



& ASSOCIATES, INC.

heat tracing specialists

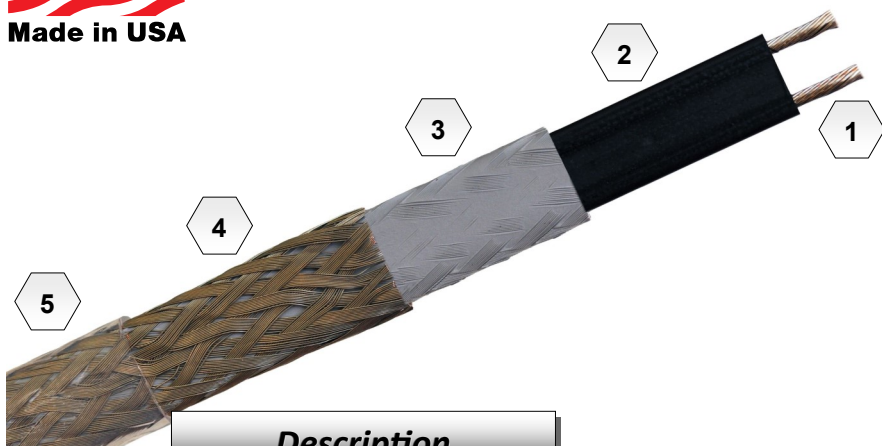


Made in USA

TSL

LOW TEMPERATURE SELF-REGULATING

Heat Trace



1. 16 AWG Buss Wires
2. Conductive Core
3. Polyolefin Jacket
4. Tinned Copper Braid
5. Optional Overjacket



FM



Description

TSL low temperature self-regulating heater cable regulates its heat output throughout the entire length of the circuit in response to ambient temperature changes. The self-regulating core increases its heat output as the ambient temperature drops; and decreases its output as the temperature rises. TSL self-regulating heater cables are constructed of industrial grade materials and are approved for use in Division 1* & 2 hazardous areas. TSL heater cables can maintain temperatures up to 150°F and have an intermittent exposure temperature of 185°F when energized. The optional thermoplastic R jacket offers corrosion resistance against certain inorganic chemicals, while the fluoropolymer T jacket protects the cable from both organic and inorganic chemicals. Either jacket offers exceptional protection against impact damage, abrasion and wet environments. As with all parallel type heater cables TSL can be cut to length in the field using standard electrical tools and will not overheat or burnout when overlapped.

Applications

TSL self-regulating heater cables provide freeze protection and process temperature maintenance for fluid transport and storage systems. TSL self-regulating heater cables are also ideal for roof & gutter, snow-melting/de-icing, cryogenic, fire suppression, domestic hot-water and various other applications. TSL cables are also safe for use on plastic pipes up to 5 W/Ft.*

* Use of conductive media such as foil tapes and heat transfer mastic highly recommended.

Approvals

Factory Mutual:

Ordinary locations

Hazardous locations

Class 1 Div. 1* & 2 (Groups B, C, D)

Class 2 Div. 2 (Groups F, G)

Class 3 Div. 1* & 2

CSA:

Ordinary locations 2E, 3(A, B, C), 5(A, B)

Hazardous locations

Class 1 Div. 1* & 2 (Groups A, B, C, D)

Class 2 Div. 1* & 2 (Groups E, F, G)

Class 3 Div. 1* & 2

UL:

Roof & Gutter

Hot Water Maintenance

Note: For heater cable applications refer to National Electric Code Article 427

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Ordering Information

Example Configuration		TSL 8-1 R		
TSL	Wattage	Voltage	Braid/Jacket	Weight/1,000'
*HTSL	3, 5, 8, 10	1=120V	C=Tinned Copper Braid	80 Lbs.
T Rating	T-6 (3, 5, 8 W) T-5 (10 W)	2=240V	R=Rubber Jacket	100 Lbs.
			T=Fluoropolymer Jacket	90 Lbs.

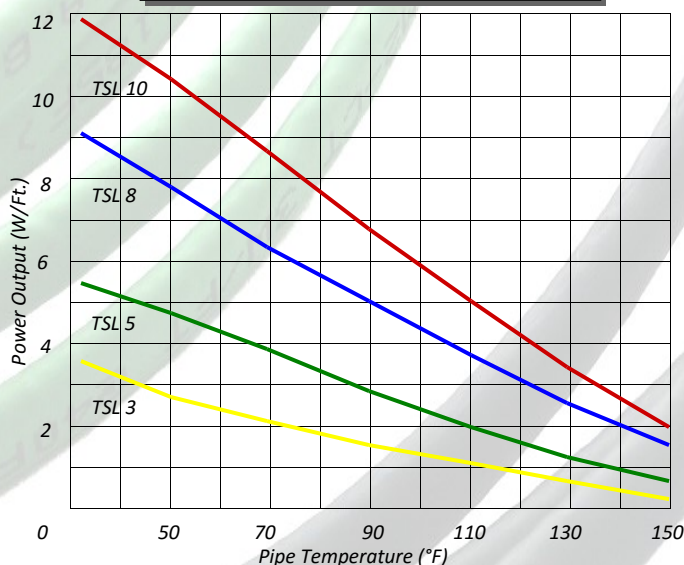
* HTSL cables must be configured with a T jacket by default. Factory Mutual requires criteria form to be completed before ordering HTSL. T rating per 1999 NEC Table 500-5(d).

Accessories

PL-1SR	Power Connection Kit
EC-1SR	End Termination Kit
ESK-14	Inline Splice Kit (14AWG)
TSK-14	Tee Splice Kit (14AWG)
AL-1	Aluminum Tape
FG-1	Fiberglass Tape
TD-1	Snap Action Thermostat
TF115	Ambient Sensing Thermostat
TRF115	Line Sensing Thermostat

Note: Not all accessories are listed. See catalog for additional listings.

Thermal Output Ratings



Output at Alternate Voltages

Typical Heaters	208 VAC	220 VAC	240 VAC	277 VAC
TSL 3-2	2.25	2.65	3.00	3.84
TSL 5-2	4.30	4.67	5.00	5.80
TSL 8-2	7.28	7.66	8.00	8.80
TSL 10-2	9.30	9.67	10.0	10.8



To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with **National Electric Code (NEC) Article 427.22** requirements, agency certifications, and local codes, ground-fault equipment protection must be used on each heating cable branch circuit. Arcing may not be stopped by conventional circuit protection. Ground fault protection is the responsibility of the end user and should be installed by a certified electrician.

Maximum Circuit Length vs. Breaker Sizing

Typical Heaters	50°F Start-Up (Ft.)				0°F Start-Up (Ft.)				-20°F Start-Up (Ft.)			
	15A	20A	30A	40A	15A	20A	30A	40A	15A	20A	30A	40A
TSL 3-1	300	NR	NR	NR	200	270	330	NR	180	230	330	NR
TSL 3-2	660	NR	NR	NR	410	560	660	NR	360	480	660	NR
TSL 5-1	230	270	NR	NR	150	200	270	NR	130	175	260	270
TSL 5-2	460	540	NR	NR	300	400	540	NR	260	345	520	540
TSL 8-1	150	200	210	NR	95	125	190	210	85	100	170	210
TSL 8-2	295	390	420	NR	195	250	375	420	170	225	340	420
TSL 10-1	115	150	180	NR	70	95	145	180	60	85	120	165
TSL 10-2	230	305	360	NR	150	200	300	360	130	175	260	360

NR= Not Required. Maximum circuit length has been achieved using smaller size breaker.