

**BRI-PEK-ST  
Power Connection Kit  
with End Seal**

Cold Applied  
Power Connection Kit  
for ST Self-Regulating Cables



**Description**

BRI-PEK-ST power connection & end seal kit is for use only with ST - Smart Trace self-regulating heating cables. Materials for one power connection and one end seal are included. ST 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.

**ST- Smart Trace Heating Cable Installation**

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

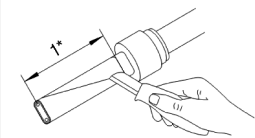
**Kit Contents**

- A** Cable gland
- B** Sealing cap
- C** Silicone tubing
- D** Green/Yellow tubing
- E** Nozzle tip applicator
- F** End cap
- G** Silicon glue

Installation Kit BRI-PEK-ST	
<b>a</b>	
<b>b</b>	
<b>c</b>	
<b>d</b>	
<b>e</b>	
<b>f</b>	
<b>g</b>	

**Connection**

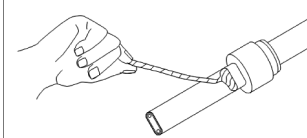
The dimensions specified in the installation instructions must be strictly observed!  
Cut off heating tape ensuring a straight cut.  
Push cable gland **a** and sealing's cap **b** onto heating tape.  
Cut the heating tape's outer protective sheath to 1\*.



1\*) 145 mm (5.7 inch.)

**1**

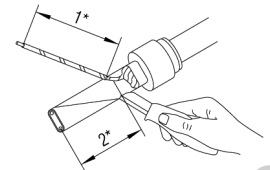
Splice the metalli jacket and twist it.



**2**

Push the green/yellow tubing **d** 1\* onto the twisted metalli jacket.

Measure 2\* from the end of the tape, cut the insulating sleeve to length and remove it.



1\*) 150 mm (5.9 inch.)  
2\*) 115 mm (4.5 inch.)

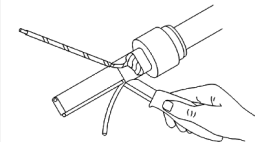
**3**

**Tools Required**

- Diagonal cutters
- Utility knife
- Screw driver

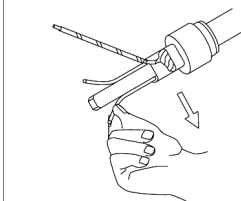
Required tools	

Expose the conductors supply line of the heating element 110 mm (4.3 inch.).



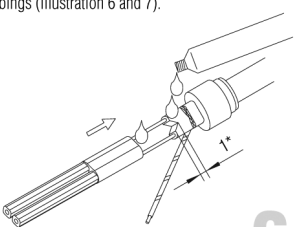
**4**

Pull out the conductors and twist them and then remove the black heating element re-maining (illustration 5 and 6).



**5**

Cut out a triangle between the conductors 1\*. Apply the silicone glue **g** to the exposed heating element and the insulating sleeve. Push the silicone tubings (d) onto the the blank conductors and the insulating sleeve. Place the sealing cap **b** close to the edge of the silicone tubings (illustration 6 and 7).

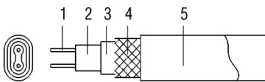


**6**

1\*) 5 mm (0.2 inch.)

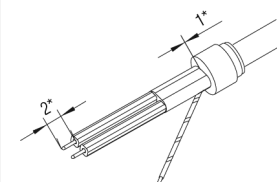
**Use this kit only with ST Heating Cables**

**ST CABLE CONSTRUCTION**



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

Push the silicone tubings (c) onto the the blank conductors and the insulating sleeve. Place the sealing cap **b** close to the edge of the silicone tubings (illustration 6 and 7).



1\*) 0 mm (0 inch.)  
2\*) 13 mm (0.5 inch.)

**7**

Screw the cable gland **a** into the junction box. Attach ground wire to junction box and tighten them.

Insert the heating tape into the cable gland with the sealing cap attached. The length before bending the conductors has to be measured from inner surface of junction box 1\*. Tighten the screw cap. Connect the heating tape to L1 and L2/N in the junction box.

**NOTE:**

When using a junction box fasten ground cable and heating cable to ground lug on box.

Connect the heating tape to L1 L2/N using wire nuts of the approved size for project. Ensure the wire nuts are fastened securely.

If you are using a junction box with a terminal strip connect ground to ground lug and L1 and L2/N to respective terminals on terminal strip.

**8**

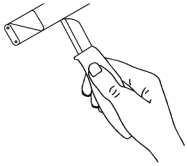
**APPROVALS**

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

1862457; Class: 2872-01, 2872-81

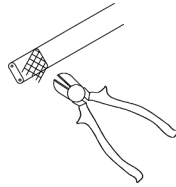
Class III

Cut through the heating tape with a straight cut. Remove 5 mm (0.2 inch.) of the outer protective sleeve on the heating tape.



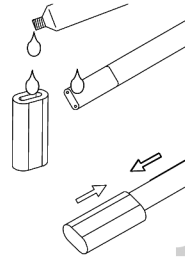
9

Remove the metal jacket, starting from the end of the heating tape. Take care not to damage the internal insulation.



10

Put silicone glue **g** into the end cap **f** and put this onto the exposed insulating sleeve. Push the end cap over the end of the heating tape until some of the glue oozes out.



11

#### Note regarding gluing

The silicone should ooze out a bit when the silicone hose is pushed onto the heating tape. When laying the heating tape in the junction box, make sure the silicone hose lies directly against the cable gland sealing. This prevents overheating.

After gluing, inspect the heating circuit visually. There may not be any fault, such as e.g. cracks, peeling, cuts etc. Leave the glued area to set for 20 min. The final strength is reached after 24 hours.

## 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 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 V DC and the minimum insulation resistance should amount to 1.5 M $\Omega$ /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.