SELF-REGULATING HEATING CABLES

CARAPACE is a freeze protected supply pipe which combines a self-regulating heater and high density polyethylene pipe all in one system. CARAPACE systems employ the unique performance of advanced self-regulating heating cable technology. The heating cable automatically adjusts; increasing or decreasing heat output to match heat loss at each point throughout the length of the pipe. As the surrounding temperature increases, CARAPACE automatically decrease their heat output, and vice versa. The result is energy savings. CARAPACE provides superior performance in the coldest climates and the most rugged environments as heat is gently applied to the pipe, preventing freezing.

THERMOSTATS AND TIMERS

Thermostats and timers can be used to control the heating cable in an ON/ OFF operation thereby reducing the amount of energy consumed. A control device combined with insulation substantially minimizes operational costs.

INSULATION

When installing a CARAPACE system it is recommended to always use pipe insulation; even if the pipe can be buried. A thermally insulated pipe requires much less heat to protect and is not as susceptible to freezing. Heat-Line products are designed to be used with thermal insulation to reduce heat loss and greatly improve energy efficiency.

As CARAPACE features self-regulating technology, when the warmth generated by the heating cable system is captured by insulation, the amount of energy produced by the heating cable is vastly lowered and therefore operational costs reduced.

CARAPACE AT A GLANCE

- cCSAus B137.1 Drinking Water NSF/ANSI 61 approved
- 5 year warranty with optional 10 year
- Can be fully insulated to decrease operating costs
- Can be used with a variety of control devices including thermostats and timers
- Will never melt or over-heat the water pipe, even if the pipe is dry
- Labour savings - no need to excavate below the frost line or blast rock
- Suitable for direct earth burial, above ground and/or wet locations
- Approved for high pressure and constant pressure systems, 200 PSI Rural and 250 PSI Municipal
- Available job-ready (factory terminated) or cut-to-length for field termination
- Unique construction provides superior heat transfer

SPECIAL REQUIREMENTS

Since 1988 Heat-Line® has been specializing in freeze protection of all types. If you have a special application of any kind, give us a call. Special system designs are common to us. We manufacture many other innovative products not mentioned in this brochure.

heat-line® Freeze Protection Systems

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HLCP-0418-1

heat-line® Freeze Protection Systems

CARAPACE®

A self-regulating heated polyethylene pipe for water supply or sewage applications.

ABOUT CARAPACE

CARAPACE is a high performance freeze protected potable water pipe constructed of virgin high-density polyethylene resins certified for potability, direct earth burial, and free air installations. Engineered as an advanced freeze protection solution, CARAPACE utilizes Heat-Line's proven self-regulating heating cable technology for efficient and reliable performance. CARAPACE is suitable for all rural and municipal installations where new polyethylene pipe and freeze protection is required. CARAPACE offers a cost-effective alternative to blasting and excavating where natural frost protection is not possible. The patented construction of CARAPACE provides superior thermal heat transfer and unsurpassed energy efficiency when combined with thermal insulation and a thermostat control.

APPLICATION

CARAPACE is designed to provide energy efficient municipal and domestic water pipe and sewage forced main freeze protection. CARAPACE offers a more reliable, cost-effective alternative to blasting and excavation. This product represents the highest quality pipe freeze protection in the world.

Application examples include but are not limited to:

- Residential water supply lines (lake, river, well, building to building, municipal)
- Constant pressure or high pressure water systems
- Municipal residences and commercial buildings
- Water supply and sewage delivery systems in mining and exploration camps
- Small diameter septic pipes (such as force main)
- Residential and commercial sewage and waste water force mains

CONSTRUCTION & OPERATION

CARAPACE is constructed using a high density NSF STD 14 approved polyethylene pipe for high strength and potability. The self-regulating heating cable is extruded directly onto the outer surface of the pipe with a thin layer of high density polythene. The extruded layer provides a protective shell to guard against mechanical injury while ensuring the conductive self-regulating heating cable remains in unyielding contact with the pipe wall. This unique construction makes CARAPACE the only product Heat-Line recommends for use with high pressure and constant pressure water supply systems.

PRODUCT SPECIFICATIONS

Approvals

cCSAus B137.1 approved (Canada and USA)

cNSF 14-61 approved (Canada and USA)

NSF/ANSI 61 Drinking Water Safe

Usage W Canada, Installation Type A USA

Electrical Specifications

Direct earth burial and wet location certified

120V / 3 watt/ft systems – maximum length of 240 ft

120V / 5 watt/ft systems – maximum length of 240 ft

240V / 3 watt/ft systems – maximum length 660 ft

240V / 5 watt/ft systems – maximum length 540 ft

GFC models - 27 milliamp ground fault circuit interrupter plug-in device

CS models - 12 - 14 AWG SJEOOW supply cord for direct hard wire connection, GFCI must be field installed

Plumbing Specifications

Constructed of PE 4710 Resin HDPE

1 inch ID (SIDR-9) and 1.25 inch ID (SIDR-9) 200PSI NSF STD 14 polyethylene

1 inch CTS (SODR-9) 250PSI NSF STD 14 polyethylene

Compatible with fittings and connectors made for HDPE water pipe and tubing

Suitable for above ground applications when properly insulated

(CS Model)

(GFC Model)