

**FINE SRF Series** for freeze protection generates heat by a material of semi-conductor, showing a characteristic of PTC (Positive Temperature Coefficient).

PTC, observed by Dr. Herman (USA) in 1950's, is characterized by the power output of heating cable adjusted to compensate for variations in ambient temperature. It produces more heat if the temperature drops and less

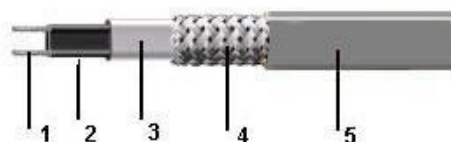
heat if the temperature rises.

**SRF Series** is a self-regulating cable heater, working on the PTC principle, requiring low electrical consumption.

**SRF Series** is most suitable for protection of plumbs and pipes from freezing in winter.

### Product construction

1. Copper bus wire
2. Self-regulating conductive core
3. Modified polyolefin jacket
4. Tinned-copper braid
5. Modified polyolefin outer jacket



### Features of FINE SRF Series

1. Long life time (semi-permanent)

**SRF Series** is post-treated under elevated temperature in annealing process to give its stability in long-term operation without losing heat output.

2. Low energy consumption

The electrical consumption of **SRF Series** is low due to its unique PTC property.

3. Excellent heat resistance

**SRF Series** is treated by irradiation crosslinking reaction, providing the same level of thermosetting property as XLPE.

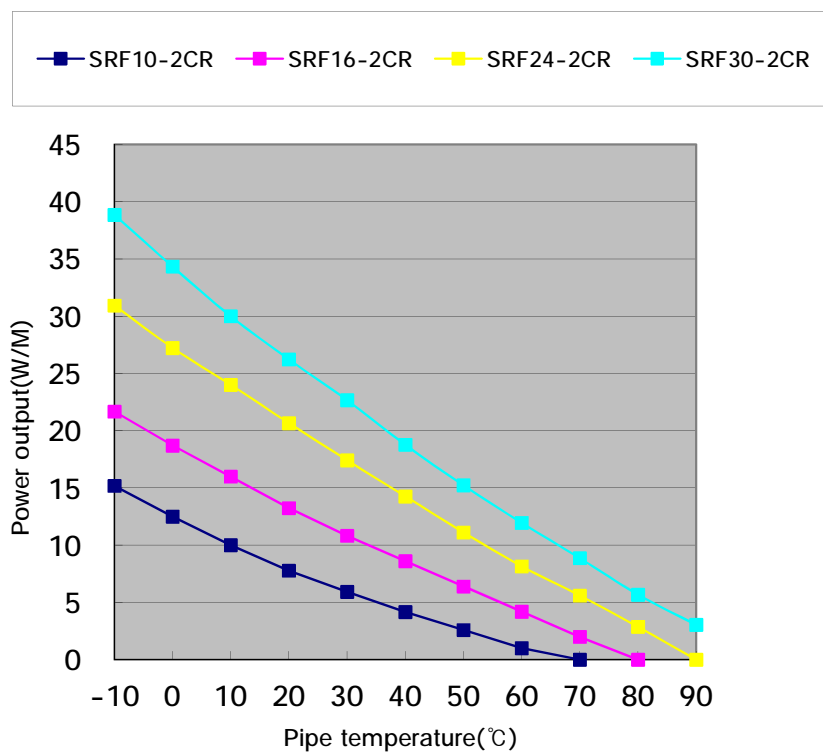
4. Cut to length

The heat generator of **SRF Series** is composed of the infinite parallel connection of carbon particles, allowing it to be cut to the exact length required.

### Product characteristics and design information

Nominal power output	10,16,24 W/M	at 10°C
Max. maintenance temperature	65°C	
Max. intermittent exposure temperature	85°C	T-rating : T6
Max. circuit length	150 meters	10°C
Service voltage	220 VAC	

### SRF Series' Power Output Graph



FINE KOREA CO.

## SRM30,40,50- 2CR/CT

### Temperature Maintenance for Pipework

**FINE SRM Series** shows an excellent capability to maintain the temperature of pipes and plumbs in both chemical plant a fodder plant, working on PTC (Positive Temperature Co-efficient) principle.

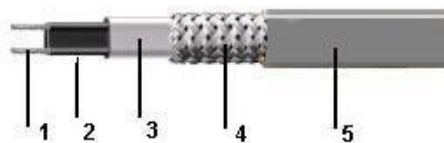
PTC, observed by Dr. Herman (USA) in 1950's, is characterized by the power output of heating cable adjusted to compensate for variations in ambient temperature. It produces more heat if the temperature drops and less heat if the temperature rises.

Utilizing the PTC characteristic, **SRM Series** regulates its own output depending on the exposure temperature, thereby, reducing the risk of fire due to overheating.

The heat generator and insulating jacket of **SRM Series** are treated by irradiation crosslinking reaction, providing an excellent stability even under elevated temperature. Also **SRM Series** is configured for use in hazardous as well as nonhazardous locations because the heating cable is braided with tinned copper wires which can be connected into the ground.

#### Product construction

1. Copper bus wire
2. Self-regulating conductive core
3. Modified polyolefin jacket
4. Tinned copper braid
5. Modified polyolefin outer jacket(-CR)  
Fluoropolymer outer jacket(-CT)



#### Product characteristics and design information

Copper bus wire	16 AWG	
Nominal power output	30,40,50 W/M	at 10°C in air
Max. maintenance temperature	100°C	
Max. circuit length	80~120 meters	
Service voltage	220 VAC	

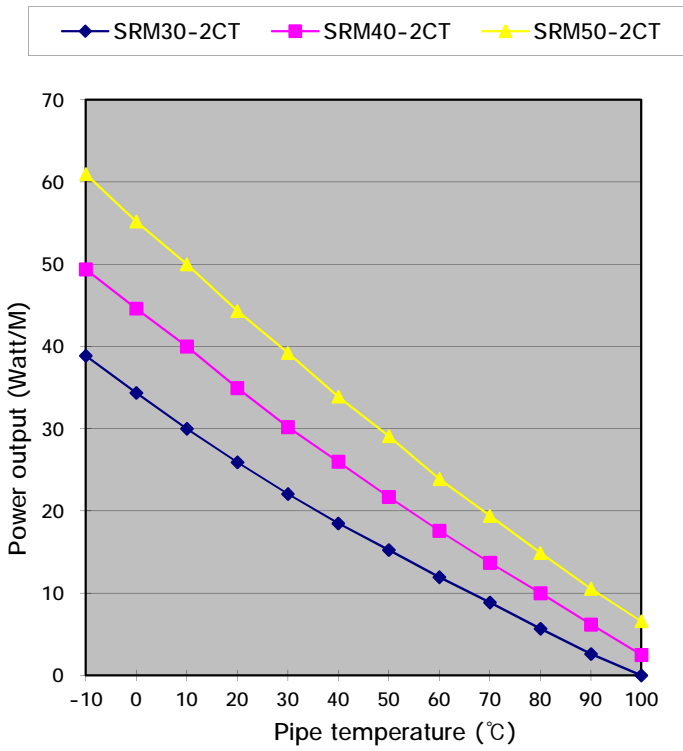
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II2G EEx e II T5

Hazardous & Ordinary areas

**SRM Series' Power Output Graph**



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**FINE SRL30/40 Series** for heating floors generates heat by semiconductor, working on a characteristic of PTC (Positive Temperature Coefficient), unlike ordinary heaters using metal resistance wires for heating.

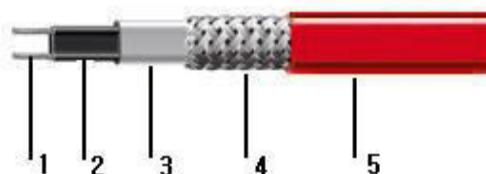
PTC, observed by Dr. Herman (USA) in 1950's, is characterized by the power output of heating cable adjusted to compensate for variations in ambient temperature.

It produces more heat if the temperature drops and less heat if the temperature rises.

**SRL Floor Heater** is a self-regulating cable heater based on the PTC principle, requiring low electrical consumption. In addition, the carbon particles involved in the heat generator of the cable heater emit amount of far infrared ray which facilitate heating through radiant energy.

### Product construction

1. Copper bus wire
2. Self-regulating conductive core
3. Modified polyolefin jacket
4. Tinned-copper braid
5. Modified polyolefin outer jacket



### Features of FINE SRL Floor Heater

1. Long life time (semi-permanent)  
**SRL Floor Heater** is post-treated under elevated temperature in annealing process to give its stability in long-term operation without losing heat output.
2. Emission of far infrared  
**SRL Floor Heater** emits far infrared ray in heating, which can not only be of benefit to health but also yield the radiant heat to allow you to feel comfortable at lower air temperatures, resulting in lower heating cost.
3. Low energy consumption  
The electrical consumption of **SRL Floor Heater** is low due to its unique PTC property.
4. Good safety  
**SRL Floor Heater** with double structure is designed to minimize damage for heat shock and/or physical impact applied to its outer surface.
5. Excellent heat resistance  
**SRL Floor Heater** is treated by irradiation crosslinking reaction, providing the same level of thermosetting property as XLPE.
6. Cut to length  
The heat generator of **SRL Floor Heater** is composed of the infinite parallel connection of carbon particles, allowing it to be cut to the exact length required.

### Product characteristics and design information

Nominal power output	30,40W/M	at 10℃ in concrete
Cable spacing	20 ~ 25 cm	4 ~ 5M/square meter
Max. maintenance temperature	100℃	
Max. circuit length	70 meters	Max. 30 A
Service voltage	220 VAC	

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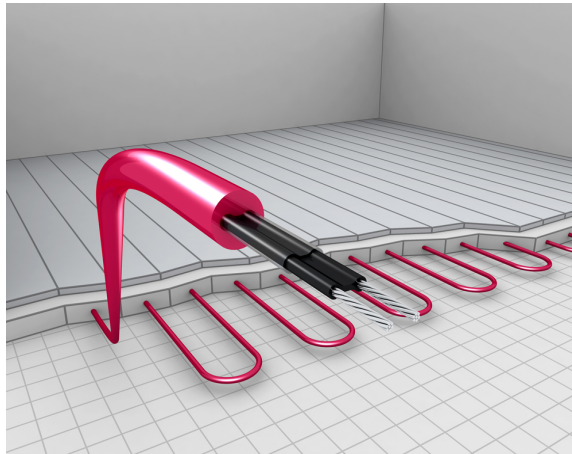
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Related Standards :  
IEC 1423-1  
IEC 1423-2



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## HWSRL10,30-2CR

Freeze protection &  
Temperature maintenance  
for Hot water supply pipes

**FINE HWSRL Series** is a heating cable highly efficient both to protect freezing and to maintain temperature for hot water supply pipes. **HWSRL Series** regulates its power output to compensate for variation in water temperature and ambient temperature due to PTC (Positive Temperature Coefficient) characteristic of the heating cable.

**HWSRL Series** is very effective to protect hot water supply pipes from freezing with low energy consumption.

**HWSRL Series** eliminates the need for designing complex recirculation systems with their pumps, pipes, and valves, thereby requiring low installation cost.

Especially, the self-regulating conductive core and insulation jacket of **HWSRL Series** are treated with irradiation cross-linking reaction, yielding excellent heat resistance and cable stability in long term operation.

### Product construction

1. Copper bus wire
2. Self-regulating conductive core
3. Modified polyolefin jacket
4. Inner adhesive jacket
5. Modified polyolefin out jacket



### Product characteristics and design information

Copper bus wire	18 AWG	
Nominal power output	10,30 W/M	at 10 °C in air
Max. maintenance temperature	95 °C	
Max. intermittent exposure temperature	100 °C	T-rating : T5
Max. circuit length	150 meters	HWSRL10-2
	100 meters	HWSRL30-2
Service voltage	220 VAC	

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Related Standards :  
IEC 1423-1  
IEC 1423-2



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**FINE KOREA CO.**



FINE SM2-CR is specifically designed for direct burial in concrete to melt out snow piled up on street.

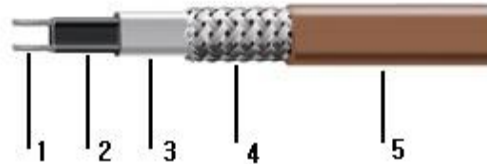
Unlike ordinary metal resistance wire which produces heat output corresponding to its length, the core of SM2-CR is composed of the infinite parallel connection of carbon particles. The parallel circuitry allows the cable to be cut to the exact length required, with no wasted cable.

SM2-CR consists of a continuous core of conductive polymer extruded between two copper bus wires.

SM2-CR regulates its own heat output in response to ambient temperatures as electrical current flows through the core. The self-regulating function of the core is due to its PTC (Positive Temperature Coefficient) property by which the electrical consumption of SM2-CR is reduced in the application.

#### Product construction

1. Copper bus wire
2. Self-regulating conductive core
3. Modified polyolefin jacket
4. Tinned-copper braid
5. Modified polyolefin outer jacket



#### Product characteristics and design information

Copper bus wire	14 AWG	
Max. power output	80 W/M	277 VAC at 0°C in concrete
Cable spacing	25 cm	4M/square meter
Max. maintenance temperature	90 °C	
Max. intermittent exposure temperature	100 °C	T-rating : T5
Max. circuit length	80 meters	Max. 50 A - 10 °C
Service voltage	208 ~ 277 VAC	

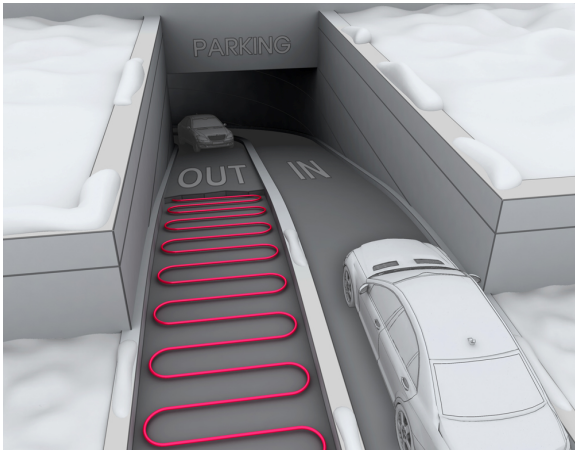
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De-Icing and  
Snow Melting  
Equipment



**FINE KOREA CO.**

FINE GRX-2CR is a heating cable effective for de-icing on roofs, in gutters, and in downspouts. GRX-2CR is designed to withstand a harsh circumstance exposing for long term period to sun light containing high energy.

GRX-2CR consists of a continuous core of conductive polymer extruded between two copper bus wires. GRX-2CR regulates its own heat output depending on ambient temperature, as electrical current flows through the core.

The self-regulating function of GRX-2CR is due to PTC (Positive Temperature Coefficient) property, by which the electrical consumption of GRX-2CR is reduced in the application.

Unlike ordinary metal resistance wire which produces heat output corresponding to its length, the core of GRX-2CR is composed of the infinite parallel connection of carbon particles. The parallel circuitry allows the cable to be cut to the exact length required, with no wasted cable.

#### Product construction

1. Copper bus wire
2. Self-regulating conductive core
3. Modified polyolefin jacket
4. Tinned-copper braid
5. Modified polyolefin outer jacket



#### Product characteristics and design information

Copper bus wire	16 AWG	
Nominal power output	40 W/M	in iced water
Max. maintenance temperature	90 °C	
Max. intermittent exposure temperature	100 °C	T-rating : T5
Max. circuit length	120 meters	Max. 30 A at 0 °C
Service voltage	220 VAC	

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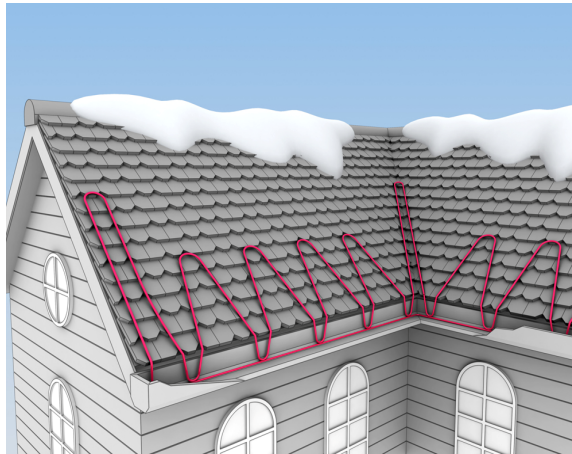
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De-Icing and  
Snow Melting  
Equipment



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**FINE KOREA CO.**