

China-Yixing Longly Refractories ZTA (10%ZrO2) Zirconia Toughened Alumina Composite Ceramic

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

LONGLY's Zirconia Toughened Alumina ceramics (hereafter referred as composite ceramic, ZTA) is white, corrosion resistance, good chemical stability. As well all know that alumina is hard, while zirconia is tough, these two types of materials form into a compound of high-intensity and high-tenacity. At room temperature it has a higher bending strength and fracture toughness, therefore ZTA has excellent wear resistance. The material can be mixed at different ratios of zirconia and alumina to achieve desired mechanical and electrical properties according to customer's request. ZTA ceramic's performance is better than 99 alumina ceramic, while its price is much lower than zirconia ceramic. In many cases that alumina can not fulfill the task, ZTA shows better performance-price ratio than zirconia ceramic. Applications: ZTA has a wide range of applications in the industries of machinery, electronics, petroleum, chemical, aerospace and textile. Information Provided by China Yixing Longly Refractories Co. Ltd

Order this product through the following link:

http://www.lookpolymers.com/polymer_China-Yixing-Longly-Refractories-ZTA-10ZrO2-Zirconia-Toughened-Alumina-Composite-Ceramic.php

Physical Properties	Metric	English	Comments
Bulk Density	>= 4.55 g/cc	>= 0.164 lb/in ³	
Water Absorption	<= 0.0020 %	<= 0.0020 %	

Mechanical Properties	Metric	English	Comments
Hardness, Mohs	8.9	8.9	
Flexural Strength	>= 610 MPa	>= 88500 psi	cold bending
Compressive Strength	>= 620 MPa	>= 89900 psi	Ambient
Fracture Toughness	>= 6.60 MPa-m ^{1/2}	>= 6.01 ksi-in ^{1/2}	

Thermal Properties	Metric	English	Comments
CTE, linear	4.20 - 4.80 μm/m-°C	2.33 - 2.67 μin/in-°F	
	@Temperature 25.0 - 800 °C	@Temperature 77.0 - 1470 °F	
Thermal Conductivity	25.0 W/m-K	174 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	>= 1650 °C	>= 3000 °F	

Component Elements Properties	Metric	English	Comments
Al ₂ O ₃	88 - 89 %	88 - 89 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+16 ohm-cm	>= 1.00e+16 ohm-cm	
	@Temperature 100 °C	@Temperature 212 °F	
Dielectric Strength	22.2 - 23.2 kV/mm	564 - 589 kV/in	DC Breakdown Strength

Descriptive Properties	Value	Comments
Refractoriness (°C)	2200	

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