RS Cut to length heat tracing system

The RS heater cable is a parallel resistance, cut to length on site self regulating heating cable designed for frost protection.

The heating tape adjusts heat output to equal the heat loss from the pipe work. As pipe temperature falls under no-flow conditions or due to decreases in external or internal temperature, the output increases. As the pipe temperature increases under flow conditions or as a result of increasing external or internal temperature so output decreases.

The RS Heater Cable is designed to be cut from reel lengths and site terminated to suit pipework.

The heating tape has a core comprising two bus-wire conductors contained within an extruded semi-conductive self limiting heater core with an outer insulating polyolefin sheath.

The tape has an earth protection screen in the form of a Foil Jacket covering a multi strand earth lead.

The tape is finished with a further protective thermoplastic outer sheath over the earth screen.

Features
- Cut to length
- Easy to terminate
- Suitable for internal and external heating applications

Specification

<table>
<thead>
<tr>
<th>Location</th>
<th>Non hazardous areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conductors</td>
<td>Copper stranded 0.5mm²</td>
</tr>
<tr>
<td>Core</td>
<td>Semi-conductive Polymer</td>
</tr>
<tr>
<td>Outer Sheath</td>
<td>Polyolefin</td>
</tr>
<tr>
<td>Width</td>
<td>7.6mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>5.6mm</td>
</tr>
</tbody>
</table>

Withstand temperatures

- Energised: 65°C
- Un-energised: 65°C

Ratings

- Wattage: 10 watts/m @ 10°C
- Supply voltage as standard: 240V

RS, Professionally Approved Products, gives you professional quality parts across all products categories. Our range has been testified by engineers as giving comparable quality to that of the leading brands without paying a premium price.
A 30mA trip Residual Current Circuit Device (RCCB) or Earth Leakage Circuit Breaker (ELCB) is recommended for use with heating tapes.

- Heating tape should be installed on clean, dry pipe free from burrs, weld splatter or any rough, sharp projections.
- Heating tape may be straight traced or spiralled along the pipe. If straight traced, the heating tape should be held in place with adhesive tape at 300mm intervals. For spiral tracing, fixing at 1m intervals is suitable.
- Use the correct adhesive tape suitable for the temperature application.
- A 30mA trip Residual Current Circuit Device (RCCB) or Earth Leakage Circuit Breaker (ELCB) is recommended for use with heating tapes.
- If in doubt about electrical installation consult a qualified electrician.
- Use mineral or glass fibre insulation and ensure that it is kept dry for maximum efficiency.
- Fit warning labels supplied on the outside of thermal insulation at approximately 3-meter intervals.
- For PVC, ABS, Polythene and other ‘Plastic’ pipes use heating tape not exceeding 12 watts per meter and having an earth screen covering. It is recommended that heating tape be covered in 50mm wide adhesive aluminium foil. An RCC or ELCB unit must be used in conjunction with this type of installation.
- It is recommended that all Heating tape should be installed in conjunction with a thermostatic controller.
- Heating cable should be terminated using RS 6657431 termination kit.

**Heat Losses** (to BS EN 62395-2:2008)

To calculate heat loss per metre of pipe:

\[
\text{Heat losses } W/m = \frac{2\pi k (T_p - T_a)}{\ln \left( \frac{D_2}{D_1} \right)}
\]

where:
- \( k \) = Thermal Conductivity of insulation layer at its mean temperature
- \( T_p \) = Maintain Temperature
- \( T_a \) = Minimum Ambient temp
- \( D_1 \) = Inside Diameter of the Insulation Layer
- \( D_2 \) = Outside Diameter of the Insulation Layer

Thermal Conductivity (\( k \)) for Mineral/Glass Fibre

A Design Factor Allowance should be taken of:
- Maximum heater resistance tolerance (± 10%) and Voltage variation (± 6%)

\[ = 1.1 \times 1.25 \times \text{Heat Loss.} \]

\[ = (0.94)^2 \]

A further design factor of 10% may be added.