

DATA SHEET

Hilox™ 965

Alumina

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Description

Specifications

Quality Assurance to ISO 9002

Prime Features

Physical Properties

Colour	White
Density (fired), g/cm ³	3.79
Porosity (apparent), % nominal	0 (fully dense)
Rockwell hardness (R45N)	80
Fracture Toughness, MPa.m ^{1/2}	3.55
Flexural Strength (3-point), MPa @ 20 °C	343
Grain Size, µm	6.4
Young's Modulus E, GPa @ 20 °C	320
Shear Modulus G, GPa @ 20 °C	129
Poisson's Ratio ν	0.25

Typical Applications

Thermal Properties

Thermal Conductivity, W/m.K @ 20C	20.7
Thermal Expansion Coefficient 10 ⁻⁶ @ 20-1000 °C	9.87
Thermal Shock Resistance (R ₁) ΔT/C	77
Thermal Shock Resistance (R ₂) W/m	1390
Specific Heat J/kg.K	890

MTC Production Capabilities

Electrical Properties

Permittivity, 25°C 1Khz	9.68
25°C 10Khz	9.58
25°C 100Khz	9.54
25°C 1MHz	9.47
Dielectric Loss @ 1MHz, tan δ 10 ⁻⁴	15
@ 10 GHz, tan δ 10 ⁻⁴	4.6
Dielectric Strength, kV/mm	28
Volume Resistivity, ohm.cm @ 20°C	>10 ¹¹
300°C	>10 ⁸
600°C	>10 ⁶

Please note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in anyway whatsoever and should only be treated as indicative and for guidance only. 12.12.2012

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