

SYALON 110 – THE HEAT RESISTANT

Syalon 110 is a member of the Si-Al O-N family that has been specially developed for high loads under difficult circumstances. *Syalon 110* is ideal for use where extreme temperatures and excellent thermal shock resistance are required. It can be used continuously at 1450° C and can withstand peak loads up to 1600° C.

3 point Room temperature Modulus of Rupture:

(specimen 3 x 3 x 50 mm, span 19.05 mm)

Alumina	350
aSiC	459
Partly toughened Zircona	610
<i>Syalon 110</i>	650

Hardness (Hra)

Alumina	88
Zircona Toughened Alumina	91
<i>Syalon 101</i>	92
<i>Syalon 110</i>	88



Mechanical Properties

	Units	Value
3 point Room Temperature Modulus of Rupture Specimen 3x3x50 mm, span 19.05mm	MPa	650
Weibull Modulus	-	10
Room Temperature Unit Tensile Strength	MPa	300
Room Temperature Hardness – (HRA)	-	88
Density	g/cm ³	2.65
Open Porosity	%	0

Thermal Properties

	Units	Value
Maximum Temperature (peak load)	°C	1.600
Maximum Temperature (long term)	°C	1.450
Thermal Conductivity λ (20° C)	Wm ⁻¹ K ⁻¹	27
Thermal Expansion Coefficient (0-1200°C)	K ⁻¹	3.04x10 ⁻⁶
Thermal Shock Resistance (quenched in cold water)	ΔT °C	800

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