



**heizmann ceramic**  
**parts**

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Kurt Heizmann, Büsserachstrasse 28 CH-4228 Erschwil  
info@keramikteile.ch

## Electro Ceramics

(unglazed)

Material		Al Silicate	Mg Silicate	Al Silicate	Mg Silicate	Ba Mg Silicate	Zr Mg Silicate
Type according DIN EN 60 672		-	520	530	220	221	-
Designation		<b>STUMATIT</b>	<i>Thermokelit</i>	<i>Allit F</i>	<i>Kelisit</i>	<i>Frequesit Z</i>	<i>Kelisit Z</i>
Density	g/cm <sup>3</sup>	2.5	2.0	2.3	2.6	2.7	3.1
Water absorption	%	0-0.5	3-8	10-15	0	0	0
Tensile strength	MPa	32	-	-	50	50	60
Compressive strength	MPa	800	250	300	850	900	700
Flexural strength	MPa	80	60	70	130	140	130
Hardness Mohs		7-8	6	6	7	7	7
Young's modulus	GPa	-	-	-	80	110	90
Thermal expansion (20-1000°C)	10 <sup>-6</sup> /K	4-10	2-3	5-7	7-9	7-9	5.2-5.8
Thermal conductivity	W/mK	2.1-2.2	1	1	1.7	1.7	1.5
Thermal shock resistance	°C	130	250	240	<80	100-150	150-200
Max. operating temperature	°C	>1400	1400	1600	1360	1380	1350
Dielectric strength (50 Hz)	kV/mm	12-17	-	-	20	20	20
Dielectric constant (1 MHz)	-	-	-	-	7	7	8
Dielectric loss factor	tan _						
	20°C	-	-	-	0.003	0.001	0.004
	60°C	-	-	-	0.015	0.001	0.045
	100°C	-	-	-	0.065	0.002	0.110
Resistivity	_ cm						
	20°C	10 <sup>12</sup>	-	-	5.10 <sup>11</sup>	10 <sup>12</sup>	10 <sup>12</sup>
	400°C	10 <sup>8</sup>	10 <sup>7</sup>	10 <sup>7</sup>	10 <sup>7</sup>	10 <sup>9</sup>	10 <sup>9</sup>
	1000°C	-	10 <sup>4</sup>	10 <sup>4</sup>	-	10 <sup>5</sup>	10 <sup>5</sup>

All information and data correspond to the present state of our knowledge concerning properties and applications. They do not guarantee certain properties for products designed for specific applications utilizing material(s) described herein. We guarantee, however, first rate quality as lined out in our terms of delivery