

Pyrotek Dense Fused Silica Pre-Cast Shapes

Category : Ceramic , Oxide , Silicon Oxide

Material Notes:

Pyrocast Dense Fused Silica is an economical product for shapes demanding thermal shock resistance at temperatures. Pyrocast DFS stands up to repeated use in molten metal casting in aluminum, copper, zinc, brass, steel, glass, and aerospace applications. It is durable and resists breakage during handling and cleaning. Components made from Pyrocast Dense Fused Silica resist cracking due to the material's low thermal expansion. Applications Spouts Control pins Mounting seats (inserts) Pre-cast trough tiles Thimbles Wear plates Trough dams Advantages Resistant to thermal shock Superior strength Low thermal expansion Economically priced Resistant to surface corrosion Able to rapidly cycle Computer controlled firing Superior material consistency Information provided by Pyrotek.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Pyrotek-Dense-Fused-Silica-Pre-Cast-Shapes.php

Physical Properties	Metric	English	Comments
Density	1.76 - 1.95 g/cc	0.0636 - 0.0704 lb/in ³	
Open Porosity	8.0 - 10 %	8.0 - 10 %	

Mechanical Properties	Metric	English	Comments
Modulus of Rupture	0.0170 - 0.0200 GPa	2.47 - 2.90 ksi	
Compressive Strength	48.0 - 51.0 MPa	6960 - 7400 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	0.500 - 0.700 $\mu\text{m/m-}^{\circ}\text{C}$	0.278 - 0.389 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Thermal Conductivity	0.800 W/m-K	5.55 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
	@Temperature 13.0 $^{\circ}\text{C}$	@Temperature 55.4 $^{\circ}\text{F}$	
Maximum Service Temperature, Air	1090 $^{\circ}\text{C}$	1990 $^{\circ}\text{F}$	Sustained
	1650 $^{\circ}\text{C}$	3000 $^{\circ}\text{F}$	Peak

Component Elements Properties	Metric	English	Comments
Al ₂ O ₃	0.30 %	0.30 %	
CaO	0.020 %	0.020 %	
Fe ₂ O ₃	0.020 %	0.020 %	
MgO	0.020 %	0.020 %	

SiO2 Component Elements Properties	99.6 % Metric	99.6 % English	Comments
TiO2	0.010 %	0.010 %	

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