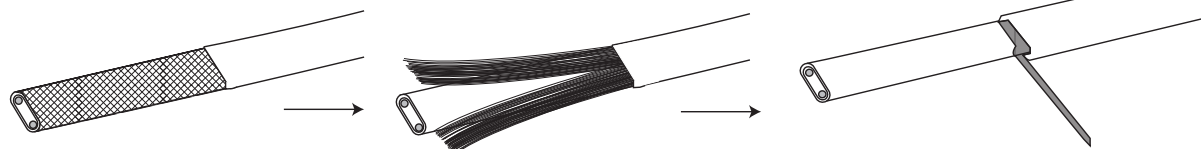
1. Cut off heating cable ensuring a straight cut. Allow 12" of extra heating cable for tee / splice connection.

2



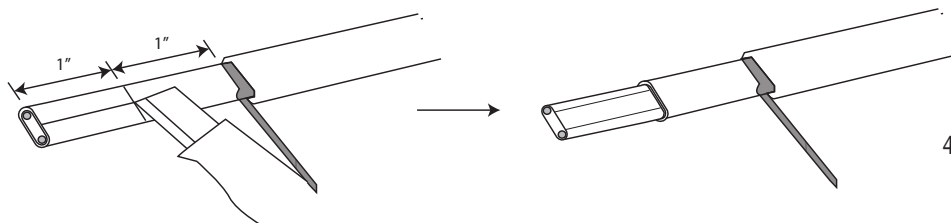
2. Cut heating cable's outer jacket to 2"

3

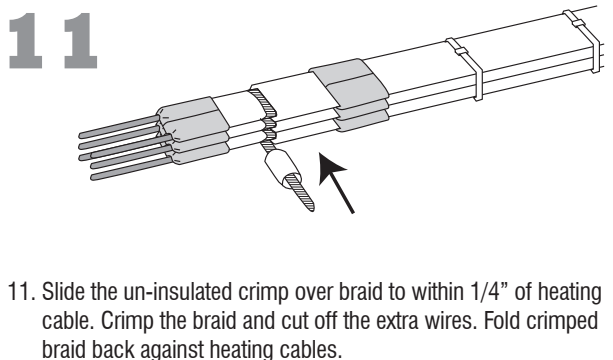
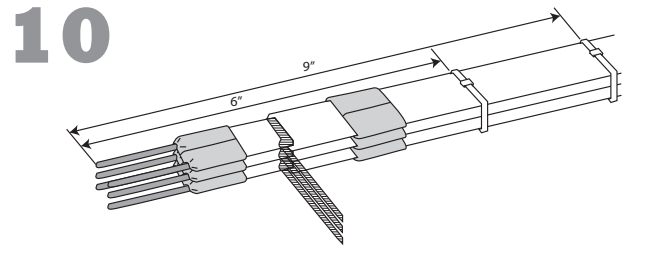
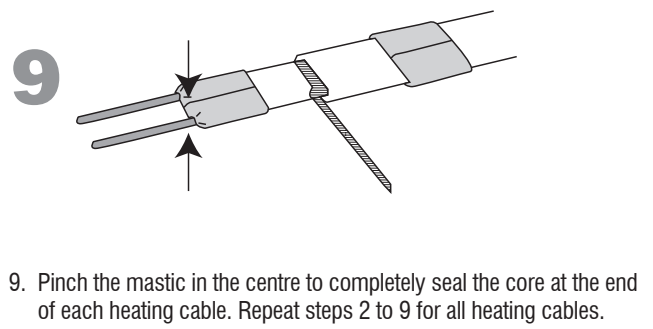
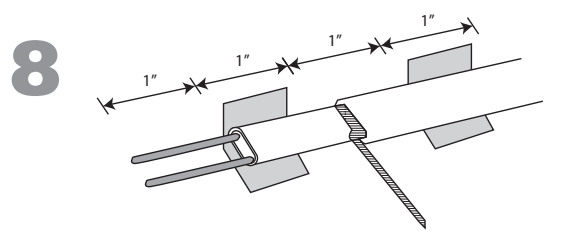
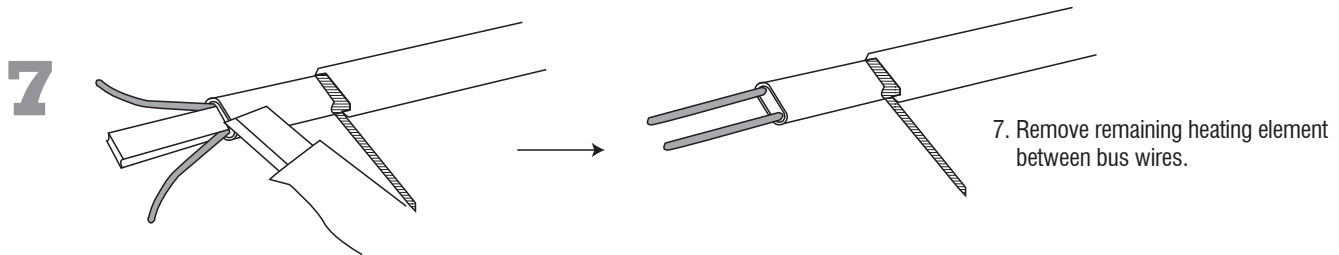
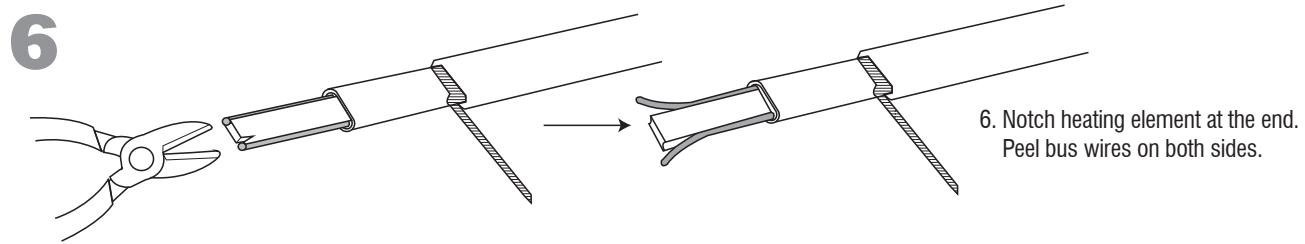
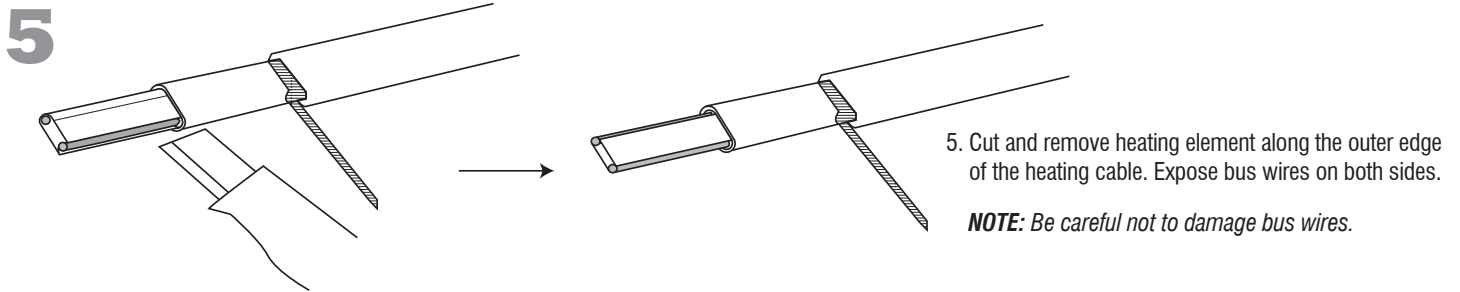


3. Unravel the braid with screw driver. Straighten and twist braid. Position twisted braid on the side of the heating cable.

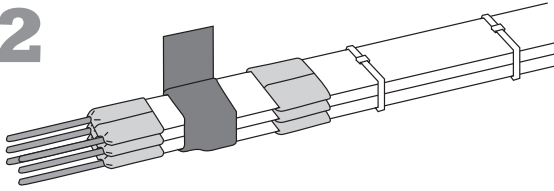
4



4. Cut down inner jacket 1" from end. Expose heating element.

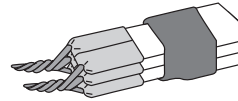


12



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

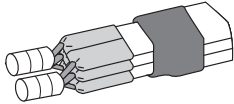
13



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

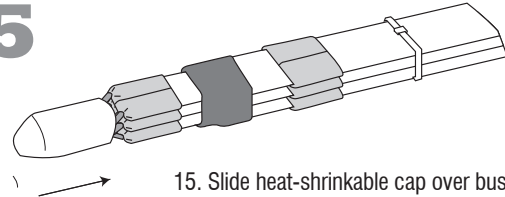
NOTE: Be careful not to twist together bus wires from the same heating cable.

14



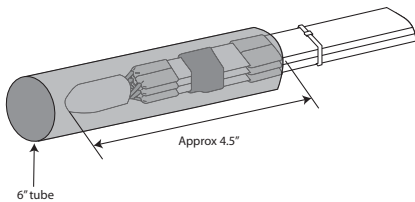
14. Use insulated bus wire crimps and crimp tool to crimp each set of bus wires together.

15



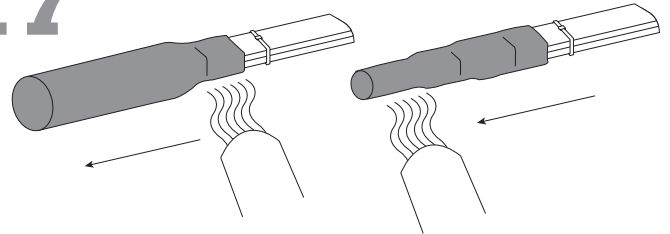
15. Slide heat-shrinkable cap over bus wire crimps. It is not necessary to shrink cap.

16



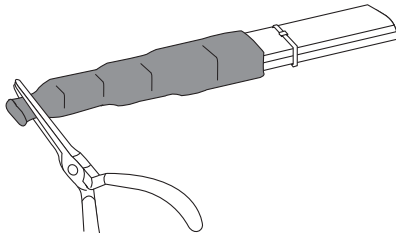
16. Position one 6" long heat-shrinkable tube as shown. Place edge of tube at edge of mastic tapes.

17



17. 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.

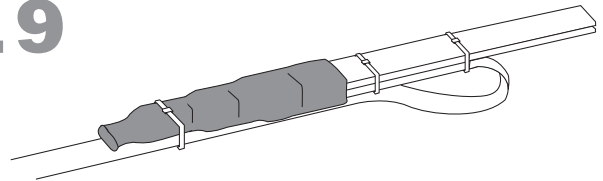
18



18. 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.

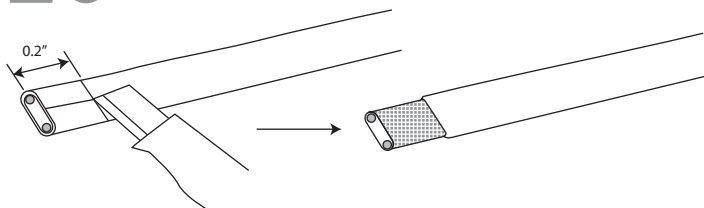
19



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

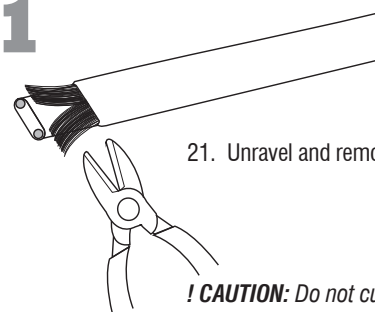
NOTE: For gutter & drain de-icing applications, fasten clamp tie to center of connection and secure to wall. Keep it off the gutter bottom.

20



20. Clean cut at the end of heating cable. Remove 0.2" of outer jacket from the end.

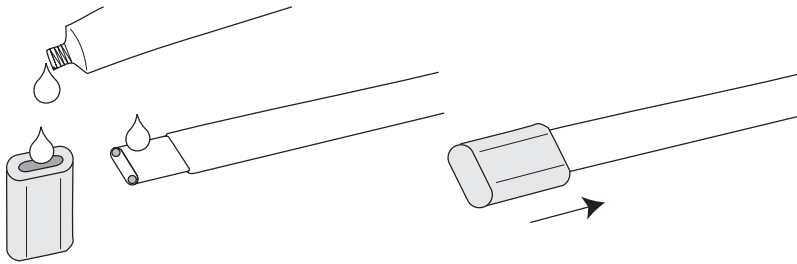
21



21. Unravel and remove exposed braid.

! CAUTION: Do not cut or damage inner jacket.

22



22. Squeeze silicone glue into the end cap and exposed inner jacket. Push the end cap over the end of the heating cable until some of the glue oozes out.

Safety Instructions

Due to the risk of electrical shock, arcing and fire caused by product damage of improper usage, installation or maintenance, a ground fault equipment protection device is required. All electrical systems and installations must be complying with Britech requirements and be installed in accordance with the CEC Canadian electrical Code and any other national and local codes.

All requirements, approvals and performance ratings are based on the use of specified parts from Britech only. The Cu braiding with a resistance of $< 18.2 \Omega/\text{km}$ is suitable as a protective conductor.

After completion of the heating circuit, it must be tested at a test voltage of AC 1500 V over duration of 1 minute. For protection against indirect touch, all foreign conductive components must be embedded in the (protective conductor) safety measures.

Keep both sides of the heating tapes dry before and during the installation. Evenly unroll the heating tape from the coil and cut it to length (the max. heating circuit lengths contained in the data sheet must be observed!).

After the termination's shrinkage, it must be subjected to a visual examination. No defects such as cracking, peeling, bloating, etc. may be detected. The heating tape's two supply lines must not be inter-connected-short circuit!

Mounting and Commissioning

• Mounting

The assembly and operation of explosion-protected electrical systems must be subjected to all applicable assembly and operating specifications (e.g. CEC or other national or local codes).

The heating tape's routing over the work piece must be realized in accordance with the configuration specifications.

In order to avoid wrinkling, the minimum bending radius of 25 mm (1 inch.) must not be under run. Bending must not be realized via the heating tape's narrow side.

The heating tape is attached to the work piece by means of temperature-resistant adhesive tape with a max. clearance of 200 mm (7.9 inch.). **Only plastics-free adhesive tapes (no PVC tapes) may be used.**

In order to ensure sound heat transmission, the heating tape must be evenly attached to the surface throughout the entire length. If required, the fixation clearances must be reduced. When routed over pipelines, the tape must either be routed in parallel with the pipe's axis or spirally (please observe configuration instructions).

With plastic pipes, which offer poorer heat conductivity than metal pipes, aluminium foil or aluminium adhesive tape must be attached beneath or above the heating tape. This considerably improves the heat distribution and avoids the formation of local heat accumulations. At the same time, the poorer heat dissipation and the heating tape's capacity reduction connected therewith is partially compensated thereby.

After mounting completion of the FT/ST heating system with all accessories, the insulation capacity between the heating conductor and the metal jacket must be verified. The test voltage should amount to 500 VDC and the minimum insulation resistance should amount to $1.5 \text{ M}\Omega/\text{Km}$.

• Commissioning

The operating equipment must only be operated in undamaged and clean condition.

Prior to initial commissioning and in specific time intervals, electrical systems must be subjected to an examination by qualified electricians.

Operating, maintenance and failure rectification

The heating circuits must be applied in accordance with the applicable specifications and in accordance with the operating data specified by Britech.

Operators of electrical systems in potentially explosive areas must ensure the operating equipment's orderly condition, its orderly operation and monitoring as well as the implementation of maintenance and repair works in connection therewith.

Maintenance and failure rectification works may only be carried out by qualified electricians.

Conformity with all applicable laws and guidelines must be ensured prior to re-commissioning. All applicable safety instructions must be observed prior to the implementation of any maintenance and/or failure rectification works.

Controls & Accessories

For controls and accessories please refer to the Britech catalogue.