SCERAM
Advanced Ceramics

RODS DIMENSIONS
ZIRCONIA OXIDE

BASIC PROPERTIES

- Very hard
- Resists to high temperatur
- Low thermal conductivity
- Can be polished
- Relatively flexible

APPLICATIONS

Wear parts
Hot extrusions dies
Welding centring pins
Mechanical components for use at all temperature
Cutting tools, kitchen knives
Medical
Dental technicien
Scrapers
Doctor rings for pad printing

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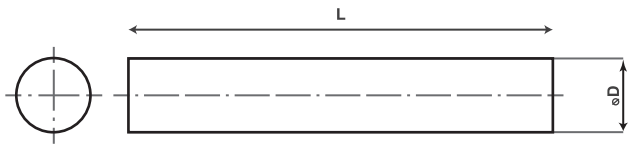

MATERIAL		ZIRCONIA OXIDE YTTRIA (Y203-PSZ)	ZIRCONIA OXIDE MAGNESIA (MgO-PSZ)	ZIRCONIA OXIDE CUBIC (Y203-FSZ)
Chemical formula		ZrO2	ZrO2	ZrO2 + Y203 (10,5%)
Aspect / color		White	Yellow	White
Porosity		Impervious	Impervious	Impervious
Mechanical	**Measuring unit**			
Hardness Vickers		1300	1100	-
Weilbull modulus at 20°c		11	20	-
Young modulus	GPa	220	200	-
Mechanical resistance (3 pts flexion) at 800°c	MPa	300	250	-
Mechanical resistance (3 pts flexion) at 20°c	MPa	540	360	276
Crushing resistance at 20°c	MPa	6000	3500	1772
Crushing resistance at 800°c	MPa	2100	1800	-
Tenacity	MPa.m½	10	8,5	-
Physical				
Max. use temperature in air	°c	1000	1200	2200
Density	g/cm3	6	5,9	5,92
Bulk density	g/cm3	6	5,6	-
Melting point	°c	1000	1200	-
Electrical				
Electrical resistivity 20°c	Ohm, m		>107	-
Dielectric constant	-		2,4 (for 1MHz)	-
Dielectric strength	kV/mm		>107	-
Loss tangent for 1 GHz	Hz		8,8	-
Thermal				
Specific heat	J/Kg.°K	550	680	-
Thermal conductivity 1000°c	W/m.°K	4,1	2,2	2
Thermal conductivity 20°c	W/m.°K	3	1,9	2
Thermal conductivity 500°c	W/m.°K	2	2,1	-
Thermal choc resistance	°C	Weak	Medium	-
Linear expansion	$x10^{-6}$	11	9	11,3

**These values are for informational purposes only and do not bind company's responsibility.*

Diam. (in mm)	Long. (in mm)
3	100
4	100
8	100
12	130
16	125
18	130
20	130
25	125

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