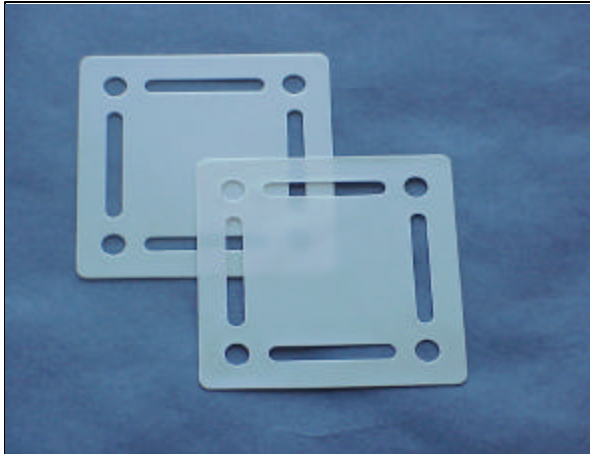




Zircar Zirconia, Inc.
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Zirconia Substrates TYPE ZYTC



Yttria stabilized Zirconia substrates, Type ZYTC

FEATURES

- Thin electrolyte zirconia substrates
- 3mol% or 8mo% Yttria stabilized
- Two standard thicknesses .15 & .50 mm
- Standard and custom shapes
- Flatness < 50 microns
- Gas tight

Type **ZYTC Substrates** are thin, rigid, tape cast structures composed of zirconia stabilized with yttria. Type **ZYTC** is Zircar Zirconia's thinnest zirconia material. Type **ZYTC** is ideally suited for micro electronics, solid oxide fuel cells and thermal management applications under conditions of high temperatures and in varied atmospheres. **ZYTC** has been high fired and is tightly bonded resulting in a dust free, smooth gas tight surface.

ZYTC is dimensionally stable to 1500°C. It has exceptional resistance to oxidizing and reducing atmospheres at high temperatures. Zirconia does, however, lose a small amount of oxygen at very high temperatures in vacuum and inert or reducing atmospheres. Although this reaction results in a color change from white to gray, other properties remain essentially unchanged.

ZYTC has exceptional resistance to most corrosive environments. **ZYTC** contains no organic binders, produces no smoke and will not outgas.

ORDERING INFORMATION

Zircar Zirconia Substrate Type **ZYTC** is available in standard sized plates;

- 50mm x 50mm and 100mm x 100mm plates in 0.15mm and 0.5mm thicknesses.

Our forming process and machining capabilities allow a wide variety of **custom sized** parts to be made.

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Product Data
Bulletin #B-L
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PROPERTIES & CHARACTERISTICS

Yttria Stabilization	3 mol%	8 mol%
Maximum Continuous Use Temperature**	2200°C	2200°C
Density (g/cc)	6.05	5.90
Thermal Conductivity (W/mK)	3	2
Thermal Expansion Coefficient	11×10^{-6}	10.5×10^{-6}
Bending Strength (psi)	145,000	38,435
Ionic Conductivity (S/m)	>6	>10
Gas Permeability	nil	nil

**Maximum use temperature is dependent on variables such as thermal and mechanical stresses, and the chemical environment that the material experiences.

ORDERING INFORMATION

Zirconia substrate Type **ZYTC** is sold as standard sized plates listed below along with the ordering item number. Non-standard sizes and custom shapes are quoted on an individual basis - please inquire.

Standard Size	Item Number
ZYTC-3, 50mm x 50mm x 0.15mm	BL001
ZYTC-3, 50mm x 50mm x 0.50mm	BL002
ZYTC-3, 100mm x 100mm x 0.15mm	BL003
ZYTC-8, 50mm x 50mm x 0.15mm	BL010
ZYTC-8, 50mm x 50mm x 0.50mm	BL011
ZYTC-8, 100mm x 100mm x 0.15mm	BL012

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