

## DEGUSSIT AL23 - III

2021.06.29

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

Powder presses

### MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Purity		[wt.-%]	>99.5
Density		[g/cm <sup>3</sup> ]	≥3.90
Open porosity		[vol.-%]	0
Average size of crystallites		[μm]	10
Bending strength $\sigma_m$ DIN EN 843-1		[MPa]	350
Compressive strength		[MPa]	3500
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
Resistivity	20 °C	[Ω*cm]	10 <sup>14</sup>
	1000 °C	[Ω*cm]	10 <sup>7</sup>
Dielectric strength		[kV/mm]	>30
Typical colour		[-]	ivory

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.