



## Pipe Freeze Protection Self-Regulating Heating Cable Product Specification

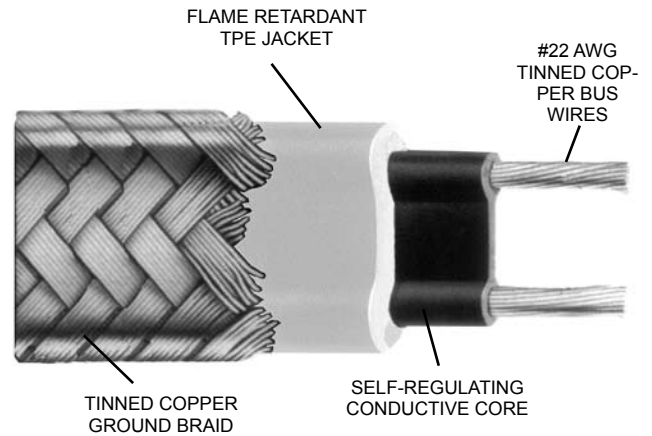
### PRINCIPLE OF OPERATION

Freeze Free self-regulating heating cable automatically varies its heat output with changes in surrounding temperature. Since this cable regulates heat output with temperature, a thermostat may not be necessary for some freeze protection applications. Suitable for use on plastic or metal pipes in residential/manufactured housing and similar applications.

The Easy Heat Freeze Free cable is available with a power density of 3 Watts per foot. This power is specified at a surrounding temperature of 50°F (10°C). At other temperatures, of course, the cable power output will be considerably different.

Because of the self-regulating feature of this cable, it can be safely wrapped over itself (overlapped), if necessary, when installed on pipes, valves or flanges.

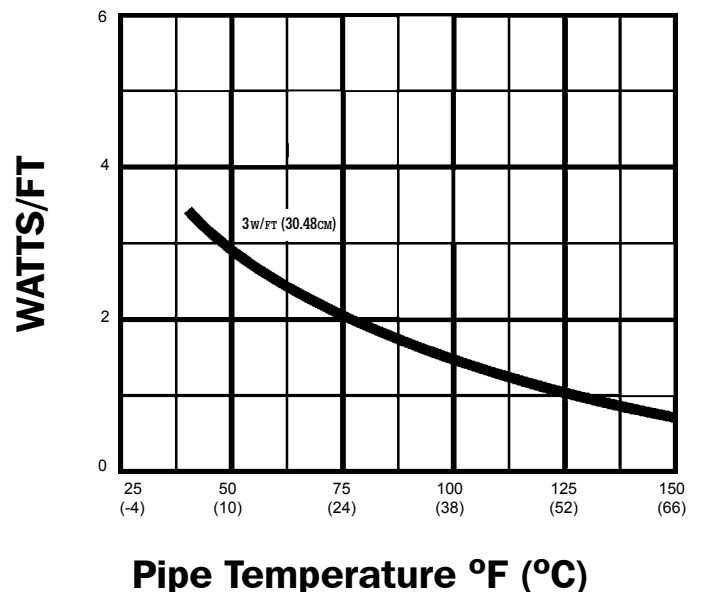
### CONSTRUCTION DETAILS



### PERFORMANCE INFORMATION

<b>Voltage</b>	120VAC
<b>Power</b>	3W/ft (30.48cm) @ 50°F (50°C)
<b>Maximum Length</b>	75 ft (22.86m)
<b>Maximum Exposure Temperature</b>	150°F(65.55°C)
<b>Moisture Resistance</b>	Cable/insulation kept dry
<b>UL Listing</b>	Mobile Homes
<b>CSA Certification</b>	Pipe Tracing
<b>Pipe Materials</b>	Metal or Plastic
<b>Insulation required</b>	½" (12.77mm) fiberglass or equivalent
<b>Maintenance Required</b>	Annual Inspection
<b>Warranty</b>	1 year limited

Nominal Power Output on Metal Pipe



## CABLE APPLICATION

Freeze Free cable can be applied on water-filled metal or rigid plastic pipes up to 2" (50.80mm) 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 charts below indicate the application requirements for plastic and metal pipes.

Lowest Expected Temperature Table												
Diameter	Plastic Pipe						Metal Pipe					
	½" (12.70mm)	¾" (19.05mm)	1" (25.40mm)	1¼" (31.75mm)	1½" (38.10mm)	2" (50.80mm)	½" (12.70mm)	¾" (19.05mm)	1" (25.40mm)	1¼" (31.75mm)	1½" (38.10mm)	2" (50.80mm)
<b>Heating Cable Required Per Foot of Pipe</b>												
+20°F (-7°C)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)
0°F (-18°C)	1' (30.48cm)	1.1' (33.53cm)	1.3' (39.62cm)	1.6' (48.76cm)	1.8' (54.86cm)	2.1' (64.01cm)	1' (30.48cm)	1' (30.48cm)	1' (30.48cm)	1.1' (33.53cm)	1.2' (36.57cm)	1.5' (45.72cm)
-20°F (-29°C)	1.5' (45.72cm)	1.7' (51.82cm)	2' (60.96cm)	2.3' (70.10cm)	2.5' (76.20cm)	3' (91.44cm)	1' (30.48cm)	1.1' (33.53cm)	1.3' (39.62cm)	1.6' (48.76cm)	1.8' (54.86cm)	2.2' (67.05cm)
-40°F (-40°C)	2' (60.96cm)	2.3' (70.10cm)	2.7' (82.29cm)	3.2' (97.53cm)	3.6' (109.72cm)	4.3' (131.06cm)	1.3' (39.62cm)	1.5' (45.72cm)	1.8' (54.86cm)	2.1' (64.01cm)	2.4' (73.15cm)	2.8' (85.34cm)
-60°F (-51°C)	2.4' (73.15cm)	2.9' (88.39cm)	3.3' (100.58cm)	4.1' (124.96cm)	4.7' (143.25cm)	5.4' (164.59cm)	1.7' (51.82cm)	2' (60.96cm)	2.4' (73.15cm)	2.9' (88.39cm)	3.2' (97.53cm)	3.9' (118.87cm)

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

## CABLE CONNECTION & ACCESSORIES

The Easy Heat Freeze Free connection Plug provides a fast, reliable and economical method of connecting the Freeze Free cable to a standard 120 VAC receptacle. Each plug is supplied with an end seal, reliable and easy to install. Installation tape, thermostats and pipe insulation are available accessories.

### CABLE & ACCESSORIES

#### CABLE

- 2102 100' (30.48m) of Freeze Free cable
- 2302 300' (91.44m) of Freeze Free cable
- 2502 500' (152.40m) of Freeze Free cable

#### KITS

- 10805 5' (1.52m) of Freeze Free cable, plug & end seal
- 10815 15' (.91m) of Freeze Free cable, plug & end seal

## CABLE CONTROL

Freeze Free cable can be connected directly to the power supply without requirement for thermostat control. The self-regulating effect of the cable reduces power consumption when the pipe does not require freeze protection. However, thermostatic control may be economical in many regions: the Easy Heat EH38 can be used to apply power to the cable only during freezing ambient conditions.

#### ACCESSORIES

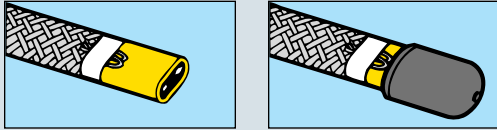
- 10802 1 plug and end seal
- 10803 25 packs of plug & end seal
- HCA 30' (9.14m) of application/caution tape
- EH38 Thermostat for automatic operation
- GWI-25 ½" x 3" x 25' Insulation (12.7mm x 76.2mm x 7.62m)
- GWI-35 ½" x 3" x 35' Insulation (12.7mm x 76.2mm x 10.66m)
- GWI-65 ½" x 6" x 25' Insulation (12.7mm x 15.24cm x 7.62m)
- FFEC 5 End Seals

## HOW TO INSTALL SYSTEM

Each component in the *Freeze Free* system includes complete and well-illustrated instructions. Follow these instructions closely when installing the system. Remember to use only Easy Heat *Freeze Free* components. You may wish to consult your local electrical code.

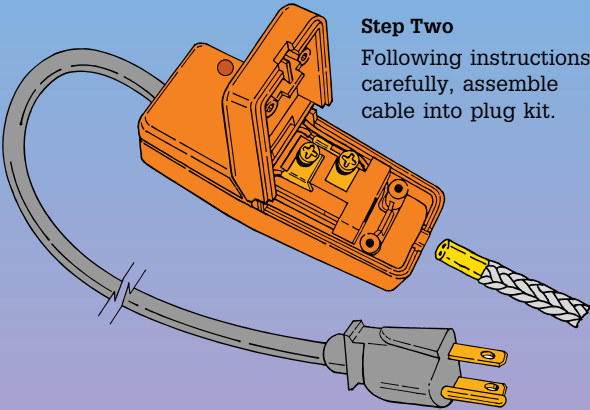
### Step One

The first step is to prepare the cable for installation. Easy Heat's special *Freeze Free* end seal must be installed to protect the end of the cable.



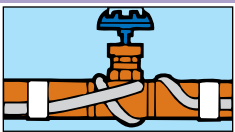
### Step Two

Following instructions carefully, assemble cable into plug kit.



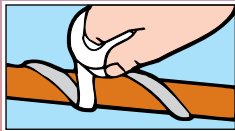
### Step Three

Apply the cable to the pipe. If a spiral is required, the distance between the spirals will ensure that the pipe has the appropriate coverage. See Chart 1 or 2 inside.



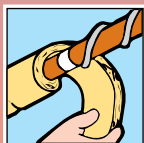
### Step Four

Secure the cable to the pipe using the *Freeze Free* HCA tape or a high quality electricians tape.



### Step Five

Wrap the entire pipe and cable with insulation. Complete the installation with the weatherproof wrap and the caution signs.



# EASYHEAT®

Warming Your World

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EASYHEAT®  
Warming Your World

# FREEZE®

*free*

## Self Regulating Pipe Heating System

For 120 VAC

### PRODUCT SELECTION GUIDE

#### CABLE (maximum cable length: 75 feet per application)

2102	100 feet of Freeze Free cable
2302	300 feet of Freeze Free cable
2502	500 feet of Freeze Free cable

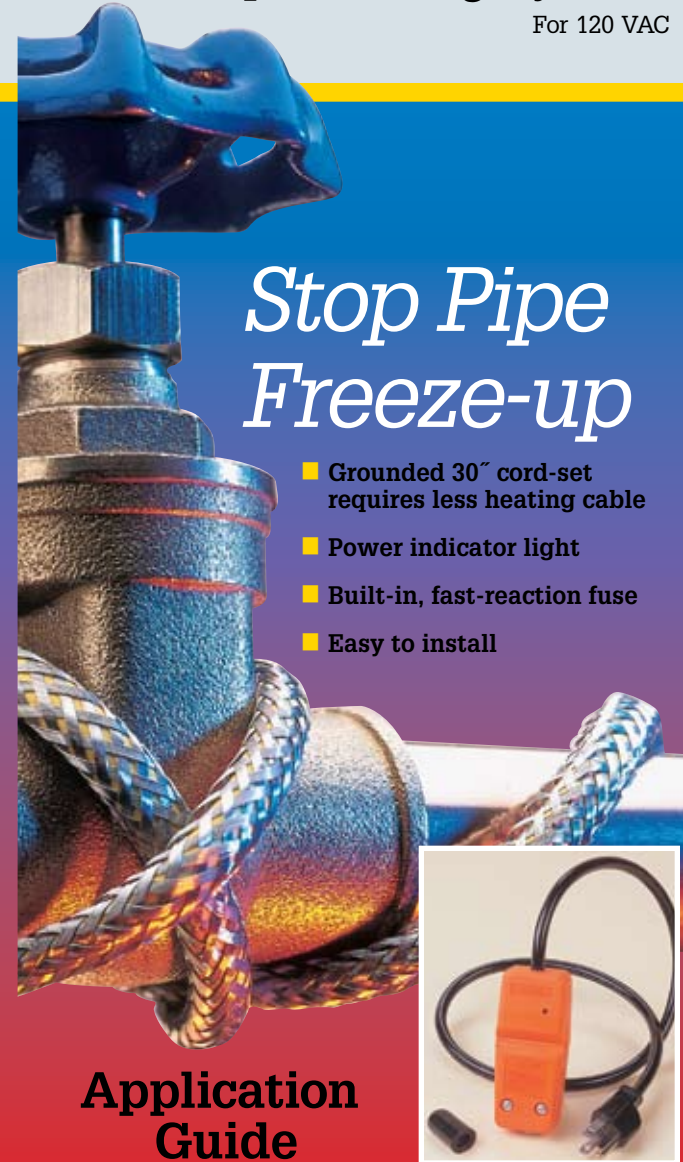
#### ACCESSORIES

10802	Connection Kit (plug & end seal), clamshell individual or 10-pack tray
10803	Connection Kit, polybagged 25 count
HCA	30 feet of application/caution tape
EH38	Thermostat for automatic operation
GWI-25	1/2" x 3" x 25' Insulation
GWI-35	1/2" x 3" x 35' Insulation
GWI-65	1/2" x 6" x 35' Insulation

#### KITS

10805	Includes 5' of cable with plug and end seal
10815	Includes 15' of cable with plug and end seal

Easy Heat products are provided with a limited warranty: see owner's manual or contact Easy Heat for complete terms and conditions.



## Stop Pipe Freeze-up

- Grounded 30" cord-set requires less heating cable
- Power indicator light
- Built-in, fast-reaction fuse
- Easy to install

## Application Guide



952S Mobile Home  
Pipe Heating Cable

11001-092 Rev. 5 ©2008 Easy Heat

# Stop Pipe Freeze-up

## WITH A FREEZE FREE PIPE HEATING SYSTEM

Easy Heat, the leader in residential pipe freeze protection, presents the *Freeze Free* pipe heating system. Using self-regulating technology, this cable actually produces only the heat that is needed, where and when it is needed, to prevent pipe freeze-up.

This system, cULus Listed, can be installed with confidence and with the assurance that it will operate for years without requiring service.

A *Freeze Free* system is easy to install and includes all the materials needed for a safe and proper installation. This product is suitable for use on plastic and metal water pipes. Use the *Freeze Free* system to make sure your pipes don't freeze.

## COLLECT THE FOLLOWING NECESSARY INFORMATION:

- Pipe Size
  - outside diameter . . . . . 1½" pipe
  - length . . . . . 12 feet
- Lowest expected air temperature . . . . . -20°F (disregard windchill, it has been figured into the length selection chart)
- Number of valves and spigots . . . . . 1 ball valve
- Distance from pipe to electrical outlet . . . . . 2 feet

### EXAMPLE

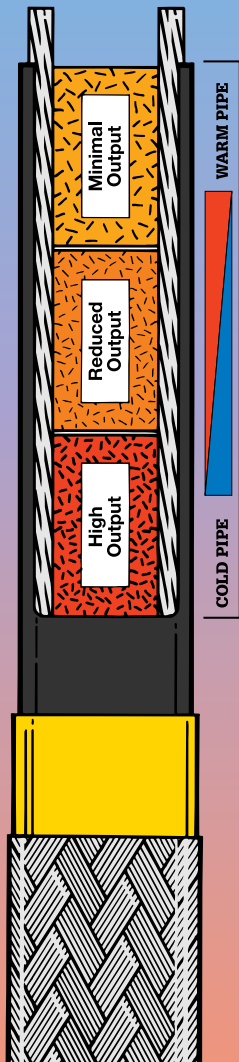
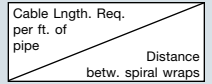
*Freeze Free plugs come with a 30" cord-set to bridge the gap between the pipe and the electrical outlet.*

## 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.



## HOW IT WORKS

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. This self-regulating technology ensures the right amount of heat when and where it is needed.

**Chart #1: Length Selection for Plastic Pipes**  
(based on the use of 1/2" insulation)

Pipe Dia.	Lowest Expected Temperature				
	+20°F	0°F	-20°F	-40°F	-60°F
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 5/8"	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" insulation)

Pipe Dia.	Lowest Expected Temperature				
	+20°F	0°F	-20°F	-40°F	-60°F
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"

## CALCULATE THE EXACT HEATER 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.
- Cable length required per foot of pipe x pipe length  
 + one foot for each valve or spigot  
 = total cable length

## EXAMPLE

- Your pipe diameter is 1½"
- Your lowest expected temperature is -20°F
- Your pipe length is 12 feet

### From Chart #1:

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

### From Chart #2:

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

## EXAMPLE

- You Have:** 12 feet of plastic pipe length  
one ball valve
- You Need:** 2.5 feet of cable per foot of plastic pipe
- Calculate:** (12 feet x 2.5) + 1 foot for ball valve  
Total cable length = 31 feet

