INTERNATIONAL Syalons

ADVANCED ALUMINA CERAMICS

Aloxalon 96

Alumina (or aluminium oxide, Al_2O_3) is the most widely used advanced ceramic in the world. It combines good hardness and corrosion resistance with reasonable strength and can be used in applications up to 1700°C.

Alumina is available in a range of purities. The high purity ceramics offered by **International Syalons** are especially suitable for wear and corrosion resistant applications. In addition they offer excellent electrical properties and possess good thermal stability.

Aloxalon 96 is a high purity advanced ceramic with an alumina content of 96%. It is fully dense with excellent wear and corrosion resistance.

The table below lists typical mechanical, thermal and electrical property data for **Aloxalon 96**.

Property	Value	Units
Alumina Content	96	%
Density	3.75	g/cc
Porosity	0	%
3 point Modulus of Rupture 20°C (Specimen 3 x 3 x 50, span 19.05mm)	300	MPa
3 point Modulus of Rupture 1000°C	200	MPa
Weibull Modulus	10	–
Compressive Strength	2000	MPa
Young's Modulus of Elasticity	330	GPa
Poisson's Ratio	0.22	–
Hardness (HR45N)	83	–
Hardness (Vickers Hv_{50})	15.71 (1600)	GPa (Kg/mm^2)
Fracture Toughness K^1C	3.5	$MPam^{½}$
Thermal Expansion Coefficient (0-1200°C)	7.0×10^{-6}	K^{-1}
Thermal Conductivity	20.0	W/(mK)
Thermal Shock Resistance	200	ΔT°C quenched in water
Maximum Use Temperature	1600	°C
Electrical Resistivity	10^{15}	Ohm cm

Typical physical property data obtained under test conditions. All properties have been measured by independent testing authorities. The values given only apply to the test bodies on which they were determined, and therefore can only be recommended values.

Technical Support

The successful integration of ceramics into industrial and engineering systems requires close collaboration between you, the end-user, and us, the material suppliers. Our Technical Specialists are available to discuss your requirements in detail and assist in exploiting the significant advantages which **Aloxalon 96** has to offer.

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