

Zirconia-Toughened Alumina (ZTA)

Catlog Number: CRSM-0045

• Description

Ceramic composite feedstock for high-toughness components, combining the hardness of alumina with the crack resistance of zirconia.

• Basic Information

Base Material: Alumina/Zirconia
Reinforcement Type: Al₂O₃ + ZrO₂
Reinforcement Volume (%): 0.5
Density (g/cm³): 3.2
Tensile Strength (MPa): 280
Tensile Modulus (MPa): 15500
Elongation at Break (%): 0.8
Flexural Strength (MPa): 310
Flexural Modulus (MPa): 14200
Heat Deflection Temp (0.45MPa): 400
Glass Transition Temp (T_g): -
Melting Point (°C): 2000
Thermal Conductivity (W/mK): 24
Flame Retardancy (UL94): V-0
Surface Resistivity (Ω): 10¹⁶
Water Absorption (%): 0.02
Printing Temp (°C): 240-270
Bed Temp (°C): 90-110
Chamber Temp (°C): -
Fan Speed (%): 15
Nozzle Type: Hardened Steel
Layer Height (mm): 0.1
Shrinkage Rate (%): 18
Continuous Use Temp (°C): 1600
Impact Strength (kJ/m²): 6.5

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