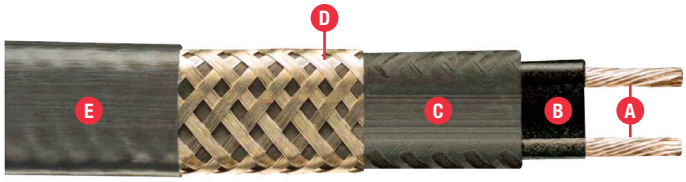
CPR SELF-REGULATING LOW-TEMPERATURE HEATING CABLE

PRODUCT OVERVIEW



- **A** Twin 16 AWG Copper Bus Wires
- **B** Semiconductive Polymer Core Matrix
- **C** Water Resistant Polyolefin Jacket
- **D** Tin-Plated Copper Braid
- **E** High Temperature Fluoropolymer or TPR Overjacket (Optional)

Chromalox CPR Cable is a multi-purpose heating cable designed for commercial pipe tracing, roof & gutter deicing, embedded floor warming, and frost heave prevention. Chromalox's CPR Cable is constructed of a self-regulating polymer core that varies its heat output based on sensed temperature along its entire length. It can be easily cut to length, spliced, tee-branched and terminated to more easily follow piping networks. In addition to insulated surfaces, Chromalox's CPR Heating Cable can be used on roofs and in gutters to prevent Ice Dams and provide a path for the melt water to excavate the roof surface. Chromalox's CPR Heating Cable can be placed in conduit and embedded in concrete to prevent frost heave or placed onto concrete slabs for supplemental comfort heat.

DESCRIPTION

The heating cable consists of two (2) 16 AWG nickel-plated copper bus wires embedded in a self-regulating semiconduc-tive polymeric core matrix that controls power output so that the cable can be used directly on plastic or metallic pipes. A water-resistant polyolefin jacket electri-cally insulates the matrix and bus wires and provides resistance to water and some inorganic chemical solutions. A tinned cop-per braid covering serves added mechanical protection and positive ground path. An optional high-temperature fluoropolymer or TPR outer jacket protects the braid from chemical attack and mechanical abuse.

WARNING — A ground fault protection device is required by Chromalox, agency certifications, and NEC to minimize the danger of fire if the heating cable is damaged or improperly installed. A minimum trip level of 30 mA is recommended to minimize nuisance tripping.

APPLICATION

Trace surface type ..... Metal and plastic

Chemical Resistance ..... Acids or bases (Fluoropolymer overjacket)

VOLTAGE SUPPLY

120 Vac

208 to 277 Vac (240 Vac nominal)

TEMPERATURE RATING

Maximum Maintenance Temperature..... 150°F (65°C)

Maximum Exposure Temperature, Power Off..... 185°F (85°C)

Minimum Installation Temperature..... 40°F (-40°C)

APPROVALS

- Ordinary Areas*
- See schedule for specific model

*Roof and gutter, fire supression system piping and grease waste flow maintenance. For fire sprinkler supply and branch line piping freeze protection, CPR is certified by UL for metallic but not plastic piping

- Ordinary Areas

CPR SELF-REGULATING LOW-TEMPERATURE HEATING CABLE

DESIGN & INSTALLATION

For proper design and installation, use ChromaTrace Heat Trace Project Design Software. Additional resources include the Pipe Heat Tracing Design Worksheet (PJ305) and Chromalox Commercial Heating Cable Products Installation Instructions (PJ970). These resources are available on the Chromalox website, www.chromalox.com.

NOMINAL POWER OUTPUT RATINGS

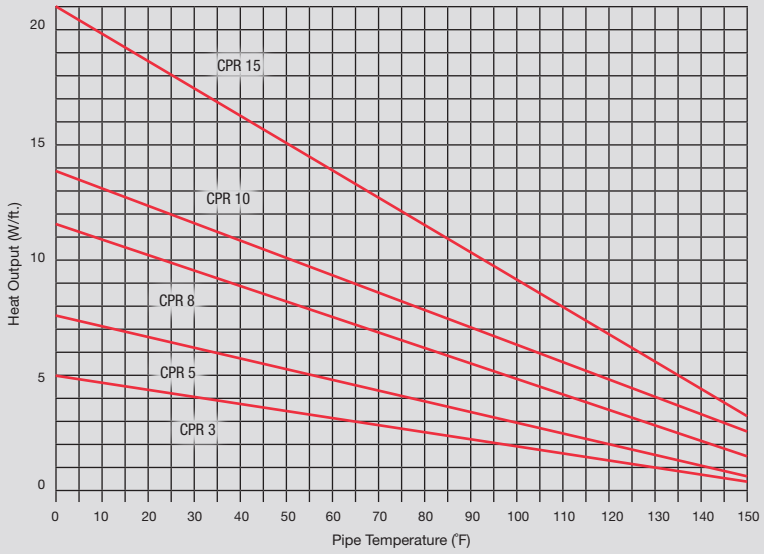
Output Wattage at Alternate voltages, 50°F (10°C), W/ft (W/m)

Model	208V	% Change in Output	220V	% Change in Output	277V	% Change in Output
CPR 3-2	2.4 (7.87)	-20	2.6 (8.53)	-13	3.4 (11.15)	+15
CPR 5-2	4.1 (13.45)	-18	4.5 (14.76)	-10	5.6 (18.37)	+13
CPR 8-2	6.88 (22.57)	-14	7.28 (23.88)	-9	8.96 (29.39)	+12
CPR 10-2	8.7 (28.54)	-13	9.2 (30.18)	-8	11.1 (36.41)	+10
CPR 15-2	13.2	-12	13.95 (30)	-8	16.2 (53.1)	+8

Output Wattage in Snow at Alternate voltages, W/ft (W/m)

	Rated @ 50F (10C) in Air			Rated @ 32F (0C) in Air		
Model	208V	240V	277V	208V	240V	277V
CPR 5-2	4.1 (13.4)	5.0 (16.4)	5.6 (18.4)	7.57 (24.8)	8.8 (28.9)	11.5 (37.7)
CPR 8-2	6.88 (22.6)	8.0 (26.2)	8.96 (29.4)	15.65 (51.3)	18.2 (59.7)	21.9 (71.8)
CPR 10-2	8.7 (28.5)	10.0 (32.8)	11.1 (36.4)	20.88 (68.5)	24.0 (78.7)	28.0 (91.8)
CPR 15-2	13.2 (43.3)	15.0 (49.2)	16.2 (53.1)	38.42 (93.2)	32.3 (105.9)	36.1 (118.4)

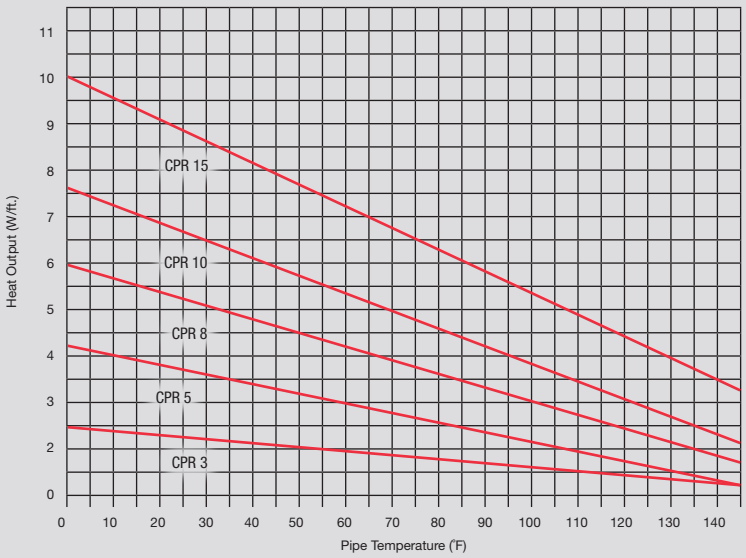
Thermal Output Ratings on Insulated Metal Pipe*



*Thermal output is determined per IEC / IEEE 62395-1 Electrical Resistance Trace Heating Systems for Industrial and Commercial Applications

NOMINAL POWER OUTPUT RATINGS con't.

Thermal Output Ratings on Plastic Pipe with Aluminum Tape at 120 vac/240 Vac



MAXIMUM CIRCUIT LENGTHS

Grease Flow Maintenance & Pipe Freeze Protection

Model	Ambient Temp. at Startup	Maximum Circuit Length in Feet (Meters) per Circuit Breaker							
		120 Vac				208 to 277 Vac*			
		15 A	20 A	30 A	40 A	15 A	20 A	30 A	40 A
CPR 3	65°F (18°C)	350 (106.7)	440 (134.1)	440 (134.1)	440 (134.1)	680 (207.3)	800 (243.9)	825 (251.5)	825 (251.5)
	50°F (10°C)	305 (93.0)	360 (109.8)	360 (109.8)	360 (109.8)	525 (160.1)	660 (201.2)	660 (201.2)	660 (201.2)
	40°F (4°C)	265 (80.8)	350 (106.7)	360 (109.8)	360 (109.8)	525 (160.1)	660 (201.2)	660 (201.2)	660 (201.2)
	20°F (-7°C)	220 (67.1)	290 (88.4)	360 (109.8)	360 (109.8)	440 (134.1)	585 (178.4)	660 (201.2)	660 (201.2)
	0°F (-18°C)	200 (61.0)	266 (81.1)	360 (109.8)	360 (109.8)	415 (126.5)	553 (168.6)	660 (201.2)	360 109.8)
	-20°F (-29°C)	180 (54.9)	238 (72.6)	340 (103.7)	350 (106.7)	368 (112.2)	489 (149.1)	628 (191.5)	643 (196.0)
	-40°F (40°C)	160 (48.8)	210 (64.0)	320 (97.6)	340 (103.7)	320 (97.6)	425 (129.6)	595 (181.4)	625 (190.5)
CPR 5	65°F (18°C)	205 (62.5)	279 (85.1)	300 (91.5)	300 (91.5)	410 (125.0)	550 (167.7)	620 (189.0)	620 (189.0)
	50°F (10°C)	185 (56.4)	250 (76.2)	270 (82.3)	270 (82.3)	375 (114.3)	505 (154.0)	540 (164.6)	540 (164.6)
	40°F (4°C)	170 (51.8)	226 (68.9)	270 (82.3)	270 (82.3)	340 (103.7)	450 (137.2)	540 (164.6)	540 (164.6)
	20°F (-7°C)	150 (45.7)	200 (61.0)	270 (82.3)	270 (82.3)	300 (91.5)	400 (122.0)	540 (164.6)	540 (164.6)
	0°F (-18°C)	135 (41.2)	180 (54.9)	270 (82.3)	270 (82.3)	270 (82.3)	360 (109.8)	540 (164.6)	540 (164.6)
	-20°F (-29°C)	120 (36.6)	160 (48.8)	240 (73.2)	248 (75.6)	243 (74.1)	323 (98.5)	485 (147.9)	525 (160.1)
	-40°F (40°C)	105 (32.0)	140 (42.7)	210 (64.)	225 (68.6)	215 (65.5)	286 (87.2)	430 (131.1)	510 (155.5)

MAXIMUM CIRCUIT LENGTHS

Grease Flow Maintenance & Pipe Freeze Protection con't.

Model	Ambient Temp. at Startup	Maximum Circuit Length in Feet (Meters) per Circuit Breaker							
		120 Vac				208 to 277 Vac*			
		15 A	20 A	30 A	40 A	15 A	20 A	30 A	40 A
CPR 8	65˚F (18˚C)	165 (50.3)	220 (67.1)	240 (73.2)	240 (73.2)	310 (94.5)	425 (129.6)	480 (146.3)	480 (146.3)
	50˚F (10˚C)	165 (50.3)	220 (67.1)	240 (73.2)	240 (73.2)	285 (86.9)	375 (114.3)	420 (128.0)	420 (128.0)
	40˚F (4˚C)	135 (41.2)	180 (54.9)	215 (65.5)	215 (65.5)	270 (82.3)	330 (100.6)	420 (128.0)	420 (128.0)
	20˚F (-7˚C)	115 (35.1)	153 (46.6)	215 (65.5)	215 (65.5)	235 (71.6)	310 (94.5)	420 (128.0)	420 (128.0)
	0˚F (-18˚C)	110 (33.5)	145 (44.2)	215 (65.5)	215 (65.5)	200 (61.0)	265 (80.8)	95 (120.4)	420 (128.0)
	-20˚F (-29˚C)	98 (29.9)	129 (39.3)	193 (58.8)	205 (62.5)	188 (57.3)	238 (72.6)	355 (108.2)	410 (125.0)
	-40˚F (40˚C)	85 (25.9)	113 (34.5)	170 (51.8)	195 (59.5)	175 (53.4)	210 (64.0)	315 (96.0)	400 (122.0)
CPR 10	65˚F (18˚C)	105 (32.)	140 (42.7)	190 (57.9)	190 (57.9)	210 (64.0)	230 (70.1)	345 (105.2)	420 (128.0)
	50˚F (10˚C)	95 (29.0)	130 (39.6)	180 (54.9)	180 (54.9)	160 (48.8)	210 (64.0)	315 (96.0)	360 (109.8)
	40˚F (4˚C)	90 (27.4)	120 (36.6)	180 (54.9)	180 (54.9)	150 (45.7)	200 (61.0)	300 (91.5)	360 (109.8)
	20˚F (-7˚C)	85 (25.9)	113 (34.5)	170 (51.8)	180 (54.9)	140 (42.7)	185 (56.4)	280 (85.4)	360 (109.8)
	0˚F (-18˚C)	80 (24.4)	90 (27.4)	135 (41.2)	180 (54.9)	125 (38.1)	166 (50.6)	250 (76.2)	333 (101.5)
	-20˚F (-29˚C)	73 (22.3)	88 (26.8)	130 (39.6)	175 (53.4)	118 (36.0)	156 (47.6)	233 (71.0)	313 (95.4)
	-40˚F (40˚C)	65 (19.8)	85 (25.9)	125 (38.1)	170 (51.8)	110 (33.5)	145 (44.2)	215 (65.5)	293 (89.3)
CPR 15	65˚F (18˚C)	70 (21.3)	90 (27.4)	145 (44.2)	190 (57.9)	105 (32.0)	150 (45.7)	220 (67.1)	280 (85.4)
	50˚F (10˚C)	65 (19.8)	85 (25.9)	130 (39.6)	175 (53.4)	100 (30.5)	140 (42.7)	210 (64.0)	265 (80.8)
	40˚F (4˚C)	60 (18.3)	80 (24.4)	120 (36.6)	160 (48.8)	95 (29.0)	125 (38.1)	190 (57.9)	250 (76.2)
	20˚F (-7˚C)	55 (16.8)	73 (22.3)	110 (33.5)	146 (44.5)	90 (27.4)	110 (33.5)	180 (54.9)	230 (70.1)
	0˚F (-18˚C)	53 (16.2)	70 (21.3)	105 (32.0)	140 (42.7)	75 (22.9)	100 (30.5)	150 (45.7)	200 (61.0)
	-20˚F (-29˚C)	49 (14.9)	65 (19.8)	98 (29.9)	130 (39.6)	70 (21.3)	93 (28.4)	140 (42.7)	187 (57.0)
	-40˚F (40˚C)	45 (13.7)	60 (18.3)	90 (27.4)	120 (36.6)	45 (13.7)	60 (18.3)	90 (27.4)	120 (36.6)

*240 Vac nominal.

CPR SELF-REGULATING LOW-TEMPERATURE HEATING CABLE

MAXIMUM CIRCUIT LENGTHS

- Roof & Gutter
- Frost Heave Prevention

Model	Ambient Temp. at Startup	Maximum Circuit Length in Feet (Meters) per Circuit Breaker							
		120 Vac				208 to 277 Vac*			
		15 A	20 A	30 A	40 A	15 A	20 A	30 A	40 A
CPR 3	40˚F (4˚C)	265 (80.8)	350 (106.7)	360 (109.8)	360 (109.8)	525 (160.1)	660 (201.2)	660 (201.2)	660 (201.2)
	20˚F (-7˚C)	220 (67.1)	290 (88.4)	360 (109.8)	360 (109.8)	440 (134.1)	585 (178.4)	660 (201.2)	660 (201.2)
	0˚F (-18˚C)	200 (61.0)	266 (81.1)	360 (109.8)	360 (109.8)	415 (126.5)	553 (168.6)	660 (201.2)	360 109.8)
	-20˚F (-29˚C)	180 (54.9)	238 (72.6)	340 (103.7)	350 (106.7)	368 (112.2)	489 (149.1)	628 (191.5)	643 (196.0)
	-40˚F (40˚C)	160 (48.8)	210 (64.0)	320 (97.6)	340 (103.7)	320 (97.6)	425 (129.6)	595 (181.4)	625 (190.5)
CPR 5	40˚F (4˚C)	170 (51.8)	226 (68.9)	270 (82.3)	270 (82.3)	340 (103.7)	450 (137.2)	540 (164.6)	540 (164.6)
	20˚F (-7˚C)	150 (45.7)	200 (61.0)	270 (82.3)	270 (82.3)	300 (91.5)	400 (122.0)	540 (164.6)	540 (164.6)
	0˚F (-18˚C)	135 (41.2)	180 (54.9)	270 (82.3)	270 (82.3)	270 (82.3)	360 (109.8)	540 (164.6)	540 (164.6)
	-20˚F (-29˚C)	120 (36.6)	160 (48.8)	240 (73.2)	248 (75.6)	243 (74.1)	323 (98.5)	485 (147.9)	525 (160.1)
	-40˚F (40˚C)	105 (32.0)	140 (42.7)	210 (64.)	225 (68.6)	215 (65.5)	286 (87.2)	430 (131.1)	510 (155.5)
CPR 8	40˚F (4˚C)	135 (41.2)	180 (54.9)	215 (65.5)	215 (65.5)	270 (82.3)	330 (100.6)	420 (128.0)	420 (128.0)
	20˚F (-7˚C)	115 (35.1)	153 (46.6)	215 (65.5)	215 (65.5)	235 (71.6)	310 (94.5)	420 (128.0)	420 (128.0)
	0˚F (-18˚C)	110 (33.5)	145 (44.2)	215 (65.5)	215 (65.5)	200 (61.0)	265 (80.8)	95 (120.4)	420 (128.0)
	-20˚F (-29˚C)	98 (29.9)	129 (39.3)	193 (58.8)	205 (62.5)	188 (57.3)	238 (72.6)	355 (108.2)	410 (125.0)
	-40˚F (40˚C)	85 (25.9)	113 (34.5)	170 (51.8)	195 (59.5)	175 (53.4)	210 (64.0)	315 (96.0)	400 (122.0)
CPR 10	40˚F (4˚C)	90 (27.4)	120 (36.6)	180 (54.9)	180 (54.9)	150 (45.7)	200 (61.0)	300 (91.5)	360 (109.8)
	20˚F (-7˚C)	85 (25.9)	113 (34.5)	170 (51.8)	180 (54.9)	140 (42.7)	185 (56.4)	280 (85.4)	360 (109.8)
	0˚F (-18˚C)	80 (24.4)	90 (27.4)	135 (41.2)	180 (54.9)	125 (38.1)	166 (50.6)	250 (76.2)	333 (101.5)
	-20˚F (-29˚C)	73 (22.3)	88 (26.8)	130 (39.6)	175 (53.4)	118 (36.0)	156 (47.6)	233 (71.0)	313 (95.4)
	-40˚F (40˚C)	65 (19.8)	85 (25.9)	125 (38.1)	170 (51.8)	110 (33.5)	145 (44.2)	215 (65.5)	293 (89.3)

SRL SELF-REGULATING LOW-TEMPERATURE HEATING CABLE

PRODUCT CHARACTERISTICS

Maximum Bend Radius, in. (mm) 1.125 (28.5)

Bus Wire Size ..... 16 AWG

Heating Cable Dimensions WxH, in. (mm) ..... 0.48 x 0.21
12.1 x 5.3

Weight, lb per 1,000 ft (kg per 300m) ..... CPR CT 66 (30)
CPR CR (64 (29)

CONNECTION KITS

Chromalox has a complete line of accessories specifically designed for use with SRL cable. Use only Chromalox accessories to ensure the performance of the heat trace system, compliance with warranty, codes, and approval requirements.

Accessories		DL	EL
Power Connection	Heat trace to electrical service connection	RTPC	HSK-PC
Splice & Tee		RTST	RT-RST
End Seal	For terminating cable	RTES	RT-RES
Lightened End Seal		RTST-SL	N/A
Thermostat	Ambient air sensing thermometer	RTAS	TPR
	Line sensing mechanical themostat	RTBC	TPR

ORDERING INFORMATION

Model	Volts	Output (W/Ft.)	PCN
CPR 3-1 CT	120	3 @ 50˚F	512209
CPR 3-1 CR		3 @ 50˚F	512102
CPR 3-2 CT	208 - 277	3 @ 50˚F	512217
CPR 3-2 CR		3 @ 50˚F	512110
CPR 5-1 CT	120	5 @ 50˚F	512225
CPR 5-1 CR		5 @ 50˚F	512229
CPR 5-2 CT	208 - 277	5 @ 50˚F	512233
CPR 5-2 CR		5 @ 50˚F	512237
CPR 8-1 CT	120	8 @ 50˚F	512241
CPR 8-1 CR		8 @ 50˚F	512145
CPR 8-2 CT	208 - 277	8 @ 50˚F	512250
CPR 8-2 CR		8 @ 50˚F	512153
CPR 10-1 CT	120	10 @ 50˚F	512268
CPR 10-1 CR		10 @ 50˚F	512161
CPR 10-2 CT	208 - 277	10 @ 50˚F	512276
CPR 10-2 CR		10 @ 50˚F	512170
CPR 15-1 CT	120	15 @ 50˚F	512284
CPR 15-1 CR		15 @ 50˚F	512188
CPR 15-2 CT	208 - 277	15 @ 50˚F	512292
CPR 15-2 CR		15 @ 50˚F	512196

CHROMALOX

1347 Heil Quaker Blvd
LaVergne, TN 37086

TECHNICAL SUPPORT
412-967-3940

email: sales@chromalox.com
www.chromalox.com

***press 11 to be directed to heat trace support**