SAINT-GOBAIN PERFORMANCE CERAMICS & REFRACTORIES

THERMOCOUPLE

PROTECTION TUBES

INDUSTRY SERVED

ALUMINUM INDUSTRY

Temperature monitoring environments where durability and thermal response are crucial.

- Thermocouple protection tubes incorporating BSP threads for ease of installation
- Excellent durability, thermal conductivity, and corrosion resistance.

APPLICATION

- Temperature sensing in aluminum furnaces and pressurized/dosing systems
- Metal level detection systems, thanks to good electrical conductivity

BENEFITS

CERTS: No preheat required if dry, high thermal conductivity, and quick response time. Resistant to aluminum fluxes and compatible with pressurized systems.

Standard BSP hanger system with 1/2” or 3/4” threads for easy installation

Large size range from 6” to 69” (150mm to 1750mm) for various application needs

Short delivery times for standard sizes

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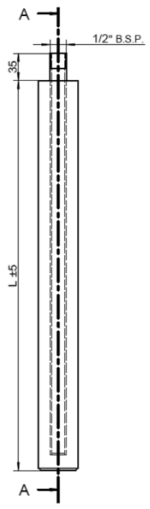
CRYSTON CERTS

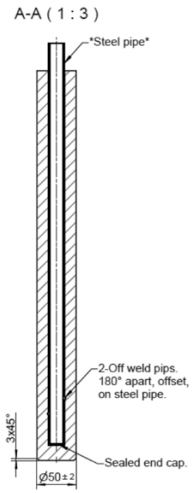
CARBON BONDED SIC

Cryston® CERTS is a refractory ceramic material featuring silicon carbide grains bonded ina vitrified carbon bond matrix. Possessing excellent thermal properties due to high conductivity, refractoriness, and resistance to thermal shock, Cryston® CERTS is anexcellent choice in immersion heater tubes and other molten metal contact applications.



KEY STRENGTHS AND INNOVATIONS

- CERTS material comprises **high purity graphite and SiC, bonded with carbon.** It contains a complex **glaze and anti-oxidant system** which **protects the graphite and carbon bond** during service.
- Tubes are isostatically pressed and its possible to add steel threaded pipes into the item for fixing systems
- Full mechanical strength and resistance to aluminium and its fluxes are developed during the firing process.
- Certs has the highest thermal conductivity of any product within PCR and possesses excellent thermal shock resistance
- Maximum service temperature 1200° C (2192°F)



PROPERTIES	TYPICAL VALUES		
Chemistry	SiC	60%	
	Carbon	30%	
	Borosilicate glass	10%	
Max Use Temperature	1200°C (2192°F)		
Bulk Density	2.3 g/cc (143.5 lbs/ft³)		
Apparent Porosity	16%		
Modulus of Rupture at 20°C	8 MPa (1160 psi)		
Thermal Expansion	4.6 x 10^{-6} °C^{-1} (2.6 x 10^{-6} °F^{-1})		
Thermal Conductivity	Temp 800°C	W/m-K 42.0	BTU-in/ hr ft-²°F 290

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For more information:
www.ceramicsrefractories.saint-gobain.com
ceramics.refractories@saint-gobain.com

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