ZirPro

GY3Z-R60 3mol% Y_2O_3 stabilized ZrO_2 Ready-To-Press granules

Technical data sheet

04/2019

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±0.20	0.25±0.05	<0.02	<0.02	<0.005	<0.005	2.5 -3.5

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

Physical properties

Granule size		
d50	60	µm
d90	<120	µm
Specific surface area BET	6.0 – 8.0	m^2/g
Loos bulk density[a]	1.3	g/cm^3
Flowability[a]	>0.85	g/s

[a]: Hall cup

Ceramic properties[a]

Green density	3.0	-
Sintered density	≥ 6.05	-
Bending strength[b]	1000	MPa
Hardness[c]**: $HV_{0.3/15}$**	1250	HV
Fracture toughness[d]**: K_{ic}**	5.5	$MPa.m^{1/2}$

[a]: uniaxial pressing at 100MPa / Sintering 1450°C – 2hrs
[b]: 4-points MOR (ISO 6872)
[c]: Vickers indentation (ISO 6507)
[d]: DCM (ISO 146 27)

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

Main applications

→Advanced technical ceramics

→Dental standard grades

Contact us

SEPR - Saint-Gobain ZirPro
B.P. 60025 - Bâtiment L
2539, Route de Sorgues
84131 Le Pontet Cedex
France
Email: zirpro@saint-gobain.com

www.zirpro.com

SAINT-GOBAIN