

## DEGUSSIT AL23

2023.04.03

Material Type: Aluminium oxide ( $\alpha$ -Al<sub>2</sub>O<sub>3</sub>)

### MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Purity		[wt.-%]	>99.5
Density		[g/cm <sup>3</sup> ]	3.70-3.95 <sup>1)</sup>
Open porosity		[vol.-%]	0
Average size of crystallites		[ $\mu$ m]	10
Bending strength $\sigma_m$ DIN EN 843-1		[MPa]	300-350 <sup>1)</sup>
Compressive strength		[MPa]	2500
Young's modulus (static)		[GPa]	380
Poisson's ratio		[-]	0.22
Hardness HV1		[-]	1740
Maximum service temperature in air		[°C]	1950
Linear coefficient of expansion	20 - 1000°C	[10 <sup>-6</sup> /K]	8.2
Specific heat 20 °C		[J/(kg*K)]	900
Thermal conductivity	20 °C	[W/(m*K)]	34.9
	1000 °C		6.8
	1500 °C		5.3
Dielectric strength		[kV/mm]	20-30 <sup>1)</sup>
Typical colour		[-]	ivory

<sup>1)</sup> Dependent on manufacturing method

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.