



PRODUCT SPECIFICATIONS

D1-HPT™ POWER LIMITING HEATING CABLE

For Division 1 Hazardous Areas

APPLICATION

High performance D1-HPT power-limiting heating cables are designed 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 D1-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, provides an exceptionally durable high performance heating cable.

D1-HPT cables are specifically approved for use in Division 1 hazardous (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
Max. 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)

Max. 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 thermostats. 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 Fiberglass braid (not shown)
- 7 Nickel-plated copper braid
- 8 Fluoropolymer overjacket provides additional protection to cable and braid where exposure to chemicals or corrosives is expected

BASIC ACCESSORIES

The D1-ECK kit (pictured below) is required for power connection and heating cable termination in Division 1 hazardous (classified) areas. D1-ECK-2 kits for in-line splices and D1-ECT kits for T-splices are also available.

If D1-HPT cable terminations and/or splices are located more than 1' (305 mm) outside the Division 1 hazardous area, Division 2 approved termination kits may be used. For additional information on these accessories, refer to Form TEP0010.



THERMON The Heat Tracing Specialists®

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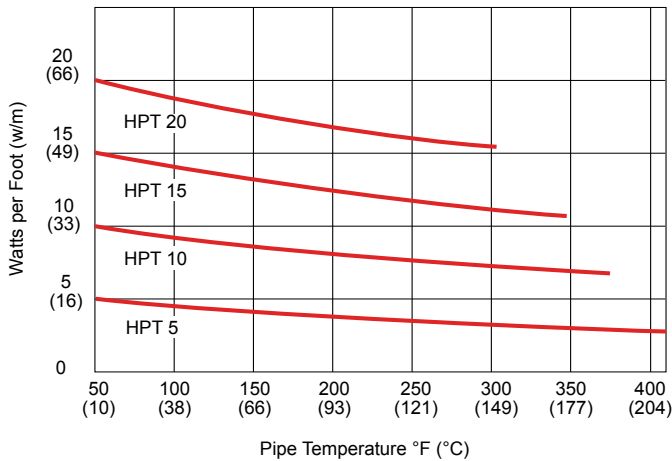
D1-HPT™ POWER LIMITING HEATING CABLE

For Division 1 Hazardous Areas

POWER OUTPUT CURVES¹

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 120 Vac	Zone Length in (cm)	Catalog Number 240 Vac	Zone Length in (cm)	Power Output at 50°F (10°C) w/ft (m)
D1-HPT 5-1	24 (61)	D1-HPT 5-2	30 (76)	5 (16)
D1-HPT 10-1	18 (46)	D1-HPT 10-2	24 (61)	10 (33)
D1-HPT 15-1	18 (46)	D1-HPT 15-2	24 (61)	15 (49)
D1-HPT 20-1	12 (30)	D1-HPT 20-2	24 (61)	20 (66)



CIRCUIT BREAKER SIZING²

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.

Catalog Number	Start-Up Temperature °F (°C)	Max. Circuit Length ³ vs. Breaker Size ft (m)			
		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)

CERTIFICATIONS/APPROVALS



FM Approvals
Ordinary Locations
Hazardous (Classified) Location
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 1, Groups B, C and D
Class II, Division 1, Groups E, F and G

Approvals require the use of D1-ECK or D1-ECT kits for all connections (power, splice, tee and end terminations) located within 1' (305 mm) of a Class I, Division 1 hazardous area.

IEEE 515 requires that Thermon review all Division 1 application designs.

Notes

- For more precise power output values as a function of pipe temperature, refer to CompuTrace®.
- Based on the trip current characteristic of Type QOB or Type QO equipment protection devices. For devices with other trip current characteristics, contact Thermon.
- The maximum circuit length is for one continuous length of cable, not the sum of segments of cable. Refer to CompuTrace® design software or contact Thermon for current loading of segments.

Catalog Number	Start-Up Temperature °F (°C)	Max. Circuit Length ³ vs. Breaker Size ft (m)			
		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)