INSTALLATION IS EASY!

With the FrostGuard Plug-n-Play heating cable, there is no need to wire the product to the power supply. Simply plug and go!

ROOF INSTALLATION INSTRUCTIONS

1. Calculate the length of the roof edge, eave overhang, gutter and downspout to determine the length of the cable you need.
2. Attach the heating cable to the roof with roof clips, cable ties and downspout hangers.
3. Run the heating cable along gutters and downspouts using a hanger bracket on the gutter/downspout transition (or two hanger brackets if looping)
4. Mark the installation with labels provided on the outlet cover and at the fuse or circuit breaker panel.
5. Plug FrostGuard into a ground-fault protected 3-prong electrical outlet.

TECHNICAL DATA	
Nominal power	8 W/ft @ 32°F (0°C)
Voltage	120 V
Max. Exposure Temperature	150°F (65°C)
Min. Installation Temperature	5°F (–15°C)
Heating cable	Self-regulating cable with protective tinned-copper braid and outer polyolefin jacket
Approvals	cCSAus

PLUG-N-PLAY KIT CABLE LENGTHS		
120 V	Length	
Catalog #	ft	m
FG1-6P	6	1.8
FG1-12P	12	3.7
FG1-18P	18	5.5
FG1-24P	24	7.3
FG1-36P	36	11
FG1-50P	50	15
FG1-75P	75	23
FG1-100P	100	30

For larger roof and gutter de-icing jobs, use our cut-to-length WinterGard Wet product.

ASSOCIATED PRODUCTS

Catalog #	Product Description
H913	Roof Clips (10 ea)
H914	Roof Clips (50 ea)
H915	Downspout Hanger Bracket

ALSO AVAILABLE FOR PIPES

The FrostGuard Plug-n-Play kit is so versatile, that you can install it on water pipes to prevent unnecessary costly repairs associated with frozen or burst pipes.

For more information, refer to H59697, or visit **www.pentairthermal.com**

Raychem

WINTER

PENTAIR

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THERMAL BUILDING SOLUTIONS

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FROSTGUARD ROOF & GUTTER DE-ICING

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FROSTGUARD

KEEPS ROOFS AND GUTTERS WINTER SAFE

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PREVENT ICE DAMS AND FROZEN GUTTERS

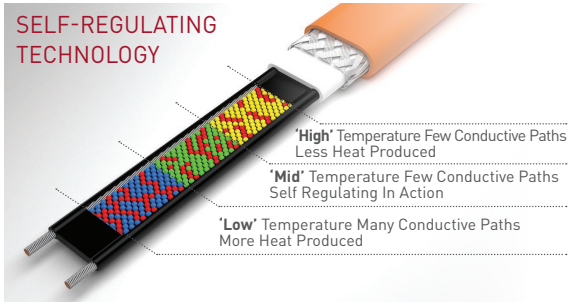
WHEN WINTER BRINGS SNOW AND ICE

Ice buildup, icicles and standing water from melting snow can cause severe damage to your roof and gutter, leading to costly structural damage or injury.

WHAT IS FROSTGUARD?

Raychem FrostGuard is an energy-efficient preassembled heating cable used to protect roofs and gutters from the harm that winter brings.

FrostGuard is available as a Plug-n-Play Kit (120 V) and its self-regulating heating cable delivers just the heat that is needed.



The simple Plug-n-Play system is ideal for residential and small commercial buildings and requires no specialist electrical knowledge. Simply fix to the roof, gutters and downspouts and plug into a ground-fault protected electrical socket. It is that simple.

Raychem

LIGHTED PLUG TO SHOW THE SYSTEM HAS POWER

FEATURES

PLUG-N-PLAY KIT

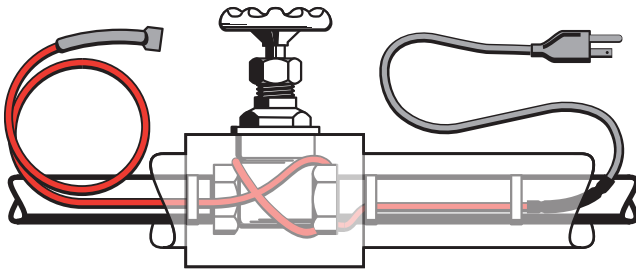
- Preassembled with a 6-ft power cord
- 3-prong, grounded, lighted plug to show the system has power
- No need for an electrician to wire the product to the power supply
- Ideal for smaller jobs such as roof and gutter de-icing on porches and overhangs
- Can be used on roofs made from all types of materials, including shake, shingle, rubber, tar, wood, metal and plastic
- Available in 8 lengths in 120 V
- Can be overlapped
- Quick and easy installation, simply plug and go!

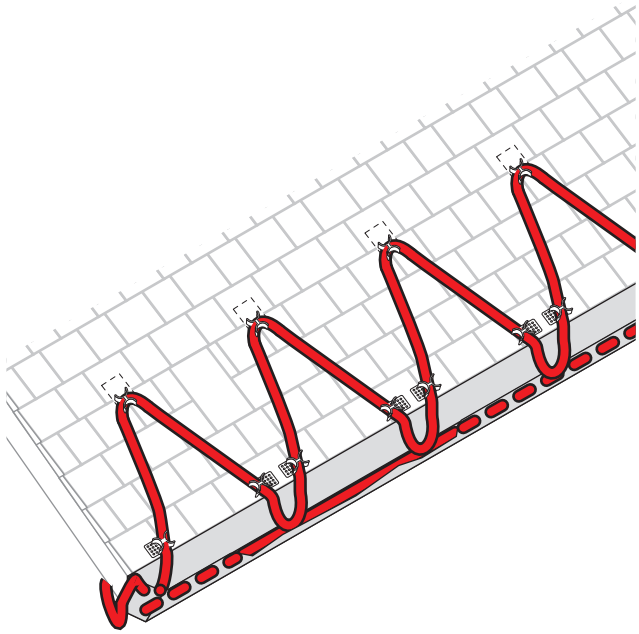
VERSATILITY

The incredibly versatile FrostGuard heating cable kit can be used for roof and gutter applications, including:

- Small roofs
- Porches
- Overhangs
- Any application requiring 100 feet of heating cable or less

Raychem FROSTGUARD
PREASSEMBLED HEATING CABLE





PRODUCT OVERVIEW

Raychem FrostGuard preassembled self-regulating heating cables are designed for residential and commercial metal and plastic pipe freeze protection and roof and gutter de-icing applications. 120 V FrostGuard cables are available in 6, 12, 18, 24, 36, 50, 75 and 100 foot lengths, and each comes assembled with a 6-ft power cord and 3-prong, grounded, lighted plug to show the system is on. 120 V FrostGuard cables are ideal for smaller jobs such as roof and gutter de-icing on porches and overhangs, as well as for pipe freeze protection on metal or plastic pipes up to 2-½ inches in diameter.

240 V FrostGuard cables are available in 6, 12, 18, and 24 foot lengths and each come assembled with a 6-ft power cord for terminating in a junction box. Due to their short lengths, 240 V FrostGuard cables are designed only for pipe freeze protection applications on pipes up to 2-½ inches in diameter.

FROSTGUARD PREASSEMBLED HEATING CABLE SPECIFICATIONS

CATALOG NUMBER	120 V with 6-ft cold lead & lighted plug	208-240 V with 6-ft cold lead
	FG1-6P	FG2-6L
	FG1-12P	FG2-12L
	FG1-18P	FG2-18L
	FG1-24P	FG2-24L
	FG1-36P	
	FG1-50P	
	FG1-75P	
	FG1-100P	

FROSTGUARD PREASSEMBLED HEATING CABLE SPECIFICATIONS

APPLICATION	Pipe freeze protection and roof and gutter de-icing	Pipe freeze protection
Voltage	**120 V**	**208-240 V**
Nominal power output on pipes at 40°F (5°C) (W/ft)	6	6
Nominal power output in ice or snow at 32°F (W/ft)	8	N/A
Maximum cable width (inch/mm)	0.45 (11.4)	0.45 (11.4)
Maximum cable thickness (inch/mm)	0.24 (6.1)	0.24 (6.1)
Cold lead length (ft/m)	6 (1.83)	6 (1.83)
Maximum exposure temperature	150°F (65°C)	150°F (65°C)
Minimum installation temperature	5°F (–15°C)	5°F (–15°C)
Minimum bend radius (inch/mm)	5/8 (16)	5/8 (16)

APPROVALS

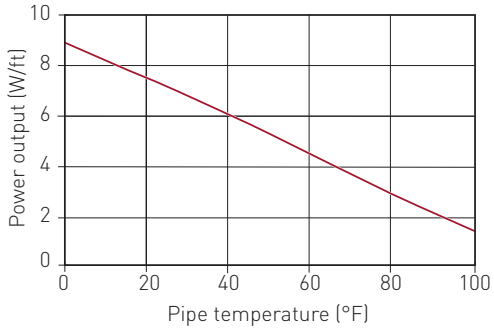
C SP US -WS

C SP US -W

GROUND-FAULT PROTECTION

To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with the requirements of Pentair Thermal Building Solutions, agency certifications, and national electrical codes, 30-mA equipment or 5-mA personnel ground-fault protection must be used on each FrostGuard heating cable branch circuit. Arcing may not be stopped by conventional circuit protection.

NOMINAL POWER TEMPERATURE CURVE FOR PIPES



HEATING CABLE SELECTION FOR PIPE FREEZE PROTECTION

Pipe freeze protection

Use the tables to below to select the correct heating cable length.

FrostGuard 120 V (FG1) Heating Cable Selection

Table 1 Metal Pipes

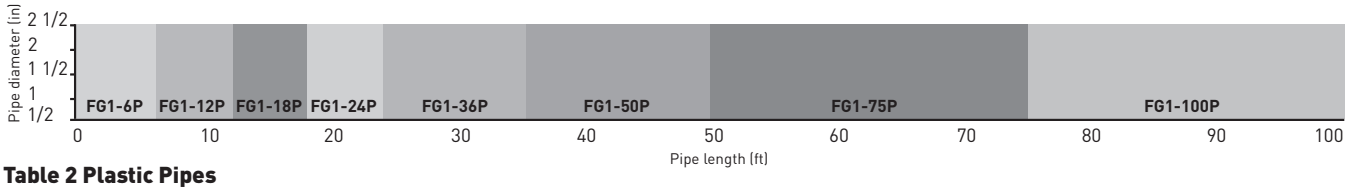
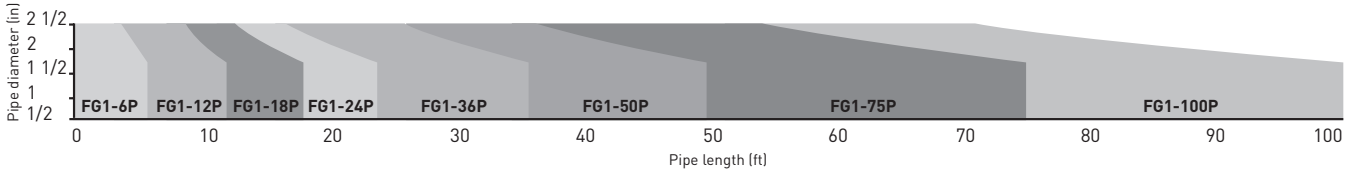


Table 2 Plastic Pipes



Add 1 foot to your pipe length for each valve or spigot on your pipe system. If cable selected is longer than the pipe, spiral it evenly along the entire pipe.

FrostGuard 240 V (FG2) Heating Cable Selection

Table 1 Metal Pipes

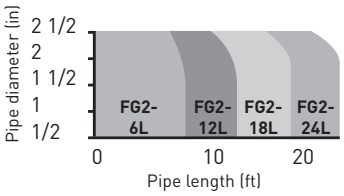
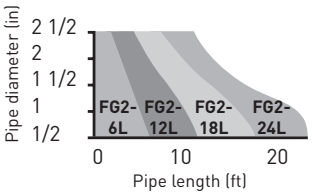


Table 2 Plastic Pipes



Add 1 foot to your pipe length for each valve or spigot on your pipe system.
If cable selected is longer than the pipe, spiral it evenly along the entire pipe.

HEATING CABLE SELECTION FOR ROOF AND GUTTER DE-ICING (120 V ONLY)

Find the number of feet of heating cable needed per foot of roof edge in table to the right. Then, calculate the amount of total heating cable length you need using the following formula:

Length = **A + B + C + D**

A Roof edge length (ft) x Length of cable per foot of roof edge (ft)

B Roof edge (ft) x 0.5*

C Total gutter length (ft)

D Total downspout length (ft) + 1 (ft) [double if looping]

= Total heating cable length (ft)

*Roof extension: This length allows the heating cable to extend into the gutter to provide a continuous drain path, or where no gutters are present, extends beyond the roof edge to form a drip loop.

Length of Cable Per Foot of Roof Edge (ft)

		Standing Seam Metal Roof	
Overhang (in)	**Standard Roof**	**18 inch Seam**	**24 inch Seam**
None*	2	2.5	2
12 in	2.8	2.8	2.4
24 in	3.8	3.6	2.9
36 in	4.8	4.3	3.6

* Gutter required

Note: Pentair Thermal Building Solutions recommends a gutter and downspouts to provide a continuous path for melted water.

- If downspout is in the middle of the run, loop the FrostGuard down and back up. Double the length of the downspout for determining the length of FrostGuard to install.
- For valleys, run the heating cable two thirds of the way up and down the valley.
- For gutters 5-6 inches wide, use 2 runs of heating cable.
- For gutters wider than 6 inches contact Pentair Thermal Building Solutions, (800) 545-6258.

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