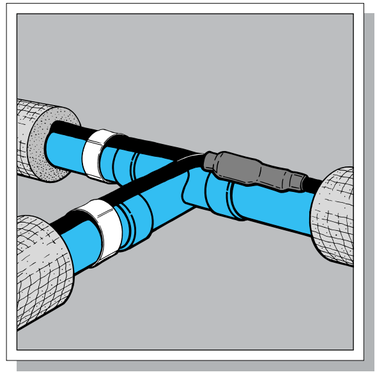
Pipe Tracing



SR Trace Pipe Tracing Cable provides maximum freeze protection for pipe lines and vessels in ambient temperature down to - 40°F (- 40°C).

- Provides freeze protection for metal or plastic pipes up to 16 inches (40.64cm) in diameter
- Available in power densities of 3, 5, and 8 watts/foot (30.48cm)
- Available in 120 volt and 240 volt products
- 240 volt cable can be used for 208 volt or 277 volt applications
- Available in cut-to-order lengths or in convenient 250 ft. (76.20m) self dispensing reel boxes

How To Design A Pipe Tracing System

CHART 1 for Metal Pipes **CHART 2 for Plastic Pipes**

1. Along the top of the chart find the temperature and the amount of insulation you plan to use.
2. On the left side of the chart find your pipe size.
3. Follow the chart down and across to determine the type of cable needed [3, 5, or 8 watts per ft. (30.48cm)].
   - The color of the box will indicate the type of cable needed.
   - Boxes that have an x2 will require two cables of the same type needed

EXAMPLE: Using Chart 1 for metal pipes

1. Temperature 0°F (-18°C) with 1" (25.40mm) of insulation.
2. Pipe size 2.5" (63.50mm) diameter.
3. You will need *SR31J or SR32J* depending on voltage.

Voltage Adjustment Table							
Cable	Power Rating Multiplier						
	190 VAC	200 VAC	208 VAC	220 VAC	230 VAC	240 VAC	277 VAC
SR32J	0.58	0.65	0.71	0.81	0.90	1.00	1.34
SR52J	0.70	0.76	0.80	0.87	0.94	1.00	1.20
SR82J	0.80	0.84	0.87	0.92	0.96	1.00	1.12

Performance and Rating Data			
Catalog Number	Service Voltage	Power Rating Watts/ft (30.48cm). @ 50°F (10°C)	Maximum Single Run Length
SR31J	120	3	221
SR32J	240	3	533
SR51J	120	5	178
SR52j	240	5	458
SR81J	120	8	142
SR82J	240	8	347

CHART 1: Metal Pipe

Ambient Temperature		0°F (-18°C)			-20°F (-29°C)			-40°F (-40°C)		
Insulation Thickness inches (mm)		0.5 (12.70)	1.0 (25.40)	1.5 (38.10)	0.5 (12.70)	1.0 (25.40)	1.5 (38.10)	0.5 (12.70)	1.0 (25.40)	1.5 (38.10)
SR 31J SR 32J	0.50 (12.70)									
	0.75 (19.05)									
	1.0 (25.40)									
SR 51J SR 52J	PIPE SIZE 1.5 (38.10)									
	2.0 (50.80)									
	2.5 (63.50)							x2		
SR 81J SR 82J	3.0 (76.20)							x2		
	3.5 (88.90)							x2		
	4.0 (101.60)							x2		
Contact EasyHeat	6.0 (152.40)	x2							x2	
	8.0 (203.20)					x2			x2	x2

Pipe Size listed in inches (mm)

CHART 2: Plastic Pipe

Ambient Temperature		0°F (-18°C)			-20°F (-29°C)			-40°F (-40°C)		
Insulation Thickness inches (mm)		0.5 (12.70)	1.0 (25.40)	1.5 (38.10)	0.5 (12.70)	1.0 (25.40)	1.5 (38.10)	0.5 (12.70)	1.0 (25.40)	1.5 (38.10)
SR 31J SR 32J	0.50 (12.70)									
	0.75 (19.05)									
	1.0 (25.40)									
SR 51J SR 52J	PIPE SIZE 1.5 (38.10)				x2			x2		
	2.0 (50.80)				x2			x2		
	2.5 (63.50)				x2			x2	x2	
SR 81J SR 82J	3.0 (76.20)	x2			x2				x2	
	3.5 (88.90)	x2				x2			x2	x2
	4.0 (101.60)	x2				x2			x2	x2
Contact EasyHeat	6.0 (152.40)		x2			x2				x2
	8.0 (203.20)		x2	x2			x2			

Pipe Size listed in inches (mm)

Application Design Conditions	
Maintain Temperature	40°F (4°C)
Insulation Type	Fiberglass
Wind Speed	20 MPH / 32 KPH
Safety Factor	10%
Heater Attachment	GT-6 Fiberglass Tape

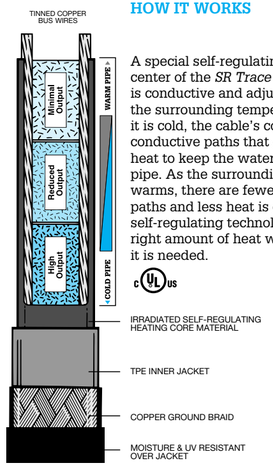
Electric Solutions to Cold Weather Problems

EasyHeat's *SR Trace* offers an effective solution to cold-weather-related problems. Keeping pipes from freezing or eliminating ice dams on drains and rooftops, *SR Trace* is a self-regulating heating cable engineered to vary its heat output as the surrounding temperature changes; the colder it gets, the more heat is generated by the cable.

Available in power densities of 3, 5 and 8 Watts per foot, all cables are UL Listed. Cables are available for 120 or 240 VAC applications. This self-regulating cable provides the right amount of heat when and where it is needed. Because of the self-regulating feature of this cable, it can be wrapped over itself (overlapped), if necessary, when installed on pipes, valves or flanges.

- Specially designed EasyHeat kits provide the right hardware for properly installing *SR Trace* self-regulating heating cables. Each connection kit contains detailed instructions for connecting the cable to power supplies and/or other heating cables.
- Cut-to-length design allows for easy field sizing and installation
- Power densities are available from the factory in cut-to-order lengths or in easy-to-use 250 ft. (76.20m) self dispensing reel boxes and 750 ft. (228.60m) reels. Please note that 3w/ft cable is not available in 750 ft reels.

HOW IT WORKS



A special self-regulating core is at the center of the *SR Trace* cable. This core is conductive and adjusts according to the surrounding temperatures. When it is cold, the cable's core has many conductive paths that generate enough heat to keep the water flowing in the pipe. As the surrounding temperature warms, there are fewer conductive paths and less heat is generated. This self-regulating technology ensures the right amount of heat when and where it is needed.

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SR Trace Installation and Connection Kits

ITEM	DESCRIPTION	
CABLES, cut-to-length		
SR31J	3 watts/ft (30.48cm), 120 VAC PIPE TRACING	●
SR32J	3 watts/ft (30.48cm), 240 VAC PIPE TRACING	●
SR51J	5 watts/ft (30.48cm), 120 VAC PIPE TRACING/ROOF & GUTTER	● ●
SR52J	5 watts/ft (30.48cm), 240 VAC PIPE TRACING/ROOF & GUTTER	● ●
SR81J	8 watts/ft (30.48cm), 120 VAC PIPE TRACING	● ●
SR82J	8 watts/ft (30.48cm), 240 VAC PIPE TRACING	● ●

● *250 ft. (76.20m) self-dispensing reel available*
● *750 ft. (228.60m) self-dispensing reel available*

ITEM	DESCRIPTION
ACCESSORIES	
SRP	HEAT SHRINK POWER CONNECTION KIT
SRST	SPLICE & "T" KIT
SRSRG	ROOF & GUTTER SPLICE KIT
SRES	END SEAL KIT
SRTCS	INSTALLATION KIT
DSH	DOWNSPOUT HANGER KIT
ZH-C	ROOF CLIPS & SPACERS

EasyHeat products are provided with a LIMITED WARRANTY: see owner's manual or contact EasyHeat for complete terms and conditions.

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US T. (800) 537-4732 / F. (888) 324-2440
CAN T. (800) 794-3766 / F. (800) 361-4574

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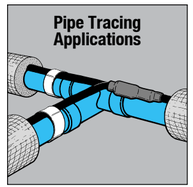
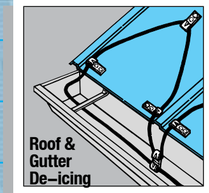
EASYHEAT®

SR TRACE® SELF-REGULATING CABLE

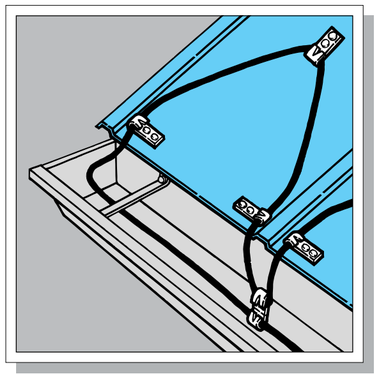
Electrical Solutions to Cold Weather Problems



Application Guide



Roof and Gutter Deicing



SR Trace Roof and Gutter Deicing Cable prevents costly damage to roofs caused by ice formation and snow accumulation in gutters, downspouts, and roof valleys. Apply anywhere melting snow and ice can refreeze and penetrate roof surface causing leaks and related damage.

- Rugged, waterproof construction
- Will not damage temperature sensitive roof coatings
- Heat output of 8 watts/foot (30.48cm) when deicing
- 142 ft. (43.28m) circuit lengths for 120 volt cable
- 381 ft. (116.13m) circuit lengths for 240 volt cable
- 240 volt cable can be used for 208 volt or 277 volt applications
- Available in cut-to-order lengths or in convenient 250 ft. (76.20m) self dispensing reel boxes

How to Design a Roof and Gutter Deicing System

For roof and gutter deicing applications, depending on voltage, use the SR51J or SR52J cables and related kits.

1. Multiply the roof edge length by the length factor from Table 2.
2. Add the appropriate cable amounts from Table 1 to the figure calculated in Step 1 to arrive at your total cable requirement.
3. Determine the number of circuits required by dividing the length of cable needed by the maximum single cable length in Table 3. Round that number up (for example, 2.4 to 3) to arrive at the total number of cable circuits required.
4. We recommend one clip for every three feet (91.44cm) of cable you need.

EXAMPLE: 100´ (30.48m) of shingle roof edge with a 12" (30.48cm) overhang, one 12´ (3.66m) downspout and one dormer with a perimeter of 20´(6.10m). 120 volts available, start-up temperature of 0°F (-18°C).

1. Shingle roof edge length
   100´ (30.48m) x spacing factor (1.9) = 190 ft. (57.91m)
2. Add 100´ (30.48m) for gutter, 24´ (7.32m) for downspout, and 20´ (6.10m) for dormer to Step 1 = 334´ (101.80m) total.
3. Divide total cable length 334´ (101.80m) by maximum single cable length 142´ (43.28m) = 2.4 (round to 3) 20A circuits.

TABLE 1: Determination of Total Cable Requirements

Item	Foot (cm) of Item	Comment
Roof Edge	From Table 2	Select from Table 2, based on eave overhang
Gutter	1´ (30.48cm)	1 Trace / 6" (15.24cm) of gutter width
Downspout	2´ (60.96cm)	Cable is looped down and back
Roof Valley	6´ (182.88cm)	Cable is looped up and back [3 ft. (91.44cm) loop]
Dormer Perimeter	1´ (30.48cm)	1 ft (30.48cm) of cable per foot of dormer perimeter

TABLE 2: Cable Length Factors vs. Roof Overhang

Eave Overhang	Loop Height (H)	Length Factor Shingle Roof (Note 1)	Length Factor Metal Roof (Note 2)
0 — 12" (30.48cm)	18" (45.72cm)	1.9	2.5
24" (60.96cm)	30" (76.20cm)	2.7	3.7
36" (91.44cm)	42" (106.68cm)	3.6	4.5
48" (121.92cm)	54" (137.16cm)	4.6	5.7

Cable length required = Length factor x Roof Length

Notes:

1. Standard Shingle Roof, (see diagram).
2. Metal roof with two foot (60.96cm) loop spacing (see diagram).
3. Cable length calculated above does not include cable for gutter or downspouts.
4. For other designs, contact the representative.

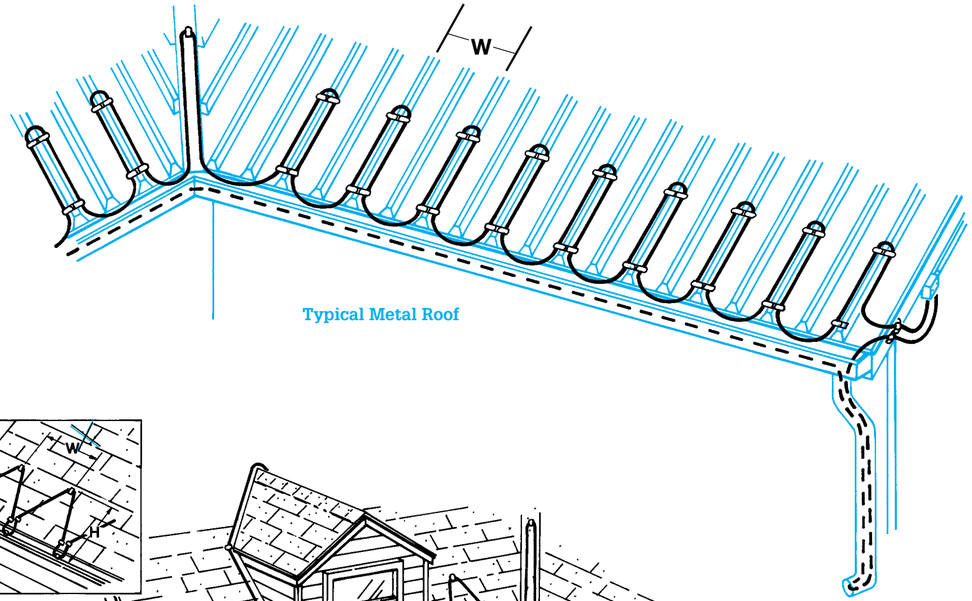
TABLE 3: Performance and Rating Data

Catalog No.	SR51J	SR52J		
Voltage (VAC)	120	208	240	277
Power Output in Ice [W/ft. (30.98cm)]	8.0	7.0	8.0	10.0
Maximum Single Cable Length ft. (m)	142 (43.28m)	381 (116.13m)	381 (116.13m)	381 (116.13m)
Minimum Installation Temp °F (°C)	-40°F (-40°C)	-40°F (-40°C)	-40°F (-40°C)	-40°F (-40°C)
Current Load [A/ft.(30.98cm)]:				
At 0°F (-18°C) Start-up	.132	.066	.066	.066
At — 20°F (-29°C) Start-up	.147	.073	.074	.074

TABLE 4: Maximum Total Heater Length/Circuit Breaker Size 0°F/-20°F (-17.77°C/-28.88°C) Start-up [length in feet (30.98cm)]

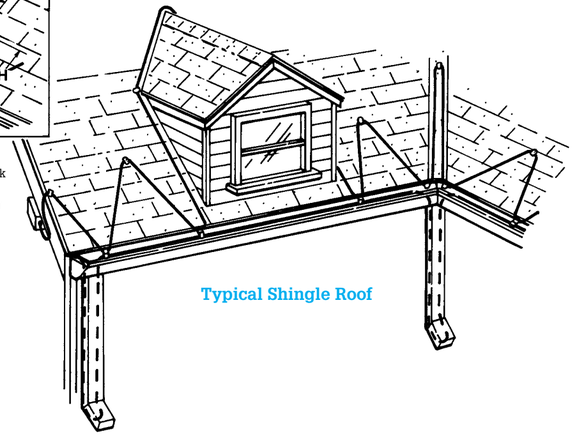
Catalog No.	SR51J	SR52J*
15 Amp Breaker	115/100	225/205
20 Amp Breaker	150/135	300/270
30 Amp Breaker	225/205	455/405
40 Amp Breaker	300/270	605/540

**240V operation*



Typical Metal Roof

NOTE:
"W" is 24" (60.96cm) from peak to peak
"H" is based on eave overhang (see Table 2)



Typical Shingle Roof

Roof Without Gutter