



## Syalon 201

**Syalon 201** is a specially formulated grade based on the  $\beta$ -SiAlON phase found in Syalon 101 but with a crystalline intergranular phase of yttrium aluminium garnet (YAG). This enables Syalon 201 to exhibit significant retention of strength at high temperatures up to 1350°C.

**Syalon 201** is used in applications such as molten metal handling where the use of Syalon 101 is limited due to its reduction in strength above about 1000°C.



The table below lists typical mechanical, thermal and electrical property data for Syalon 201.

Property	Value	Units
Composition	$\beta$ -Sialon	-
Density	3.24	g/cc
Porosity	0	%
3 point Modulus of Rupture at 20°C (Specimen 3 x 3 x 50, span 19.05mm)	825	MPa
3 point Modulus of Rupture at 1000°C	750	MPa
3 point Modulus of Rupture at 1350°C	600	MPa
Weibull Modulus	10	-
Young's Modulus of Elasticity	290	GPa
Poisson's Ratio	0.19	-
Hardness (HRA)	92.7	-
Hardness (Vickers Hv <sub>50</sub> )	16.18 (1600)	GPa (Kg/mm <sup>2</sup> )
Fracture Toughness K <sup>1</sup> C	4.5	MPam <sup>1/2</sup>
Thermal Expansion Coefficient (0-1200°C)	3.0x10 <sup>-6</sup>	K <sup>-1</sup>
Thermal Conductivity	21.0	W/(mK)
Thermal Shock Resistance	600	$\Delta T^{\circ}\text{C}$ quenched in water
Maximum Use Temperature	1450	°C
Electrical Resistivity	10 <sup>12</sup>	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 **Syalon 201** has to offer.

