



AO459K ($\geq 89\%$)

2023.04.03

SPECIFICATIONS

- ▶ Chemical formula: Al_2O_3
- ▶ Chemical name: Aluminium oxide
- ▶ Appearance: Dense sintered aluminum oxide
- ▶ Main characteristics: High mechanical strength, high temperature resistance, high frequency insulation, high chemical resistance, good for metallizing
- ▶ Main applications: Magnetron
- ▶ Colour: Russet

MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Density		[g/cm ³]	JIS R 1634	3.6
Water absorption		[%]	JIS C 2141	0
Vickers hardness HV9.807N		[GPa]	JIS R 1610	12.1
Flexural strength 3 P.B.		[MPa]	JIS R 1601	310
Compressive strength		[MPa]	JIS R 1608	-
Young's modulus of elasticity		[GPa]	JIS R 1602	280
Poisson's ratio		[-]	JIS R 1602	0.23
Fracture toughness (SEPB)		[MPa*m ^{0.5}]	JIS R 1607	-
Coefficient of linear thermal expansion	40 - 400 °C	[*10 ⁻⁶ /K]	JIS R 1618	7.0
	40 - 800 °C			7.9
Thermal conductivity		[W/(m*K)]	JIS R 1611	14
Specific heat capacity		[J/(g*K)]	JIS R 1611	0.75
Thermal shock temperature difference		[°C]	JIS R 1648	-
Dielectric strength		[kV/mm]	JIS C 2141	15
Volume resistivity	20 °C	[Ω*cm]	JIS C 2141	>10 ¹⁴
	300 °C			10 ¹⁰
	500 °C			10 ⁸
Dielectric constant		-	JIS C 2141	8.8
Dielectric loss angle		[*10 ⁻⁴]	JIS C 2141	6
Loss factor		[*10 ⁻⁴]	JIS C 2141	52

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.

KYOCERA Fin ceramics Europe GmbH

E-Mail: info@kyocera-fin ceramics.de · www.kyocera-fin ceramics.de