

Astro Met ZTA 96 Zirconia Toughened Alumina

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

General Description: ZTA-96 is a zirconia toughened alumina ceramic that exhibits excellent wear and corrosion resistance along with high strength and toughness. Astro Met has developed ZTA-96 zirconia toughened alumina through extensive ceramic engineering efforts which synergistically combine the superior wear resistance properties of AmAlOx 68 (99.8% alumina) and the high strength and toughness properties of AmZrOx 86 (yttria stabilized zirconia). **Applications:** The unique engineering properties exhibited by ZTA-96 provide a cost effective materials solution to the most demanding applications which require wear resistance, corrosion resistance, high temperature stability and superior mechanical strength. ZTA-96 zirconia toughened alumina components can be manufactured to precision tolerances and finishes in a wide range of shapes and sizes.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Astro-Met-ZTA-96-Zirconia-Toughened-Alumina.php

Physical Properties	Metric	English	Comments
Bulk Density	4.10 g/cc	0.148 lb/in ³	
Water Absorption	0.00 %	0.00 %	
Particle Size	1.5 µm	1.5 µm	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	1750	1750	
Modulus of Elasticity	310 GPa	45000 ksi	
Flexural Strength	760 MPa	110000 psi	
Fracture Toughness	6.00 MPa-m ^{1/2}	5.46 ksi-in ^{1/2}	

Thermal Properties	Metric	English	Comments
CTE, linear	8.10 µm/m-°C @Temperature 25.0 - 1000 °C	4.50 µin/in-°F @Temperature 77.0 - 1830 °F	
Thermal Conductivity	21.6 W/m-K	150 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	1650 °C	3000 °F	no load

Component Elements Properties	Metric	English	Comments
Al ₂ O ₃	85 %	85 %	
ZrO ₂	15 %	15 %	

Descriptive Properties	Value	Comments
Color	White	
Gas Permeation, %	0	

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