

ZTA Tiles & Liners

Zirconia Toughened Alumina is a composite ceramic material with Zirconium Oxide grains in the Alumina Oxide matrix.

Zirconia Toughened Alumina shows considerable improvements in strength and toughness compared to Alumina ceramics.

Zirconia Toughened Alumina typically has 10-20% Zirconia content.

Zirconia Toughened Alumina is a cost effective solution for demanding environments due to its increased component life and performance.

Zirconia Toughened Alumina comes in a wide range of sizes and thicknesses.

Zirconia Toughened Alumina is suitable for applications up to 1500°C.

ADVANTAGES

ZTA offers distinctive benefits over other ceramic materials, particularly Alumina. ZTA is produced through a stress induced transformation process which uniformly incorporates fine Zirconia particles throughout the Alumina matrix. This composite ceramic material provides excellent mechanical strength and toughness. Typical Zirconia Toughened Alumina characteristics include:

- Excellent Strength
- Excellent Shock resistant
- Excellent Toughness
- Excellent wear resistance
- High temperature stability
- Corrosion resistant



PHYSICAL PROPERTIES

Material Properties	Units	Value (ZTA20)
Zirconia Content	Weight %	≤ 20
Density	g/cm ³	4.55
Temperature of Application	°C	≤ 1500
Mohs Hardness	-	8.9
Flexural Strength	MPa	≥ 680
Fracture Toughness	MPa.√m	≥ 6
Linear Expansion Coefficient (25-800°C)	10 ⁻⁶ °C	5.6 - 6.2
Thermal Conductivity	W/(m.K)	25
Water Absorption	%	< 0.002

APPLICATIONS

ZTA Tiles & Liners are well suited to the following applications.

- Chutes
- Launderers
- Shrouds
- Distributors
- Transfer Points
- Centrifuges
- Pipe Lining
- Impact Zones