

Des Ceramica P. Ltd, is a manufacturer of quality technical ceramic components, and have over 1200 different components in our product range, and if need be, manufacture as per your requirement of required dimensional tolerance and surface properties. The normal ceramic materials we work with are .

1. ALUMINA. (A997)

Our A 997 Alumina contains 99.7 % Alumina, is very yarn-friendly, fine-grained, and highly wear-resistant because of its very high hardness. It can be polished to extremely low roughness, less than 0.1 Micron Ra. It is available in Russet and Ivory tints. Our A997 Alumina is ideal for applications of high speeds and high tensions.

Recommended for texturizing machinery, winders, and spinning machinery; synthetic micro-yarns, coarse and hard synthetic yarns, glass, carbon, and silk; nylon cords and ropes, tyre cords, metal wires, metal cables.

2. TITANIA: (T07)

Titania has a surface that is most friendly and tender towards the yarn, because of its grain and crystal structure. It is ideal for delicate yarns. It is softer than Alumina.

Recommended for texturizing machinery.

3. CONDUCTIVE TITANIA: (T07-C)

This black-coloured Titania has a conductive surface, which conducts away static electricity generated in processing the yarn. This Conductive Titania is most friendly and tender towards the yarn, because of its special grain and crystal structure. It is ideal for silk, carbon, glass and micro yarns. It is softer than Alumina.

Recommended for texturizing machinery, synthetic micro-yarns, silk, glass, and carbon fibers.

4. ZIRCONIA: (Z09)

Zirconia is as yarn-friendly as Titania, and has high hardness, toughness and is excellent wear resistance. Due to its very high cost, it is only used for special applications.

5. TUNGSTEN CARBIDE : (W08)

Our Tungsten Carbide has high hardness, toughness and wear-resistant. It has good thermal conductivity and some electrical conductivity. Other grades are also available. For material properties, please call us.

Recommended for metal wire machinery.

MATERIAL PROPERTIES AT A GLANCE. :

Property		Alumina A997	Titania T07	Zirconia (Y-PSZ) Z09
Purity	%	99.7	95	95
Specific Gravity	-	3.92-3.94	4.0	5.8
Colour	-	Russet/Ivory	Tan or Black	Yellow
Hardness	Rockwell C 45 N	83	70	72
Roughness Ra	Microns	0.02 to 1.0	0.1-0.9	0.1-1.2
Open Porosity	%	0	0	0
Flextural Strength	MPa	390	70	1000
Compressive Strength	MPa	3900	600	3000
Impact Resistance	MPa m ^{1/2}	5.2		8
Thermal Expansion Coefficient	10 ⁻⁶ K ⁻¹	5.5-8.4	8.5	10
Thermal Conductivity	W/mK	28	24	<2
Volume Resistivity	Ohm.cm	>10 ¹⁵	>10 ¹⁰	>10 ¹⁰
Dielectric Strength	KV/mm	30		-
Thermal Shock Resistance	°C	280	-	250
Max. Usage Temperature	°C	1700	-	1000