

## Aloxalon 995

**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 995** is a high purity advanced ceramic with an alumina content of 99.5%. It is fully dense, has excellent corrosion resistance and has excellent thermal stability up to 1700°C.

The table below lists typical mechanical, thermal and electrical property data for **Aloxalon 995**.

Property	Value	Units
Alumina Content	99.5	%
Density	3.89	g/cc
Porosity	0	%
3 point Modulus of Rupture 20°C (Specimen 3 x 3 x 50, span 19.05mm)	330	MPa
3 point Modulus of Rupture 1000°C	250	MPa
Weibull Modulus	15	–
Compressive Strength	2000	MPa
Young's Modulus of Elasticity	370	GPa
Poisson's Ratio	0.22	–
Hardness (HR45N)	82	–
Hardness (Vickers $Hv_{50}$ )	15.71 (1600)	GPa (Kg/mm <sup>2</sup> )
Fracture Toughness $K^1C$	4.0	MPam <sup>1/2</sup>
Thermal Expansion Coefficient (0-1200°C)	$7.8 \times 10^{-6}$	K <sup>-1</sup>
Thermal Conductivity	30.0	W/(mK)
Thermal Shock Resistance	200	$\Delta T^\circ C$ quenched in water
Maximum Use Temperature	1700	°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 995** has to offer.