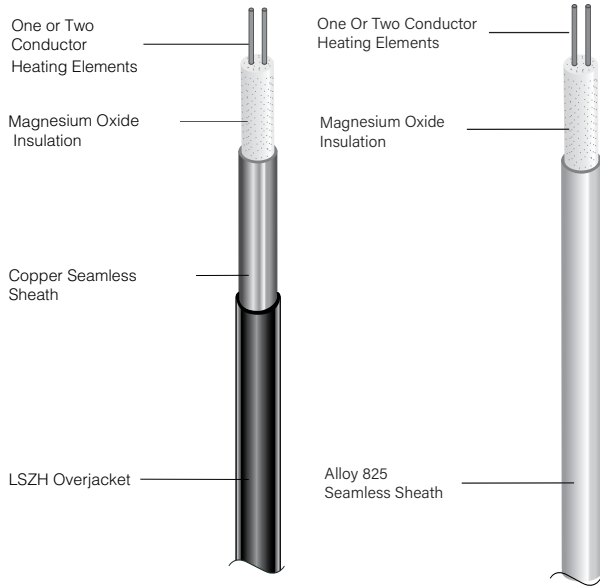


Mineral Insulated (M.I.) Permafrost Prevention Cable Assembly

One Conductor and Two Conductor



DESCRIPTION

Mineral insulated (M.I.) cable consists of one or two conductor heating elements embedded in highly compressed magnesium oxide and sheathed in seamless copper or Alloy 825 Stainless Steel. 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.

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.

LSZH JACKETING

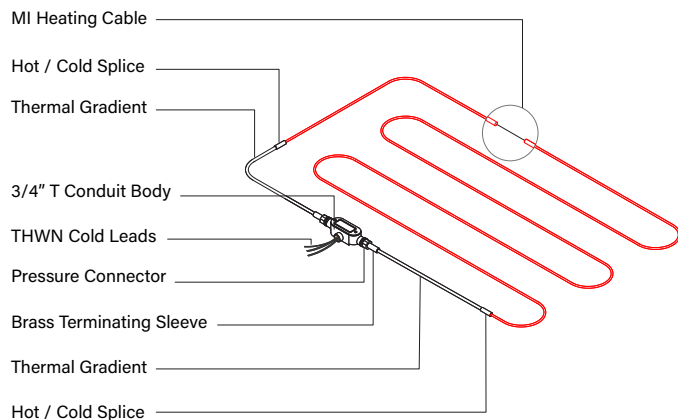
Low Smoke Zero Halogen cable jacketing is flame-resistant and will not emit toxic fumes if subjected to flame.

FIRE RESISTANT

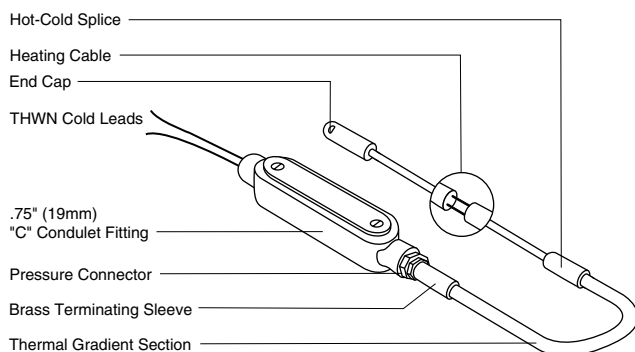
M.I. cable construction will not contribute to or cause an electrical fire.

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.



Detail 1. One conductor cable assembly.



Detail 2. Two Conductor Cable Assembly.

COMPREHENSIVE FACTORY TESTING

Each cable undergoes hi-pot, megger, Insulation Resistance (IR) and Total Resistance (TR) 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 / LINEAR FT AND CABLE SPACING

| Area | W/LF | Recommended Cable Spacing |
|-----------------------|------|------------------------------|
| Freezer Floor In. (m) | 4-12 | Typical 4' (1.2 m) on Center |

MATERIAL TEMPERATURE LIMITS

| | |
|-----------------------------|-------------|
| LSZH Overjacket °F (°C) (L) | 194** (90°) |
| Copper °F (°C) (C) | 392° (200°) |

MAX OUTPUT IN CONDUIT DIRECT BURIAL IN CONCRETE/ASPHALT

| | | |
|--------------|---------|-----------------|
| LSZH | 8 W/LF | 20 W/LF |
| CU Copper | 15 W/LF | Not recommended |
| SS Stainless | 20 W/LF | 20 W/LF |

COLD LEAD SIZE

| Amps | Wire Size |
|-------|-----------|
| 0-16 | 12 AWG |
| 16-24 | 10 AWG |
| 24-32 | 8 AWG |
| 32-40 | 6 AWG |

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

- Thermal Gradient (TG) Section
- THWN 19-Strand Cold Leads
- Pressure Connectors
- "A", "T" Or "C" Condulet with Gasket and Cover
- Delta Dry (Water Repellent Powder)
- Duct Seal
- Installation Instructions

ACCESSORIES / OPTIONS

| |
|---|
| Heater Assembly Only - Factory terminated cable |
| Additional 19-Strand Cold Lead |
| Custom Length Thermal Gradient |

CONTROLS

| | |
|------------|---|
| OTS-F1 | Ambient or line-sensing thermostat |
| A421ABC-2C | Electronic Line thermostat with display NEMA 1 |
| A421AEC-2C | Electronic Line thermostat with display NEMA 4X |

PANELS

| | |
|-------------------------------------|----------------------------|
| DT-XXPXXX | Enclosed Contactors |
| GFPE-X-X | Power Control Panel w/GFPE |
| 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:

| | T | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|
| Prefix (T - Tube Heating) | ↑ | | | | | | | | | | | | | |
| Number Of Conductors | | ↑ | | | | | | | | | | | | |
| Ohms/Ft. (m) | | | ↑ | | | | | | | | | | | |
| Length Per Hot Section (measurement in feet) | | | | ↑ | | | | | | | | | | |
| Volts | | | | | ↑ | | | | | | | | | |
| Amps | | | | | | ↑ | | | | | | | | |
| kW | | | | | | | ↑ | | | | | | | |
| Watts Per Linear Foot (refer to design guide) | | | | | | | | ↑ | | | | | | |
| Suffix C, L or S (if desired) | | | | | | | | | ↑ | | | | | |
| AWG (refer to chart) | | | | | | | | | | ↑ | | | | |
| Cold Length (length needed to reach junction box NOTE: voltage drop not to exceed 3%) | | | | | | | | | | | ↑ | | | |