APPLICATION
TubeTrace, with "cut-to-length" HPT power-limiting heat tracing, is designed to provide freeze protection or temperature maintenance from 40°F (5°C) to 350°F (177°C) for tubing where high temperature exposure capability is possible. HPT withstands temperature exposures of 500°F (260°C).

The composite construction of the heating element and fiber substrate, plus an additional fiber cushion layer, make HPT an exceptionally durable heating cable. Durability has made TubeTrace with HPT the industry standard for high temperature emissions and process analyzer applications.

Power-Limiting HPT heat tracing:
• Varies in response to the surrounding conditions along the entire length of a circuit.
• Lower risk of overheating the tube or product than with constant watt designs.
• HPT is approved for use in ordinary (non-classified) areas and hazardous (classified) areas.

RATINGS

<table>
<thead>
<tr>
<th>HPT</th>
<th>Ratings</th>
</tr>
</thead>
</table>
| Available watt densities | 5, 10, 15, 20 w/ft @ 50°F  
                           | 16, 33, 49, 66 w/m @ 10°C                   |
| Supply voltages¹    | 120 to 240 Vac Nominal                      |
| Tube temperature range | 40°F to 400°F (5°C to 204°C)               |
| Max. continuous exposure² Power-off | 500°F (260°C)                     |

Note
1. Higher voltages up to 480 Vac may be possible: Contact Thermon for design assistance.
2. This reflects maximum exposure for heater. If bundle jacket is to remain below 140°F (60°C) in +80°F (27°C) ambient (in consideration of personnel burn risk) tube temperature must remain below 400°F (205°C). Alternative designs to keep jacket below 140°F (60°C) in higher ambients and/or with higher tube temperatures are available. Contact Thermon.

CONSTRUCTION
1 Process tube
2 HPT power-limiting electrical heat tracing
3 Heat reflective tape
4 Non-hygroscopic glass fiber insulation
5 Polymer outer jacket (ATP or TPU available)

PRODUCT FEATURES
• Power-limiting
• Low start-up current
• "Cut-to-length"
• Hazardous area approvals

For additional information on HPT and other Thermon heat tracing products and services, visit www.thermon.com.
**POWER OUTPUT CURVES**

The power outputs shown apply to cable installed on insulated metallic pipe (using the procedures outlined in IEEE Standard 515) at the service voltages stated below. For use on other service voltages, contact Thermon.

![Power Output Curve Graph]

**DESIGN TOOLS**

Technical Design Information and CompuTrace® - IT computer design program for TubeTrace™ heated instrument tubing are available online at www.thermon.com.

**TUBERACE ACCESORIES**

Sealing the ends of pre-insulated tubing bundles ensures their efficient and reliable performance. A variety of termination kits and accessories are available and can be found on Form CLX0020.

**ELECTRICAL HEAT TRACE ACCESSORIES**

Thermon manufactures every type of electrical resistance heat tracing available in the world today. Power connection and termination kits (Form CLX0024) and a variety of controls are all available for heated instrument tubing applications.

**HOW TO SPECIFY**

<table>
<thead>
<tr>
<th>Bundle Type</th>
<th>Process Tube(s) Wall Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE = Single Tube</td>
<td>028 = .028&quot; (SS Only)</td>
</tr>
<tr>
<td>ME = Multiple Tubes</td>
<td>030 = .030&quot;</td>
</tr>
<tr>
<td></td>
<td>032 = .032&quot; (Copper Only)</td>
</tr>
<tr>
<td></td>
<td>035 = .035&quot;</td>
</tr>
<tr>
<td></td>
<td>040 = .040&quot; (Plastic Only)</td>
</tr>
<tr>
<td></td>
<td>047 = .047&quot; (Plastic Only)</td>
</tr>
<tr>
<td></td>
<td>049 = .049&quot;</td>
</tr>
<tr>
<td></td>
<td>062 = .062&quot; (Plastic Only)</td>
</tr>
<tr>
<td></td>
<td>065 = .065&quot;</td>
</tr>
<tr>
<td></td>
<td>083 = .083&quot; (SS Only)</td>
</tr>
</tbody>
</table>

**CERTIFICATIONS/APPROVALS**

- **FM Approvals**
- **Ordinary Locations**
- **Hazardous (Classified) Locations**
  - Class I, Division 2, Groups B, C and D
  - Class II, Division 2, Groups F and G
  - Class III, Divisions 1 and 2
- **Division 1 Locations**
  - Requires Heater Cable Option 8:
    - Class I, Division 1, Groups B, C and D
    - Class II, Division 1, Groups E, F and G

- **Underwriters Laboratories Inc.**
  - **Ordinary Locations**
  - **Hazardous (Classified) Locations**
    - Class I, Division 2, Groups B, C and D
    - Class II, Division 2, Groups E, F and G
    - Class III, Divisions 1 and 2
    - Class I, Zone 1, AExe II
    - Class I, Zone 2, AExe II

  - **Division 1 Locations**
    - Requires Heater Cable Option 8:
      - Class I, Division 1, Groups B, C and D
      - Class II, Division 1, Groups E, F and G

- **Canadian Standards Association**
  - **Ordinary Locations**
  - **Hazardous (Classified) Locations**
    - Class I, Division 2, Groups A, B, C and D
    - Class II, Division 2, Groups E, F and G
    - Class III, Division 1, Groups A, B, C and D
    - Class II, Division 1, Groups E, F and G
    - Ex e II

* CL. II, Div. 2 requires Thermon design review.

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1. Contact factory for availability of long length coils 1” O.D.
2. Teflon is a trademark of E.I. du Pont de Nemours & Co., Inc.
3. Monel and Inconel are trademarks of Inco Alloys International, Inc.
4. Black ATP is standard: other jacket materials are available.

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**PRODUCT SPECIFICATIONS**

**TubeTrace® Type SE/ME**

**ELECTRICALLY HEATED INSTRUMENT TUBING**

with HPT™ Power-Limiting Heat Tracing

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