

Material type: hot pressed Si<sub>3</sub>N<sub>4</sub>

**FRIALIT HP 80**

Properties		Unit	Specific value
Main Components		-	Si <sub>3</sub> N <sub>4</sub> , Al <sub>2</sub> O <sub>3</sub> , RE <sub>2</sub> O <sub>3</sub>
Density		g / cm <sup>3</sup>	3.18 - 3.22
Residual Porosity		vol.-%	<0.5
thereof Open Porosity		vol.-%	0
Bending Strength $\sigma_m$	DIN EN 843-1	MPa	850
Weibulls Modulus		-	15
Compressive Strength		MPa	3000
Young's Modulus	static	GPa	320
Poisson's Ratio		-	0.26
Hardness	HV1	-	1630
Maximum Service Temperature in Air	inert atmosphere	°C	1500
	air	°C	1300
Linear Coefficient of Expansion	20 - 1000 °C	10 <sup>-6</sup> / K	3.2
Specific Heat	20 °C	J / (kg * K)	720
Thermal Conductivity	20 °C	W / (m * K)	30
Resistivity	20 °C	$\Omega$ * cm	1 * 10 <sup>14</sup>
Typical Colour		-	grey

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 were 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.