PRODUCT SPECIFICATIONS

TubeTrace® Type SE/ME

ELECTRICALLY HEATED INSTRUMENT TUBING with **HPT**™ Power-Limiting Heat Tracing

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:

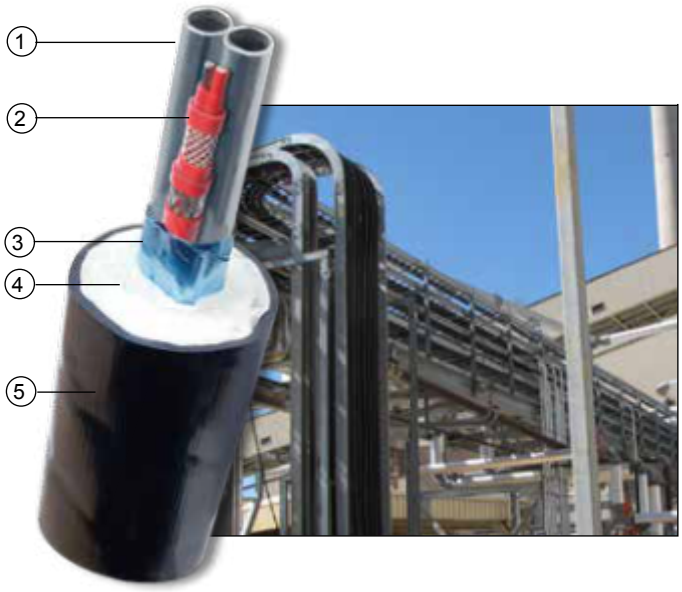
- Varies in response to the surrounding conditions along the entire length of a circuit.
- Lower risk of overheating the tube or product than with constant watt designs.
- HPT is approved for use in ordinary (non-classified) areas and hazardous (classified) areas.

RATINGS

HPT	Ratings
Available watt densities	5, 10, 15, 20 w/ft @ 50°F 16, 33, 49, 66 w/m @ 10°C
Supply voltages[1]	120 to 240 Vac Nominal
Tube temperature range	40°F to 400°F (5°C to 204°C)
Max. continuous exposure[2] Power-off	500°F (260°C)

Note

1. Higher voltages up to 480 Vac may be possible: Contact TC-E 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 TC-E.



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.tc-e.nl

THERMON **The Heat Tracing Specialists®**
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PRODUCT SPECIFICATIONS

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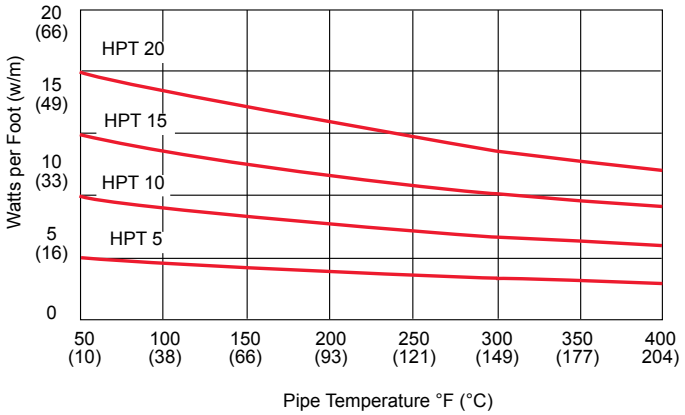
ELECTRICALLY HEATED INSTRUMENT TUBING
with **HPT**™ Power-Limiting Heat Tracing

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 TC-E.



DESIGN TOOLS

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

TUBETRACE ACCESSORIES

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

SE-4F1-52-7-ATP-035

Bundle Type
SE = Single Tube
ME = Multiple Tubes

Process Tube O.D.
1 = 1/8"
2 = 1/4"
3 = 3/8"
4 = 1/2"
5 = 5/8"
6 = 3/4"
8 = 1" [1]

Process Tube Material
A = 316 SS Welded
B = #122 Copper
C = PFA Teflon [2]
D = Monel [3]
E = Titanium
F = 316 SS Seamless
G = 304 SS Welded
H = 304 SS Seamless
J = Alloy C276
K = Alloy 825
L = Alloy 20
M = FEP Teflon
N = Nylon
P = Polyethylene
T = TFE Teflon
X = Special

Number of Tubes
1
2
3
4

Heat Trace Type
50 = HPT 5 w/ft. 120 Vac
51 = HPT 5 w/ft. 240 Vac
52 = HPT 10 w/ft. 120 Vac
53 = HPT 10 w/ft. 240 Vac
54 = HPT 15 w/ft. 120 Vac
55 = HPT 15 w/ft. 240 Vac
56 = HPT 20 w/ft. 120 Vac
57 = HPT 20 w/ft. 240 Vac

Heat Trace Option
7 = OJ/Fluoropolymer NEC Ordinary/D2 Areas and CEC D1 & D2 Areas
8 = NEC Division 1 Areas

Bundle Jacket
ATP [4]
TPU

Process Tube(s) Wall Thickness
028 = .028" (SS Only)
030 = .030"
032 = .032" (Copper Only)
035 = .035"
040 = .040" (Plastic Only)
047 = .047" (Plastic Only)
049 = .049"
062 = .062" (Plastic Only)
065 = .065"
083 = .083" (SS Only)

Notes . . .
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.

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 I, 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.