



Zirconia Toughened Alumina Ceramic Tube

Zirconia Toughened Alumina Ceramic Tube has the excellent properties of Zirconia and Alumina ceramic, showing higher flexural strength and fracture toughness, excellent wear resistance, high strength, and hardness. Nextgen Advanced Materials supplies Zirconia Toughened Alumina Ceramic Tube with high quality and fast delivery, and customized products are also available.

Product Description

Nextgen Advanced Materials INC is a professional leader Zirconia Toughened Alumina Ceramic Tube manufacturer with high quality and reasonable price. Zirconia Toughened Alumina Ceramics (referred to as composite ceramics, ZTA) has the characteristics of whiteness, corrosion resistance, and good chemical stability. Alumina has a high hardness and the toughness of zirconia is good. The two materials form an excellent composite of high strength and high toughness, and the application is more widely used.

ZTA ceramic has higher flexural strength and fracture toughness at normal temperature, so zirconia toughened ceramics have excellent wear resistance. The specific ratio of the two materials can be adjusted according to the actual use requirements of the user. The performance of zirconia toughened alumina ceramics is better than that of 99 alumina ceramics, and the price is much lower than that of zirconia ceramics; many alumina ceramics are not suitable for the occasion, which shows better cost performance than zirconia ceramics.



Specification of ZTA Tube				
		Condition	Unit	ZTA Substrate
				ZTA
Material		-	-	Al ₂ O ₃ /ZrO ₂
Color		-	-	White
Bulk Density		-	g/cm ³	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 ^{1/2}	3.5
Thermal	Coefficient of Thermal Expansion	40-400°C	10-6/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 ¹⁴
	Breakdown Strength	DC	kV/mm	>15