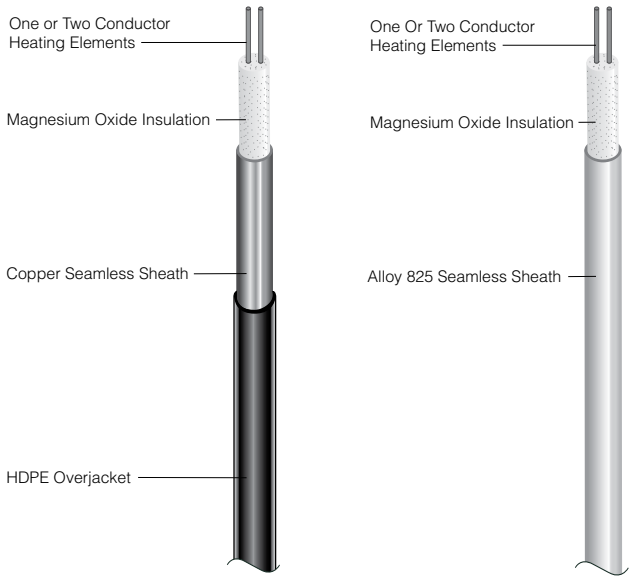
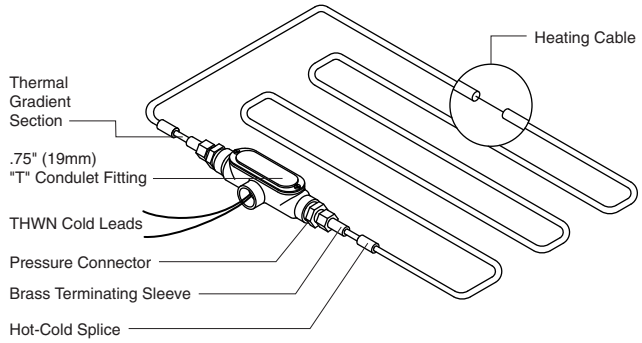
DELTA-THERM

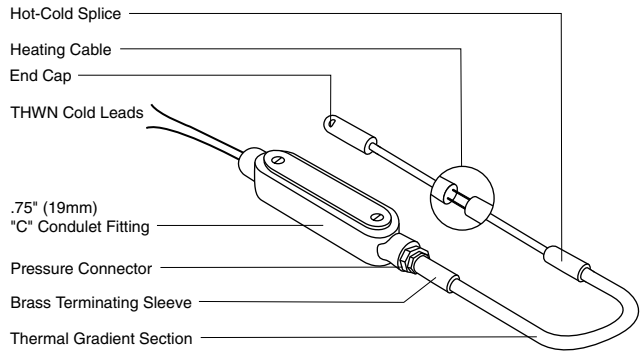
MINERAL INSULATED (M.I.) PERMAFROST PREVENTION CABLE ASSEMBLY

One Conductor And Two Conductor





Detail 1. One Conductor Cable Assembly.



Detail 2. Two Conductor Cable Assembly.

DESCRIPTION
Mineral insulated (M.I.) cable consists of one or two conductor heating elements embedded in highly compressed magnesium oxide covered by a copper or an Alloy 825 stainless steel sheath. Application requirements determine resistance size and sheath material.

TERMINATION CONSTRUCTION
Each Delta-Therm M.I. cable assembly is fully terminated and moisture proof. The end termination consists of a 3' (91cm) thermal gradient section connected to 20' (6m) THWN cold leads. The cold leads are crimped and soldered to the thermal gradient section, insulated with a high-dielectric, high-temperature tape, and epoxy potted in a rigid brass sleeve. The thermal gradient section is silver soldered to the heating element and protected by a rigid brass sleeve packed with magnesium oxide.

COLD LEADS
The 19-strand THWN wire connects to an electrical circuit. Standard cold lead length is 20' (6m). Leads can be ordered at any length, allowing junction boxes to be placed in remote, dry locations.

NUMEROUS VOLTAGES
Delta-Therm can design M.I. permafrost prevention cable assemblies for any voltage up to 600 volts.

FLEXIBLE
M.I. cable is annealed (annealing tempers metal and removes brittleness) and easy to form and install. Irregular areas and obstacles are easily accommodated.

HDPE JACKETING
Extruded, high-density polyethylene jacketing adds physical strength and protects against corrosives.

FIRE RESISTANT
M.I. cable construction will not contribute to or cause an electrical fire.

NO DEGRADATION
Delta-Therm M.I. cable is made of inorganic materials. Degradation of M.I. cable is negligible when compared to cables made of organic materials such as plastic.

DELTA-THERM Corporation, P.O. Box 345, Wauconda IL, 60084 (847) 526-2407 Fax (847) 526-4456 **(800) 526-7887**

COMPREHENSIVE FACTORY TESTING

Each cable undergoes hi-pot, megger, and resistance tests both before and after overnight immersion in water.

LOW INSTALLATION COSTS

M.I. cable arrives ready to install. Since terminations are done at the factory, electricians can expedite the installation, helping to reduce overall installation costs.

Recommended Watts Per Lineal Foot And Cable Spacing

Area	Watts	Centers
Freezer Floor In. (mm)	4-12	4" Centers (122)

Material Temperature Limits

HDPE Overjacket °F (°C)	194°* (90°)
Copper °F (°C)	392° (200°)

*HDPE overjacketed cable may be exposed to higher temperatures during installation in asphalt.

Cold Lead Size

Amps	Wire Size
0-16	12 AWG
16-24	10 AWG
24-45	8 AWG
45-65	6 AWG

BASE KIT (supplied with each M.I. cable assembly)

- Three Foot Thermal Gradient Section
- Cold Leads
- Pressure Connectors
- "T" Or "C" Condulet With Gasket And Cover
- Delta Dry (Water Repellent Powder)
- Duct Seal
- Installation Instructions

Base Kit Accessories

Heater Assembly Only
Additional 19-Strand Cold Lead
Base Kit
Splice Kit
Unilet Kit
Additional Thermal Gradient

Controls

OTS-F1	Ambient Or Line Sensing Thermostat
A419ABC-1	Electronic Line Thermostat And Display
A419AEC-2C	Electronic Line Thermostat And Display

Panels

DT-XXPXXX	Enclosed Contactor
GFPE-X-X	Power Control Panel w/GFPE
LNR-X	Low Noise Relay Panel
Custom Control/Monitor/Alarm Panels	

INVENTORY AND SHIPPING

Delta-Therm maintains an inventory of both bare and jacketed mineral insulated cable. Orders of material in stock can usually be shipped within two weeks.

TO ORDER:

Prefix
(T - Tube Heating)

Number Of Conductors

Ohms/Ft. (m)

Length Per Hot Section
(measurement in feet)

Volts

Amps

kW

Watts Per Lineal Foot
(refer to design guide)

Suffix H, B, Or SS
(if desired)

AWG
(refer to chart)

Cold Length
(length needed to reach junction box NOTE: voltage drop not to exceed 3%)

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