



SILICON NITRIDE BONDED SILICON CARBIDE THERMOCOUPLE SENSORS

INTRODUCTION :

Thermocouple with NITRIDE Bonded Silicon carbide protection thermowells / tubes finds its application majorly in areas where the temperature are high and pressure differential are low i.e. majorly in aluminium melting plants and industries using aluminium as their raw materials. Since they do not melt in such high temperatures they are used to protect the sensing element of the temperature sensor thereby increasing the average usage life of the temperature sensor.



FEATURES OF SILICON NITRIDE BONDED CARBIDE TUBES :

- Bulk Density : 2.75 g/CC Min.
- Apparent Porosity : 12% Max
- Hot Modulus of Rupture (At 1400 Deg.C) : 1400 Kg/cm² Min.
- Co-efficient of Thermal Expansion : $4.5 \times 10^{-6} / ^\circ \text{C}$
- Maximum Temperature Use : 1550 ° C
- Silicon Carbide : 70% Min.
- Silicon Nitride : 23% Max.
- Iron Oxide : 1% Max.

THERMOCOUPLE HANDLE PROBES WITH SILICON NITRIDE BONDED SILICON CARBIDE TUBES:



ORDERING INFORMATION :

- *Specify the temperature to be measured.
- *Specify the design of the sensor (Straight / "L" type / Handle Probe type)
- *Specify OD , ID and length (Hot arm , Cold arm) of the sensor
- *Specify the extension wire length and the insulation required on the wire of the sensor

APPLICATION :

The sensors find their major application MOLTEN ALUMINUM INDUSTRY where the outer stainless sheath of the thermocouple sensing element gets corroded.

MOLTEN ALUMINUM THERMOCOUPLE SPARES

M.S. Adaptor



Spare Tube without adaptor



Spare Tube with adaptor



NOTE : For various Thermocouple heads designs and M.I. Sensing elements please refer out catalog of thermocouple spares

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