

## MATERIAL DATA SHEET

Material type: Aluminium Oxide (Al<sub>2</sub>O<sub>3</sub>)

### DEGUSSIT DD57

Properties		Unit	Specific value
Main component		-	Al <sub>2</sub> O <sub>3</sub> , Cr <sub>2</sub> O <sub>3</sub>
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	300
Compressive strength		MPa	3000
Young's modulus	static	GPa	380
Poisson's ratio		-	0.22
Hardness	HV1	-	1660
Maximum service temperature in air		°C	1950
Coefficient of thermal expansion	20 - 100 °C	10 <sup>-6</sup> / K	7.5
	21 - 1000 °C	10 <sup>-6</sup> / K	8.5
Specific heat	20 °C	J / (kg * K)	900
Thermal conductivity	20 °C	W / (m * K)	34.9
Typical colour		-	red

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.