

Frost Protection

Selection Guide

Frost Protection Introduction . . .

While an insulated pipe can withstand cold temperatures longer than an uninsulated pipe, the contents of the pipe will cool to the temperature of the surrounding environment. When the ambient temperature is below freezing, the results can be both costly and inconvenient. FLX self-regulating heating cable is designed to provide freeze protection of metallic and nonmetallic pipes, tanks and equipment by replacing the heat lost through the thermal insulation into the air.

Select the Proper FLX Heating Cable . . .

Using the pipe diameter, pipe material, insulation thickness and minimum expected ambient, find the recommended heating cable using the Design Selection Chart.

All cable selection is based on fiberglass insulation. Closed-cell flexible foam insulation of the same thickness may also be used. If the pipe size or insulation information does not appear, contact Thermon or a Thermon representative.






1. Find the section headed by a low ambient temperature which is equal to or lower than that expected.

2. Use the row which corresponds to the pipe material and pipe insulation thickness shown in the minimum insulation thickness column.
3. Based on the pipe diameter(s) for the application, read across the table to the low ambient temperature and note the FLX cable recommended for that set of conditions.
4. Note that larger pipe sizes and lower ambient temperatures may require multiple passes of heating cable. Contact Thermon for more information.
5. On piping 25 mm in diameter and smaller, the insulation must be one pipe size larger to accommodate the heating cable.
6. For non-metallic pipes use a parallel pass of AL-20L tape to fix/totally cover the FLX heating cable.
7. For more information refer to the planning instructions or contact Thermon.
8. Simple low costs thermostats are available.
9. For temperature maintenance applications other than 5°C, contact Thermon for assistance.

Design Selection Chart-Frost Protection

| Expected Minus Temp. | Min. Insulation Thickness k = 0,036 W/m °C | Pipe-Nominal Diameter (mm) | | | | | | | | | | | | | | | | | |
|----------------------|---|----------------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|--|
| | | 10 | 12 | 15 | 20 | 25 | 32 | 40 | 50 | 60 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | |
| -20°C | Metallic Pipe | 10 mm | | | | | | | | | | | | | | | | | |
| | | 15 mm | | | | | | | | | | | | | | | | | |
| | | 20 mm | | | | | | | | | | | | | | | | | |
| | | 25 mm | | | | | | | | | | | | | | | | | |
| | | 30 mm | | | | | | | | | | | | | | | | | |
| | | 35 mm | | | | | | | | | | | | | | | | | |
| | | 40 mm | | | | | | | | | | | | | | | | | |
| | | 45 mm | | | | | | | | | | | | | | | | | |
| -20°C | Non-metallic Pipe | 10 mm | | | | | | | | | | | | | | | | | |
| | | 15 mm | | | | | | | | | | | | | | | | | |
| | | 20 mm | | | | | | | | | | | | | | | | | |
| | | 25 mm | | | | | | | | | | | | | | | | | |
| | | 30 mm | | | | | | | | | | | | | | | | | |
| | | 35 mm | | | | | | | | | | | | | | | | | |
| | | 40 mm | | | | | | | | | | | | | | | | | |
| | | 45 mm | | | | | | | | | | | | | | | | | |

Note . . .
Heat loss calculations are based on IEC 62086-2, Equation 1, with the following provisions:
 • Piping insulated with glass fiber, k = 0,036 W/m C
 • A 10% safety factor has been included.

-  One Pass 3-FLX
-  One Pass 5-FLX
-  One Pass 8-FLX
-  One Pass 10-FLX
-  Contact Thermon



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