

# PINNACLE THERMOCOUPLE PROTECTION TUBES

## O'-SIALON (BONDED SILICON CARBIDE) TCPT



### APPLICATIONS

- Crucible furnaces
- Degassing crucibles
- Holding furnaces
- Casting areas

### ADVANTAGES

- Non-wetting to aluminium and its alloys
- Less dross buildup at metal line
- Superior response time
- Narrow temperature control band for energy conservation
- Excellent thermal shock resistance
- Longer life

### AVAILABLE SIZES

2" OD 3/4" NPT pipe in lengths of 6, 10, 12, 18, 24, 30, 36, 42, and 48 inch

Pyrotek's bonded silicon carbide Pinnacle thermocouple protection tubes are made from O'-Sialon, a long-life, non-wetting, temperature sensitive material. This thermocouple protection tube is used for foundry and other temperature sensitive applications.

The robust properties of the Pinnacle thermocouple protection tubes make it a superior alternative to competitive tubes in temperature measurement, maintenance and product life areas.

Thermocouples are closed at one end with threaded pipe on other end.

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## PHYSICAL PROPERTIES

Apparent Porosity (%)  
16–18%

## BULK DENSITY

2.6 g/cm<sup>3</sup>  
167.19 lbs/ft<sup>3</sup>

## MODULUS OF RUPTURE

34 MPa

## COEFFICIENT OF THERMAL EXPANSION

4.4 x 10<sup>-6</sup>/°C  
2.44 x 10<sup>-6</sup>/°F

## MODULUS OF ELASTICITY (C 203)

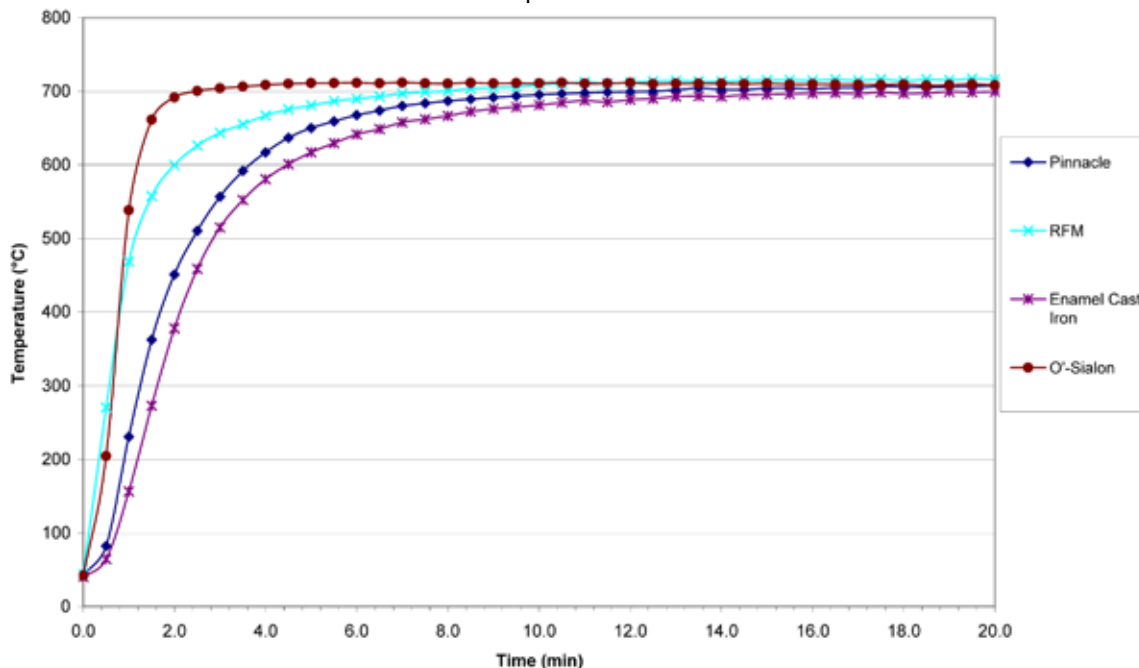
78 MPa

## THERMAL CONDUCTIVITY (DIN 51046)

°C	°F	W/(m · K)	BTU-in/ft <sup>2</sup> /hr°F
300	570	10.21	70.7
540	1004	9.05	62.7
720	1328	8.97	62.13

### TEMPERATURE RESPONSE GRAPH

Time to achieve 99% of maximum temperature dipped in aluminium for 40 hours.  
Aluminium bath is kept at 715°C (1315°F).



Note: The physical and chemical properties listed represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

Product Type: 177

Commodity Code: 06002