Raychem

XTV

High-Temperature Self-Regulating Heating Cables

The XTV family of self-regulating heating cables provides solutions to industrial freeze-protection and process-temperature-maintenance applications requiring high power output. XTV heating cables can withstand temperatures up to 420°F (215°C) and provide process temperature maintenance to 250°F (121°C).

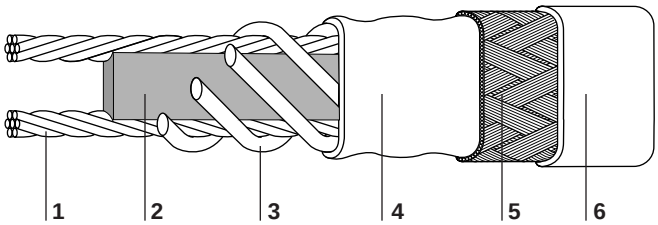
All of the XTV family of heating cables can be used in ordinary areas and most hazardous (classified) areas, including areas where corrosives may be present.

The power output of self-regulating heating cable is dependent on the heating-cable temperature and can provide up to 20 W/ft at 50°F (10°C).

Raychem designed XTV cables to meet the requirements of the U.S. National Electrical Code and the Canadian Electrical Code. For additional information contact your Raychem representative or call Raychem at (800) 545-6258.

Product construction

1 Copper bus wire
2 Spacer
3 Self-regulating polymeric-fiber heating element
4 Fluoropolymer jacket
5 Tinned-copper braid
6 Fluoropolymer outer jacket (-CT)



Product characteristics and design information

	15XTV1-CT-T2 20XTV1-CT-T2 20XTV2-CT-T2**	**5XTV1-CT-T3 5XTV2-CT-T3 10XTV1-CT-T3 10XTV2-CT-T3 15XTV2-CT-T3**	
Weight (lb per 10 ft, nominal)	1.1	1.1	
Bus wire size	14 AWG	14 AWG	
Outer jacket color	Red	Red	
Heating cable dimensions	0.46" x 0.3"	0.46" x 0.3"	
Temperature rating			Standards associations have established the T-rating as a means of classifying electrical equipment based on the maximum temperature an exposed surface may attain. The purpose of the T-rating is to ensure that electrical equipment does not exceed the auto-ignition temperatures of flammables handled in hazardous (classified) areas.
Maximum maintain or continuous exposure temperature (power on)	250°F (121°C)	250°F (121°C)	
Maximum intermittent exposure temperature, 1000 hours (power on or off)	420°F (215°C)	420°F (215°C)	
Temperature I.D. no. (T-rating)*	**T2C: 446°F (230°C) T2D: 419°F (215°C)	T3: 392°F (200°C)	
Voltage	120 V (100–130 Vac)	120 V (100–130 Vac)	
	240 V (200–277 Vac)	240 V (200–277 Vac)	
Design and installation	For proper design and installation, use the TraceCalc software or Design Guide for Insulated Pipes and Tubings (ID# 51149) and the Installation and Maintenance Guide (ID# 54484). Literature is available through Raychem's Fax-on-Demand system. In addition, the appropriate Raychem components must be used.		

*Per Table 500-3(d) of the National Electrical Code (1996).

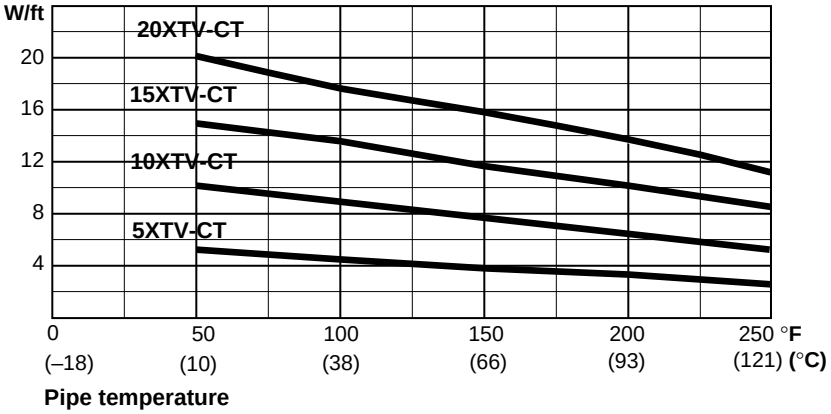
Maximum circuit length based on circuit breaker sizes

	Ambient temperature at startup	Maximum circuit length (in feet) per circuit breaker									
		120 V					240 V				
		15 A	20 A	30 A	40 A	50 A	15 A	20 A	30 A	40 A	50 A
5XTV-CT	50°F	180	240	360	380	380	360	480	720	765	765
	0°F	155	210	315	380	380	315	420	630	765	765
	–20°F	150	200	300	380	380	300	400	600	765	765
10XTV-CT	50°F	110	145	220	270	270	220	295	440	540	540
	0°F	95	130	195	260	270	195	260	385	515	540
	–20°F	90	120	185	145	270	185	245	370	490	540
15XTV-CT	50°F	75	100	150	200	220	150	200	300	400	440
	0°F	65	85	130	175	220	130	175	265	350	440
	–20°F	60	80	125	165	210	125	165	250	335	420
20XTV-CT	50°F	60	80	120	160	190	115	155	230	305	380
	0°F	55	70	110	145	185	105	140	210	275	345
	–20°F	50	70	105	140	175	100	130	200	260	330

⚠ **Note:** Raychem and the 1996 edition of the U.S. National Electrical Code require both ground-fault protection of equipment and a grounded metallic covering (usually braid) on all heater cables. All Raychem products meet the metallic covering requirement. Following are some of the ground-fault breakers that satisfy this equipment protection requirement: Square D Type QOB-EPD or QO-EPD; Raychem/Square D Type GFPD EHB-EPD (277 Vac); Cutler Hammer (Westinghouse) Type QBGFEP.

Nominal power output rating on metal pipes at 120 V/240 V

	Adjustment factors	
	Power output	Circuit length
208 V		
5XTV2-CT	0.84	1.00
10XTV2-CT	0.83	0.98
15XTV2-CT	0.85	0.97
20XTV2-CT	0.88	0.97
277 V		
5XTV2-CT	1.13	1.03
10XTV2-CT	1.17	1.06
15XTV2-CT	1.13	1.08
20XTV2-CT	1.10	1.11



Note: For design and installation, use the TraceCalc software or Design Guide for Insulated Pipes and Tubings (ID# 51149) and the Installation and Maintenance Guide (ID# 54484).

Approvals and certifications

North America	**Ordinary areas**	
	Factory Mutual	
	Canadian Standards Association	
	Hazardous (classified) areas	
	Factory Mutual	Class I, Division 2, Groups A, B, C, D
		Class II*, Division 2, Groups F and G
		Class III*
	Canadian Standards Association	Class I, Divisions 1 and 2, Groups A, B, C, D
		Class II*, Divisions 1 and 2, Groups E, F, G
		Class III*
Europe	XTV heating cables are approved in Zone 1 and Zone 2 hazardous areas by BASEEFA No. PTB. Further national approvals (such as INIEX, LCIE, NEMKO, and SEV) are available on request.	

*Applications must be engineered by Raychem.

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