



ZTA (Grade ZTA-85SD)

Description

ZTA is an alumina-based material with mechanical properties enhanced by the addition of yttria partially-stabilized zirconia. ZTA contains an excess of 83.50-86.50% of Al_2O_3 with the remainder comprising mainly of a combination of ZrO_2 and HfO_2 , including a small percentage of Y_2O_3 .

Prime Features:

- Enhanced fracture toughness and thermal shock resistance
- High mechanical strength
- Resists chemical attack and abrasion
- Very fine grain microstructure
- High dielectric strength

Applications:

- Used in dentistry as pins, crowns, bridges, and implants
- Abutments for implant-supported prostheses
- Orthopedic hip replacements
- Pump and valve components for chemical processing duties where toughness and strength are required

Cactus Materials has the manufacturing flexibility to be able to customize the properties of the powder particles to better suit your engineering needs.

Item	Specification (%)	Analysis Result
$ZrO_2 + HfO_2$	12.70 - 15.70	13.25
Y_2O_3	0.70 - 0.90	0.79
Na_2O	0.10 max	0.03
CaO	0.04 max	0.02
Al_2O_3	83.50 - 86.50	85.96
L.O.I	9.00 max	7.17
H_2O	0.50 max	0.28

PARTICLE SIZE DISTRIBUTION

180 μm on	0.0
180 - 106 μm	6.9
106 - 90 μm	11.9
90 - 75 μm	14.3
75 - 63 μm	16.6
63 - 45 μm	22.6
45 - 38 μm	11.4
38 μm pass	16.3