ALSYNITE

ULTRA Physical Properties

GENERAL OVERVIEW

The following tables reflect the general physical, mechanical and solar optical properties of Alsynite Ultra.

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^{o}K)	0.158	ASTM-C177-81
Heat Distortion Temperature (^{o}C)	+180 to 200	ASTM-D648-86
Operating Temperatures (^{o}C)	-40 to +110	-

MECHANICAL PROPERTIES

Properties	Value	Test Method
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	Clear	Opal
Solar transmittance	0.68	0.58
Luminous Transmittance	0.67	0.53
Diffused Light Transmission (%)	74	58
Shading Coefficient	0.82	0.71
U-Value (W/m^{2}K)	5.7	5.7
Solar Heat Gain (W/m^{2})	560	486
Solar Heat Gain Coefficient	0.72	0.62
Transmittance 380-320nm (UV - A)	0.04	-
Transmittance 320-280nm (UV - B)	0.006	-

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