FZT

2023.04.03

Material Type: ZTA (zirconia toughened alumina) (Al_2O_3, ZrO_2)

MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Purity		[wt.-%]	>99.5
Density		[g/cm³]	≥4.10
Open porosity		[vol.-%]	0
Average size of crystallites		[µm]	5
Bending strength σ_m DIN EN 843-1		[MPa]	460
Weibull modulus		[-]	>15
Toughness K_{Ic} SEVNB		[MPa*m$^{0.5}$]	3.3
Compressive strength		[MPa]	3000
Young's modulus (static)		[GPa]	360
Poisson's ratio		[-]	0.24
Hardness HV1		[-]	1880
Maximum service temperature in air		[°C]	1700
Linear coefficient of expansion	**-100 - 20 °C** **20 - 500 °C** **20 - 1000°C**	[10^{-6}/K]	4.9 7.5 8.3
Specific heat 20 °C		[J/(kg*K)]	850
Thermal conductivity	**100 °C**	[W/(m*K)]	25
Typical colour		[-]	white

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

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