

MATERIAL DATA SHEET

Material type: Mg-PSZ (magnesia partially stabilized zirconia)

FZM+

Properties		Unit	Specific value
Main component		-	ZrO ₂ , MgO
Purity		wt.-%	> 99.9
Density		g / cm ³	≥ 5.75
Open porosity		vol.-%	0
Average size of crystallites		µm	25
Bending strength σ_m	SOP K1F-5A-417	MPa	900
Weibulls modulus		-	> 20
Toughness K_{Ic}	SEVNB	MPa * m ^{0.5}	8.7
Compressive strength		MPa	2000
Young's modulus	static	GPa	215
Poisson's ratio		-	0.32
Hardness	HV1	-	1200
Maximum service temperature in air		°C	500
Coefficient of thermal expansion	20 - 100 °C	10 ⁻⁶ / K	9.3
	20 - 500 °C	10 ⁻⁶ / K	10.3
Specific heat	20 °C	J / (kg * K)	490
Thermal conductivity	20 °C	W / (m * K)	3.75
	250 °C	W / (m * K)	3.48
Resistivity	20 °C	Ω * cm	10 ¹⁰
Typical colour		-	white

The data indicated on this table are in line with the introductory German Industrial Standard DIN 60672-2 and relate to test specimens from which they are obtained. They are not unconditionally applicable to other forms of the same material. The data must be regarded as indicative only. All data refer to a temperature of 20 °C, unless otherwise specified.