

## Installation



Ampelite Australia Pty Ltd recommend that you closely adhere to the installation instructions below. These procedures follow the Australian and New Zealand Standard: Design and Installation of Sheet Roof and Wall Cladding, Part 3: Plastic, AS/NZS 1562.3: 2006.

'Solasafe' is ideally suited to domestic applications. It is fixed and flashed on similar principles to steel roofing. Ampelite's fixing procedures are based on normal weather conditions. For extreme climatic conditions enquire at your nearest Ampelite office for their recommendations.

**Note:** Minimum recommended fall for corrugated and greca is 5° this is approximately 83 mm per metre of sheet length. As an example: a 3.6 metre sheet requires a minimum fall of 300 mm. With 5-rib profile, 3° fall is sufficient – over 3.6 metres this is 180 mm. We strongly recommend using 5-rib when the roof pitch is minimal. If insufficient fall is allowed, leakage may occur.

### A simple method to calculate the fall of your roof

#### CORRUGATED/GRECA PROFILES

minimum fall 5°

#### 5 RIB PROFILE

minimum fall 3°

For fall of 5° divide length of sheet by 12.

**EXAMPLE:** a 6 metre sheet divided by 12 = 500 mm fall top to bottom.

For fall of 3° divide length of sheet by 20.

**EXAMPLE:** a 6 metre sheet divided by 20 = 300 mm fall top to bottom.

### Expansion and contraction, screws and seals

To reduce noise caused by friction due to expansion and contraction we recommend using 25 mm x 3 mm white self adhesive Anti-Noise Tape along the top of battens.

When fixing polycarbonate sheets to the battens or purlins, allowance has to be made when drilling screw holes so that the sheet can move freely as it expands or contracts. Screw holes must have a minimum diameter of 10 mm for sheet lengths up to 4.2 m. Lengths over 4.2 m and up to 8.1 m require 12 mm diameter holes. To fix corrugated and greca profiles use 50 mm x 14g screws. The 5-Rib profile requires 65 mm x 14g screws. All screws must be fitted with 26 mm Ampelite grey domed weather-proof seals. If using other fixings or seals they must be compatible with polycarbonate sheeting e.g. Neoprene or EPDM. **Avoid over tightening!**

An alternative method of fixing which also speeds up installation, is to use self drilling combination drill/cutter and weather-proof seal assemblies. These fasteners self drill the sheet and create the correct clearance hole in one operation. A very easy, effective, method.

### Sheets have UV protection on one side only

Please read the labels on the sheet prior to installation and check each sheet label thoroughly to ensure that the UV protected surface faces the correct way. Sheets incorrectly installed will not withstand weathering, and discolouration will result. When used vertically, face the protected side of the sheet in the direction of the most intensive sunlight or exposure to weather.

### Matching other sheeting and sealing

If new sheeting is to be used with existing polycarbonate please check colour prior to installation. Although Solasafe is manufactured to the strictest standards, colour variation may occur from batch to batch. When matching existing projects it is recommended to obtain a sample prior to purchasing.

When polycarbonate is correctly installed additional sealing is seldom needed. If sealing is required at side or end laps, use a co-polymer sealant specifically formulated to be compatible with polycarbonate.

Incompatible sealants weaken the sheeting and their use voids the Warranty. Refer to Ampelite for the best sealants. Sheetting cannot be returned once installed.

### Spans, end laps and overhangs

Please refer to the Span Table and do not exceed the measurements shown.

End laps (if required on very long runs) must be placed over battens or purlins. Allow 200 mm for low pitched roofs and 150 mm on steeper falls. Excessive overlap should be avoided. The overhang at the edge must not exceed 50 mm (as per the Australian standards).

### Side laps

Laps should face away from the prevailing wind direction.

**Corrugated: Overlap 1.5 corrugations.**

**Greca: Overlap 1 rib (or 2 ribs depending on the degree of exposure or weatherproofing required).**

**5 Rib: Overlap 1 rib.**

### Cutting

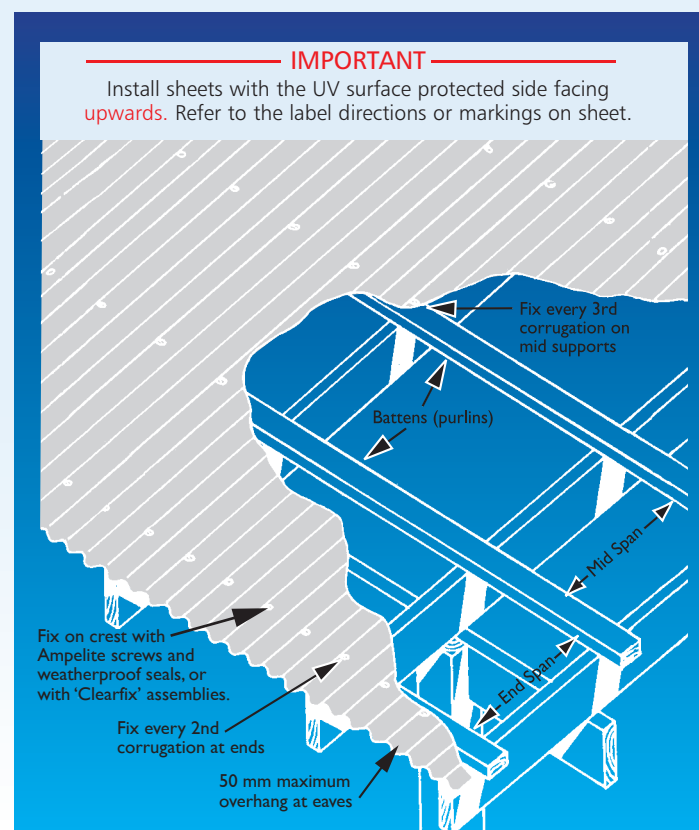
Polycarbonate is best cut with sharp snips. Small cuts can be made with strong, sharp scissors. If a power saw is used it should be fitted with a fine toothed blade suitable for cutting plastics or aluminium. Do not use high speed cut-off wheels or similar as they cause melting.

### Condensation and ventilation

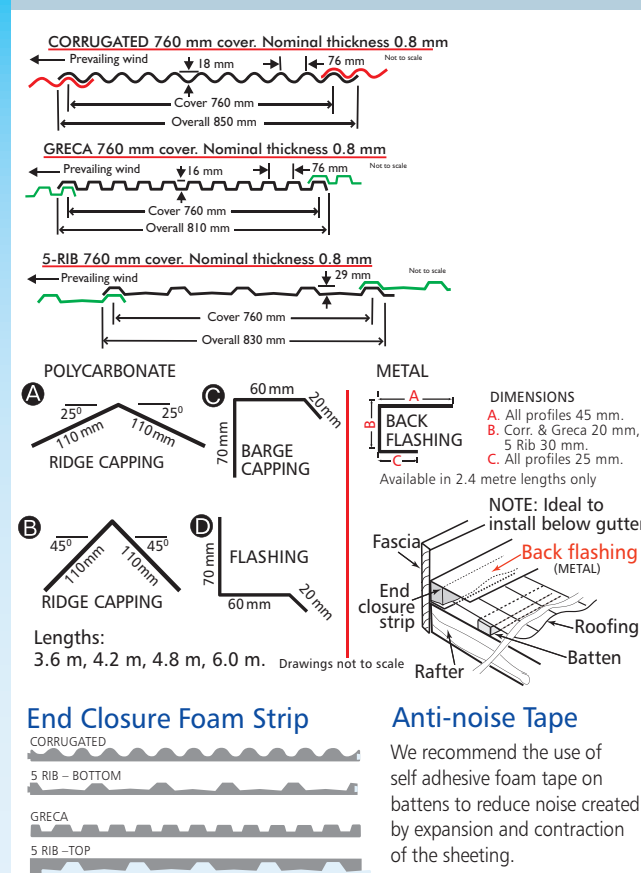
Under single skin roofs and especially in cold weather, some condensation is mostly un-avoidable. Good ventilation will help minimise condensation.

### Cleaning

Use only a soft brush and soapy water. No abrasives. To prevent possible staining we recommend cleaning whenever bird soil is apparent.



## PROFILES AND FLASHINGS



## Minimum to maximum SHEET LENGTHS

### CORRUGATED

1.8 m to 8.1 m – Clear, Opal, Light Bronze, Grey, Dark Tint, Pearl Ice, Silver Mist.

1.8 m to 6.0 m – Smooth Cream, Solafrost Clear, Solafrost Grey.

### GRECA

1.8 m to 8.1 m – Clear, Light Bronze, Grey, Dark Tint, Pearl Ice, Silver Mist.

1.8 m to 6.0 m – Opal, Smooth Cream.

### 5 RIB

1.8 m to 8.1 m – Clear, Opal, Grey.

1.8 m to 6.0 m – Light Bronze, Dark Tint.

## Standard LENGTHS available

1.8 m, 2.1 m, 2.4 m, 2.7 m, 3.0 m, \*3.3 m, 3.6 m, \*3.9 m, 4.2 m, 4.8 m, 5.4 m, 6.0 m, 6.3 m, 7.2 m, \*\*8.1 m.

\*3.3 m and/or 3.9 m are only available in some product lines; please check with your supplier or Ampelite in your state.

\*\*Note: 8.1 m lengths are only available in the profiles and colours shown in the cream coloured panels above.

## FOLLOW FIXING INSTRUCTIONS

Carefully follow all Ampelite fixing instructions in this brochure. As polycarbonate sheeting expands up to 21.6 mm (0-40°C) over eight metres, we do not recommend using sheets above 8.1 m.

## SPACING – PURLINS AND RAFTERS

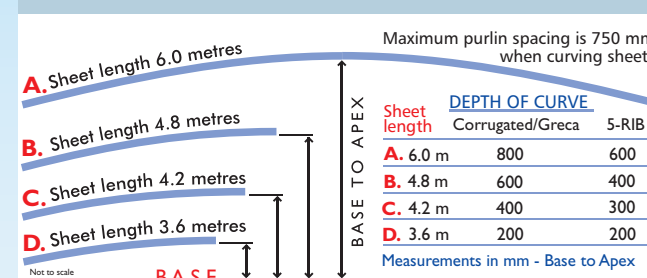
Maximum sheet spans	END	MID
Corrugated	800	900
Greca	900	900
5 Rib	900	1000

\*Nominal thickness: All profiles 0.8 mm

The above mentioned spans are a recommendation and are designed to achieve the best performance for the 'Solasafe' sheet. Greater spans are possible but may lead to the sheet ocean waving and/or water ponding.

When rafter spacing coincides with sheet overlaps the roof appears join free. Sheet cover is 760mm.

## MAXIMUM RECOMMENDED CURVES



## STORAGE & HANDLING

Sheets should be stored in cool, sheltered surroundings. Do not place heavy materials on the sheets, or drag stacks to a new location. Always support sheets when moving.

Sheeting exposed to sun and rain, or stored under tarps etc, can be damaged either by distortion or condensation between the sheets. Damage caused by incorrect storage or handling is not covered by the warranty.

## ABRIDGED TECHNICAL SPECIFICATIONS

Ampelite supplies its polycarbonate products to Australian Standard AS4256.5: 2006, Plastic roof and wall cladding materials - Part 5: Polycarbonate.

Solasafe is classed as a fire retardant material under AS/NZS1530.3:1999 Methods for fire tests on building materials, components and structures - Part 3: Simultaneous determination of ignitability flame propagation, heat release and smoke release.

Wind loading complies with AS1170.2:2011 SAA Loading Code -Part 2: Wind Loads and AS4040.2:1992 - Method 2: Resistance to wind pressures for non-cyclone regions. Also AS4040.3:2018 - Method 3 Resistance to wind pressures for cyclone regions.

Light transmission is measured under AS/NZS4257.4:1994 - Method 4: Determination of diffuse light transmission. Full specifications are available from Ampelite state offices.

## Standard -AS3959 :2018 BAL REFERENCE

Roofs can now include "Solasafe" polycarb roof covering at BAL-12.5 and BAL-19 for verandas, carports or awnings where the roof is separated from the main building.

## Solasafe Lifetime Warranty

Provided by Ampelite Australia Pty Ltd an Australian owned and operated company.

The original purchaser is entitled to the following benefits in addition to any consumer rights conveyed by Government regulations and the Trade Practices Act. In the event of any claim under this Warranty, the liability of Ampelite Australia Pty Ltd (hereinafter titled 'Ampelite') is limited to the replacement or pro-rata replacement of the faulty sheet(s). Such faulty material must be returned freight pre-paid by the purchaser, to the nearest Ampelite state office, together with proof of purchase documents. The product is intended for use in domestic building applications and the warranty does not apply to industrial use. Costs associated with the removal and re-fixing of sheets, or any loss, or consequential damage of any kind are not covered by this Warranty. Sheet failure due to incorrect installation, including the use of silicone and sealants other than a co-polymer sealant specifically formulated to be compatible with polycarbonate, or fair wear and tear/abrasion, are not covered by this Warranty.

Ampelite Warrant 'Solasafe, HR1 & Solafrost' polycarbonate sheeting for LIFETIME against:

- Excessive discolouration of clear sheets subject to these conditions:
  - The test method employed to assess discolouration will be that specified under Determination of Colourfastness AS/NZS4257.7.
  - Discolouration caused by atmospheric deposits or dirt, chemical reaction, abrasion and like events, are not covered by this warranty.
- Light transmission loss of clear and coloured sheets subject to these conditions:
  - The loss of diffused light transmission from that of the sheet when new, shall not exceed more than 0.8% per year for the first 15 years, then no more than 1% per year thereafter.
  - The test method employed to assess any loss of light transmission will be that specified in AS/NZS4257.4.
  - Loss of light transmission caused by atmospheric deposits or dirt, chemical reaction abrasion and like events, are not covered by this warranty.
  - The product is intended for domestic use only and must be installed and cleaned in accordance with Ampelite's recommendations.
  - Warranty applies to original purchaser only.

Ampelite Warrant 'Solasafe, HR1 & Solafrost' polycarbonate sheeting for a period of 10 years against HAIL DAMAGE: Fracturing of sheet by hailstones up to 25mm diam. accompanied by high wind loads. Damage caused by the impact of objects other than hail is excluded from this Warranty.

Ampelite 'Solasafe' & 'Solafrost' polycarbonate sheeting: Ampelite's polycarbonate sheeting has excellent fire resistant properties. Conclusive fire testing has proven Ampelite's polycarb has zero ignitability. (AWTA 7-494200-CV Date: 24/08/2000).

## CHEMICALS AND POLYCARBONATE

Polycarbonate sheeting is affected by petrol and petroleum based products (including paint), methylated spirits, ketones, benzene, acetone, hydrocarbons, phenols, abrasive cleaners, harsh cleaners and solvent cleaners. It is less affected or unaffected by kerosene, mineral oils, alcohols, glycols, vegetable fats, animal fats, acids, glycol, non abrasive cleaners, mild detergents and soft soap.

## INSTALLATION STANDARD

Installation of Ampelite Solasafe Sheetting shall be in accordance with the Ampelite fixing guide in this brochure, together with AS 1562.3: 2006, Design and installation of sheet roof and wall cladding -Part 3: Plastic.

## DISCLAIMER

While the contents of this brochure are believed to be correct at the time of printing, revisions to the colour range, sheet lengths available, procedures or data may be made without notice. All recommendations are made in good faith but without warranty. The colour representations of Solasafe polycarbonate in this brochure are as accurate as the nature of the material and commercial photographic and printing processes allow. It is probable that colour tints may vary between those shown in this brochure, sample pieces and the delivered product. Where colour is critical we recommend that you inspect up to date samples of the actual material to be used at your retail outlet prior to purchase. Very minor variations in sheet colour may occur from time to time but are virtually un-detectable in situ; blue or grey skies and intense sunlight may cause a variation in the apparent colour from day to day.

Ampelite is proudly Australian owned. Profits remain in Australia and taxes paid benefit our community.



VIC & TAS: Tel 03 8710 9110. Fax 03 9794 0710. NSW: & ACT: Tel 02 9625 7200. Fax 02 9625 7211.

QLD: Tel 07 3382 8300. Fax 07 3200 8703. NTH QLD: Tel 07 4774 5007. Fax 07 4774 7898

SA & NT: Tel 08 8260 7391. Fax 08 8260 7397. WA: Tel 08 9302 6833. Fax 08 9302 6855.

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Lexan\* Thermoclear\* multiwall sheet is a high quality, low maintenance glazing material that is built to last. Manufactured from Lexan\* polycarbonate resin, it delivers high impact strength, an excellent balance of low weight, and stiffness combined with glass clear transparency.

From industrial and commercial buildings, offices, sports stadiums, swimming pools, high end residential applications to conservatories, growing sheds and greenhouses, this versatile range of materials helps to deliver state-of-the-art, lightweight glazing.

Ampelite stock 10mm and 16mm gauge twinwall sheets which are widely used. In applications where superior stiffness is required, we can supply X-structures up to 32mm thick.

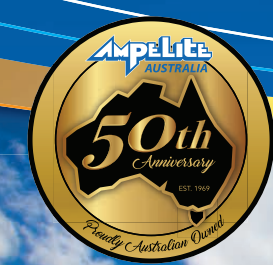
## Typical applications

- Covered walkways
- Pergolas
- Shopping Centres
- Greenhouses
- Swimming Pool Enclosures
- Industrial Glazing
- Sports Complexes
- Screening/Partitioning

## Safety Recommendations

- Exercise extreme care when walking on a roof. (Use walk boards across rafters at all times)
- Never walk on or apply direct load to sheeting.
- Consider all safety requirements when working at heights above 2.0m.
- We recommend the use of safety mesh for installations above 3.0m.
- Use appropriate safety equipment - safety footwear, goggles and gloves etc.
- All safety practices must comply with the applicable local building and/or work cover codes.

## Solasafe & SolaFrost



Cuts 99.9% UV



## Ampelite Solasafe & SolaFrost



Solasafe Polycarbonate. Your UV Safe Window to the Sky.



Ampelite is proudly Australian owned.



# Enjoy the freedom of outdoor living safe from UV danger

'Solasafe' polycarbonate sheeting provides 99.9% protection from harmful UV rays that cause sunburn and skin damage. Outdoor family and children's play areas are part of the Australian lifestyle, and selecting the best roofing solution is the first step to ensure you get the maximum benefit from your investment. Polycarbonate is an advanced polymer with optical and physical properties that can't be matched by other materials. Adding an outdoor room to your home can enhance your family life and add value to your property. Solasafe has three levels of polycarbonate sheeting to choose from. A level to suit your needs and climate. A colour to suit your home and surroundings.



Solasafe is available in a Colour, Profile, and Heat Range to suit every domestic application. (Not recommended for industrial use).

## Level One SOLASAFE Range

The most widely used Solasafe polycarbonate sheet. Six colours with varying light and heat transmission ratings.

When you want maximum light Solasafe Clear sheeting lets 90% of available light flood your space. Truly, 'your window to the sky'. Integral surface protection prevents UV degradation of the sheet and helps prolong its life. It also minimises

yellowing of the sheet over its lifetime; see the generous warranty that covers this. The impact strength of polycarbonate is up to 250 times that of tempered glass, strong enough to resist damage from even heavy hail. See the warranty for details.

## Level Two SOLAFROST Range

Ampelite Solafrost incorporates our impressive 99.9% UV protection for your family. Ampelite Solafrost can also be used as a security screen for extra privacy.

To complement your UV protection, Ampelite has now added the Solafrost matt texture to the underside of the polycarbonate sheet. This will give you better heat dispersion coupled with even light transmission to your outdoor area.

Ampelite Solafrost texture reduces the harsh glare of the direct summer sunlight by diffusing the light.

- Solafrost Clear allows 87% light transmission.
- Solafrost Grey allows 27% light transmission.

## Level Three HR1 Range

Metallic particles reflect heat but allow soft diffused light to pass through. Especially suitable in hot climates.

The advanced technology incorporated in 'Solasafe' Level Three sheeting disperses and reflects up to 80% of the sun's heat while allowing soft, diffused light, to pass through. This is achieved by millions of metallic particles scattered through

the sheet. Use Solasafe Level Three where the climate demands it. 99.9% UV protection is built-in to protect the sheet surface and the people below. Enjoy outdoor living in comfort.

### Level One – SolaSafe Range

The most widely used Solasafe polycarbonate sheet. Six colours with varying light and heat transmission. Key: 0 = full light 10 = full shade

<b>CLEAR</b> Shade factor 1 Light transmission 91% Heat transmission 85.2%	<b>LT. BRONZE</b> Shade factor 3 Light transmission 36% Heat transmission 60.6%	<b>GREY</b> Shade factor 5 Light transmission 26% Heat transmission 50%
<b>OPAL</b> Shade factor 7 Light transmission 55% Heat transmission 40.2%	<b>DARK TINT</b> Shade factor 7 Light transmission 17% Heat transmission 38.9%	<b>SMOOTH CREAM</b> Shade factor 7 Light transmission 44% Heat transmission 35.2%

Temperatures in direct sunlight are greater than the temperatures given in weather reports. The shade factors shown provide an indication of the heat absorbed or reflected by the Solasafe sheet.

### Level Two – SolaFrost Range

The SolaFrost range. Low transmitted heat, softer light, more comfort. Key: 0 = full light 10 = full shade

<b>CLEAR</b> Shade factor 2 Light transmission 87% Heat transmission 74.3%	<b>GREY</b> Shade factor 7 Light transmission 27% Heat transmission 49.87%
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Ampelite Solafrost will significantly reduce the amount of direct sunlight and glare when compared with standard polycarbonate sheeting. This in turn greatly enhances comfort of your outdoor area.

Unlike Level 1 Standard polycarbonate transparent sheeting, Ampelite Solafrost is a translucent (diffused)

polycarbonate product. This greatly enhances outdoor comfort.

- Translucency = Heat and glare reductions.
- Transparency = Some heat and glare.
- Matt texture helps eliminate expansion noise unlike standard polycarbonate sheeting.

### Level Three – HR1 Range

Solasafe HR1 Heat reducing sheeting. Especially suitable in hot climates. Key: 0 = full light 10 = full shade

<b>PEARL ICE</b> Shade factor 6 Light transmission 48% Heat transmission 32.5%	<b>SILVER MIST</b> Shade factor 9 Light transmission 17% Heat transmission 22%
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Light transmission of all colours and grades is determined in accordance with AS/NZS 4257.4. The colour representations of Solasafe polycarbonate above are as accurate as the nature of the material and commercial photographic and printing processes allow. It is probable that colour tints may vary between those shown in this brochure.

Level Three Solasafe HR1 has a metallic finish that reflects the heat and gives soft diffused light.



**Level One CORRUGATED – Colours**  
Clear, Opal, Grey, Light Bronze, Smooth Cream, Dark Tint.  
**GRECA – Colours**  
Clear, Opal, Grey, Light Bronze, Smooth Cream, Dark Tint.  
**5 RIB – Colours**  
Clear, Opal, Grey, Light Bronze, Dark Tint.  
See colour chart, shade factors, light and heat transmission on page five.  
**Sheet cover 760 mm.**  
See table of sheet lengths and spanning on page seven.



**Level Two CORRUGATED – Colours**  
SolaFrost Clear, SolaFrost Grey  
See colour chart, shade factors, light and heat transmission on page five.  
**PROFILES**  
CORRUGATED  
CORRUGATED



**Sheet cover 760 mm.**  
See table of sheet lengths and spanning on page seven.



**Level Three CORRUGATED – Colours**  
Pearl Ice, Silver Mist.  
**GRECA – Colours**  
Pearl Ice, Silver Mist.  
See colour chart, shade factors, light and heat transmission on page five.  
**PROFILES**  
CORRUGATED  
CORRUGATED  
GRECA



**Sheet cover 760 mm.**  
See table of sheet lengths and spanning on page seven.