

Pyrotek MC-1 Metal Ceramic Thermocouple Protection Tube

Category : Ceramic

Material Notes:

For casting, MC-1 thermocouple protection tubes are a unique blend of metal and ceramic, exhibiting properties not found solely in either individual material. MC-1 tubes offer high thermal conductivity and excellent sensitivity to temperature changes in high temperature applications. Preheating to 482°C before immersion in molten metal at 1093°C or higher is recommended. Applications Molten copper and brass to 1149°C Corrosive SO₂ and SO₃ gas to 1371°C and SO₃ and HF gas to 1093°C Molten zinc to 871°C Molten lead to 343°C Atmosphere directly above molten glass in an open hearth glass furnace Carbon bake furnaces Steel mill soaking pits Not recommended for use in molten aluminum or glass, carburizing or nitrating atmospheres, cryolite, or copper alloys above 1149°C Advantages Excellent oxidation resistance Thermal conductivity comparable to stainless steel Resists wetting by many metals and alloys, and basic furnace slags Resistant to oxidizing atmospheres over 1204°C Good wear resistance Resistant to sliding friction Good strength at temperatures up to 1538°C Low porosity prohibits gas ingress Information provided by Pyrotek.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Pyrotek-MC-1-Metal-Ceramic-Thermocouple-Protection-Tube.php

Physical Properties	Metric	English	Comments
Density	5.80 g/cc	0.210 lb/in ³	

Mechanical Properties	Metric	English	Comments
Flexural Strength	310 MPa	45000 psi	
Compressive Strength	758 MPa	110000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	9.00 µm/m-°C	5.00 µin/in-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	29.4 W/m-K	204 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	1204 °C	2199 °F	Oxidizing atmospheres
Maximum Service Temperature, Inert	1538 °C	2800 °F	Retains strength

Component Elements Properties	Metric	English	Comments
Al ₂ O ₃	23 %	23 %	
Chromium, Cr	77 %	77 %	

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