ALSYNITE

ULTRA - Cool Physical Properties

GENERAL OVERVIEW

The following tables reflect the general physical, mechanical and solar optical properties of ALSYNITE ULTRA-Cool.

PHYSICAL PROPERTIES

Properties	Value	Test Method
Specific Gravity (gm/cc)	1.41	ASTM-D792-86A
Thermal Expansion (10^{-5} cm/cm/ ^{o}C)	2.2	ASTM-D696-81
Water Absorption (%)	0.52 to 0.60	ASTM-D570-81
Thermal Conductivity (W/m°K)	0.158	ASTM-C177-81
Heat Distortion Temperature (°C)	+180 to 200	ASTM-D648-86
Operating Temperatures (°C)	-40 to +110	-

MECHANICAL PROPERTIES

Properties	Value	Test Methods
Barcol Hardness	Greater than 50	AS/NZS 4256.3
Glass Content (%)	26.3	AS/NZS 4256.3
Tensile Strength (Mpa)	94	ASTM D638-89
Flexural Strength (Mpa)	177	ASTM D790-86
Flexural Modulus (Gpa)	6.7	ASTM D790-86
Mean Impact Strength (J)	8.9	AS/NZS 4256.3
Compressive Strength (MPa)	135	ASTM695-82
Shear Strength (MPa)	90	ASTM732-82
Impact Resistance	PASS	AS/NZS 4256.3

SOLAR OPTICAL PROPERTIES

Properties	Ultra-White
Solar transmittance	0.22
Luminous Transmittance	0.18
Diffused Light Transmission (%)	36
Shading Coefficient	0.33
U-Value (W/m²K)	5.7
Solar Heat Gain (W/m^2)	227
Solar Heat Gain Coefficient	0.29
Transmittance 380-320nm(UV-A)	-
Transmittance 320-280nm (UV-B)	-

- **Results of tests are based on 2400g/m^2 sheet.**