



PRODUCT SPECIFICATIONS

# TubeTrace® Type SE/ME

ELECTRICALLY HEATED INSTRUMENT TUBING  
with HTSX™ Self-Regulating Heat Tracing

## APPLICATION

TubeTrace, with “cut-to-length” HTSX self-regulating heat tracing, is designed to provide freeze protection or temperature maintenance from 40°F (5°C) to 302°F (150°C) for tubing where high temperature exposure capability is possible. HTSX withstands temperature exposures of 482°F (250°C).

Self-regulating HTSX heat tracing:

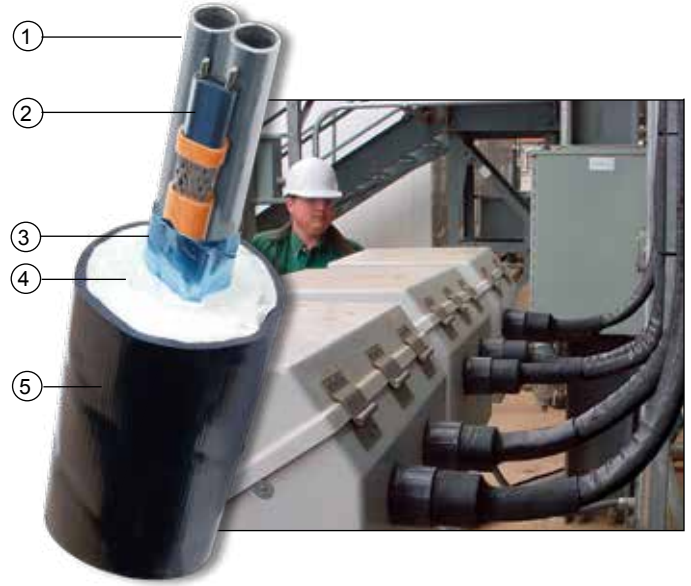
- Varies in response to the surrounding conditions along the entire length of a circuit.
- Lower risk of overheating the tube or product.
- Installed cost is lower because “cut-to-length” HTSX makes end connections easy with minimal waste.
- HTSX is approved for use in ordinary (non-classified) areas and hazardous (classified) areas.

## RATINGS

HTSX	Ratings
Available watt densities	3, 6, 9, 12, 15, 20 W/ft @ 50°F (10, 20, 30, 39, 49, 66 W/m @ 10°C)
Supply voltages	110-120 or 208-277 Vac
Tube temperature range	40°F to 302°F (5°C to 150°C)
Max. exposure temperature <sup>1</sup>	
Intermittent power-on or off	482°F (250°C)
Continuous power-off	400°F (205°C)
T-rating	
3, 6, 9, 12, 15-2 W/ft	T3: 392°F (200°C)
15-1 and 20-1 W/ft	T2D: 419°F (215°C)
20-2 W/ft	T2C: 446°F (230°C)

### Note

1. 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(s)
- 2 HTSX self-regulating electrical heat tracing
- 3 Heat reflective tape
- 4 Non-hygroscopic glass fiber insulation
- 5 Polymer outer jacket (ATP or TPU available)

## PRODUCT FEATURES

- Self-regulating
- “Cut-to-length”
- Hazardous area approvals

For additional information on HTSX and other Thermon heat tracing products and services, visit [www.thermon.com](http://www.thermon.com).



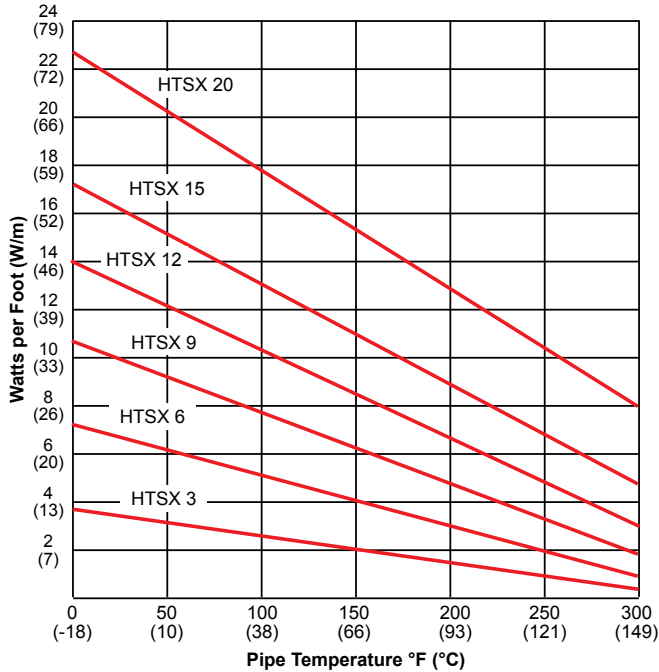
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## POWER OUTPUT CURVES

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.



## DESIGN TOOLS

Technical Design Information and CompuTrace® - IT computer design program for TubeTrace heated instrument tubing are available online at [www.thermon.com](http://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- 4A1-62-7-ATP-035

<b>Bundle Type</b> SE = Single Tube ME = Multiple Tubes	<b>Process Tube O.D.</b> 1 = 1/8" 2 = 1/4" 3 = 3/8" 4 = 1/2" 5 = 5/8" 6 = 3/4" 8 = 1" 1	<b>Process Tube Material</b> A = 316 SS Welded B = #122 Copper C = PFA Teflon <sup>2</sup> D = Monel <sup>3</sup> 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	<b>Number of Tubes</b> 1 2 3 4	<b>Heat Trace Option</b> 7 = NEC Ordinary/D2 Areas and CEC D1 & D2 Areas 8 = NEC Division 1 Areas	<b>Bundle Jacket</b> ATP <sup>4</sup> TPU	<b>Process Tube(s) Wall Thickness</b> 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)
				<b>Heat Trace Type</b> 60 = HTSX 3 w/ft. 120 Vac 61 = HTSX 3 w/ft. 240 Vac 62 = HTSX 6 w/ft. 120 Vac 63 = HTSX 6 w/ft. 240 Vac 64 = HTSX 9 w/ft. 120 Vac 65 = HTSX 9 w/ft. 240 Vac 66 = HTSX 12 w/ft. 120 Vac 67 = HTSX 12 w/ft. 240 Vac 68 = HTSX 15 w/ft. 120 Vac 69 = HTSX 15 w/ft. 240 Vac 70 = HTSX 20 w/ft. 120 Vac 71 = HTSX 20 w/ft. 240 Vac		
						<b>Notes</b> 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 Approval  
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  
Class I, Zones 1 and 2, AEx e II



Canadian Standards Association  
Ordinary Locations  
Hazardous (Classified) Locations  
Class I, Divisions 1 and 2, Groups A, B, C and D  
Class II, Divisions 1 and 2, Groups E, F and G  
Ex eb IIC  
Ex tb IIIC