HPT™ (480 Vac Supply Voltage)
Power-Limiting Heating Cable

Product Specifications

Application . . .

Process Temperature Maintenance or Freeze Protection
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.....480 Vac nominal
Max. maintenance temperature .....300°F (149°C)
Max. continuous exposure temperature
Power-off .....500°F (260°C)
Minimum installation temperature.....-60°F (-51°C)
Minimum bend radius..... 1.25" (32 mm)

Basic Accessories[1] . . .

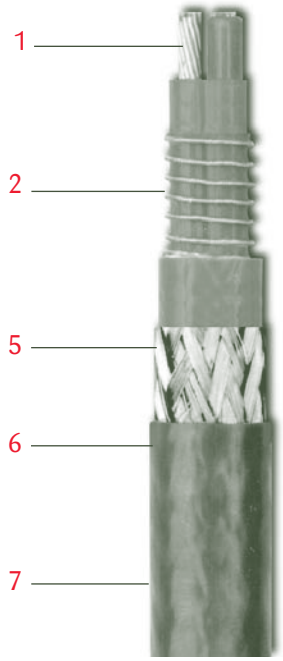
Power Connection: All HPT cables require a Terminator, PCA or ECA power connection kit for terminating the circuit before connecting to power.

End-of-Circuit Termination: HPT cables with the metallic ground braid require the use of the ET-7 end cap for terminating at the end of the circuit.

HPT cables with the overjacket wire option require the ET-8 end cap for terminating at the end of the circuit.

Notes . . .

1. Information on additional accessories to complete a heater circuit installation and to comply with approval requirements may be found in the product specification sheet (Form TEP0010).



Construction . . .

1 Nickel-Plated Copper Bus Wires (12 AWG)
2 Composite Metal Alloy/Fiber
3 Heater Bus Connection (not shown)
4 Fiberglass Braid (not shown)
5 Fluoropolymer Dielectric Insulation
6 Nickel-Plated Copper Braid (BN)
7 Fluoropolymer overjacket (OJ) over nickel-plated copper braid provides additional protection to cable and braid where exposure to chemicals or corrosives is expected.

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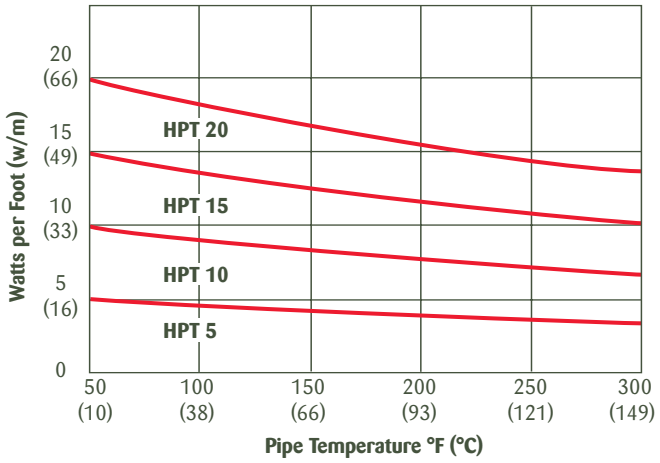
Power Output Curves . . .

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.

Catalog Number 480 Vac	Zone Length in (cm)	Power Output at 50°F (10°C) w/ft (m)
HPT 5-4	60 (152)	5 (16)
HPT 10-4	48 (122)	10 (33)
HPT 15-4	48 (122)	15 (49)
HPT 20-4	40 (102)	20 (66)



Circuit Breaker Sizing and Type . . .

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. For information on design and performance on other voltages, contact Thermon.

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.

480 Vac Service Voltage		Max. Circuit Length vs. Breaker Size ft (m)			
Catalog-Number	Start-Up Temp. °F (°C)	20A	30A	40A	50A
HPT 5-4	50 (10)	1410 (430)	1750 (534)	-	-
	0 (-18)	1270 (388)	1750 (534)	-	-
	-20 (-29)	1220 (372)	1750 (534)	-	-
	-40 (-40)	1170 (357)	1750 (534)	-	-
HPT 10-4	50 (10)	680 (208)	1060 (324)	1240 (379)	-
	0 (-18)	620 (190)	960 (293)	1240 (379)	-
	-20 (-29)	600 (183)	920 (281)	1240 (379)	-
	-40 (-40)	570 (174)	880 (269)	1220 (372)	1240 (379)
HPT 15-4	50 (10)	450 (138)	690 (211)	960 (293)	1010 (308)
	0 (-18)	410 (125)	630 (193)	860 (263)	1010 (308)
	-20 (-29)	390 (119)	600 (183)	820 (250)	1010 (308)
	-40 (-40)	380 (116)	580 (177)	790 (241)	1010 (308)
HPT 20-4	50 (10)	330 (101)	510 (156)	700 (214)	870 (266)
	0 (-18)	300 (92)	460 (141)	630 (193)	800 (244)
	-20 (-29)	290 (89)	450 (138)	610 (186)	780 (238)
	-40 (-40)	280 (86)	430 (132)	580 (177)	750 (229)

Certifications/Approvals . . .

FM Approved

Factory Mutual Research
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, Zone 1, Group IIB + H_2 (requires OJ)
- Class I, Zone 2, Group IIC

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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, Group IIC (requires OJ)
- Class I, Zone 2, Group IIC

Canadian Standards Association
Ordinary Locations
Hazardous (Classified) Locations
- Class I, Division 2, Groups A, B, C and D
- Class II, Division 2, Groups F and G (Requires BNOJ Option)
- Class I, Division 1, Groups A, B, C and D
- Class II, Division 1, Groups E, F and G

*CII, D 2 requires Thermon design review.

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