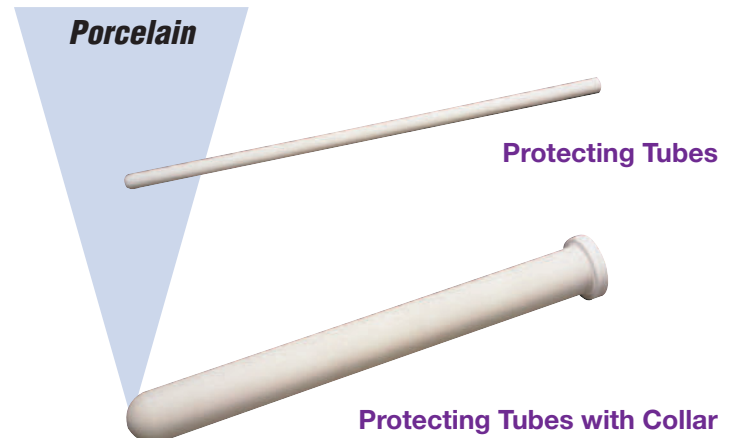


Ceramic Protection Tubes Application Data

Ceramic Protection Tubes are used in applications where contamination from hostile environments or the cutting action of concentrated and direct flame impingement are factors. Such conditions usually require a noble metal thermocouple such as platinum and platinum alloys.

When selecting assemblies using ceramic components, the expected maximum temperatures must be considered. At elevated temperatures, some ceramic materials go through a glass phase. As silica is a prime contaminant of platinum, alumina protecting tubes and insulators are recommended for temperatures exceeding 2000°F (1093°C).

Material	Maximum Operating Temperature	Thermal Shock Characteristics	Maximum Available Length (in)	Typical Applications	Remarks
Alumina (99.7%)	3100°F (1700°C)	Fair (preheating to 900°F [482°C] recommended)	84	Iron, Barium, crown glass; non-ferrous metals; gas-tight protection for noble metal thermocouples in excess of 2400°F (1316°C)	Sags at 2900°F (1593°C) Prevents dry hydrogen penetration
Porcelain (Mullite)	2550°F (1400°C)	Poor (preheating to 900°F [482°C] recommended)	84	Non-ferrous metals; gas-tight protection for noble metal thermocouples to 2400°F (1316°C)	Sags at 2550°F (1400°C) Prone to attack by halogen gases; some penetration of dry hydrogen. Contains silica.



Part Number	I.D. x O.D. †	Construction	Length
APT-101- <input type="text"/>	1/4" x 3/8"	Plain End	12" thru 48" in 6" increments
APT-102- <input type="text"/>	7/16" x 1/16"	Plain End	12" thru 60" in 6" increments
APT-103- <input type="text"/>	3/4" x 1"	Plain End	12" thru 72" in 6" increments
APT-104- <input type="text"/>	1" x 1 1/4"	Plain End	12" thru 72" in 6" increments
APT-105- <input type="text"/>	1/4" x 3/8"	With Hex Fitting	12" thru 48" in 6" increments
APT-106- <input type="text"/>	7/16" x 1/16"	With Hex Fitting	12" thru 60" in 6" increments

Part Number	I.D. x O.D. †	Construction	Length
PPT-101- <input type="text"/>	1/4" x 3/8"	Plain End	12" through 84" inch 6" increments
PPT-102- <input type="text"/>	7/16" x 1/16"	Plain End	
PPT-103- <input type="text"/>	3/4" x 1"	Plain End	
PPT-104- <input type="text"/>	1" x 1 1/4"	Plain End	
PPT-105- <input type="text"/>	1/4" x 3/8"	w/ Collar Approx. 5/16" x 3/4"	
PPT-106- <input type="text"/>	7/16" x 1/16"	w/ Collar Approx. 5/16" x 1 1/16"	
PPT-107- <input type="text"/>	3/4" x 1"	w/ Collar Approx. 5/16" x 1 3/8"	
PPT-108- <input type="text"/>	1" x 1 1/4"	w/ Collar Approx. 5/16" x 1 3/8"	
PPT-109- <input type="text"/>	1/4" x 3/8"	w/Hex Fitting	
PPT-110- <input type="text"/>	7/16" x 1/16"	w/Hex Fitting	

Ordering Information

Complete the Part Number with 3 digits indicating length in whole inches.

Example: = APT-105- is 12" long and PPT-107- is 48" long.

† Dimensional tolerance:
Up to 1" Dia. ±5% or .025", whichever is greater
Over 1" Dia. ±4% or .050", whichever is greater

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.