

PipeMate

PIPE FREEZE PROTECTION

4
YEAR
LIMITED
WARRANTY
★★★★

Installation and Operation Instructions

30
YEARS
OF EXPERTISE
IN ELECTRIC
CABLE HEATING



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Thank you for purchasing PipeMate – For pipe freeze protection!

Read this installation manual carefully before assembling, installing, operating or servicing PipeMate heating cables. Protect yourself and others by following all safety information. Failure to follow the instructions may result in personal injury and/or property damage. Save the instructions for future reference. You must comply with all the requirements set out in this manual for the warranty to be valid.

1. ALWAYS/NEVER

NEVER:

- Install a damaged heating cable
- Allow or use sharp objects to damage/modify heating cables
- Twist the cables
- Use heating cables for purposes other than what's described in the manual
- Connect a heating cable designed for 120 V to a 230 V power source
- Exceed the maximum length of electrical circuit as it will lead to power shutdown during the operation
- Install heating cables on surfaces that can become hotter than 150°F (65°C)
- Turn-on the cable at very low ambient temperatures, as this can overload the circuit
- Try to cut, shorten, or modify a heating cable as it can cause an electric shock or fire

ALWAYS:

- Ensure a bend radius of the heating cable of at least 1-inch during installation and operation
- Make sure that the heating cable is installed by a qualified technician in accordance with this installation manual and a NATIONAL ELECTRICAL CODE (NEC). All electrical connections must be made by a qualified electrician in accordance with all electrical and building codes in your area

2. WARNINGS

Improper installation, use, operation or maintenance of this product may result in personal injury or death from electric shock or fire, as well as property damage. Read and follow the instructions in this manual carefully.

- The installation of this product must be carried out in accordance with the National Electrical Code (NEC)
- Ground fault protection is provided through the use of a ground fault circuit interrupter (GFCI). Maximum leak current 30 mA
- Before installing or servicing the heating cable, make sure that all power supplies are turned off
- Use fire-resistant insulation only, such as glass fiber, mineral fiber, or pre-formed foam for heating pipelines. The minimum recommended insulation thickness is 1/2"
- The heating cable must have contact with the surface to be heated along its entire length, so do not place it inside the insulation
- Avoid twisting of the cable during installation, and observe a minimum bend radius of 1"
- Do not use extension cords
- Do not expose the cable to temperatures above 150°F, as this may damage the cable
- To attach the cable to the pipe use fiberglass tape with a width of 1/2" to 1", aluminium tape or plastic (nylon) cable ties. Do not use wire or metal clips. Do not use standard PVC insulation tape.
- Make sure that drip loops are formed during installation to prevent water from entering electrical equipment (e.g., sockets).
- To maintain the warranty, make sure that the heating cable is installed in accordance with the requirements of this manual.
- Do not cut or try to change the length of the cable, as this may cause a short circuit and electric shock.
- Do not use on pipes which transport liquid other than water. The cable is not intended for use with hazardous materials.
- Do not install the cable inside walls or in inaccessible places.

3. GENERAL INFORMATION

Pre-assembled self-regulating heating cable (hereinafter referred to as the HEATING CABLE) may be used on all metal and non-metal pipes, including copper, galvanized steel, polyethylene, polypropylene, PVC, etc. Heating cables are usually used for heating of freshwater supply pipes, sewer pipes, drainage pipes, for heating tanks or soil heating. To increase energy efficiency, heating cables must be used in conjunction with thermal insulation.

4. HEATING CABLE SPECIFICATIONS

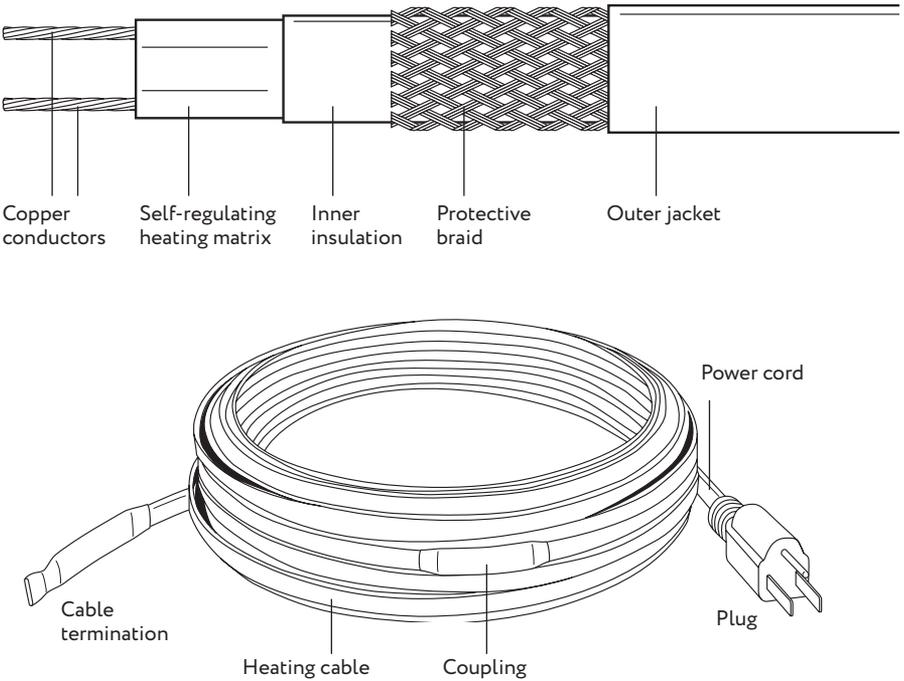


Figure 1. Self-regulating heating cable

Table 1. Technical Specifications

Type of heating cable	Self-regulating
Rated voltage, V	110–120 V
Power output at 50°F	5 W/ft
Power output at 32°F	7 W/ft
Length of heating cable	3–150 ft
Dimensions of heating cable	8.8×5.6 mm
Bus wires	20 gauge AWG
Minimum bending radius	1 inch
Sheath material	Thermoplastic elastomer
Braid material	Tinned copper
Maximum operating temperature	185°F
Power cord	Weatherproof, 3 ft, 3-conductor 18 AWG, with LED-plug

Table 2. Length and Power

Heating Cable Length, ft.	Power output (watts) at Temperature 50°F (10°C)	PipeMate Model
3	15	Parallel Pre-assembled self-regulating heating cable 5-PM1-003-03
6	30	Parallel Pre-assembled self-regulating heating cable 5-PM1-006-03
9	45	Parallel Pre-assembled self-regulating heating cable 5-PM1-009-03
12	60	Parallel Pre-assembled self-regulating heating cable 5-PM1-012-03
15	75	Parallel Pre-assembled self-regulating heating cable 5-PM1-015-03
18	90	Parallel Pre-assembled self-regulating heating cable 5-PM1-018-03
24	120	Parallel Pre-assembled self-regulating heating cable 5-PM1-024-03
30	150	Parallel Pre-assembled self-regulating heating cable 5-PM1-030-03
40	200	Parallel Pre-assembled self-regulating heating cable 5-PM1-040-03
60	300	Parallel Pre-assembled self-regulating heating cable 5-PM1-060-03
80	400	Parallel Pre-assembled self-regulating heating cable 5-PM1-080-03
100	500	Parallel Pre-assembled self-regulating heating cable 5-PM1-100-03
125	625	Parallel Pre-assembled self-regulating heating cable 5-PM1-125-03
150	750	Parallel Pre-assembled self-regulating heating cable 5-PM1-150-03

5. DETERMINING NECESSARY CABLE LENGTH

Use table 3 to determine the appropriate cable length for your application.

To the length specified in table 3, add about 1 ft. of cable length for each valve or stopcock for pipes with a diameter of 1" or less.

To the length specified in table 3, add about 2 ft. of cable length for each valve or stopcock for pipes with a diameter larger than 1".

Table 3. Selecting the length of heating cable depending on the length of a pipeline

Pipe diameter	Pipe material	Pipe length										
		3'	5'	10'	15'	20'	30'	40'	50'	60'	70'	80'
0.5"	plastic	3'	6'	12'	15'	24'	30'	40'	60'	60'	80'	80'
	metal	3'	6'	12'	15'	24'	30'	40'	60'	60'	80'	80'
0.75"	plastic	3'	6'	12'	15'	24'	30'	40'	60'	60'	80'	80'
	metal	3'	6'	12'	15'	24'	30'	40'	60'	60'	80'	80'
1"	plastic	3'	6'	12'	15'	24'	30'	40'	60'	60'	80'	80'
	metal	3'	6'	12'	15'	24'	30'	40'	60'	60'	80'	80'
1.5"	plastic	6'	12'	24'	30'	40'	60'	80'	100'	125'	150'	-
	metal	3'	6'	12'	15'	24'	30'	40'	60'	60'	80'	80'
2"	plastic	6'	12'	24'	30'	40'	60'	80'	100'	125'	150'	-
	metal	6'	12'	24'	30'	40'	60'	80'	100'	125'	150'	-
3"	plastic	6'	12'	24'	30'	40'	60'	80'	100'	125'	150'	-
	metal	6'	12'	24'	30'	40'	60'	80'	100'	125'	150'	-

6. PREPARING TO INSTALL THE CABLE

Design the cable layout and double-check your measurements to make sure you have selected the correct cable length for your application. Determine the optimal cable layout, considering the available stopcocks, valves, tees, pipe bends and the location of power supply sources.

The heating cable must be installed on a pre-prepared surface. This means the surface for the heating cable installation must be free of dirt, rust, sharp edges, drops from welding, splashes of cement or other substances that could damage the heating cable.

Before installation, check the cable for visible damage. Do not install a damaged cable.

After unwinding the cable and before installing it on the pipe, connect the cable for a few minutes to check its performance. The plug is equipped with an LED light which must be on when the cable is plugged in, indicating that the cable is connected and consuming electricity. The cable will become slightly warm within ten minutes. Disconnect the cable before installation.

Valves and stopcocks may require a greater amount of heat. Wrap them with the heating cable as shown in the Figure 6.

7. INSTALLING THE CABLE ON THE PIPE

The heating cable is self-regulating, so it is not subject to overheating, even if there was an overlap. During installation, you can overlap the cable many times and use this advantage to ensure the optimal cable layout.

The cable can be installed inside the pipe if the water is not intended for consumption and is not under pressure. In this case, the power cord and coupling must be completely removed from the pipe so that they are not exposed to water.

The efficiency of the cable depends on the quality of contact between the cable and the surface to be heated as well as the use of thermal insulation. Ensure that the cable fits snugly to the pipe along its entire length.

The cable must be laid in a straight line on pipes.

Use one or two strands of cable for pipes of different sizes and materials. Use an extra length of cable to heat valves, stopcocks, and pipe branches. Use a single-thread installation for pipes of any material with a diameter of 1" or less. Locate the cable at 6 o'clock. For plastic pipes of 1.5" or more and metal pipes with a diameter of 2" or more, it is strongly recommended to use two strands of cable. In this case, locate the cable at 4 and 8 o'clock (see figure 2).

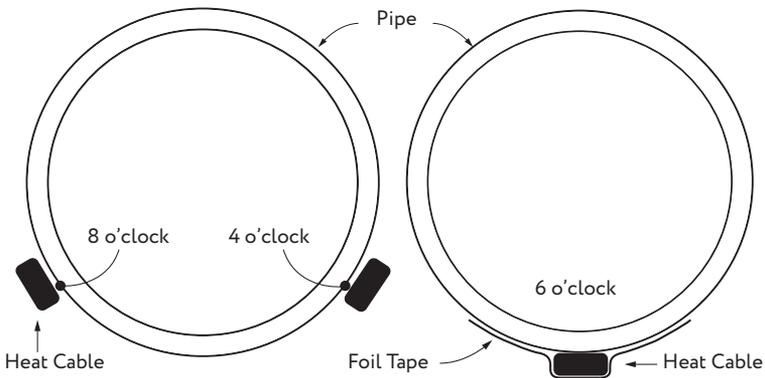


Figure 2. Ways to arrange the cable when laying on the pipe.

Apply an aluminium tape with an adhesive layer along the entire length of the cable. This is especially important in the case of plastic pipes since their thermal conductivity is much worse than that of metal pipes. The use of aluminium tape will increase the efficiency of using the heating cable.

Do not pull the cable with excessive force during installation. Avoid twisting or crushing the cable as this may damage it.

Bend the cable exclusively perpendicular to the plane of its cores as shown in Figure 3.

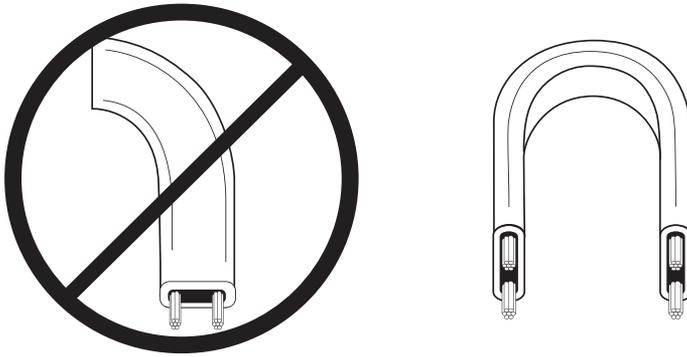


Figure 3.

Attach the cable to the pipe with fiberglass tape, aluminium tape, and/or nylon cable ties approximately every 12 inches. Do not use wire or standard PVC insulation tape.

8. USE ON DRAINAGE AND SPILLWAY PIPES

The cable may be used inside drainage pipes to ensure their operation in the cold season. The cable may be laid at the bottom of the pipe, as shown in figure 4. The cable may lay loose.

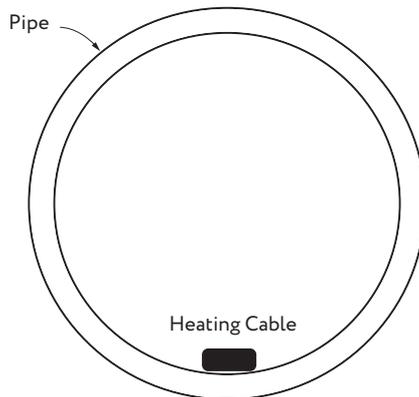


Figure 4. Arrangement of the cable inside the drainage pipe.

9. USE OF THERMAL INSULATION

Do not use cables without thermal insulation.

Install a fire-resistant, water-resistant thermal insulation at least ½” thick on top of the pipe and cable.

Use 1” thick thermal insulation for protection up to -40°F (-40°C).

Pre-formed foam insulation or mineral insulation should be used in all areas where the heating cable is laid.

Use only dry thermal insulation materials for thermal insulation and ensure good insulation from water (rain) entering the thermal insulation when using the heating cable.

Do not use aerosol foam to form thermal insulation.

Do not cover the power cord with thermal insulation.

Place warning signs on the outside of the insulation to inform of the presence of a heating cable on the pipe.

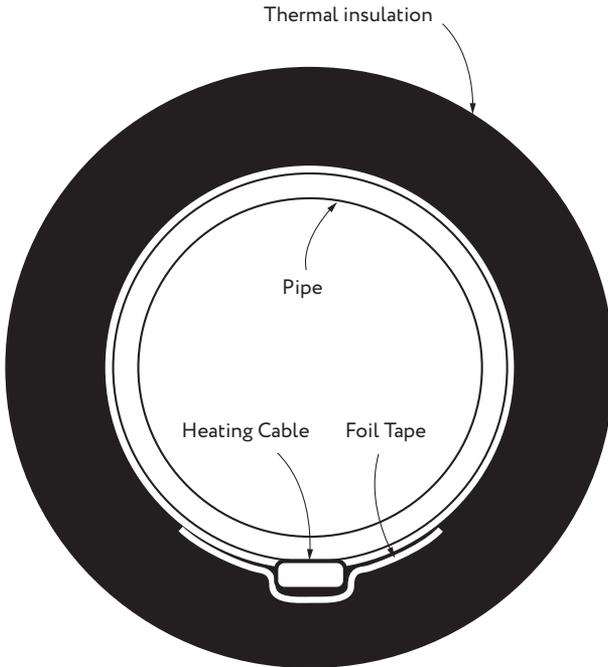


Figure 5. Use of thermal insulation.

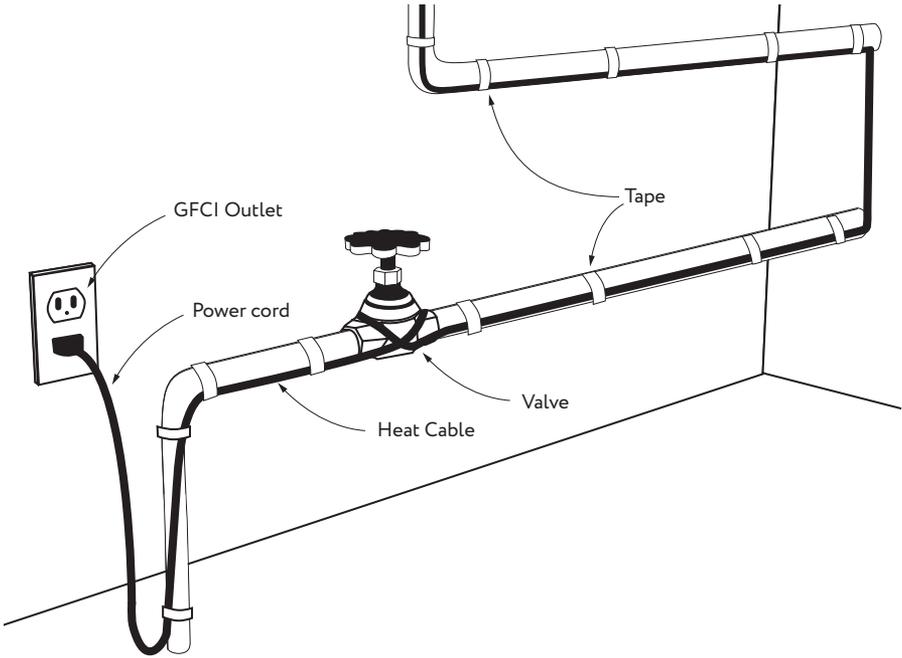


Figure 6. Typical layout of the heating cable on the water pipe.

10. WARRANTY LIMITATION AND RESPONSIBILITY

The Seller guarantees the first owner and/or the original buyer (Buyer) of the product that its electric self-regulating heating cable (Product) will not have defects in materials and workmanship for 4 years from purchase date.

The warranty card must be registered with the Seller within 14 days from the date of purchase with a copy of the dated receipt.

In accordance with this limited warranty, the Seller provides the following: If the company determines that the product has defects in materials and workmanship and was not damaged as a result of misuse, improper use or design changes, the Seller will refund the price of the Product declared by the manufacturer at the time of purchase.

The maximum liability of the Seller in no case shall exceed the list price for a Product that will be deemed defective.

The warranty conditions require that the installation be carried out in strict accordance with the rules set forth in this Installation Manual. Failure to comply with these rules will void the warranty completely. The Seller is not responsible for damage to the product which it considers the result of careless handling, misuse or lack of maintenance.

The Buyer is responsible for the costs associated with the installation, dismantling and re-installation of the product, including labor and delivery costs incurred in returning the product to the Seller.

To apply, you should:

- a) Provide the Seller with sufficient information regarding the nature of the defect, installation, operation history and any repair work that has been carried out.
- b) Send the Product to the Seller at the expense of the Buyer of the Product.
- c) Provide confirmation that the Product has been installed in accordance with this Installation Manual.
- d) Provide evidence that the Product has been installed in accordance with the National Electrical Code (NEC) or the Canadian Electrical Code or all applicable local building and electrical codes.
- e) Provide a receipt of sale or proof of purchase.

This limited warranty does not apply to the following:

- a) Any incidental or consequential damages, including inconvenience, loss of time or loss of income.
- b) Any labor or material required to repair or replace the Product.
- c) Any costs associated with the transportation or delivery of the Product to or from our enterprise.
- d) Any costs connected with the analysis necessary to detect or diagnose a potential problem with the cable system.
- e) The Seller is not liable for consequential losses incurred in connection with the product for any reason.

Send the completed warranty card to the address:
10457 Roselle St, Ste E, San Diego, CA 92121

You can also register a purchase on the website of the Seller:
warmbridge.shop

Model number:	
Buyer's Name:	
Installation Address:	
Date of purchase:	
Installation date:	
Installer name and license number:	

My signature below confirms that I have read, fully understand and accept the limited warranty agreement.

Date _____

Signature: _____

Must be returned within 30 days from the date of purchase with a copy of the dated receipt.

Manufacturer: GammaSwiss
Rue Galilée 6 1400
Yverdon-les-Bains, Switzerland
+41 24 534 59 00
infoch@sst-international.com

Official distributor in USA: WarmBridge, Inc.
10457 Roselle St, Ste E, San Diego, CA 92121,
United States
+1 (858) 500 2199
contact@warmbridge.shop