

# ZIRCONIUM OXIDE FOR ADVANCED STRUCTURAL CERAMIC APPLICATIONS READY FOR PRESSING GRADES

## FEATURES

- Finely doped with magnesia, ceria or yttria.
- Manufactured using either a chemical processing route or a special thermal process.
- Dopants content, particle size and surface area can be adapted to suite specific requirements.
- Supplied as spray dried granules for improved handling characteristics.



## POWDER CHARACTERISTICS

Grade	ZZ-MZ02	ZZ-CE02	ZZ-YZ02	C-3YB	C-3YBL
MgO	3.2	-	-	-	-
CeO <sub>2</sub>	-	18	-	-	-
Y <sub>2</sub> O <sub>3</sub>	-	-	5.25	5.2±0.2	5.2±0.2
SiO <sub>2</sub>	≤0.1	≤0.1	≤0.1	≤0.015	≤0.015
Al <sub>2</sub> O <sub>3</sub>	≤0.02	≤0.02	0.25	< 0.25	< 0.25
Fe <sub>2</sub> O <sub>3</sub>	≤0.02	≤0.02	≤0.02	≤0.01	≤0.01
TiO <sub>2</sub>	≤0.1	≤0.1	≤0.1	≤0.001	≤0.001
Particle Size	granule	granule	granule	granule	granule
Specific Surface Area (m <sup>2</sup> /g)	7.2	7.2	7.2	30±2	15±3

## TYPICAL PROPERTIES OF SINTERED BODY

Sinterable Temperature (°C)	1700	1700	1700	1520	1400
Density (g/cm <sup>3</sup> )	5.7	6.2	6.05	6	6
Flexural Strength (MPa)	600	1200	1100	1150	1150
Fracture Toughness (MPa.M <sup>1/2</sup> )	7	9	10	10	10
Hardness Vickers HV10	1200	1300	1250	1250	1250
Colour	Yellow	Golden brown	Yellow	White	White

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