



Use Of Thermostats

All constant wattage heating cables require thermostats to help prevent overheating as they always out-put the same amount of heat. Heat-Line® offers self-regulating heating cable systems and cables which vary their heat/energy output so they can never over-heat; as a result thermostats are not a requirement but simply an accessory to increase energy efficiency.

All Heat-Line® heating cable systems have a conductive polymer core allowing its heat output to change, increasing with cold, decreasing with warmth microscopically at every point in its length. While this technology is very efficient, it is important to understand the cable can never operate at zero wattage output and that it is a consumer of energy when powered.

One of the most important features of this technology is the fact that we can thermally insulate all Heat-Line® freeze protected pipe systems, without overheating concerns. This insulation massively reduces the required amount of heat (watt density) required to keep a pipe from freezing. Though the heat output (energy output) fluctuates with temperature microscopically along the pipe, it is always consuming power while turned on. A thermostat can be added to the Heat-Line® system in order to duty cycle the product off and on at a specific pipe design temperature saving more energy. Heat-Line® thermostats are set to maintain the pipe at 50°F, 10°C as this setting keeps the heating cable operating in its most efficient state with a good safety differential of 18°F or 10°C to the freezing point.

USE OF INSULATION

A thermostat on a pipe can only read a temperature at a single point and this has always been a problem for constant wattage heating cables because it is somewhat inaccurate and overheating can occur (this is why they cannot be safely insulated). Heat-Line®'s systems are self-regulating, allowing insulation to be added without pipe over-heating concerns. A thermally insulated pipe is not as susceptible to freezing and temperature change. The insulation adds better thermal consistency and efficiency throughout the pipe length. When the thermostat is located on the pipe under the insulation the system can duty cycle and come on as required by the thermostat. The insulated pipe causes the system to come on periodically for short periods of time saving you up to as much as 80% in energy depending on application variables and amount and type of insulation. The heating cable will remain off for extended periods of time because of the thermal insulation which is where the savings come in.



APPLICATION

In many applications, the pipe may exit a building 6 to 7 feet underground and then come above or near the earth surface (grade) 30 feet or more away as rock is encountered.

In cases such as this, Heat-Line® systems provide the answer as our HLJ and GF thermostats have the ability to monitor pipe temperature (not outside temperature) with sensor lead extensions up to 500 feet. If a thermostat is not desired, a Heat-Line® system will work safely as they are certified to operate without the use of a thermostat. Although more costly to run without a thermostat, Heat-Line® systems can efficiently solve most freezing issues. See installation instructions for thermostat sensor locations.

OTHER CONTROL DEVICES

Only Heat-Line® systems can be used with other certified control devices such as timers and logic controllers. For these applications consult Heat-Line® for further information.

FOR MORE INFORMATION

Please contact a Heat-Line® technical specialist about your specific requirements.

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