PRODUCT SPECIFICATIONS

HPT™ POWER-LIMITING HEATING CABLE

APPLICATION

High performance HPT power-limiting heating cables are designed specifically for process temperature maintenance or freeze protection where high maintain temperatures or high temperature exposure is required.

A coiled resistor alloy heating element provides the power-limiting feature of HPT. This PTC (Positive Temperature Coefficient) characteristic decreases the cable's power output as the heat-traced product temperature increases and allows the cable to be overlapped during installation. The composite construction of the heating element and fiber substrate, plus an additional fiber cushion layer, provide an exceptionally durable high performance heating cable.

HPT cables are approved for use in ordinary (nonclassified) areas, hazardous (classified) areas, and Zone 1 and 2 classified areas.

RATINGS

Available watt densities ..... 5, 10, 15, 20 w/ft @ 50°F (16, 33, 49, 66 w/m @ 10°C)
Supply voltages [1] ..... 120/240 Vac nominal
Maximum maintenance temperature
- HPT 5 ..... 410°F (210°C)
- HPT 10 ..... 374°F (190°C)
- HPT 15 ..... 347°F (175°C)
- HPT 20 ..... 302°F (150°C)

Maximum continuous exposure temperature
- Power-off ..... 500°F (260°C)

Minimum installation temperature..... -60°F (-51°C)
Minimum bend radius
- @ -60°F (-51°C) ..... 1.25" (32 mm)
- @ 5°F (-15°C) ..... .38" (10 mm)

T-rating [2]
- Based on stabilized design [3] ..... T2 to T6

Notes

1. Operating voltages up to 480 Vac may be possible; contact Thermon for design assistance.
2. T-rating per internationally recognized testing agency guidelines.
3. Thermon heating cables are approved for the listed T-ratings using the stabilized design method. This enables the cable to operate in hazardous areas without limiting devices. The T-rating may be determined using CompuTrace® Electric Heat Tracing Design Software or contact Thermon for design assistance.

CONSTRUCTION

1 Nickel-plated copper bus wires (12 AWG)
2 Composite metal alloy/fiber
3 Heater bus connection (not shown)
4 Fiberglass braid
5 Fluoropolymer dielectric insulation
6 Nickel-plated copper braid
7 Fluoropolymer overjacket

BASIC ACCESSORIES

Thermon offers system accessories designed specifically for rapid, trouble-free installation of Thermon heating cables.

All HPT cables require a connection kit to comply with approval requirements. Information on accessories to complete a heater circuit installation can be found in the "Heating Cable Systems Accessories" product specification sheet (Form TEP0010).

THERMON **The Heat Tracing Specialists®**
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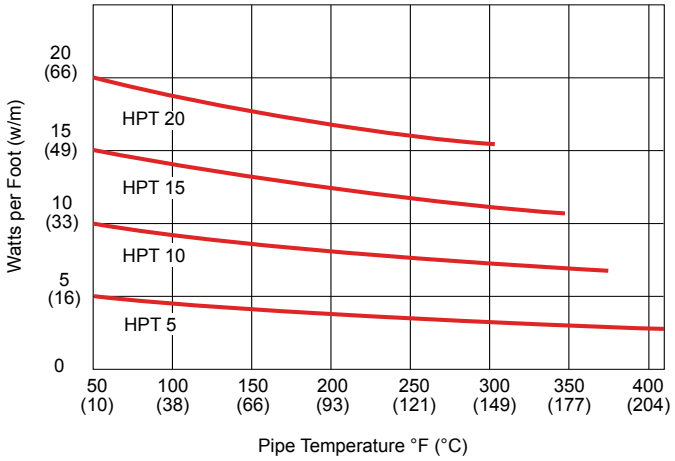
HPT™ POWER-LIMITING HEATING CABLE

POWER OUTPUT CURVES

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

Catalog Number 120 Vac	Zone Length in (cm)	Catalog Number 240 Vac	Zone Length in (cm)	Power Output at 50°F (10°C) w/ft (m)
HPT 5-1	24 (61)	HPT 5-2	30 (76)	5 (16)
HPT 10-1	18 (46)	HPT 10-2	24 (61)	10 (33)
HPT 15-1	18 (46)	HPT 15-2	24 (61)	15 (49)
HPT 20-1	12 (30)	HPT 20-2	24 (61)	20 (66)



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
- Class I, Zones 1 and 2, AEx e II

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

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 e II

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

CIRCUIT BREAKER SIZING

Maximum circuit lengths for various circuit breaker amperages are shown below. Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. The National Electrical Code and Canadian Electrical Code require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

120 Vac Service Voltage		Max. Circuit Length vs. Breaker Size ft (m)			
Catalog Number	Start-Up Temperature °F (°C)	20A	30A	40A	50A
HPT 5-1	50 (10)	335 (102)	445 (136)	445 (136)	445 (136)
	0 (-18)	335 (102)	445 (136)	445 (136)	445 (136)
	-20 (-29)	335 (102)	445 (136)	445 (136)	445 (136)
	-40 (-40)	335 (102)	445 (136)	445 (136)	445 (136)
HPT 10-1	50 (10)	170 (52)	265 (81)	315 (96)	315 (96)
	0 (-18)	170 (52)	265 (81)	315 (96)	315 (96)
	-20 (-29)	170 (52)	265 (81)	315 (96)	315 (96)
	-40 (-40)	170 (52)	265 (81)	315 (96)	315 (96)
HPT 15-1	50 (10)	115 (35)	175 (53)	245 (75)	255 (78)
	0 (-18)	105 (32)	175 (53)	245 (75)	255 (78)
	-20 (-29)	100 (30)	175 (53)	245 (75)	255 (78)
	-40 (-40)	95 (29)	175 (53)	245 (75)	255 (78)
HPT 20-1	50 (10)	90 (27)	135 (41)	185 (56)	205 (62)
	0 (-18)	85 (26)	130 (40)	175 (53)	205 (62)
	-20 (-29)	80 (24)	125 (38)	170 (52)	205 (62)
	-40 (-40)	80 (24)	120 (37)	165 (50)	205 (62)

240 Vac Service Voltage		Max. Circuit Length vs. Breaker Size ft (m)			
Catalog Number	Start-Up Temperature °F (°C)	20A	30A	40A	50A
HPT 5-2	50 (10)	675 (206)	890 (272)	890 (272)	890 (272)
	0 (-18)	675 (206)	890 (272)	890 (272)	890 (272)
	-20 (-29)	675 (206)	890 (272)	890 (272)	890 (272)
	-40 (-40)	675 (206)	890 (272)	890 (272)	890 (272)
HPT 10-2	50 (10)	340 (104)	525 (160)	630 (192)	630 (192)
	0 (-18)	340 (104)	525 (160)	630 (192)	630 (192)
	-20 (-29)	340 (104)	525 (160)	630 (192)	630 (192)
	-40 (-40)	340 (104)	525 (160)	630 (192)	630 (192)
HPT 15-2	50 (10)	230 (70)	355 (108)	490 (149)	515 (157)
	0 (-18)	230 (70)	355 (108)	490 (149)	515 (157)
	-20 (-29)	230 (70)	355 (108)	490 (149)	515 (157)
	-40 (-40)	230 (70)	355 (108)	490 (149)	515 (157)
HPT 20-2	50 (10)	175 (53)	270 (82)	370 (113)	410 (125)
	0 (-18)	170 (52)	255 (78)	350 (107)	410 (125)
	-20 (-29)	165 (50)	250 (76)	340 (104)	410 (125)
	-40 (-40)	160 (49)	245 (75)	330 (101)	410 (125)