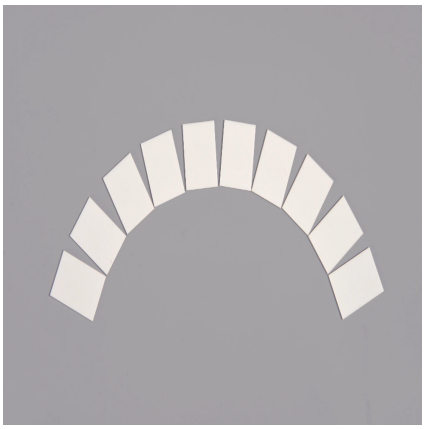

Bare alumina ceramic substrate plates

Alumina Substrates for Thin-Film Integrated Circuits

Product ID / SKU: FWM/CS-ALU-005

Material: Alumina

Product type: Ceramic Substrate

Surface-controlled alumina substrates for thin-film integrated circuits and precision electronic packaging.

96% Alumina Substrate (708 S) Properties

Property	96% Al_2O_3 - 708 S	Test conditions / measurement tolerance ±10%
Density (g/cm³)	≥3.75	DIN EN 993-1
Bending strength, σ_0 (MPa)	≥500	-
Young's modulus (GPa)	≥300	-
Thermal conductivity (W/(m·K))	24	Room temperature; DIN EN 821-2
Linear thermal expansion coefficient (10^{-6}/K)	7-9	100-800°C; DIN 51045-1
Specific heat capacity (J/(g·K))	≥0.75	20°C; DIN EN 821-3 method B
Relative permittivity	~9.8	Room temperature, 1 MHz; Ra ≤0.4 μm
Dielectric loss factor	≤0.005	Room temperature; 1 MHz; Ra ≤0.4 μm
Volume resistivity (Ω·cm)	≥10^{14}	Room temperature; IEC 62631-3
Breakdown strength (kV/mm)	AC≥15; DC≥15	20°C; AC / DC
Fracture toughness (MPa·m½)	≥3.0	Indentation-fracture (IF)