

CERAMICS Technical Data

Material		ALUMINA			STEATITE	FORSTERITE	ZIRCONIA	CORDIERITE	MAGNESIA	SILICON CARBIDE	SILICON NITRIDE	
Main component		Al ₂ O ₃ 92%	Al ₂ O ₃ 96%	Al ₂ O ₃ 99.5%	MgO · SiO ₂	2MgO · SiO ₂	ZrO ₂	2MgO · 2Al ₂ O ₃ · 5SiO ₂	MgO	SiC	Si ₃ N ₄	
Bulk Density	g/cm ³	3.6	3.8	3.9	2.6	3.0	6.0	2.4	3.3	3.1	3.2	
Water Absorption	%	0	0	0	0	0	0	0	0	0	0	
Flexural Strength	MPa	300	390	390	160	200	980	140	180	490	880	
Vickers Hardness	—	1100	1350	1600	400	700	1200	550	400	2100	1400	
Thermal Conductivity	W/m · K	18	25	32	3	4	3	—	44	158	24	
Coefficient of Linear Thermal Expansion	40 ~ 500°C	×10 ⁻⁶ /°C	7.2	7.3	7.3	7.8	10.0	10.0	2.8	14.4	—	—
	40 ~ 800°C		7.8	8.0	8.0	8.2	10.7	10.5	3.0	14.5	—	—
Volume Resistivity	Ω · cm	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴	>10 ¹²	—	—	—	—	
Dielectric Strength	kV/mm	>10	>10	>10	>10	>10	>10	>10	>20	—	—	
Electric Constant	1MHz	—	9	9	10	5.2	6.5	—	—	—	—	
Main Characteristics		Good for Metallizing	Wear Resistant High Heat Resistance	Hard and Chemically Stable	Thermal Insulator	Good for Glass sealable	High Mechanical Strength, High Fracture Toughness	High Heat Shock	High Thermal Conductivity	High Temperature Strength	High Temperature Strength	

※The values are typical material properties and may vary according to products configuration and manufacturing process.