

OMEGATITE® 650 Protection Tubes

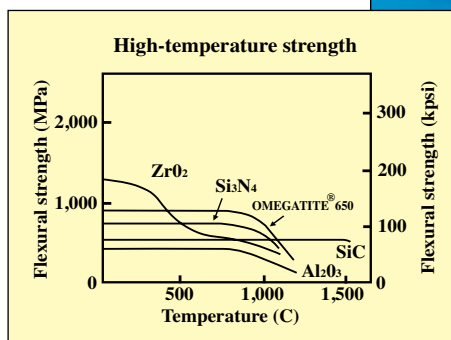
PTRS Series

- ✓ High Temperature
- ✓ Thermal Shock Resistance
- ✓ Corrosion Resistance

OMEGATITE® 650 is an alloy of silicon nitride and aluminum oxide. This superior refractory material has the combined properties of silicon nitride (high strength, hardness, fracture toughness, and low thermal expansion) and aluminum oxide (corrosion resistance, chemically inert, high temperature capabilities, and oxidation resistance).

Most refractory products can be used only in high temperature applications where one or two of the following properties are required: thermal shock resistance, mechanical strength, corrosion resistance, abrasion resistance or electrical insulation. OMEGATITE® 650 combines all these properties in one refractory material.

OMEGATITE® 650 is uniquely qualified for nonferrous molten metal applications and high wear or high impact environments up to 1250°C. OMEGATITE® 650 is non-wetting for most nonferrous metals. It is gas tight, chemically inert, resistant to corrosion and metal attack, and features high strength, hardness, and thermal shock resistance.



OMEGATITE® 650 thermocouple sheaths are used extensively for continuous measurements in nonferrous metals. In molten aluminum, OMEGATITE® 650 is thermal shock resistant, non-wetting, does not contaminate the melt, provides continuous, reliable

temperature measurement, and is resistant to degradation even in aggressive aluminum lithium alloys. The excellent corrosion resistance of OMEGATITE® 650 allows the use of thinner walls, thereby providing faster response time and improved accuracy.

Property	OMEGATITE® 650
Bulk Density	3.24 g/cm ³
App. Specific Gravity	3.26 g/cm ³
Porosity	<1 %
Cold Bend Strength (25°C)	758 MPa, 110 kpsi
Hot Bend Strength (1200°C)	400 MPa, 58 kpsi
Elastic Modulus	288 GPa, 42 x 10 ⁶ psi
Therm. Exp. Coeff (20-1000°C)	3.0 x 10 ⁻⁶ C ⁻¹
Thermal Conduct. (400°C)	21 W/mK
Critical ΔT	950°C
Hardness	1650 VHN, 1 kg load

To Order

Inside Diameter	Outside Diameter	Tube Length	Model Number
16 mm	28 mm	150 mm	PTRS-1628-150
		300 mm	PTRS-1628-300
		600 mm	PTRS-1628-600
12 mm	22 mm	150 mm	PTRS-1222-150
		300 mm	PTRS-1222-300
		600 mm	PTRS-1222-600
9 mm	16 mm	150 mm	PTRS-916-150
		300 mm	PTRS-916-300
		600 mm	PTRS-916-600
6.5 mm	12.5 mm	305 mm	PTRS-612-305
		450 mm	PTRS-612-450
		600 mm	PTRS-612-600

* For NPT fitting add "-NPT" suffix for an additional cost. A 1/2 x 1/2 NPT fits 12.5 mm OD tube, 1/2 x 3/4" for 16 mm (additional cost), 3/4 x 1 1/4" for 22 and 28 mm (additional cost). For special lengths consult sales.

Ordering Examples: PTRS-1628-300, tube with 16 mm inside diameter, 28 mm outside diameter, and 300 mm long.

PTRS-1628-600, tube with 16 mm inside diameter, 28 mm outside diameter, and 600 mm long.

Uniquely Qualified for
Nonferrous Molten Metal
Applications and High Wear
or Impact Environments Up to
1250°C (2280°F)



PTRS-1628-600 shown much smaller than actual size.

Note: For platinum elements visit us online.