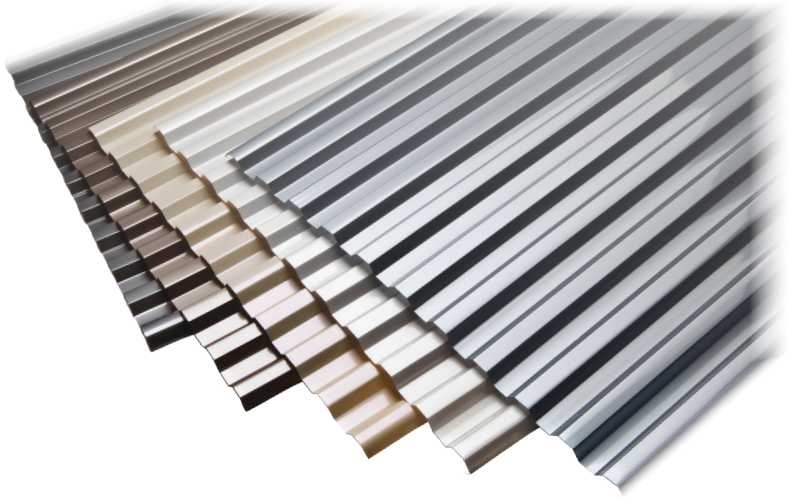
Laserlite® 2000
Product Data Sheet

Performance & reliability



Technical details to help with your project design

Colour

clear | opal | cream | bronze tint | grey tint

Profile

Corrugated | Greca | 5-rib

Lengths available

1.8m, 2.4m, 3.0m, 3.6m, 4.2m 4.8m, 5.4m, 6.0m, 7.2m, 9.0m

Sheet width
Corrugated 840mm Greca 810mm 5 - rib 830mm

Cover width
Corrugated 755mm Greca 760mm 5 - rib 762mm

Compliances	
Design and Installation [1]	AS 1562.3:2006
Impact Resistance	AS/NZS 4257.6:1994
99.9% UV Resistant	ISO 9050:2003
Resistance to Wind Pressures for Non Cyclone Regions	AS 4040.2:1992
SAA Loading code Part 2 – Wind Loads	AS 1170.2:2002
Cyclone Testing	TR440
Heat & Smoke Release Rates	AS/NZS 3837:1998
Early Fire Hazard Test	AS 1530.3:1999
Plastic Roof and Wall Cladding Material – Polycarbonate[3]	AS 4256.5:2006
Diffuse Light Transmission	AS/NZS 4257.4:1994
Colourfastness & Impact Resistance following UV exposure	AS/NZS 4257.7:1994
Outdoor Durability	AS 1745.1:1989
Dimensional Properties	AS/NZS 4257.1:1994

1. Installation must comply to the local building code. Local council approval may be required. Laserlite® standard installation instructions apply as indicated in installation brochure.

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UV Protection

Laserlite® 2000 Polycarbonate Roofing prevents the transmission of more than 99.9% of harmful UV radiation, measured to standard ISO 9050:2003. Its co-extruded UV barrier protects the sheet from UV degradation and discolouration. It remains stable under extreme climatic conditions (-30C° to +120°C).

Wind Load

Laserlite® 2000 Polycarbonate Roofing is suitable for use in high wind load areas. Corrugated, Greca and 5-Rib profiles meet the requirements of AS 1170.2.2002 SAA Loading code Part 2 - Wind Loads. Corrugated and Greca profiles also meet the requirements of TR440 (Guidelines for the testing and evaluation of products for cyclone prone areas) for fatigue loading, for the permissible stress design pressure of 3.0kPa, for a multiple span of 600mm end span and 900mm internal spans using 14 gauge hex head screws with cyclone assemblies. Deemed to comply to the Darwin Cyclone Area certification numbers M/133/1 and M/133/2 apply. Please visit our website for further details and specific installation instructions.

Fire Performance

Laserlite® 2000 Polycarbonate Roofing is self extinguishing, stops the spread of flame and also has excellent fire resistant properties. Therefore, this product complies with many fire related tests, includingHeat and Smoke Release Rates (AS/NZS 3837:1998) and Early Fire Hazard Test (AS 1530.3-1999).

Advanced Weatherguard ™ Technology Laserlite® 2000 features Advanced Weatherguard ™ technology, a special protective material that is designed to significantly extend the life and performance of the sheet as follows:

- Protects the sheet from harmful UV rays up to 50% longer+
- Maintains sheet colour and clarity up to 50% longer +
- Resists 25% larger hail stones up to 40% longer+

+ As compared to other polycarbonate corrugated sheet products.

Lifetime Warranty against loss of light transmission, that, for the commercial life of the Products (subject to the terms below) they will not lose the ability to transmit light* *The loss of light transmission will not exceed 11% in the first 15 years (0.7% per year) from the date of manufacture and 1% per year thereafter as long as the sheet lasts in its original installation for the life of the product to the original purchaser. (when tested in accordance with AS/NZS 4257.4-1994 Determination of diffuse light transmission).

10 year Warranty against Weather Breakage

Laserlite® 2000 corrugated sheet will resist damage from hail measuring up to 25mm for a period of 10 years limited to the original purchaser.

*Refer to full warranty terms & conditions at laserlite.com.au.

	Technical data	Value
	Thermal Expansion	2.1mm per 3m per 10°C
	Thermal Conductivity	0.17 W/m°C
	Vicat softening point	135°C (AS 1462)
	Tensile Strength	65 Mpa (AS 1145-1989)
	Impact Strength	Exceeds 12 joules (AS4257.6-1994) Approx 250 times more than glass
	Corrugation retention	No change for up to 2 hours at 100°C

1Thermal Expansion – calculate from ambient temperature at time of installation.
2Impact resistance can decline with age

		Test conditions	Units	Standards	Makrolon resin value
	Rheological properties				
C	Melt Volume – Flow rate	300°C; 1.2kg	cm^3/(10min)	ISO 1133	6
	Melt Mass – Flow rate	300°C; 1.2kg	g/(10min)	ISO 1133	6.5
	Moulding shrinkage Parallel/normal		%	b.o ISO 2577	0.6-0.8
	Mechanical properties				
C	Tensile modulus	1mm/min	MPa	ISO527	2350
C	Yield Stress	50mm/min	MPa	ISO527	65
C	Yield Strain	50mm/min	%	ISO527-1;2	6.3
C	Nominal tensile strain at break	50mm/min	%	ISO527	>50
C	Stress at break	50mm/min	MPa	ISO527-1;2	70
C	Strain at break	50mm/min	%	b.o ISO527-1;2	120
C	Tensile Creep modulus	1 hr	MPa	ISO 899-1	2200
C	Tensile Creep modulus	1000h	MPa	ISO 899-1	1900
C	CHARPY impact strength	23°C	KJ/M^2	ISO 179-1eU	NB
C	CHARPY impact strength	-30°C	KJ/M^2	ISO 179-1eU	NB
C	IZOD Notched impact strength	23°C; 3mm	KJ/M^2	b.o ISO 180-4A	95
C	IZOD Notched impact strength	-30°C; 3mm	KJ/M^2	b.o ISO 180-4A	16C(P)
	Thermal properties				
C	Glass transition temperature	10°C/min	°C	ISO 11357-1,-2	148
C	Temperature of deflection under load	1.80 MPa 0.45 MPa	°C	ISO 75-1;2	128 140
C	Vicat Softening temperature	50 N; 50°C/h	°C	ISO 306	148
C	Co-efficient of linear thermal expansion	23 to 55°C	10-4/K	ISO 11359-1;-2	0.65
C	Burning Behaviour UL 94 (UL Recognition)	1.5mm 0.75mm 10mm	Class	UL94	HB V-2 V-O(CL)
C	Oxygen index	Procedure A	%	ISO 4589-2	27
	Glow wire test (GWFI)	1.5mm 2.0mm 3.0mm	°C	IEC 695-2-12	850 850 930
	Electrical properties				
C	Relative permittivity	100 Hz		IEC 250	3.1
C	Relative permittivity	1 MHz		IEC 250	3.0
C	Dissipation factor	100 Hz	10^{-4}	IEC 60250	5
C	Dissipation factor	1 MHz	10^{-4}	IEC 60250	95
C	Volume resistivity		0hm. m	IEC 60093	1E14
C	Surface resistivity		0hm	IEC 60093	1E16
C	Electrical strength	1mm	kV/mm	IEC 60243-1	34
C	Comparative tracking index (CTI)	Solution A	Rating	IEC 112	250
	Other properties				
C	Water absorption (saturation value)	Water at 23°C	%	ISO 62	0.30
C	Water absorption (equilibrium value)	23°C / 50% r.h	%	ISO 62	0.12
C	Density		Kg/M^3	ISO 1183-1	1200
C	Glass fibre content		%	ISO 3451-1	-
	Material Specific properties				
C	Viscosity number		cm3/g	ISO 1628-1	64
	Refraction index	Procedure A	-	ISO 489	1.587

Physical properties

	Corrugated	Greca	5-rib
Nominal Overall Width (mm)	840	810	830
Nominal Cover width (mm)	755	760	762
Nominal thickness (mm)	0.8	0.8	0.8
Nominal pitch (mm)	75.5	76.0	190.5
Nominal depth of corrugation (mm)	17.5	17.5	29.0
Kg per Lineal metre	0.92	0.93	0.92
Kg per m2	1.10	1.13	1.11

Product performance data

	Diffuse light transmission (AS 4257.4)	Shading Co-efficient Ratio*	Solar heat gain Co-efficient (SHGC)	U Value	UV Transmittance
Clear	93%	1.00	0.86	7.2	<0.04
Grey	19%	0.53	0.45	7.2	<0.04
Bronze	38%	0.67	0.57	7.2	<0.04
Opal	49%	0.48	0.41	7.2	0.04
Cream	43%	0.38	0.33	7.2	<0.04

C= These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO10350 (Plastics acquisition and presentation of comparable single=Point data, 1993) NB= Non Break
* based on the warming effect of the sun's rays through a sheet vs 3mm float glass (300-2500nm)

For further technical assistance please refer to your local Laserlite® distributor.
Contact details - laserlite.com.au.

LASERLITE BUILDING PRODUCTS