

D1-HPT™

Power-Limiting Heating Cable for Division 1 Hazardous Areas

Product Specifications

Application . . .

Process Temperature Maintenance or Freeze Protection

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 (patent pending) 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 120/240 Vac nominal¹

Max. maintenance temperature 300°F (149°C)¹

Max. continuous exposure temperature

Power-off 500°F (260°C)

Minimum installation temperature -60°F (-51°C)

Minimum bend radius 1.25" (32 mm)

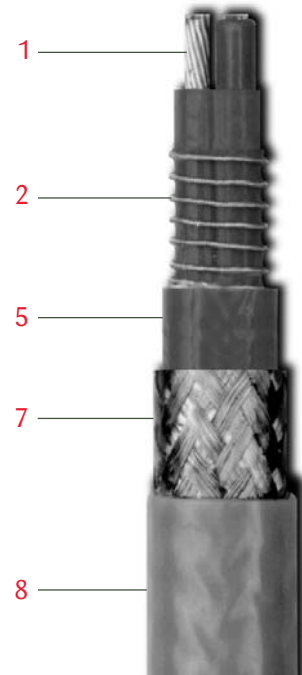
T-rating²

Based on stabilized design³ T2 to T6

Basic Accessories . . .

The D1-ECK kit (pictured at right) is required for power connection and heating cable termination in Class I, 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 TEP0018.



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 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

Note . . .

1. Higher maintenance temperatures and 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.



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D1-HPT™

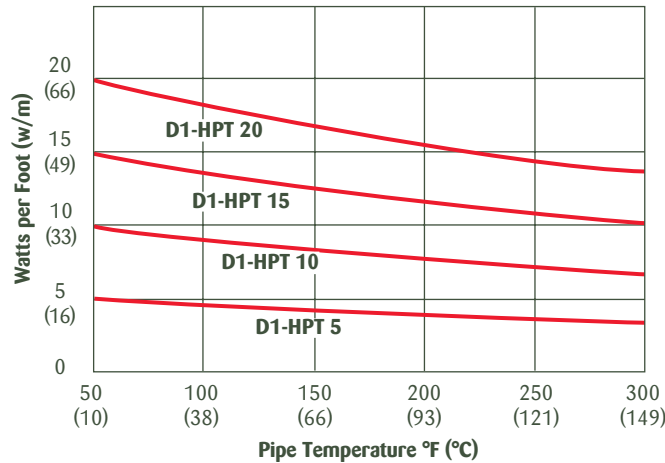
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Power Output Curves . . .

The power outputs shown apply to cable installed on insulated metallic pipe (using the procedures outlined in IEEE Standard 515-2004) 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)



Certifications/Approvals . . .



Factory Mutual Research
 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
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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.

Thermon is required to review applications requiring Factory Mutual approval of Division 1 installations.

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 specific ground-fault protection requirements.

Catalog Number	Start-Up Temperature °F (°C)	Max. Circuit Length vs. Breaker Size ft (m)			
		20A	30A	40A	50A
D1-HPT 5-1	50 (10)	325 (99)	445 (136)	445 (136)	445 (136)
	0 (-18)	325 (99)	445 (136)	445 (136)	445 (136)
	-20 (-29)	325 (99)	445 (136)	445 (136)	445 (136)
	-40 (-40)	325 (99)	445 (136)	445 (136)	445 (136)
D1-HPT 10-1	50 (10)	165 (50)	260 (79)	315 (96)	315 (96)
	0 (-18)	165 (50)	260 (79)	315 (96)	315 (96)
	-20 (-29)	165 (50)	260 (79)	315 (96)	315 (96)
	-40 (-40)	160 (49)	250 (76)	310 (95)	310 (95)
D1-HPT 15-1	50 (10)	115 (35)	175 (53)	245 (75)	250 (76)
	0 (-18)	105 (32)	160 (49)	220 (67)	250 (76)
	-20 (-29)	100 (30)	150 (46)	210 (64)	235 (72)
	-40 (-40)	95 (29)	145 (44)	205 (63)	230 (70)
D1-HPT 20-1	50 (10)	75 (23)	115 (35)	160 (49)	205 (62)
	0 (-18)	70 (21)	105 (32)	145 (44)	185 (56)
	-20 (-29)	65 (20)	100 (30)	140 (43)	175 (53)
	-40 (-40)	65 (20)	100 (30)	135 (41)	170 (52)

Catalog Number	Start-Up Temperature °F (°C)	Max. Circuit Length vs. Breaker Size ft (m)			
		20A	30A	40A	50A
D1-HPT 5-2	50 (10)	655 (200)	885 (270)	885 (270)	885 (270)
	0 (-18)	655 (200)	885 (270)	885 (270)	885 (270)
	-20 (-29)	655 (200)	885 (270)	885 (270)	885 (270)
	-40 (-40)	645 (197)	815 (248)	885 (270)	885 (270)
D1-HPT 10-2	50 (10)	335 (102)	525 (160)	620 (189)	620 (189)
	0 (-18)	335 (102)	525 (160)	620 (189)	620 (189)
	-20 (-29)	335 (102)	525 (160)	620 (189)	620 (189)
	-40 (-40)	325 (99)	500 (152)	620 (189)	620 (189)
D1-HPT 15-2	50 (10)	230 (70)	355 (108)	495 (151)	500 (152)
	0 (-18)	210 (64)	320 (98)	440 (134)	500 (152)
	-20 (-29)	200 (61)	310 (94)	425 (130)	480 (146)
	-40 (-40)	190 (58)	295 (90)	405 (123)	455 (139)
D1-HPT 20-2	50 (10)	155 (47)	235 (72)	325 (99)	415 (127)
	0 (-18)	140 (43)	215 (66)	295 (90)	370 (113)
	-20 (-29)	135 (41)	205 (63)	280 (85)	355 (108)
	-40 (-40)	130 (40)	200 (61)	270 (82)	340 (104)

