

Technical Data Sheet

2YSZ (powder)

Innovnano's 2 mol % Yttria-stabilised Zirconia is available as a binderless and ready-to-press powder or suspension (up to 40 wt. % solid content). High fracture toughness and bending strength complement each other in this specially designed, high performance powder.

Chemical analysis	CIP	HIP
ZrO ₂ + HfO ₂ + Y ₂ O ₃ + Al ₂ O ₃ (wt. %)	> 99.9	> 99.9
HfO ₂	< 3.0	< 3.0
Y ₂ O ₃	3.5 ± 0.3	3.5 ± 0.3
Al ₂ O ₃	0.4 ± 0.1	0.4 ± 0.1
SiO ₂	< 0.015	< 0.015
Fe ₂ O ₃	< 0.02	< 0.02

Physical properties	CIP	HIP
Primary particle D ₅₀ (nm)	~ 50	~ 50
Powder D ₅₀ (nm)	< 250	< 250
Granule D ₅₀ (µm)	~60	~60

Mechanical properties after sintering	CIP	HIP
Grain size (nm)	< 250	< 250
Density (g/cm ³)	6.02	6.07
Hardness (HV10)	1250	1350
Bending strength (MPa)	1200	1600
Fracture toughness (HV10) (MPa.m ^{0.5})	14	14



Enhanced material properties for physically demanding applications

Innovnano is a specialist manufacturer of high quality zirconia-based ceramic powders. Using a unique synthesis technology - emulsion detonation synthesis (EDS) - Innovnano guarantees enhanced material properties so that you can expect more from your ceramics.

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