

Pyrotek Insural® 140 Insulating Refractory Shapes for Aluminum

Category : Ceramic , Oxide , Silicon Oxide

Material Notes:

Insural® 140 Precast Shapes are designed for the containment of molten aluminum in hot top modules (cross feeder) and trough/laundry applications. Advantages: Near zero expansion avoids gaps at the joints. Very resistant to cracking with thermal cycling. Low density, highly insulating. Not wetted by molten aluminum, for easy skull removal. Hardness which runs throughout the thickness reduces risk of inclusions. Information provided by Pyrotek.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Pyrotek-Insural-140-Insulating-Refractory-Shapes-for-Aluminum.php

Physical Properties	Metric	English	Comments
Density	1.40 g/cc	0.0506 lb/in ³	

Mechanical Properties	Metric	English	Comments
Modulus of Rupture	0.00450 GPa	0.653 ksi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.00500 GPa	0.725 ksi	
	@Temperature 750 °C	@Temperature 1380 °F	
Compressive Strength	20.0 MPa	2900 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	3.90 µm/m-°C	2.17 µin/in-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.430 W/m-K	2.98 BTU-in/hr-ft ² -°F	hot face 548°C, cold face 350°C, mean - 449°C
	@Temperature 449 °C	@Temperature 840 °F	
	0.460 W/m-K	3.19 BTU-in/hr-ft ² -°F	hot face 744°C, cold face 470°C, mean - 607°C
	@Temperature 607 °C	@Temperature 1120 °F	
	0.470 W/m-K	3.26 BTU-in/hr-ft ² -°F	hot face 842°C, cold face 529°C, mean - 686°C
	@Temperature 686 °C	@Temperature 1270 °F	

Component Elements Properties	Metric	English	Comments
Al ₂ O ₃	13 - 14 %	13 - 14 %	
CaO	16 - 18 %	16 - 18 %	
Fe ₂ O ₃	<= 0.30 %	<= 0.30 %	

Component Elements Properties	Metric	English	Comments
50%	57-69 %	57-69 %	

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