

# INSTRUCTIONS AND MAINTENANCE

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

## Pre-terminated Self-Regulating Heating Cables

### Product Description



These heating cables provide pipe, roof, and gutter system protection from damage due to freezing, and can be used in residential and commercial applications. The cables automatically adjust heat output according to the ambient temperature conditions. Under cooler conditions the heat output increases, and as the temperature rises the output decreases to save on energy. The cables operate on 240V and are available in various pre-assembled lengths.



Pipe heating cable & de-icing and snow melting equipment 4004224

### Features

- Pre-assembled cable lengths include a 3 ft power cord.
- Suitable for plastic or metal pipes, gutters and downspouts.
- Ease of installation, as the cable can be overlapped without the risk of becoming overheated or burnt.

### General Safety Information

Read and understand all instructions in this manual and the following installation instructions and Safety Warnings. Electrical cables, if not installed correctly or are damaged, can present a fire, shock, and arcing hazard.

1. Installation must be in compliance with National Electrical Codes (NEC).
2. Use 30-mA ground fault protection on each heating cable branch circuit for maximum protection.
3. Use only fire-resistant insulation, such as fiberglass or preformed foam. Do not embed heating cable in the insulation.
4. Use 1/2" to 1" fiberglass tape or plastic cable ties when attaching cable to pipe. Do not use wire or metal clamps.
5. Before installing or servicing, ensure that all power to circuits is OFF.
6. Do not twist cable during installation.
- ⚠ WARNING: Do not use damaged heating cables, power cord or plug. Remove and replace immediately to prevent a fire, shock, or arcing hazard.**
7. Do not install heating cable under roofing material.
8. Do not expose cable to temperatures above 185°F, as this will damage the cable.
9. Do not use extension cords.
10. Save all instructions for future reference.

## Specifications

Model	Voltage	Length	Power Output on Pipe @40°F (5°C)	Power Output on Pipe @50°F (10°C)	Power Output in Ice & Snow @32°F (0°C)	Max.Exposure Temperature
PLSR-6-2	208-277V	6ft.	36Watts	30Watts	60Watts	185°F (85°C)
PLSR-12-2	208-277V	12ft.	72Watts	60Watts	120Watts	185°F (85°C)
PLSR-18-2	208-277V	18ft.	108Watts	90Watts	180Watts	185°F (85°C)
PLSR-24-2	208-277V	24ft.	144Watts	120Watts	240Watts	185°F (85°C)

### Accessories:

JSR0301/JSR0302 – Fiberglass application tape and two warning labels

JSR13 – Roof clips, 10 pieces

JSR14 – Roof clips, 50 pieces

JSR15 – Hanger bracket and UV resistant cable ties

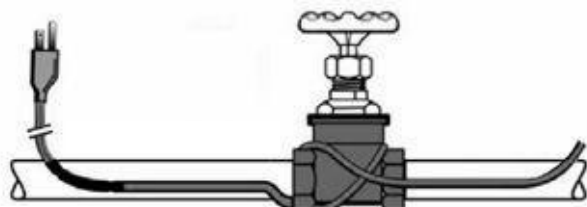
## Heating Cables for Pipes

### CHOOSING A CABLE

(For all models) – Letters A-D in chart represent models PLSR-6-2 thru PLSR-24-2, consecutively.

Pipe Dia.	Type	- Pipe Length (in Feet) -																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1/2"	Metal	A	B	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Plastic	A	B	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1"	Metal	A	B	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Plastic	B	B	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1½"	Metal	A	B	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Plastic	B	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2"	Metal	A	B	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Plastic	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2½"	Metal	A	C	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Plastic	B	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**NOTE:** For each valve or spigot on pipe an additional foot of cable is needed. When the cable is longer than the pipe, spiral the excess cable around the pipe length evenly.



### ATTACHING CABLE TO PIPE

- 1.Prior to installing the cable, be sure all piping is dry, and any sharp surfaces are removed.
- 2.Attach heating cable to pipe with straight, spiraling or multiple tracing.

- 3.If the heating cable is the same length as the pipe, run it straight along the bottom of the pipe. If two cables are required, position them in the 4 and 8 o'clock positions. If three cables are required, position them in the 11 o'clock or 1 o'clock positions and 4 o'clock and 8 o'clock positions.
- 4.If the cable is less than double the pipe length,spiral the cable over the length of pipe.
- 5.Any excess cable remaining at the end of the pipe can be doubled back along the pipe.
- 6.Be sure to include any additional heating cable required for valves, spigots, etc.
- 7.Secure the cable to the pipe with JSR0301/JSR0302 fiberglass application tape or nylon cable ties. Do not use vinyl tape, metallic products or wire.

## INSTALLING THERMAL INSULATION

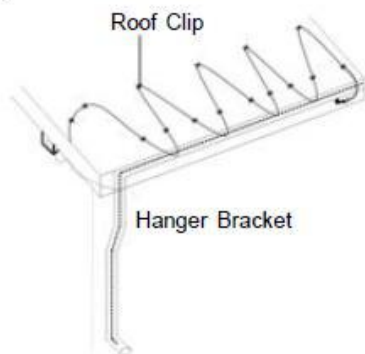
- 1.Before insulating, inspect the cable to ensure that it is free of mechanical damage, such as gouges or cuts, etc.
- 2.Cover the pipe, cables, connections, valves with at least 1/2" (12.7mm) thick fiberglass insulation or equivalent. DO NOT leave the cables exposed.
- 3.Use fire-resistant materials such as fiberglass wrap. Make sure the insulation is waterproofed (with polyethylene or other vapor barriers) in areas where water may come in contact with the insulation.
- 4.Place the two warning labels on the outer surface of the pipe insulation where clearly visible and at suitable locations to indicate the presence of electric heating cable.
- 5.After installation is complete, turn the circuit breaker on to give power to the cable. Standing water in the pipe should feel warm within one hour.

## MAINTENANCE CHECKS

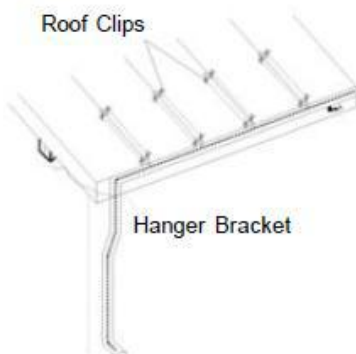
- 1.Only qualified persons should service or install the system.
- 2.Check yearly for any damage to the heating cable and check any ground fault protection device for proper operation. If any damage to cable is found, DO NOT operate until it is replaced.

### Heating Cables for Roofs,Gutters and Downspouts

Shingle Roof



Metal Roof



## CHOOSING A CABLE

- 1.Determine the total length of cable needed by adding the total roof edge length (ft.) x feet of heating cable per foot of roof edge, see Table 1 below, the total gutter length (ft.), and the total downspout length (ft. plus 1).

**NOTE:** The roof edge length (ft.) x feet of heating cable required per foot of roof edge equals the Total roof edge cable length required.

- 2.For shingle roofs, add 1 foot of heating cable for each foot of gutter.
- 3.Add 1 foot of heating cable per foot of downspout.
- 4.When the downspout is between the gutter ends, double the length of the downspout to determine the length of cable needed.
- 5.For roof valleys, measure the distance two thirds of the way up and double it. Add this additional length to the overall cable length.

**Example (shingle roof):**

Roof Edge length . . . . . 15 ft. (with Roof overhang of 1 ft.)

Gutter length . . . . . 13 ft.

Downspout length . . . . . 12 ft.

**Length of heating cable required:**

Roof Edge length . . . . . 15 ft. (×2)(see table below)

Gutter length . . . . . 13 ft.

Downspout length . . . . . 12 (+1) ft.

Total . . . . . 56 ft.

**Table 1–Determining Length of Cable Required on Metal and Shingle Roofs**

Roof Overhang	- Feet of Heating Cable per Foot of Roof Edge -		- Cable Loop Height -	
	Shingle Roof	Metal Roof (24")	Shingle Roof	Metal Roof
None	1.9'	2.5'	18"	18"
12"	2.0'	2.5'	18"	24"
24"	2.7'	3.5'	30"	36"
36"	3.6'	4.5'	42"	48"
48"	4.5'	5.5'	54"	60"

**INSTALLING CABLES FOR ROOFS, GUTTERS AND DOWNSPOUTS**

- 1.Determine the best route for the heating cable on roofs and gutters.
- 2.Route the heating cable to avoid mechanical damage from ladders, etc.
- 3.Before installing the heating cable, make sure the roof, gutter and downspouts are free from debris, leaves, pine needles or any combustibles.
- 4.Check the maximum exposure temperature rating of all roof, gutter and downspouts, and select a heater that will not exceed their temperature ratings.
- 5.Use hanger bracket to support the heating cable where it enters a downspout to prevent cable from being damaged by gutter edge.It also can be used as spacers in wider gutters.
- 6.Run heating cable over top of hanger and secure to hanger using UV resistant cable ties.
- 7.Use roof clips for attaching the heating cable to the roof.
- 8.For roof valleys, measure the distance two thirds of the way up and double it. Add this additional length to the overall cable length.
- 9.Field assembled end terminations should not be located in an area where moisture is present or, at the lowest point of downspouts.
- 10.Attach the two warning labels (included with the heating cable). The labels must be clearly visible on the premises.

**NOTE:** Hanger brackets and roof clips are sold separately.

**MAINTENANCE CHECKS**

- 1.Only qualified persons should service or install the system.
- 2.Check yearly for any damage to the heating cable and check any ground fault protection device for proper operation. If any damage to cable is found, DO NOT operate until it is replaced.

---

**LIMITED WARRANTY**

All products sold are warranted by HEATIT only to customers for resale, or for use in business, or original equipment manufacture, against defects in workmanship or materials under normal use for one year after date of purchase from HEATIT.