



## Alumina

<b>PROPERTIES</b>		<b>MASS UNIT</b>	<b>AL99-G</b>
<b>CERAMIC TYPE</b>	Colour Type according to DIN VDE 0335		white - yellow
<b>CHEMICAL</b>	Al <sub>2</sub> O <sub>3</sub>	Weight %	99.7
<b>PHYSIKALISCH</b>	Melting point	°C	2050
	open pores	Vol.%	0
	Technical density	g/cm <sup>3</sup>	3.90
	Theoretical density	g/cm <sup>3</sup>	3.98
	Crystal size	µm	ca. 5
<b>THERMAL</b>	Expansion coefficient linear (20 - 1.000°C)	10 <sup>-6</sup> • °C <sup>-1</sup>	8
	Max. Working temperature	°C	1800
	Thermal conductivity at 100°C	W • m <sup>-1</sup> • °C <sup>-1</sup>	3,5
	<b><u>Thermal Shock Resistance</u></b> <b><u>Is not suitable for inductive heating</u></b> <b><u>medium</u></b>		<b><u>medium</u></b>
<b>MECHANICAL</b>	Hardness (Mohs)		9
	Hardness (Vickers)	kg/mm <sup>2</sup>	1900
	Flexural Strength (3 point support at 20°C)	MPa	400
	Modulus of elasticity	GPa	390
	K1C Hardness at 20°C MPa - m <sup>1/2</sup>	MPa • m <sup>1/2</sup>	3.5
	Wear resistance according to ASTM C704-76a cm <sup>3</sup>	cm <sup>3</sup>	0.03
<b>ELECTRICAL</b>	Electrical resistance		
	at 20°C	Ohm • cm	10 <sup>14</sup>
	at 500°C	Ohm • cm	10 <sup>10</sup>
	at 1.000°C	Ohm • cm	10 <sup>7</sup>
at 1.500°C	Ohm • cm	10 <sup>4</sup>	

All data given are to be regarded as guidelines.