

SPECIFICATIONS

- ▶ Chemical formula: $2\text{MgO} \cdot 2\text{Al}_2\text{O}_3 \cdot 5\text{SiO}_2$
- ▶ Chemical name: Cordierite
- ▶ Appearance: Dense sintered cordierite
- ▶ Main characteristics: Very low thermal expansion, light weight
- ▶ Main applications: Lithography stage component, wafer inspection stage component, SEM/TEM
- ▶ Colour: Grey

MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Density	[g/cm ³]	JIS R 1634	2.5
Water absorption	[%]	JIS C 2141	0
Vickers hardness HV9.807N	[GPa]	JIS R 1610	8
Flexural strength 3 P.B.	[MPa]	JIS R 1601	190
Compressive strength	[MPa]	JIS R 1608	-
Young's modulus of elasticity	[GPa]	JIS R 1602	140
Poisson's ratio	[-]	JIS R 1602	0.31
Fracture toughness (SEPB)	[MPa*m ^{0.5}]	JIS R 1607	1 ~ 1.5
Coefficient of linear thermal expansion	22 °C	[*10 ⁻⁶ /K]	<0.02
	23 °C		<0.05
	40 - 400 °C		1.5
	40 - 800 °C		2.1
Thermal conductivity	[W/(m*K)]	JIS R 1611	4
Specific heat capacity	[J/(g*K)]	JIS R 1611	0.71
Thermal shock temperature difference	[°C]	JIS R 1648	-
Dielectric strength	[kV/mm]	JIS C 2141	19.1
Volume resistivity	20 °C	[Ω*cm]	>10 ¹⁴
	300 °C		10 ¹²
	500 °C		10 ¹⁰
Dielectric constant	-	JIS C 2141	4.9
Dielectric loss angle	[*10 ⁻⁴]	JIS C 2141	9
Loss factor	[*10 ⁻⁴]	JIS C 2141	-

The values are typical material properties and may vary according to products configuration and manufacturing process. For more details, please feel free to contact us.