Low / High Temperature Tube Bundle

MSCP's low and high temperature Tubing Bundles (tubing, heater, insulation and jacket) are designed for freeze protection or process temperature applications and are suitable for a wide range of industrial services. Coupled with a choice of Mineral Insulated (MI) or Self-Regulating (SR) cable from our own product line, they are approved for use in non-hazardous and hazardous locations. The materials used provide high flexibility for application, including organic chemicals and corrosives in the oil, gas and petrochemical industries. Your Installation times are reduced, and you'll see a lower installed cost. All our tube bundles are insulated with Aerogel Insulation to deliver superior thermal performance, low flame / fire spread and hydrophobic properties . Furthermore, our tube bundles are sprayed with high performance Polyurea, which provides excellent protection for cold and below freezing temperatures.

Advantages:

- Maintain temperature
  Up to 120 °C (248 °F) (SR model)
  Over 120 °C (248 °F) (MI model)
- Maximum exposure temperature
  200 °C (392 °F) (SR model)
  550°C (1022°F) (MI model)
- Various nominal outputs available
- May be cut to length in the field (SR Model and No Heater Model Only)
- Weather proof (Moisture proof)

Applications:

- Freeze protection for impulse lines
- Temperature maintenance of instrumentation
- Chemical and petrochemical industries
- Oil and gas industries

Thermo Insulation (Aerogel HT or DT):

- High thermal performance
- Low thermal conductivity
- Hydrophobic (Repels water and liquids)
- Protection against corrosion
- Low flame / fire spread properties

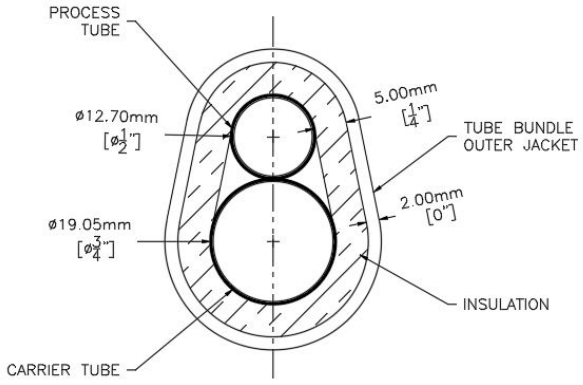
Outer Jacket (Polyurea PUA):

- Superior moisture resistance
- Provides corrosion and abrasion protection
- Eco-friendly
  Seamless

Type **TUB**

Construction:

- Process Tube(s)
- Carrier Tube
  Required for MI Model
  Optional for SR Model
  Not Required for No Heater Model
- Insulation is Hydrophobic and low fire / flame spread Aerogel
- Outer Jacket is moisture resistance Polyurea (PUA)



MI Model

One Process Tube with Carrier Tube

Technical Information

Data

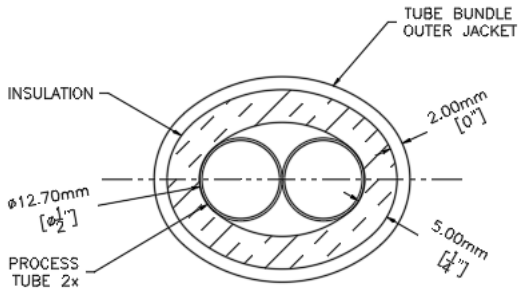
Process Tube Materials	316 Stainless Steel (Seamless)
Process Tube Diameters	1/8” to 1” Single or double tube with and without heater cable carrier tube
Process Tube Material's	316 Stainless Steel (Seamless) 0.035” - 0.065” Wall thickness
Carrier Tube Diameters	3/4” Single tube
Carrier Tube Material's	316 Stainless Steel (Seamless) 0.049” Wall thickness
Insulation Material	Aerogel [Armagel HT or DT] (5, 10, 15, 20mm)
Outer Jacket	Polyurea PUA (Black in color 2mm)
Classification (Dependent on type of cable selected)	Class I Div 1 Group B,C,D Class I Div 2 Group A,B,C,D Class II Div 2 Group E,F,G Class III T3 Class I Zone1 Ex e II T3
Certificates	CSA C US 2547790 CSA 22.2 130-16
Standards	IEEE 515, CSA 22.2 130.16 IEC/IEEE 60079-30-1
Rating	Heating cables are wet rated, for Outdoor use (WS)

Heating Cable Design

Type	Description	Voltage	Output
LTSR*	Low Temperature Heater Cable (Self-Regulating)	120V-208/240/277V	3W/ft—10W/ft
HTSR*	High Temperature Heater Cable (Self-Regulating)	120V-208/240/277V	3W/ft—20W/ft
MI 3V2C	MI Heating Cable —Two Conductor 300V	300V max	Up to 60W/ft
MI 6V2C	MI Heating Cable —Two Conductor 600V	600V max	Up to 60W/ft

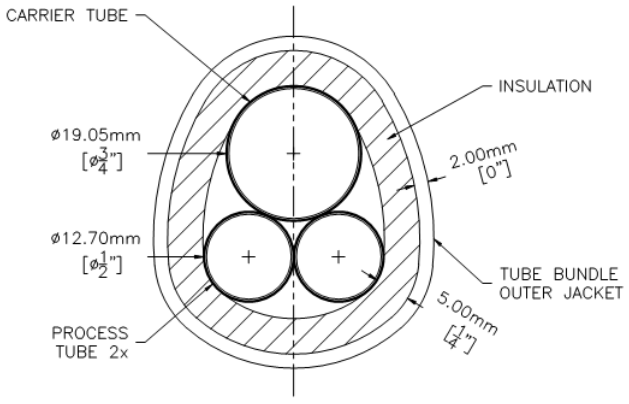
* For the SR Model the bundle is designed to use “C” Corrosive environment protective braid and a fluoropolymer outer jacket Only.

For more detail refer to MSCP Heating Cable Data Sheets



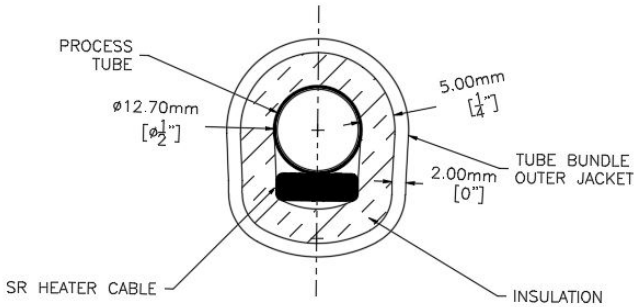
No Heater Model

Two Process Tubes with No Carrier Tube



MI Model

Two Process Tubes with Carrier Tube



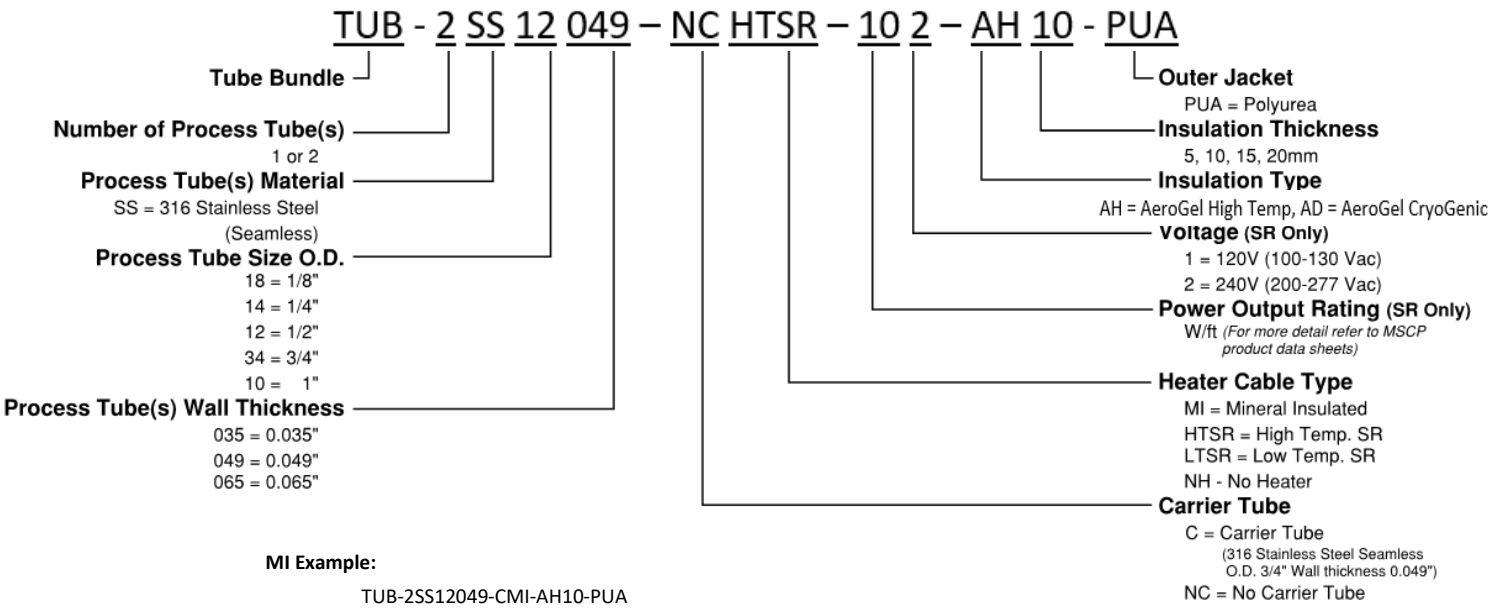
SR Model

One Process Tube with SR Cable

Tube Bundle Reference Number

Tube Bundle Key

MSCP's low and high temperature Tubing Bundles comes in a variety of configurations. The following chart outlines the components that comprise a bundle configuration and the corresponding catalog number.



MI Example:

TUB-2SS12049-CMI-AH10-PUA

SR Example:

TUB-1SS12049-NCHTSR202-AH5-PUA

No Heater Example:

TUB-2SS12049-NCNH-AD5-PUA

Process Tube Types

Process Tube O.D.	Nominal Wall Thickness
1/8"	0.035"
1/4"	0.035"
	0.049"
1/2"	0.035"
	0.049"
	0.065"
3/4"	0.049"
	0.065"
1"	0.049"
	0.065"