

GY3Z-R60 $3\text{mol}\% \text{Y}_2\text{O}_3$ stabilized ZrO_2

Ready-To-Press granules

Technical data sheet



Chemical composition (wt%)

Y_2O_3^a	Al_2O_3^a	SiO_2^b	Na_2O^b	TiO_2^b	Fe_2O_3^b	L.O.I. ^c
5.4	0.25	<0.02	<0.02	<0.005	<0.005	2.8 ± 0.3

^a: XRF method ; ^b: ICP method ; ^c: Loss On Ignition 20 → 1000°C



Physical properties

Tetragonal phase ^a	> 99	%
Specific surface area BET	7 ± 1	m^2/g
Granule median diameter D50	60	μm

^a: After sintering at 1450°C for 2 hours



Benefits

- Excellent densification thanks to fine and homogeneous zirconia particles
- Advanced engineered binder system for easy pressing (uniaxial & isostatic)
- GY3Z-R60 allows the manufacturing of ceramic parts with outstanding mechanical performance



Contact us

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Ceramic properties^a

Green density	3.00	-
Sintered density	≥ 6.05	-
Strength: modulus of rupture ^b	1000	MPa
Hardness ^c : HV _{0.3/15}	1250	HV
Fracture toughness ^c : K_{Ic}	5.5	$\text{MPa}\cdot\text{m}^{1/2}$

^a: uniaxial pressing at 100MPa / Sintering 1450°C – 2hrs

^b: 4-point bending strength (4.0mm x 3.0mm x 45mm)

^c: micro-indentation



Main applications

→ Advanced technical ceramics



→ Dental ceramic standard grades

