

# EasyHeat™ Freeze Free™ Cable

Pipe Freeze Protection, Self-Regulating, Cut-to-Length. For Residential Applications.

## Product Overview

- Freeze Free self-regulating pipe heating cables provide flexible protection against pipe freeze-ups.
- Cut-to-length capability on the job is ideal for installations that require protection of numerous pipes of varied lengths.
- The self-regulating effect of the cable reduces power consumption when the pipe does not require freeze protection.
- Increases Watts per foot the colder it gets and decreases when the temperature gets warmer.

## Applications

- Residential plastic or metal water supply and drain pipes subject to freezing temperatures.
- Water supply lines underneath mobile and manufactured homes.
- Pipes in cottages, barns and outbuildings that are not regularly heated.

## Features

- 120 Vac operating voltage.
- Keeps plastic and metal water pipes from freezing down to -60 °F (-51 °C).
- Braided metal jacket provides an electrical ground as well as protection against damage in dry locations.
- Cables are rated at 3 Watts per foot (0.30 m), +50 °F (+10 °C); 75 ft (22.86 m) maximum circuit length.
- Available on reels of 100 ft, 300 ft, and 500 ft (30.48 m, 91.44 m, and 152.40 m) and can be cut to desired lengths per application.
- Pre-packaged lengths of 5 ft and 15 ft (1.52 m and 4.57 m) are also available.
- Can be wrapped over itself (overlapped), if necessary, when installed on pipes, valves or flanges.
- One year limited warranty.

## Related Products

- Fused plug kits connect one Freeze Free cable into an electrical outlet and a cable end seal to ensure safe and proper usage:
  - 10802
  - 10803
- It is recommended that heating cables for freeze protection be controlled by a thermostat to minimize energy consumption. Control options available:
  - EH38 Pre-Set Thermostat

## Accessories

- Installation tape and caution labels are available. See *EasyHeat Freeze Free Accessories*.



Freeze Free™ Cable



10802 Connection Kit



## Certifications

- UL Listed to US Safety Standards and CSA Certified.

### Notes

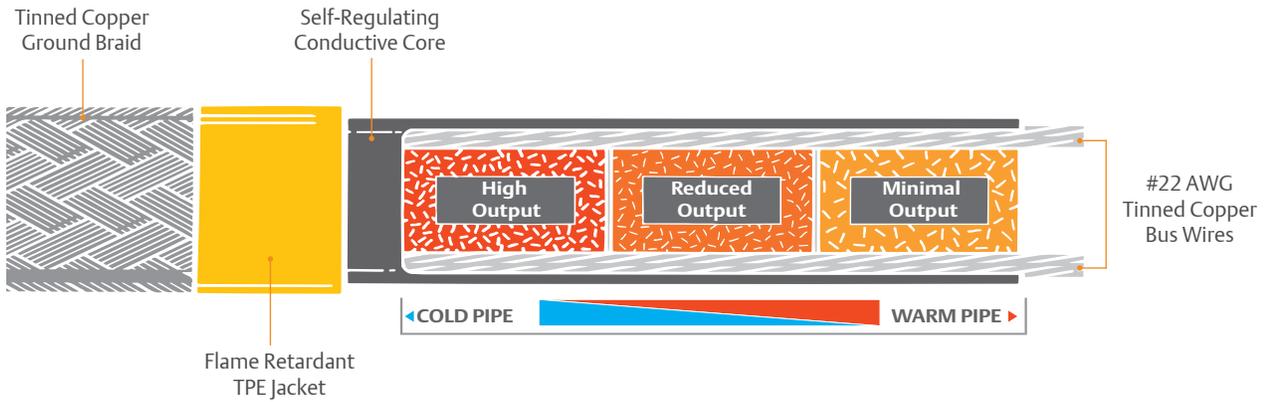
- Per NEC and CEC requirements ALWAYS use a ground fault protection device (GFEP) to reduce the danger of fire from a damaged or improperly installed heating cable. Electrical fault currents caused by damaged or improperly installed cable MAY NOT BE LARGE ENOUGH to trip a conventional circuit breaker.
- Heating cables must be installed in compliance with all national, state/provincial and local codes. Check with your local electrical inspector for specific details.
- The Freeze Free orange cable connector housing and fiberglass thermal insulation with vapor seal must be kept dry and away from water to avoid possible electrical shock or fire.
- Only use on plastic and metal domestic water pipes (such as PVC, PEX or polybutylene).
- Never use on flexible vinyl tubing (garden hose), on buried pipes, on pipes carrying any fluid other than water, or any non-pipe heating applications such as roof and gutter de-icing or driveway snow melting.
- Use 1/2 in (12.77 mm) fiberglass pipe insulation with vapor seal.
- Never expose the cable to temperatures above +150 °F (+66 °C), this will shorten the life of the cable.
- Only use the fused plug kits 10802 and 10803 for making connections.
- To avoid short circuits, never twist the wires inside the Freeze Free cable together or allow them to touch each other or the outer braid.
- Only cut the Freeze Free cable jacket at the ends when attaching the fused plug and end seal.
- Never use nails, metal clamps, wires or other devices that might cut the cable to support the cable along the pipe.
- Only use 1/2 in (12.7 mm) or 1 in (25.4 mm) vinyl or fiberglass tape to attach cable to pipe.
- Do not use extension cord.
- Use 1/2 in (12.77 mm) fiberglass with vapor seal insulation or equivalent non-combustible and nonflammable.
- Maximum 75 ft (22.86 m) length of freeze free connected per fused plug.
- Do not twist or expose the wire under the yellow jacket when connecting to the plug to avoid short circuits.

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## Illustrated Features

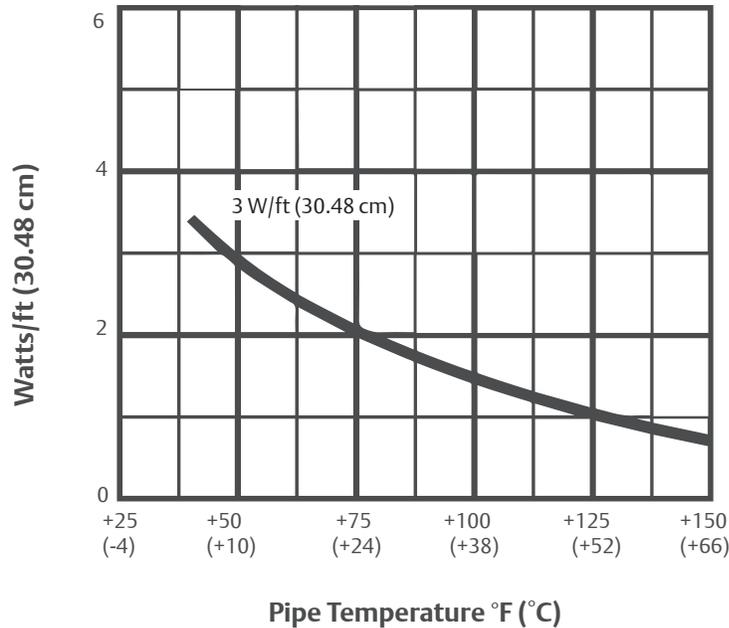
A special self-regulating core is at the center of the Freeze Free cable. This core is conductive and adjusts according to the surrounding temperatures. When it is cold, the cable's core has many conductive paths that generate enough heat to keep the water flowing in the pipe. As the surrounding temperature warms, there are fewer conductive paths and less heat is generated.



PIPE TRACING

## Performance Information

Nominal Power Output on Metal Pipe



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## Cable Application

Freeze Free cable can be applied on water filled plastic or metal pipes up to 2 in (50.80 mm) in diameter. On smaller size pipes, the cable can usually be applied straight along the pipe. However, on longer pipes and especially at lower temperatures, the cable must be spiraled around the pipe. This ensures adequate heat is applied to the pipes to keep them from freezing. The table below indicates the application requirements for plastic and metal pipes.

**Lowest Expected Temperature Table**

	Plastic Pipe Diameter in (cm)						Metal Pipe in (cm)					
	1/2 (1.27)	3/4 (1.90)	1 (2.54)	1-1/4 (3.17)	1-1/2 (3.81)	2 (5.08)	1/2 (1.27)	3/4 (1.90)	1 (2.54)	1-1/4 (3.17)	1-1/2 (3.81)	2 (5.08)
<b>Heating Cable Required Per Foot of Pipe ft (cm)</b>												
<b>+20 °F (-7 °C)</b>	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)	1 (30.48)
<b>0 °F (-18 °C)</b>	1 (30.48)	1.1 (33.53)	1.3 (39.62)	1.6 (48.76)	1.8 (54.86)	2.1 (64.01)	1 (30.48)	1 (30.48)	1 (30.48)	1.1 (33.53)	1.2 (36.57)	1.5 (45.72)
<b>-20 °F (-29 °C)</b>	1.5 (45.72)	1.7 (51.82)	2 (60.96)	2.3 (70.10)	2.5 (76.20)	3 (91.44)	1 (30.48)	1.1 (33.53)	1.3 (39.62)	1.6 (48.76)	1.8 (54.86)	2.2 (67.05)
<b>-40 °F (-40 °C)</b>	2 (60.96)	2.3 (70.10)	2.7 (82.29)	3.2 (97.53)	3.6 (109.72)	4.3 (131.06)	1.3 (39.62)	1.5 (45.72)	1.8 (54.86)	2.1 (64.01)	2.4 (73.15)	2.8 (85.34)
<b>-60 °F (-51 °C)</b>	2.4 (73.15)	2.9 (88.39)	3.3 (100.58)	4.1 (124.96)	4.7 (143.25)	5.4 (164.59)	1.7 (51.82)	2 (60.96)	2.4 (73.15)	2.9 (88.39)	3.2 (97.53)	3.9 (118.87)

PIPE TRACING

Note:

- Shaded selections can run straight on pipe.
- Unshaded selections must be spiraled evenly along the pipe.

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## How To Determine the Length of Cable You Need (Maximum Circuit Length: 75 Feet)

### Step 1: Collect the Following Necessary Information

Example:

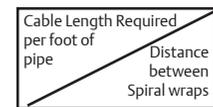
- Pipe Size
  - outside diameter
  - length
- Lowest expected air temperature: (disregard windchill, it has been figured into the length selection chart)
- Number of valves and spigots
- Distance from pipe to electrical outlet

### Step 2: Refer To The Length Selection Charts

These charts will tell you the length of the cable you need per foot of pipe and also the recommended distance to leave between each spiral wrap of cable on the pipe.

### How To Use the Length Selection Chart

Choose either Chart #1 or Chart #2 for your type of pipe (plastic or metal). Read down to find your pipe diameter, then read across to the box below your lowest expected temperature. The first number appearing in the box will tell you the length (feet) of cable you need per foot of pipe. The second number indicates the recommended distance between each spiral wrap of cable on the pipe. The abbreviation “str” indicates that the cable should be run in a straight line instead of spiral wrap.



\*“str” denotes straight cable (not spiraled)

Example

- Your pipe diameter is 1-1/2 in
- Your lowest expected temperature is -20 °F (-29 °C)
- Your pipe length is 12 ft

From Chart #1:

- You need 2.5 ft of cable per foot of pipe for plastic pipes

From Chart #2:

- You need 1.8 ft of cable per foot of pipe for metal pipes

### Chart #1: Length Selection for Plastic Pipes

(based on the use of 1/2 in insulation)

#### Lowest Expected Temperature

Pipe Dia.	+20°F (-7°C)	0°F (-18°C)	-20°F (-29°C)	+40°F (-40°C)	-60°F (-51°C)
1/2"	1' str.	1' str.	1.5' 2-3/8"	2' 1-1/2"	2.4' 1-1/4"
3/4"	1' str.	1.1' 7-1/4"	1.7' 2-3/8"	2.3' 1-1/2"	2.9' 1-1/4"
1"	1' str.	1.3' 5"	2' 2-3/8"	2.7' 1-5/8"	3.3' 1-3/8"
1-1/4"	1' str.	1.6' 4-1/4"	2.3' 2-1/2"	3.2' 1-3/4"	4.1' 1-3/8"
1-1/2"	1' str.	1.8' 4"	2.5' 2-5/8"	3.6' 1-3/4"	4.7' 1-3/8"
2"	1' str.	2.1' 4"	3' 2-5/8"	4.3' 1-3/4"	5.4' 1-1/8"

### Chart #2: Length Selection for Metal Pipes

(based on the use of 1/2 in insulation)

#### Lowest Expected Temperature

Pipe Dia.	+20°F (-7°C)	0°F (-18°C)	-20°F (-29°C)	+40°F (-40°C)	-60°F (-51°C)
1/2"	1' str.	1' str.	1' str.	1.3' 3-1/8"	1.7' 2"
3/4"	1' str.	1' str.	1.1' 7-1/4"	1.5' 3"	2' 2"
1"	1' str.	1' str.	1.3' 5"	1.8' 2-3/4"	2.4' 1-7/8"
1-1/4"	1' str.	1.1' 11-1/2"	1.6' 4-1/4"	2.1' 2-7/8"	2.9' 1-7/8"
1-1/2"	1' str.	1.2' 9"	1.8' 4"	2.4' 2-3/4"	3.2' 1-7/8"
2"	1' str.	1.5' 6-5/8"	2.2' 3-3/4"	2.8' 2-7/8"	3.9' 2"

### Step 3: Calculate the Exact Heating Cable Length You Need

Multiply the cable length required per foot of pipe by the length of your pipe. Add one extra foot for each valve located in your line. Maximum cable length is 75 feet. For cable lengths longer than 75 feet, use two cables.

$$\text{(Cable length required per foot of pipe} \times \text{pipe length)} + \text{one foot for each valve or spigot}$$

= total cable length

Example

- You Have: 12 feet of plastic pipe length  
1 ball valve
- You Need: 2.5 feet of cable per foot of plastic pipe as determined in Step 2 above.
- Calculate: (12 ft x 2.5) + 1 foot for ball valve  
Total cable length = 31 ft

Maximum cable length is 75 feet. Use of longer length may cause the internal fuse to blow.

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## Product Selection

Catalog Number	Description	Carton Quantity	Carton Weight lb (kg)	UPC
2102	100 ft (30.48 m) reel Freeze Free	1	5 (2.3)	01362706895
2302	300 ft (91.44 m) reel Freeze Free	1	13 (5.9)	01362706896
2502	500 ft (152.40 m) reel Freeze Free	1	20 (9.1)	01362706894
10802	Connection kit – clam shell package	10	3 (1.4)	01362710802
10803	Connection kit – polybagged package	25	5 (2.3)	01362710803
10805	5 ft (1.52 m) pre-packaged Freeze Free kit	5	4 (1.8)	01362710805
10815	15 ft (4.57 m) pre-packaged Freeze Free kit	5	6 (2.7)	01362710815
4102	100 ft (30.48 m) display: (1) reel; (10) 10802	1	8 (3.6)	01362706897
4302	300 ft (91.44 m) display: (1) reel; (20) 10802; (10) EH38; (10) HCA	1	17 (7.7)	01362706898
NPRO50	50 ft (15.24 m) pro pack: (1) reel; (3) 10803; (1) HCA	1	3 (1.4)	01362710798
NPRO100	100 ft (30.48 m) pro pack: (1) reel; (6) 10803; (1) HCA	1	6 (2.7)	01362710799

PIPE TRACING