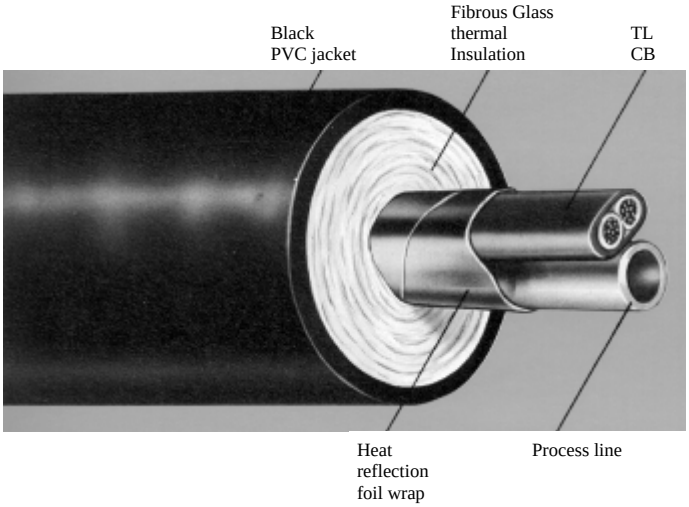
ARCTIC TRACE ®

Heated Tubing Bundles and Process Sample Lines

Principle of Operation:

Arctic Trace electric trace tubing system is comprised of a nickel plated copper braided Temperature Limiting heating element, single or dual process tube(s), hydrophobic inorganic fibrous glass thermal insulation, a heat reflection foil wrap and a 105ºC black PVC jacket. The unique Temperature Limiting heating element allows for a wide range of temperature maintenance applications. The standard product is available for minimum temperature maintenance (240ºF@80ºF ambient) with 11.4 2.6 watt/foot @ 120 VAC heating element. The Temperature Limiting heating element is approved by CSA for pipe and vessel tracing applications under designations 3A, 3B, 3C, 4A, and 4B, in the Class 1, Groups A, B – Division 1 & 2 – Class II, Groups E, F, & G – Division 1 & 2. Hazardous locations. Underwriters Laboratory Ordinary Locations, Heating Cable component listed UL style recognition.



Features

TL (Temperature Limiting)
Heating element
Pre-insulated and prefabricated for fast, easy installation
Consistent and predictable thermal characteristics
Maintenance free
Class 1, Division 2 design

Applications

Stack gas sampling lines
Analyzer and instrument lines
Small diameter process lines
Impulse lines

How to specify

Example: Z12xxxxCBTL
du Alaska Incorporated TL electric trace tubing: (1) 1/4" O.D. x .035" wall 316-S/S welded tube; 11.4 watt/foot @ 120 VAC CPD nickel plated copper braided heating element; hydrophobic inorganic fibrous glass thermal insulation; 150ºC black PVC jacket; MTR* = 400ºF.

*Maximum Temperature Rating is the design condition for which this product is manufactured. Temperature in excess of this rating may result in deterioration of the components or changes in the operational characteristics.

How to Order

Z12	X	X	A	14	Single Process Line
MZ12	X	X	X	14	Multiple Process Line

Process Tube O.D.	Process Tube Material	Number of Process Tubes
2 = 1/4" 3 = 3/8" 4 = 1/2" 6 = 3/4"	0 = 316-S/S Welded 1 = #122 Copper 4 = PFA Teflon 7 = 316-S/S Seamless z = Other Material as specified	A = 1 B = 2 C = 3 D = 4 E = 5

Lists above show most common product configurations. Alternate tube sizes, wall thickness and material as well as alternate jacket material are available upon request.

TECHNICAL INFORMATION
ELECTRIC TRACE TUBING – TL

Electrical Specifications

Heater Type	TL (Temperature Limiting)
Insulation	PFA Teflon 600 V Rated
Circuit Length	260 feet
Power Output	11.4 Watt/foot @ 120VAC
	11.5 Watt/foot @ 208VAC
	10.2 Watt/foot @ 240VAC
	13.8 Watt/foot @ 277VAC
Rating Per N.E.C. 500	T2C

Product specifications

Jacket	105ºC Black PVC
Insulation	Hydrophobic
	Inorganic Fibrous Glass
	Chloride Content less than 30 parts per million
Product Rating	400ºF (204ºC)

Nominal Bundle OD	Process Tube O.D.	Bundle O.D.
	1/4”	1.12”
	3/8”	1.44”
	1/2”	1.50”
(2)	1/4”	1.38”
(2)	3/8”	1.63”
(2)	1/2”	1.88”

Nominal Weight (I.B/FT)	Process Tube O.D.	Bundle Weight
	1/4”	.4
	3/8”	.5
	1/2”	.6
(2)	1/4”	.6
(2)	3/8”	.7
(2)	1/2”	.9

Installation Recommendations

Maximum Support Centers	Horizontal -	6 Feet
	Vertical –	15 Feet

Min Bending Radius	Process Tube O.D.	Minimum Radius
	1/4”	6”
	3/8”	8”
	1/2”	10”
(2)	1/4”	8”
(2)	3/8”	10”
(2)	1/2”	12”

Minimum Installation Temperature for PVC	+15ºF(-9.4ºC)

Alternate flame retardant jacket materials include:

- Low Temperature Polyvinyl Chloride
- Polyethylene
- Thermoplastic Elastomer

Tubing Specifications

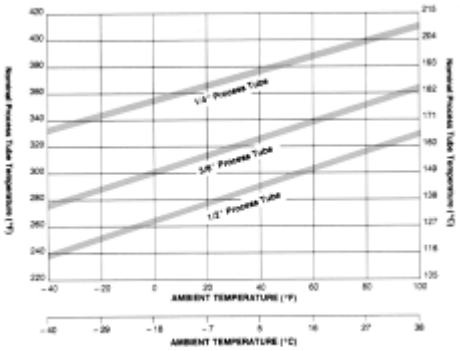
Tube O.D.	Wall Thickness	Material†	ASTM	Working Pressure @400ºF	Maximum Coil Lengths
1/4”	.035”	316 – S/S	A-269	5170 psi**	500’*
3/8”	.035”	316 – S/S	A-269	3310 psi**	400’*
1/2”	.035”	316 – S/S	A-269	2430 psi**	300’*
1/4”	.030”	PFA Teflon	-	30 psi	500’*
3/8”	.062”	PFA Teflon	-	40 psi	500’*
1/2”	.062”	PFA Teflon	-	30 psi	500’*

** Values given are for welded. Seamless is slightly higher.

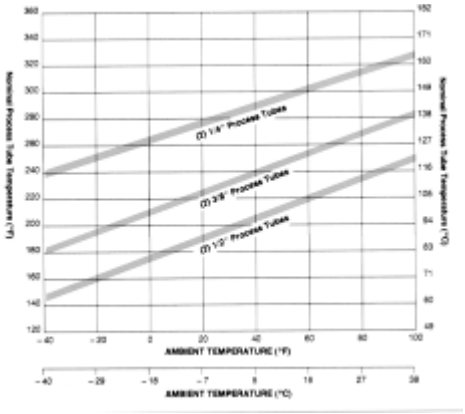
* Longer coil lengths available on request.

Performance Specifications

Temperature Limiting Tubing



Temperature Limiting Tubing



MAXIMUM CIRCUIT LENGTH		
OPERATING VOLTAGE	CIRCUIT LENGTH	WATTAGE
120	260 ft.	11.4
208	450 ft.	11.5
240	580 ft.	10.2
277	500 ft.	13.8

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