LASERLITE AUSTRALIA

A Bayer Company

Laserlite Polycarbonate Roofing.

To many people across Australia, the word Laserlite actually means polycarbonate roofing.

It's a reputation forged by being the best.

When people think about translucent roofing materials they think of Laserlite first.

And the reasons are very simple.

AUSTRALIAN STANDARD	The only polycarbonate roofing product certified under the stringent Australian Standard Guidelines, earning it the coveted Australian Standards Mark emblem.
MADE IN AUSTRALIA	The only polycarbonate roofing product made right here in Australia for our unique Australian conditions.
99.9% UV PROTECTION	A co-extruded UV barrier protects you from harmful UV radiation and the product from UV degradation and yellowing.
BAYER MAKROLON RESIN	Made from high quality Bayer Makrolon® polycarbonate resin designed for high impact resistance and excellent transparency.
FIRE PERFORMANCE	Suitable for use in bushfire prone areas, backed by CSIRO appraisal. Also designed for fire resistance and to self extinguish.
BOUNDARY CONDITIONS	Suitable for use when boundary conditions apply, backed by CSIRO appraisal.
WIND LOAD	Suitable for use in high wind areas.
LIFETIME GOLD WARRANTY	Backed by a lifetime warranty.
IMPACT RESISTANCE	Impact strength 250 times higher than glass.

Laserlite® 2000. Australia's first choice.

Laserlite 2000 is the most popular polycarbonate roofing in the country.
It's Australia's first choice.

	Clear	Opal	Classic Cream	Stone	Bronze Tint	Grey Tint	Gumleaf*	Ocean Blue*
Colours								
Shading Co-efficient Ratio	1.01	0.53	0.30	0.36	0.68	0.55	0.43	0.50
Light Transmission	93%	56%	33%	29%	35%	19%	19%	18%
Transparent	✓				✓	✓		
Translucent		✓	✓	✓			✓	✓
Profiles	Roma			Greca			Trimdek	
Benefits	• High impact resistance • Durable							
Product Certification								

*Not available in Trimdek

Laserlite 2000 is light weight, durable, 99.9% UV protected and has high impact resistance. Offering the most extensive range of transparent and translucent colours, three profiles and backed by a lifetime warranty. Whether it's for a pergola, carport, verandah, gazebo, greenhouse or conservatory, Laserlite 2000 is suitable for even the most discerning home owner.

No wonder it's Australia's first choice.

Laserlite Apollo®. Advanced performance, contemporary design.

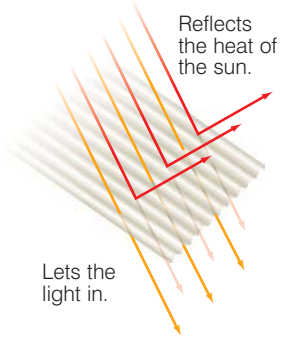
Only Laserlite Apollo combines advanced heat reflecting performance, light transmission and the largest range of contemporary metallic colours to suit any lifestyle.

	Arctic Ice	Platinum	Olive Mica	Gun Metal	Metallic Bronze	Steel
Colours						
Shading Co-efficient Ratio	0.39	0.31	0.31	0.35	0.34	0.32
Light Transmission	44%	17%	15%	13%	15%	15%
Transparent		✓	✓	✓	✓	✓
Translucent	✓					
Profiles (all colours)	Roma		Greca			
Benefits	• Heat reflective metallic particles • High impact resistance • Durable					
Product Certification						

Laserlite Apollo's secret for advanced performance is the millions of heat reflective metallic particles that are encapsulated in each polycarbonate sheet. They provide a lustrous metallic or pearl appearance, as well as extremely efficient heat reflecting properties.

It also provides protection from 99.9% of harmful UV radiation, has around 250 times the impact strength of glass and is backed by a lifetime warranty. Laserlite Apollo is available in a range of contemporary colours to suit any lifestyle.

Laserlite XPT®. Unrivalled heat reflective technology.



Laserlite XPT offers unrivalled heat reflective technology which lets the light in and keeps the heat out, providing comfort and shade to enjoy your outdoor living.

	Satin Cream	Ivory	Satin Sage
Colours			
Shading Co-efficient Ratio	0.33	0.35	0.34
Light Transmission	51%	35%	28%
Translucent	✓	✓	✓
Profiles (all colours)	Roma	Greca	
Benefits	• Heat reflective co-extruded layer • High impact resistance • Durable		
Product Certification			

Laserlite XPT is one of the most technologically advanced polycarbonate roofing products in the world. Its specially co-extruded cap layer cleverly singles out heat carrying infra-red light and reflects it away from the sheet, whilst allowing visible light to pass through. It also protects you from 99.9% of harmful UV radiation.

Laserlite XPT is available in a range of soft and subtle colours and is backed by a lifetime warranty. Offering you comfortable outdoor living and stylish good looks for years to come.

Installation Instructions

Carefully read all installation instructions before you start.

- *For installation in cyclonic regions, contact your nearest Laserlite office for special instructions.*
- *Always exercise extreme care when working on a roof. Use walking boards along purlins. Never walk directly on the sheeting.*
- *Always wear eye protection when using cutting tools.*
- *Laserlite does not recommend the collection of drinking water from any roof without appropriate precautions and filtration. Check with your local water authority for further advice.*

1 Ensure that your roof pitch is at least 5°, i.e. 88mm rise per lineal metre. This will ensure adequate water run off.

2 Allow for ventilation, particularly at the highest point, to minimise heat build-up and provide air circulation. Good ventilation will also minimise condensation in cold weather.

3 For roofing, purlin/batten spacings should be no more than those shown in Table X – Maximum Purlin Spacings. For curved structures, the maximum purlin spacing should be 750mm and a minimum radius of 6000mm for Roma and Greca profile and 14000mm for Trimdek profile. For walls, nogging spacings should be no more than 1200mm. Use Laserlite Noise Stop Tape on all battens, purlins or noggings to minimise the noises associated with expansion and contraction.

4 Ensure the UV surface protected side faces the sun. This is the side of the label and the inkjet marking. When installed as a wall or fence it is recommended that the UV protected side is facing the most sun. The life of the sheet may be shortened and discolouration may occur due to the unprotected side being exposed to UV radiation.

5 The sheet can be easily cut with a pair of shears, a fine-toothed handsaw or a circular saw with a cut-off blade suitable for plastic.

6 In normal conditions, use the fixing spacings shown in Table Y – Fixing Spacings. As a guide, you will need approximately 7 fixings per lineal metre. This depends on your purlin spacings and wind conditions. In high wind areas fix Roma and Greca on every second corrugation on each purlin/batten. It is suggested that barge capping be used. Fix the sheet through the crests for roofing with Laserlite One-Shot Fixings and through the valleys for walls with Laserlite Fixings for Cladding or Laserlite Standard Fixings.

7 For roof laying, start with the lower sheets first, keeping side laps away from prevailing wind. Allow an overhang of 50mm. Temperature changes will cause expansion and contraction, so make allowances for thermal movement. Resistance to movement can cause buckling.

8 To ensure maximum performance of the sheet, and to avoid buckling, it is necessary to oversize the holes and centre the fixings. It is recommended that Laserlite One-Shot Fixings are used. They come complete with their own hole saw that cuts an expansion hole as you drill. The screw is centred every time and the cutter holds the plug of material removed. If using Laserlite Fixings for Cladding or Laserlite Standard Fixings, pre-drill your fixing holes. Use a 10mm drill for sheets up to 4.2m long and a 12mm drill for sheets longer than 4.2m. Fix the sheet through the centre of the pre-drilled holes, perpendicular to the purlins/battens. A (5/16") Drill hex driver bit should be used. Only tighten the fixings enough to prevent rattling. Over-tightening may cause distortion and undue stress with possible failure resulting. Use only Laserlite branded fixings as these are designed to be compatible with Laserlite Polycarbonate Roofing.
Any failure of the sheet due to fixings other than Laserlite branded will void the Laserlite warranty.

9 Side laps will differ by profile. Install as shown in Table Z.

10 End overlaps should be 150mm for steep pitch or 200mm for shallow pitch.

CAUTION – *To maximise the life of your Laserlite roofing, Laserlite recommends to avoid exposing your polycarbonate sheeting to excess heat from patio heaters. Laserlite recommends a distance of 1m is kept between the sheets and the heater, adequate ventilation at all times and temperature to be below 90°C beneath the sheeting. If temperature underneath your sheet rises above 90°C, immediately remove the patio heater from underneath the polycarbonate sheeting.*

Important. Sealants – *These instructions are designed to prevent leaking and alleviate the requirement for sealants. Sealants, especially silicone, are incompatible with polycarbonate. They will damage the sheet, restrict expansion and contraction, and void the warranty. Use the appropriate Laserlite flashings and infill strips to complete your project and help protect your outdoor entertaining areas from the weather, without the need for sealants.*

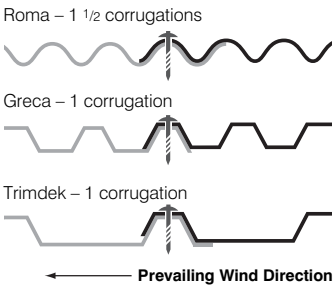
Table X – Maximum Purlin Spacings

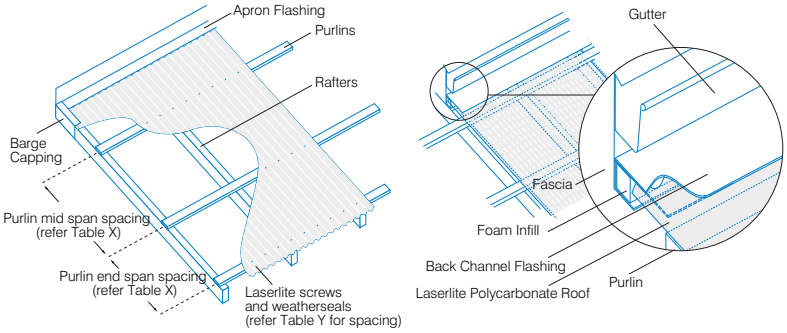
Profile	End Span	Mid Span
Roma	800mm	1000mm
Greca	900mm	1200mm
Trimdek	900mm	1200mm

Table Y – Fixing Spacings

Profile	End Purlins	Mid Purlins
Roma	Every 2nd crest	Every 3rd crest
Greca	Every 2nd crest	Every 3rd crest
Trimdek	Every crest	Every crest

Table Z – Side Laps





Product Performance

Shading Co-efficient Ratio (SC) 2000 Apollo XPT

Warmest — Coolest

Clear	Bronze Tint	Grey Tint	Opal	Ocean Blue	Gumleaf	Arctic Ice	Stone	Gun Metal	Ivory	Satin Sage	Metallic Bronze	Satin Cream	Steel	Olive Mica	Platinum	Classic Cream
1.01	0.68	0.55	0.53	0.50	0.43	0.39	0.36	0.35	0.35	0.34	0.34	0.33	0.32	0.31	0.31	0.30

Shading Co-efficient (SC): A ratio of the warming effect of the sun's rays through a sheet divided by the sun's warming effect through 3mm float glass (300-2500nm). **The lower the figure the cooler it is under the sheet.**

Light Transmission (LT)

More Light — Less Light

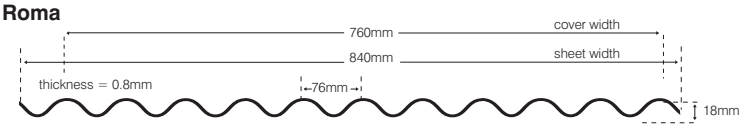
Clear	Opal	Satin Cream	Arctic Ice	Bronze Tint	Ivory	Classic Cream	Stone	Satin Sage	Grey Tint	Gumleaf	Ocean Blue	Platinum	Olive Mica	Metallic Bronze	Steel	Gun Metal
93%	56%	51%	44%	35%	35%	33%	29%	28%	19%	19%	18%	17%	15%	15%	15%	13%

Light Transmission (LT): % of visible light transmission (400-700nm) that passes through the sheet.
The lower the figure the less light passes through the sheet.

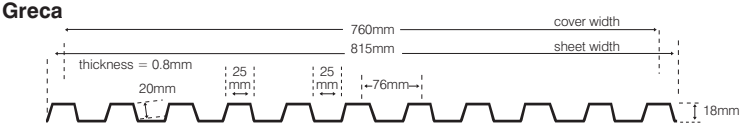
Product Range

Profiles

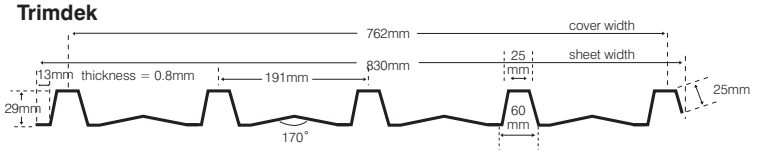
Roma



Greca



Trimdek



Weight	Roma	Greca	Trimdek
Kg per Lineal Metre	0.92	0.93	0.92
Kg per m2	1.10	1.13	1.11

Available Sizes

Standard lengths in metres: 1.8, 2.4, 3.0, 3.6, 4.2, 4.8, 5.4, 6.0, 7.2
Lengths up to 10 metres can be ordered (conditions apply)

Make your installation complete

To make your installation complete there are a number of fixings and accessories required to ensure you achieve the most professional finish.

Laserlite Fixings

Laserlite one-shot pre-drills a 12mm nominal oversized hole to allow for sheet expansion with its unique blade cutter in one step saving you up to 50% installation time. No more pre-drilling required.

Help your Laserlite perform better

Prevent your Laserlite Polycarbonate buckling due to changes in temperature by cutting an oversized hole in one action.

Save 50% Installation time*

Unique blade cuts an oversized hole in the Laserlite Polycarbonate, and its strengthened tip drills through the steel or timber batten all in one action. No more pre-drilling required.

Easy Installation

No more pre-drilling means installation is faster and easier. No extra expense of specialist tools. No extra effort changing tools.

Professional Finish

Automatically centres the oversized holes to allow the sheet to expand and contract in both directions equally, for the most professional finish.

*50% claim based on number of steps.

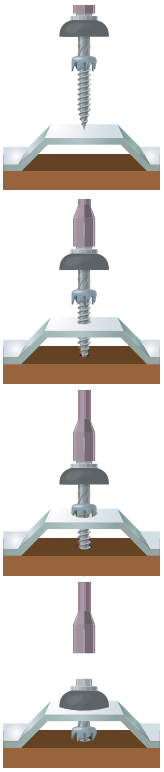
Easy Installation

Stage 1
Firmly place the sharp point of the One Shot® Fixing onto the crest of the corrugation to be fixed, to eliminate "skidding" or "wandering".

Stage 2
Commence drilling at 1000rpm (timber one-shot), 2000rpm (steel one-shot) to pierce the sheet. Screw engages in timber or steel batten.

Stage 3
Cutter engages polycarbonate sheet, cuts the expansion hole and centres the screw.

Stage 4
Wait until the rubber weather seal engages and compresses against the roof sheet and under the fixing head, to stop.



One Shot® is available for both timber and steel battens

TIMBER

- Roma/Greca 50mm, Trimdek 65mm
- 12 gauge, 11 threads per inch
- Suitable for use with treated timber
- Type 17 (shape of tip)

STEEL

- Roma/Greca/Trimdek 60mm
- 12 gauge, 14 threads per inch
- Suitable for use with battens gauges 0.75mm to 4.5mm

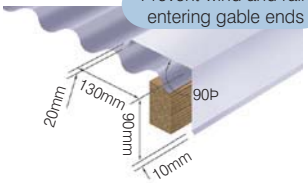
All Laserlite Fixings are mechanically plated to comply with AS 3566 Class 3.

Laserlite Accessories

Flashings

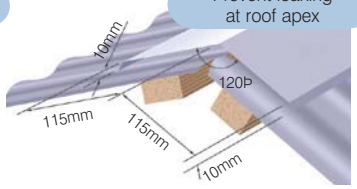
Colours: Clear, Bronze Tint, Grey Tint, Opal and Classic Cream. Length: 3.0m

Prevent wind and rain entering gable ends



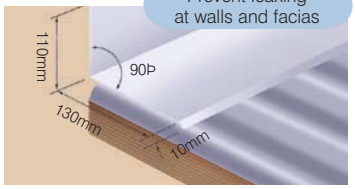
Polycarbonate Barge Capping

Prevent leaking at roof apex



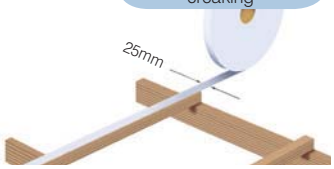
Polycarbonate Ridge Capping

Prevent leaking at walls and facias



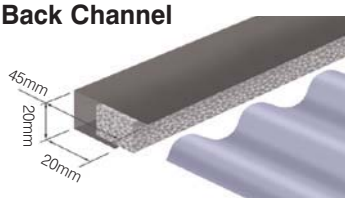
Polycarbonate Apron Flashing

Reduce creaking



Noise Stop Tape - Length: 24.0m

Back Channel

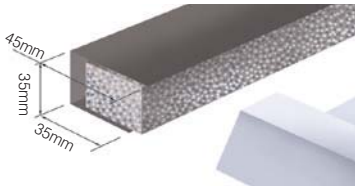


Metal Back Channel*

***Use with Back Channel Infill Strips.**

Colours: White and Grey

Profile: Roma, Greca Length: 3.6m



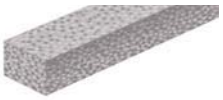
Metal Back Channel*

***Use with Back Channel Infill Strips.**

Colours: White and Grey

Profile: Trimdek Length: 3.6m

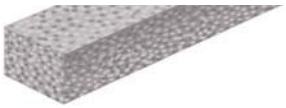
Prevent leaking at walls and facias



Back Channel Infill Strips

Profile: Roma, Greca

Colour: Grey Length: 3.6m

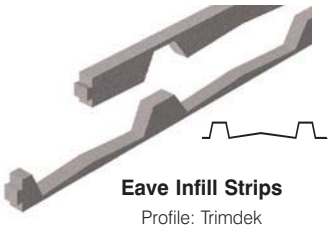


Back Channel Infill Strips

Profile: Trimdek

Colour: Grey Length: 3.6m

Eave Infill Strips



Eave Infill Strips

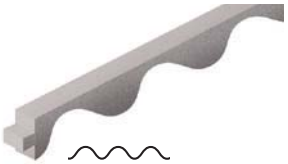
Profile: Trimdek

Colours: Black and White

Length: 750mm

(top and bottom)

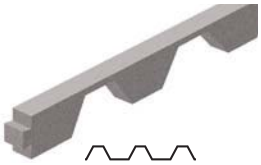
Prevent rain, dust and wind entering eaves



Eave Infill Strips

Profile: Roma. Length: 920mm

Colours: Black and White



Eave Infill Strips

Profile: Greca. Length: 940mm

Colours: Black and White

Technical Data

Thermal Expansion[1]	2.1mm per 3m per 10°C
Thermal Conductivity	0.17W/m°C
Vicat Softening Point	135°C (AS1462)
Tensile Strength	65Mpa (AS1145-1989)
Impact Strength[2]	Exceeds 12 joules (AS4257.6-1994) approx 250 times more than glass
Corrugation Retention	No change for up to 2 hours at 100°C

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

UV Protection

Laserlite 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 (-20° to +120°C).

Wind Load

Laserlite Polycarbonate Roofing is suitable for use in high wind load areas. Roma, Greca and Trimdek profiles meet the requirements of AS 1170.2.2002 SAA Loading code Part 2 - Wind Loads. Roma 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 Polycarbonate roofing is suitable for use in bush fire prone areas, backed by CSIRO appraisal. Laserlite 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, including Heat and Smoke Release Rates (AS/NZS 3837:1998), Radiant Heat Test WFRA (FES025 C Version 2), Heat Radiation (NF P92-501), Test for Meltable Materials (NF P 92-505), Spread of Flame Propagation (NF P 92-504), and Early Fire Hazard Test (AS 1530.3-1999).

Boundary Conditions

Laserlite Polycarbonate roofing is suitable for use where boundary conditions apply, backed by CSIRO appraisal. Conditions apply, contact your nearest Laserlite office for further details.

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
Radiant Heat Test (Bush fire attacks)	WFRA standard: FES025 C Version 2
Multi Layered Materials	NF P 92-507
Heat Radiation	NF P 92-501
Test for Meltable Materials	NF P 92-505
Spread of Flame Propagation	NF P 92-504
Durability Test	NF P 92-512
Sandbag Impact Test[2]	AS 4040.4:2006
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 building code of Australia. Local council approval may be required. Laserlite standard installation instructions apply as indicated in this brochure.
[2]Specific installation instructions apply. Refer to Laserlite website or customer service for further details.
[3]StandardsMark Product Certification Licence number 1811 in relation to AS/NZS 4256.5 ongoing compliance. Independent third party monitoring of compliance is conducted by SAI Global Limited, a JAS-ANZ accredited certification body.

Laserlite Polycarbonate Roofing complies with Australian Standard 1562.3 – 1996 (sandbag impact test) for class 1 & class 10 buildings. This eliminates the requirement for safety mesh under roofs over 3 metres above ground level. Installation instructions to comply with this standard can be obtained from the Laserlite website or Laserlite head office. Local council approval may be required.

Handling, Storage and Cleaning

- Store sheets on a flat surface in a well protected and shaded area, out of direct sunlight. Stacked sheets stored in the sun will cause heat build-up and possibly distortion, even if covered. If damage occurs in this situation, warranty is void.
- Prevent moisture getting between stored sheets as this may cause whitening.
- Clean sheets regularly with warm soapy water (mild detergent) and a soft sponge. Take care not to scratch the sheet. Hose down thoroughly.

Chemical Properties

Laserlite Polycarbonate Roofing is affected by methylated spirits, benzene, petrol, ketones, acetone, phenols, chlorinated and aromatic hydrocarbons, petroleum-based paints, abrasive cleaners and solvents.

Laserlite Warranty

Loss of Light Transmission – Lifetime Warranty

Laserlite warrants that for the commercial life of the Products (subject to the terms below) they will not lose more than 8% of light transmission for the first 10 years and thereafter no more than 1% per year (when tested in accordance with ASTMD 1003-1995). In the event that a Product fails to comply with this warranty, Laserlite will provide a full replacement of the Product, or, in the case of a discontinued line, its equivalent.

Weather Breakage – 10 Year Warranty

Laserlite warrants that for a period of 10 years from the date of purchase the Products (subject to the terms below) will resist damage due to normal weather conditions and specifically will resist damage due to hail measuring up to 25mm in diameter. In the event that a Product fails to comply with this warranty, Laserlite will provide a full replacement of the Product, or, in the case of a discontinued line, its equivalent.

It is the responsibility of the purchaser to obtain a copy of the full warranty conditions. These are available from any Laserlite office or website. Any claim should be made in writing.

LASERLITE AUSTRALIA

A Bayer Company

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ACN 086 237 765

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Fax (03) 9583 9003

Quality System
Quality Endorsed Company
ISO 9001 QEC 1197 SAI Global

www.laserlite.com.au

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New South Wales	(02) 9677 9900
Queensland	(07) 3219 5022
South Australia	(08) 8234 3666
Western Australia	(08) 9352 8737
Northern Territory	(08) 8947 1250

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