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Electric Heat Tracing Products

Self-Regulating Heating Cables

Features:

- Semiconductive Self-Regulating Heating Matrix
- Cut-to-Length Parallel Circuitry
- Nickel-Plated Copper Bus Wires
- Metallic Braids for Grounding Purposes
- Polyolefin or Fluoropolymer Overjacket
- Worldwide Approvals

BSX™



Freeze Protection and
Temperature Maintenance up to 65°C
Maximum Exposure Temperature 85°C

Available Watt Densities 9, 15, 25 & 32 W/m @ 10°C
Supply Voltage 230 Vac Nominal

RSX™



Freeze Protection and
Temperature Maintenance up to 65°C
and Foundation Heating
Maximum Exposure Temperature 85°C

Available Watt Densities 48 W/m @ 10°C
Supply Voltage 230 Vac Nominal

KSX™



Freeze Protection and
Temperature Maintenance up to 121°C
Maximum Exposure Temperature 121°C

Available Watt Densities 15, 31, 48 & 64 W/m @ 10°C
Supply Voltage 230 Vac Nominal

HTSX™



Freeze Protection and
Temperature Maintenance up to 121°C
Maximum Exposure Temperature 250°C

Withstands Temperatures Associated With Steam Purging
Available Watt Densities 9, 18, 27, 37, 48 & 64 W/m @ 10°C
Supply Voltage 230 Vac Nominal

VSX™



Freeze Protection and
Temperature Maintenance up to 149°C
Maximum Exposure Temperature 250°C

Withstands Temperatures Associated With Steam Purging
Available Watt Densities 15, 32, 48 & 64 W/m @ 10°C
Supply Voltage 230 Vac Nominal

Heat Tracing Systems Accessories

Thermon Provides a Complete Range of:

- Power, Splice and Termination Kits
- Mechanical Thermostats
- Electronic Control and Monitoring Modules
- Power Distribution and Control Panels
- System Communications Software



Power-Limiting Heating Cables

Features:

- PTC Coiled Resistor Alloy Heating Element
- Cut-to-Length Parallel Circuitry
- Nickel-Plated Copper Bus Wires
- Metallic Braids for Grounding Purposes
- Fluoropolymer Overjacket
- Worldwide Approvals

HPT™



Freeze Protection and Temperature Maintenance up to 149°C
Maximum Exposure Temperature 260°C

Available Watt Densities 14, 28, 42 & 57 W/m @ 10°C
Supply Voltage 230 Vac Nominal

Mineral Insulated Heating Cables

Features:

- High Temperature Magnesium Oxide Dielectric
- High Power Output Capabilities
- Available in Three Outer-Sheath Materials

MI



Freeze Protection and Temperature Maintenance to 500°C
Maximum Exposure Temperature 600°C

Available Watt Densities Designs up to 260 W/m
Supply Voltage Rated up to 600 Vac

Constant Watt Heating Cables

Features:

- Nichrome Heating Element
- Cut-to-Length Parallel Circuitry
- 3,3 mm Copper Bus Wires
- Metallic Braids for Grounding Purposes
- Fluoropolymer Overjacket
- Worldwide Approvals

FP



Freeze Protection and Temperature Maintenance up to 65°C
and Foundation Heating
Maximum Exposure Temperature 200°C

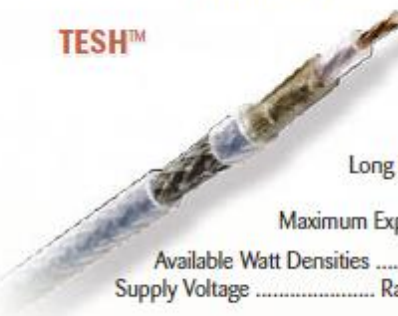
Maximum Watt Densities 25 W/m @ 10°C
Supply Voltage 230 and 400 Vac Nominal

Series Resistance Heating Cables

Features:

- Long Circuit Lengths with Fewer Power Points
- Stabilised Designs Possible Using Thermon Software
- Metallic Braids for Earthing Purposes

TESH™



Long Line Freeze Protection and Temperature Maintenance
Maximum Exposure Temperature 260°C

Available Watt Densities Designs up to 25 W/m
Supply Voltage Rated up to 750 Vac Nominal

Skin Effect Heating Systems

Features:

- Rugged Heat Tube to Generate Heat
- Circuit Lengths up to 25 Kilometers
- Each System Fully Factory-Engineered

ThermTrac™



Power Outputs up to 165 W/m
Operating Voltages up to 5 KV
Maintenance Temperatures up to 200°C
Exposure Temperatures up to 260°C

Instrument Tubing Bundles Products

Electrically Heated Instrument Tubing for Freeze Protection and Temperature Maintenance TubeTrace® Type SE/ME

Approved for hazardous (classified) locations.



TubeTrace with BSX™ Self-Regulating Heat Trace
Use for water freeze protection and low temperature maintenance.

Tube Temperature Range: 5°C to 65°C
Maximum Exposure Temperature: 85°C

TubeTrace with HTSX™ Self-Regulating Heat Trace
Use where temperature exposure to steam purge is expected.

Tube Temperature Range: 5°C to 121°C
Maximum Exposure Temperature: 250°C

TubeTrace® with VSX™ Self-Regulating Heat Trace
Use where high temperature exposure is a consideration.

Tube Temperature Range: 5°C to 149°C
Maximum Exposure Temperature: 250°C



TubeTrace® with HPT™ Power-Limiting Heat Trace
A "cut-to-length" heat tracing for higher temperature maintenance. Also used for freeze protection where high temperature exposure is a factor. HPT power-limiting cables represent the best choice for maintaining temperatures up to 204°C that can be "cut-to-length" in the field.

Tube Temperature Range: 5°C to 204°C
Maximum Exposure Temperature: 260°C

Custom CEMS and Analyzer Bundles



Many analyzer applications have specialty tubing requirements, all of which Thermo can provide within our instrument tubing bundles. Examples of tube materials and finishes that are available include:

- Fluoropolymer tubing, 316 and 304 stainless, welded or seamless, Monel®, titanium, Inconel® 825, and Alloy 20 are readily available.
- Optional Electropolished (EP), Chemical Passivation (CP), and performance coatings such as SilcoNert® are also available on stainless steel tubing
- Double containment tubing or multiple tube materials can be provided in a common bundle.



"NI" Non-insulated (and non-heated) Bundle Other TubeTrace options can include:

- Auxiliary conductors
- Unheated tubes
- Factory installed temperature sensor(s)
- Special markings and identification as required

* Monel and Inconel are trademarks of Inco Alloys International, Inc. Trade name of SilcoTek™, formerly a division of Restek Performance Coatings. SilcoNert™1000 replaces Silcosteel®, SilcoNert™2000 replaces Sulfiner®/Siltek®.

Instrument Tubing Bundles Products

Electrically Heated Instrument Tubing for Freeze Protection of High Temp Steam Lines TubeTrace® Type SEI/MEI - HT, HTX & HTX2

Isolated "cut-to-length" heat trace for high temperature exposure, suitable for ambient sensing control.



TubeTrace® Type SEI/MEI - HT
Maintain: 5°C
Continuous Exposure: 399°C

TubeTrace® Type SEI/MEI - HTX
Maintain: 5°C
Continuous Exposure: 593°C

TubeTrace® Type SEI/MEI - HTX2
Maintain: 5°C
Intermittent Exposure: 593°C



TubeTrace® Accessories

Every type of tubing bundle requires proper termination to ensure reliable performance and Thermon offers a complete range of termination kits. Because Thermon manufactures the electrical heat tracing as well, all of the power connection and termination accessories are fully coordinated and approved.

Steam Heated Instrument Tubing for Freeze Protection and Temperature Maintenance TubeTrace® Type Type SI/MI and SP/MP



Steam or Fluid "Light Traced" (SI/MI)

For freeze protection and lower temperature maintenance. The tracer tube is isolated from the process tube(s), so process tube temperatures will be significantly lower than the tracer tube temperature.

Tube Temperature Range: 5°C to 121°C
Maximum Exposure: 205°C*



Steam or Fluid "Heavy Traced" (SP/MP)

For freeze protection and process maintenance. The tracer tube is in direct contact with the process tube(s), so process tube temperatures will be very close to the tracer tube temperature.

Standard Tracer Temperature Range: 5°C to 205°C
Maximum Exposure: 205°C*

* Higher tube temperatures are possible with XINS-extra insulation HT and HTX type designs.

Steam Tracing Products

Heat Transfer Compounds to Maintain High Temperatures

"Thermonized" with Thermon Heat Transfer Compounds

- Consistent Heat Transfer Properties
- Less Than 20% of Cost for Steam Jacketing

SnapTrace® Preformed Extrusions for Straight Piping

Available in 1,22 m lengths

- Significantly Reduces Installation Time
- No Surface Preparation Required
- Use With Up to 208°C Fluid/Steam



SnapTrace™
Pre-formed Extrusion Installation

HT Compounds for Piping, Valves and Irregular Surfaces (Maximum temperature ratings shown)

T-3: 371°C

T-99: 1000°C

T-80: 163°C

T-85: 190°C

T-802: 135°C Two part compound



T-3 ChannelTrace™ Installation



T-85 "Fillet" Installation

Isolated Steam Tracers for Lower Maintain Temperatures

SafeTrace™ SLS-IT: 24°C to 93°C

SafeTrace™ DLS-IT: 5°C to 54°C



SLS-IT Isolated Tracing
Secured with Fastening Tape

SafeTrace™ Provides Increased Safety

- SafeTrace Tracers Comply With Tests for Skin Exposure (per ASTM Std C-1005/1057)
- Safety Yellow Jacket Alerts Plant Personnel to Potentially Dangerous Conditions

SafeTrace™ Provides Predictable Heat Transfer

- Permits Winterization for Any Size Pipe
- Eliminates Hot/Cold Spots Associated With Bare Tubing and Spacer Blocks
- Suitable for Temperature-Sensitive Processes

Medium Maintain Temperatures

SafeTrace™ BTS: 38°C to 121°C

Steam Supply/Condensate Return Lines

ThermoTube® Type SL Pre-Insulated Tubing

- Ideally Suited to Transport Liquids, Gases or Refrigerants
- Non-hygroscopic Glass Fiber Insulation for Efficiency
- Protective Outer Jacket Resists Weather and Moisture
- ThermoTube Can be Installed in Cable Trays, Angles, Channels, Struts and on I-Beams
- All Tubing Types Available

Continuous Temperature Range: Service to 205°C*
ThermoTube ratings to 593°C also available*.



Tank and Hopper Heating Products

Tank and Vessel Heating

HeatSheet® Tank and Vessel Heating Units **

- Provides Predictable and Reliable Heating (or Cooling)
- Factory-Applied Non-hardening Heat Transfer Compound Ensures Maximum Heat Transfer
- Waffle Pattern Permits Multiple Flow Paths for Heating and Cooling Media
- Provides 2 to 3 Times the Heat Transfer of Plate-Type Coils
- No Risk of Cross-Contamination with Process
- Light-weight Stainless Steel Construction for Easy Installation
- Stainless Steel Inlet and Outlet Tubing Provided from Factory



Hopper and Chute Heating

HT Module Hopper Heater

- Fluoropolymer Insulated High Temperature 1,3 mm² Lead Wires (with stress relief at connection)
- Parallel Circuit High Temperature Alloy Heating Element
- Temperature-Rated Insulation (directs energy towards surface to be heated)
- Aluminized Steel Protective Enclosure and Cover
- 6,3 mm Hole Cut-outs for Optional Earth Connection



Hopper and Chute Heating
Temperature Maintenance up to 427°C
Maximum Exposure Temperature 538°C
Maximum Watt Density 4650 W/m²
Supply Voltages 120-600 Vac