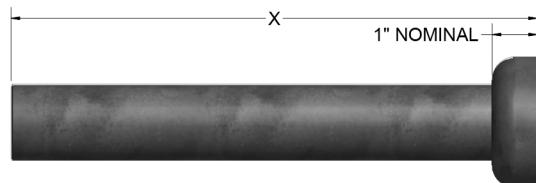
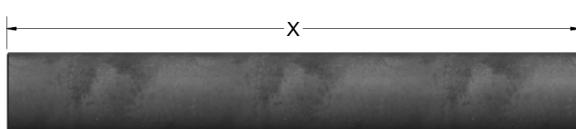


The protection tubes listed below are designed for use in high temperature corrosive service applications. These protection tubes can be used in waste incineration, cement kilns, lime kilns, and other harsh process environments where high levels of sulfur, chlorides, ash, and salt deposits are commonly found. The series 12 protection tube is also an excellent choice for immersion into molten copper and brass alloys. The series 71 and series 18 protection tubes are typically used as outer protection tubes in high temperature applications such as ceramic kilns, brick kilns, and steel melting furnaces. These tubes are excellent choices in applications where direct flame impingement occurs.

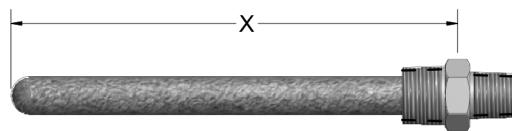
TUBE CODE 18JC



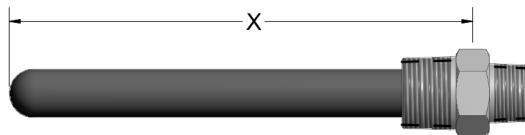
TUBE CODE 18J



TUBE CODE 71BH



TUBE CODE 12



## ORDER CODES

*Example Order Number:*

1 **12W4** - 2 **24** - 3 **8,NT**

1

**Metal Ceramic (LT-1) 1371 °C [2500 °F]<sup>[1]</sup>**

CODE	Nominal I.D. (inches)	Nominal O.D. (inches)	FITTING DESCRIPTION	PROCESS THREADS (inches)	TERM THREADS (inches)
12WH	5/8	7/8	Steel hex fitting	1	3/4
12W(E)	5/8	7/8	Steel pipe nipple (specify "E" length)	1	1

**Silicate-Bonded Silicon Carbide 1649 °C [3000 °F]**

18J	1	1(3/4)	Plain tube	None	None
18JC	1	1(3/4)	Tube with 3" O.D. collar	None	None

**Recrystallized Silicon Carbide (RSiC) 1600 °C [2912 °F]**

71BH	3/8	11/16	Steel hex fitting	3/4	1/2
71B(E)	3/8	11/16	Steel pipe nipple (specify "E" length)	3/4	3/4
71WH	1/2	7/8	Steel hex fitting	1	3/4
71W(E)	1/2	7/8	Steel pipe nipple (specify "E" length)	1	1

[1] O.D. Tolerance  $\pm 1/16"$ , I.D. Tolerance  $+ 1/16", - 3/32"$ **2 Tube "X" Length**

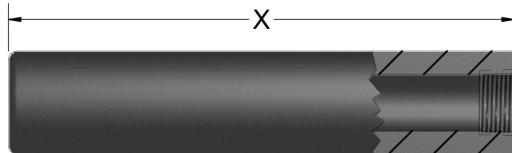
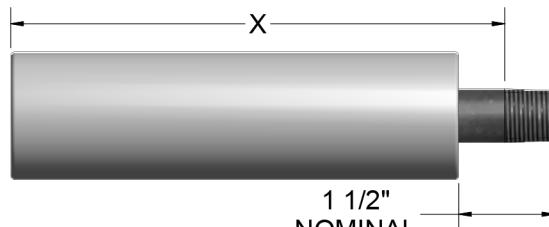
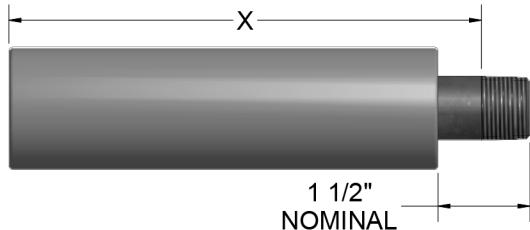
LENGTH (inches)
12
18
24
30
36
42
48

**3 Options**

CODE	DESCRIPTION
8	316 SS nipple or hex tube fitting
NT	No process mounting threads on pipe nipples

The Series 11, 13, and 14 protection tubes are used to protect thermocouple elements in molten aluminum and zinc applications such as diecasting, melting, smelting, and high temperature holding furnace environments. Series 13 and 14 protection tubes should be preheated and slowly immersed into any molten materials.

TUBE CODE 11

TUBE CODE 14<sup>[1]</sup>TUBE CODE 13<sup>[1]</sup>1 1/2"  
NOMINAL

[1] Refractory length is 1" shorter than specified length

## ORDER CODES

**Example Order Number:**

1 **11-75** - 2 **24**

**1 Protection Tube NPT Connections**

CODE	DESCRIPTION	NPT SIZE (inches)	TUBE		MAX. LENGTH (inches)
			Nominal O.D. (inches)	Nominal I.D. (inches)	
CAST-IRON 871 °C [1600 °F] Max.					
11 - 75	Internally threaded	3/4	1.625	0.470	36
VESUVIUS 927 °C [1700 °F] Max.					
13 - 75		3/4	2.00	0.824	36
CERITE® 815 °C [1500 °F] (36" maximum "X" length)					
14-50 <sup>[1]</sup>	Cerite® II	1/2	2.00	0.622	36

[1] For Cerite® protection tubes supplied with 316SS pipe instead of a carbon steel pipe, change model number prefix code 14 to 148.

EXAMPLE: 148-50-24

**2 Tube "X" Length**

LENGTH (inches)
12
18
24
30
36

**Recommended Applications**

CAST-IRON	Aluminum
VESUVIUS	Aluminum
CERITE®	Aluminum, Zinc