

**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.)**

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