

# SRR

PDS SRR

## Self-Regulation Refrigeration Cable

- **Self-Regulating, Energy Efficient**
- **Maintains Ice Free Freezer Door Frames and Drain Lines**
- **Available in 5, 10, 15 and 20 Watts per Foot**
- **120 and 208-277 Volts Available From Stock**
- **Circuit Lengths to 240 Feet**



### Description

Chromalox SRR self-regulating heating cable provides safe, reliable heat tracing to eliminate ice build-ups and freeze-ups at freezer doors and drain lines. Constructed of industrial grade quality material SRR ensures years of reliability. Industrial grade, 20 gauge buss wire, allows circuit lengths up to 240 feet. Superior matrix to buss wire bonding ensures overall operating integrity and performance. High output, 20 watts per foot heating cable is available.

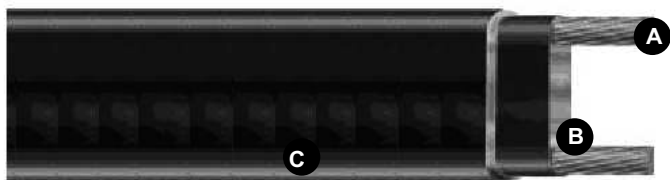
### Features

- **Energy Efficient** – Uses less energy when less heat is required.
- **Easy to Install** – Can be cut to length in the field (up to maximum circuit length)
- **Lower Costs** – less expense, less installation time than the competition. Splicing is not needed.
- **Improved Safety** – Can be single overlapped without burnout. This simplifies installation because overtemperature conditions are virtually impossible.

**Chromalox**<sup>®</sup>  
PRECISION HEAT AND CONTROL

# SRR – Self-Regulating Refrigeration Heating Cable

## Construction



- A. Twin 20 AWG Copper Buss Wires**  
Provide reliable electric current capability.
- B. Semiconductive Polymer Core Matrix**  
“Self”-Regulating component of cable. Core’s electrical resistance varies with temperature. As process temperature drops the core’s heat output increases; as process temperature rises, the heat output decreases.
- C. Fluoropolymer Jacket**  
Flame retardant, electrically insulates the matrix and buss wires. Provides corrosion resistance and mechanical protection.

## FREEZER DOOR APPLICATIONS – Product Specifications and Ordering Information

Use the chart below to select the proper cable to maintain ice free door frames. Cable selection is done according to cold room storage temperature at cable location.

Cold Room Temp	Model Number	Heater Voltage	Max Sheath	Max Circuit Length*
40°F	SRR5-1	120	135°F	120
	SRR5-2	208-277	135°F	240
20°F	SRR5-1	120	135°F	120
	SRR5-2	208-277	135°F	240
0°F	SRR10-1	120	185°F	55
	SRR10-2	208-277	185°F	110
-10°F	SRR10-1	120	185°F	55
	SRR10-2	208-277	185°F	110
-20°F	SRR15-1	120	215°F	40
	SRR15-2	208-277	215°F	80
-40°F	SRR20-1	120	230°F	30
	SRR20-2	208-277	230°F	60

\* Maximum circuit length using 10 Amp thermal magnetic circuit breaker. Thermal Magnetic circuit breakers are recommended since magnetic circuit breakers could “nuisance trip” at low temperature.

Where grounding is required add the “C” option (example SRR 15-1C).

## Accessories

Chromalox has a complete line of accessories specifically designed for use with SRR cable. Use only Chromalox accessories to ensure the performance and approval of your freeze protection system.

Model	Description	Part Number
SSR-CN	Power Connection and End Seal Kit for 5 terminations	562563-001

# SRR – Self-Regulating Refrigeration Heating Cable

## DRAIN LINE APPLICATIONS – Product Specifications and Ordering Information

### Cable Selection Guide –

#### 1) Determine Application Data-

Pipe size/type, insulation thickness, minimum expected exposure temperature, operating voltage.

#### 2) Select Cable Rating –

Use the chart below to select the proper cable for your drain line. Locate the minimum expected drain line exposure temperature, next locate your pipe size and insulation thickness. Select the corresponding cable. Each cable selection is suitable for 120V or 208-277V applications. Design is based on straight runs of cable, no spiral wrapping required. Each cable selection is designed to maintain the drain line at 40°F. See cable order table for complete cable model number. SRR is suitable for use on METAL pipes only. For plastic pipe consult with your local Chromalox representative.

#### 20°F Minimum Exposure Temperature

Pipe Size (Inches)	Insulation Thickness (Inches)			
	0.50	1.00	1.50	2.00
0.50	SRR 5	SRR 5	SRR 5	SRR 5
0.75	SRR 5	SRR 5	SRR 5	SRR 5
1.00	SRR 5	SRR 5	SRR 5	SRR 5
1.25	SRR 5	SRR 5	SRR 5	SRR 5
1.50	SRR 5	SRR 5	SRR 5	SRR 5
2.00	SRR 5	SRR 5	SRR 5	SRR 5
2.50	SRR 5	SRR 5	SRR 5	SRR 5
3.00	SRR 5	SRR 5	SRR 5	SRR 5

#### 0°F Minimum Exposure Temperature

Pipe Size (Inches)	Insulation Thickness (Inches)			
	0.50	1.00	1.50	2.00
0.50	SRR 5	SRR 5	SRR 5	SRR 5
0.75	SRR 5	SRR 5	SRR 5	SRR 5
1.00	SRR 5	SRR 5	SRR 5	SRR 5
1.25	SRR 5	SRR 5	SRR 5	SRR 5
1.50	SRR 5	SRR 5	SRR 5	SRR 5
2.00	SRR 5	SRR 5	SRR 5	SRR 5
2.50	SRR 10	SRR 5	SRR 5	SRR 5
3.00	SRR 10	SRR 5	SRR 5	SRR 5

#### -20°F Minimum Exposure Temperature

Pipe Size (Inches)	Insulation Thickness (Inches)			
	0.50	1.00	1.50	2.00
0.50	SRR 5	SRR 5	SRR 5	SRR 5
0.75	SRR 5	SRR 5	SRR 5	SRR 5
1.00	SRR 5	SRR 5	SRR 5	SRR 5
1.25	SRR 5	SRR 5	SRR 5	SRR 5
1.50	SRR 10	SRR 5	SRR 5	SRR 5
2.00	SRR 10	SRR 5	SRR 5	SRR 5
2.50	SRR 10	SRR 5	SRR 5	SRR 5
3.00	SRR 10	SRR 10	SRR 5	SRR 5

#### -40°F Minimum Exposure Temperature

Pipe Size (Inches)	Insulation Thickness (Inches)			
	0.50	1.00	1.50	2.00
0.50	SRR 5	SRR 5	SRR 5	SRR 5
0.75	SRR 5	SRR 5	SRR 5	SRR 5
1.00	SRR 10	SRR 5	SRR 5	SRR 5
1.25	SRR 10	SRR 5	SRR 5	SRR 5
1.50	SRR 10	SRR 5	SRR 5	SRR 5
2.00	SRR 10	SRR 10	SRR 5	SRR 5
2.50	SRR 15	SRR 10	SRR 5	SRR 5
3.00	SRR 15	SRR 10	SRR 10	SRR 5

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## 3) Calculate Cable Quantity –

The total amount of heating cable is determined by adding the total footage of pipe to be traced and an allowance for components such as valves, flanges, and pipe supports. Use the chart below to determine additional cable required for components. Total cable quantity equals total traced footage plus total component allowance footage.

### Component Cable Allowances

<b>Component</b>	<b>Additional Cable Required (ft)</b>
Flange Pair	1.5
Pipe Support	2.0
Butterfly Valve	2.5
Ball Valve	2.7
Globe Valve	4.0
Gate Valve	5.0

## 4) Determine Circuits / Circuit Protection –

Circuit protection depends on the breaker size being used and the start-up temperature. The National Electric Code (NEC 1999) requires the use of ground fault protection breakers for heating cable. The following chart shows the maximum circuit length for a given breaker rating. To determine the number of circuits required for each pipe, divide the total cable length needed (as determined above) by the maximum circuit length found in the chart. Round up to the next higher number.

**Maximum Circuit Length (ft.) by Start-Up Temperature (°F) and Breaker Size (Amps)**

Cable Rating	Circuit Breaker	40°F Start-Up			0°F Start-Up			-20°F Start-Up			-40°F Start-Up		
		5A	10A	15A	5A	10A	15A	5A	10A	15A	5A	10A	15A
SRR 5-1, C		60	120	180	55	110	165	50	100	155	45	90	135
SRR 5-2, C		120	240	360	110	220	330	100	200	300	90	180	270
SRR10-1, C		30	65	95	25	55	85	25	55	80	20	45	70
SRR10-2, C		65	130	195	55	110	170	55	110	165	45	90	140
SRR15-1, C		25	50	75	20	40	65	20	40	60	18	35	55
SRR15-2, C		50	100	150	40	85	130	40	80	120	35	70	110
SRR20-1, C		20	40	60	18	35	55	17	35	50	15	30	45
SRR20-2, C		40	80	120	35	70	105	35	70	105	30	60	90

Thermal magnetic circuit breakers are recommended since magnetic circuit breakers could “nuisance trip” at low temperature

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## Ordering Information

<u>Model Number</u>	<u>PART #</u>	<u>Watts/ ft</u>	<u>Voltage</u>
SRR 5-1	562547-007	5	120
SRR 5-2	562547-010	5	208-277
SRR 10-1	562547-019	10	120
SRR 10-2	562547-022	10	208-277
SRR 15-1	562547-025	15	120
SRR 15-2	562547-028	15	208-277
SRR 20-1	562547-031	20	120
SRR 20-2	562547-034	20	208-277

## With Optional Grounding Braid

SRR 5-1C	562547-008	5	120
SRR 5-2C	562547-011	5	208-277
SRR 10-1C	562547-020	10	120
SRR 10-2C	562547-023	10	208-277
SRR 15-1C	562547-026	15	120
SRR 15-2C	562547-029	15	208-277
SRR 20-1C	562547-032	20	120
SRR 20-2C	562547-035	20	208-277

## Accessories

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<u>Model</u>	<u>Description</u>	<u>PCN</u>
RT-JBC1	Power Termination kit for entry into JBLT box for one circuit	383531
JBLT	Junction Box	383296
RT-TES	Includes Materials for 5 end seals	383582
RT-TST	Includes Materials for 5 splice and/or tee connections	383566
PS-1, PS-3, PS-10	Pipe Straps to fix RT-JBC-1 kit to pipes	
AT-1	Aluminum Tape - 180 ft. roll	383355
FT-1	Fiberglass tape to fix cable to pipes - 180 ft. roll	382520
CL-1	“Electric Heat Tracing” caution labels, 5 per package, Install every 10 ft.	382424

