



Zetamix White Zirconia datasheet

PRODUCT DESCRIPTION

Zetamix White Zirconia is a 3%_{mol} stabilized zirconia filament used for 3D printing. The binders mixed with zirconia powder enables to have a flexible and resistant filament usable with classical FFF printers (Fused Filament Fabrication). Printed parts need to be debinded and sintered.

Diameter available: 1.75 mm and 2.85 mm
Post-process: debinding and sintering

IDENTIFICATION

Trade name	Zetamix White Zirconia
Chemical symbol	ZrO ₂ · Y ₂ O ₃
Binder system proportion vol%	50
Binder system proportion wt%	14
Zirconia proportion vol%	50
Zirconia proportion wt%	86

PRINTING AND SINTERING RECOMMANDATION

Printing temperature	180°C
Solvent debinding	Acetone
Sintering temperature	1475°C under air
Shrinkage	21.5% ± 1% (x, y and z)
Density	98-99%

TYPICAL PROPERTIES OF FILAMENTS

Specific Gravity [g.cm ⁻³]	3,5
Melt Flow Rate [g/10(min)]	50
Melt Volume Rate [cm ³ /10(min)]	14
Moisture Absorption 24 hours [%]	<0,1%
Moisture Absorption 7 days [%]	<0,3%
Shore D hardness	45

DIELECTRIC PROPERTIES

Dielectric constant * → 32 (± 0.5)

Loss tangent → ≈ 1.10⁻³ (± 5.10⁻⁴)

* Dielectric constant at 9.4 GHz. The permittivity value depends on the printing parameters and can decrease if the part is not fully dense ± 5% between -50°C to +110°C

MECHANICAL PROPERTIES ON FINAL PART

Hardness (Hv10) GPa → 10

Bending strength → 400 à 1000 MPa

Disclaimer : The results presented above are for information and do not constitute a legally binding Material Safety Data sheet (MSDS). Moreover, values are significantly dependent on printing setting, debinding parameters, operators experience and surrounding conditions. Any descriptions, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product.