



## Zirconia Toughened Alumina Ceramic Sheet and Plate

You are welcomed to come to our factory to buy the latest selling, low price, and high-quality Nextgen Zirconia Toughened Alumina Ceramic Sheet and Plate. ZTA Sheet/Plate features high strength and toughness, and wear resistance, so it has a wide range of applications. Nextgen Advanced Materials supplies ZTA Sheet/Plates

with high quality and fast delivery, and customized products are also available.

### Product Description

As the professional manufacture, we would like to provide you Nextgen Zirconia Toughened Alumina Ceramic Sheet and Plate. Nextgen Advanced Materials INC prides itself in serving these markets with a focus on satisfying individual client's needs and requirements. The main advantage of Zirconia Toughened Alumina (ZTA) is the additional strength and toughness over alumina with a lower cost than zirconia (YTZP, MSZ, CSZ). The combination of aluminum oxide and 10-20% zirconium oxide provides a much higher strength, toughness, hardness and wear resistance than alumina alone.

The 20-30% increase in strength often provides the design criteria needed at a much lower cost than using zirconia. ZTA should be considered for any application where structural strength is needed that exceeds the standard alumina properties.



### Specification of ZTA Sheet/Plate

	Condition	Unit	ZTA Substrate

				ZTA
Material	-	-		Al <sub>2</sub> O <sub>3</sub> /ZrO <sub>2</sub>
Color	-	-		White
Bulk Density	-		g/cm <sup>3</sup>	4
Surface Roughness Ra	-		μm	0.2
Reflectivity	0.3-0.4mmt		%	80
	0.8-1.0mmt			90
Mechanical	Bending Strength	3-point method	MPa	700
	Modulus of Elasticity	-	GPa	310
	Vickers Hardness	-	GPa	15
	Fracture Toughness	IF method	MPa·m <sup>1/2</sup>	3.5
Thermal	Coefficient of Thermal Expansion	40-400°C	10 <sup>-6</sup> /K	7.1
		40-800°C		8
	Thermal Conductivity	25°C	W/(m·K)	27
		300°C		16
Specific Heat	25°C	J/(kg·K)	720	
Electrical	Dielectric Constant	1MHz	-	10.2
	Dielectric Loss Factor	1MHz	10-3	0.2
	Volume Resistivity	25°C	Ω·cm	>10 <sup>14</sup>
	Breakdown Strength	DC	kV/mm	>15