

Installation Guide for Ampelite Industrial Sheeting



WONDERGLAS GC
GEL COATED POLYESTER SHEETING

COOLLITE IR
SOLAR CONTROL ROOF SHEETING

Premium Industrial Sheeting

PERMAGLAS STD
Industrial Grade Fibreglass

PERMAGLAS XL
Industrial Grade Fibreglass

PERMAGLAS PLUS
Industrial Grade Fibreglass



AMPELITE
world class fibreglass technology

INSTALLATION OF AMPELITE FIBREGLASS SHEETING

The following installation instructions are as per Ampelite (NZ) Ltd manufacturers recommendations. These recommendations also follow closely the Australian / New Zealand Standard: Design and Installation of Sheet Roof and Wall Cladding, Part 3: Plastic AS/NZS 1562.3: 19964, the New Zealand Building Code and The New Zealand Metal Roofing Manufacturing Association Code of Practice.

Inspection of Purlins

Where wire safety mesh is incorporated under the fiberglass roof sheeting and where the safety mesh passes over the supporting purlin directly under the fiberglass sheeting, an Ampelite Protective Purlin Strip (flat fiberglass strip of minimum 1.1mm thickness) shall be provided between the fiberglass sheeting and the safety mesh.



Protective Pulin Strips are available from Ampelite, in the following sizes, in packs of 10. The strips have double sided tape on one face to help hold them to the purlin until the fiberglass sheeting is installed.

Low Rib Profiles (700mm x 800mm Cover)	High Rib Profiles (900mm x 1000mm Cover)	Purlin Width
700mm x 70mm	1000mm x 70mm	65mm to 75mm
700mm x 90mm	1000mm x 90mm	85mm to 100mm

Side Laps

In general, metal roof sheets should be laid so the correct spacing is left between the metal sheets for the skylights. Each individual fiberglass sheet is manufactured to overlap and be supported by the adjacent roof or wall cladding sheet.



Mid-Span Supports

Mid-span supports can be used to increase purlin spacings that exceed the maximum span limitation for the sheet thickness. This can only occur where a single Fibreglass sheet is placed between metal roof sheets. Where continuous Fibreglass sheets are laid side by side, the correct purlin span must be used as stated in the Ampelite spanning chart.



Fastening Procedure

In roofing applications, fixings shall be installed through the crest of any profile. Due to the larger expansion and contraction rates of fibreglass sheeting, oversized fixing holes must be pre drilled. Contractors must ensure that the fastener is located in the centre of the oversize hole or the benefit of the larger hole is lost.

To ensure accuracy Ampelite recommends the following:

- **Install screws into fibreglass in the same manner as metal.**



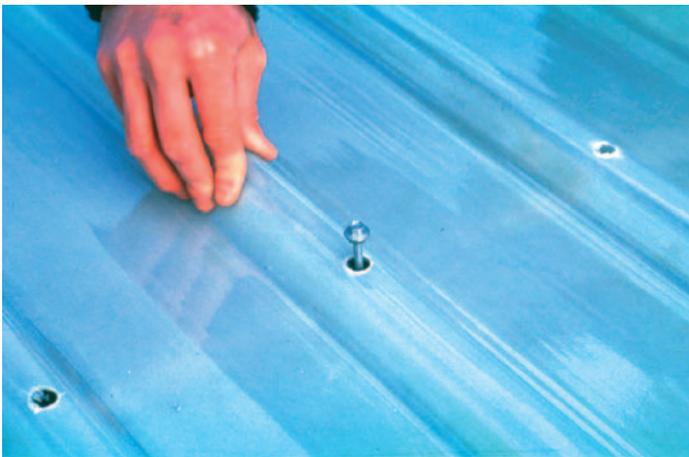
- **When completed, remove fixings from fibreglass.**



- Using the existing screw hole as a guide, re drill over sizing the hole.



- Re install the fixing screw. (Note how the screw is centrally located in the hole.)

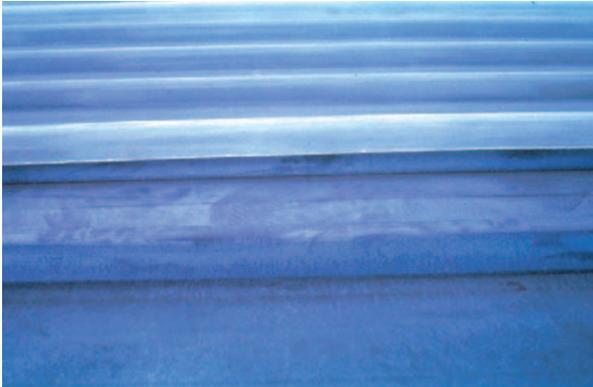


It is important not to over tighten the screw putting undue pressure on the fibreglass sheet. 32mm "Weatherlok" seals are large enough to cover the oversize hole and are sufficiently flexible to contour to any corrugation when medium pressure is applied. Medium pressure means that the "Weatherlok" seal is contoured to the shape of the rib but the rib must retain its shape without any sign of buckling. (Note the washer on the top is too tight, the washer on the bottom is OK.)



Side Stitching

It is recommended to install additional side stitching fasteners. These fasteners will bond the plastic sheeting and the adjacent sheeting together with appropriate allowances for the differential expansion rates of the materials. Ampelite recommends either Ampelite Lap Stitch or a T17 coarse threaded self drilling screw with 32mm Weatherlok Seal in these instances.



The Lap Stitch is a compressed fastener designed to secure the side laps of fibreglass sheets (fibreglass onto fibreglass). It consists of a neoprene sleeve with an embedded nut, plus a stainless screw with matching washer. When drawn up properly, it offers equal bearing on both sides of the secured sheets and draws them together without cracking or crazing.



When fibreglass sheeting is lapped onto metal sheeting a T17 coarse threaded self drilling screw with a 32mm Weatherlok Seal fastened into the top of the rib, provides a firm seal in the lapping joint. The table below indicates the recommended spacing for side stitching fasteners.

Profile Rib Height	Max Spacing of Fasteners
30mm and less	450mm
30mm and more	600mm



Clearfix Industrial

To make the installation of Fibreglass Sheeting quicker and to eliminate the double tooling needed to over size the fastening hole, Ampelite has introduced the Clearfix Industrial screw.

- **No pre-drilling is required**
- **Self centres during installation**
- **Installed in half the time of conventional fasteners**
- **Can be used in both steel & timber**



Clearfix guarantees the fixing hole is over sized. Clearfix comes in a 12g x 65mm and is suitable for fixing all medium height profiles.



Wall Cladding

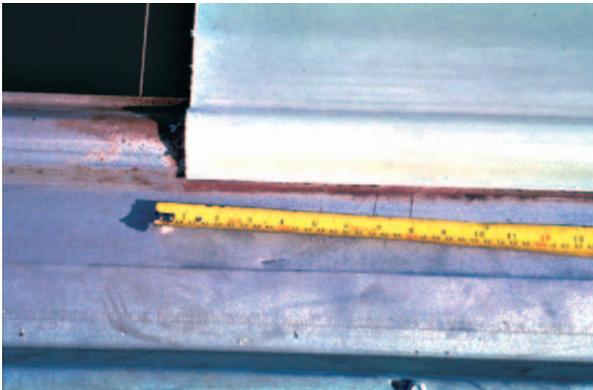
Pan or rib fixing is required at each girt, and use of a 32mm Weatherlok seal ensures a weather tight seal. Over tightening or flattening the Weatherlok must be avoided. Fixing shall occur in every pan at both ends of the sheeting, and every other pan at intermediate girts.

High Wind Areas

Installation in high wind may require the use of steel profiled washers and EDPM seals. It is important to make sure the steel washers you are about to use have been manufactured to fit the rib of the fibreglass sheet correctly. Please confirm this with your fastening supplier or contact your local Ampelite branch for more information.

End Laps

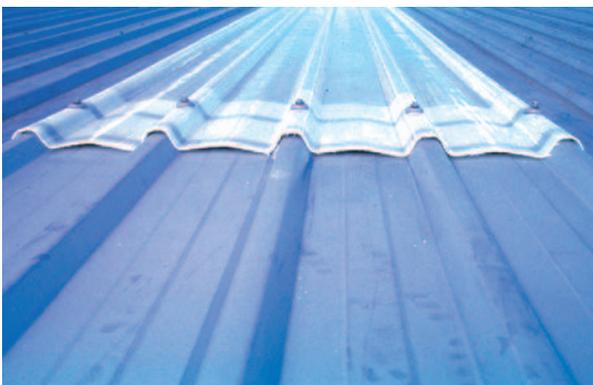
At all end laps (including those with dissimilar materials), a minimum of 300mm overlap shall be provided and such lap shall be supported with a purlin. All sheets, when fastened, shall have full bearing on purlins and their ends shall extend not less than 150mm beyond the point of fastening.



At all end laps two lines of compressive foam strip or of flexible sealant shall be placed across the full width of the lap approximately 150mm apart and with one line 25mm from the end of the Fibreglass sheeting. Ampelite recommends the use of foam tapes rather than silicone. Silicone sealants tend to bond the two end lapping sheets together preventing individual sheet movement.



Furthermore, gaps in the pans of dissimilar materials can occur. The foam tapes fill up these spaces much more effectively than silicone. The end lap fixing methods are the same for metal onto fibreglass, fibreglass onto fibreglass, or fibreglass onto metal.



Sealing at Flashings on Roofs

The use of end stops is recommended to prevent wind driven water from running passed the flashing and into the building. Typically a metal angle is folded to the height of the profile rib and fastened to the end of the sheet with rivets. Neutral cure sealant is then applied where the Fibreglass sheet meets the metal angle.



Cutting

Should cutting of the sheet onsite be necessary the use of a skill saw fitted with an abrasive disc or a fine tooth blade suitable for cutting plastics is recommended. Care should be taken to achieve a cut with minimal damage to the sheet.

Spanning of Popular Profiles

The spanning charts below are a representation of some of the current profiles that Ampelite has available in New Zealand. Please contact your local Ampelite sales office for a full list of profiles.

Series	Wind loads up to 1 KPA					Drape Curve Radius	
	1800	2400	3050	3660	4270	1800	2400
Corrugated	1200	1400	1500	1600	-	4	5
Sixrib	1200	1400	1500	1600	-	5	6
5 Rib	1400	1700	1900	2100	2300	8	9
Trimline	1400	1700	1900	2100	2300	8	9
MC700, MC750, MC770	1400	1700	1900	2100	2300	8	9
Metric, Windek, MC1000	1400	1700	1900	2100	2300	8	9
Ribline 960	1400	1700	1900	2100	2300	12	14
Steelspan, Topspan	1800	2000	2300	2600	2900	16	18
Multispan, MC930, Maxispan	1800	2000	2300	2600	2900	16	18
LT7, ST7, Silbery	1600	1900	2100	2400	2700	12	14
BB900, ST900, Multirib	1600	1900	2100	2400	2700	12	14
400 Decking	1200	1400	1700	2000	2300	16	18
Kilplok 400	1400	1700	1900	2100	2300	16	18
Supersix	1800	2000	2300	2600	2900	16	18

maximum radius in metres

Series	Wind loads up to 1.5 KPA					Drape Curve Radius	
	1800	2400	3050	3660	4270	1800	2400
Corrugated	1000	1200	1300	1400	-	4	5
Sixrib	1000	1200	1300	1400	-	5	6
5 Rib	1200	1500	1700	1900	2100	8	9
Trimline	1200	1500	1700	1900	2100	8	9
MC700, MC750, MC770	1200	1500	1700	1900	2100	8	9
Metric, Windek, MC1000	1200	1500	1700	1900	2100	8	9
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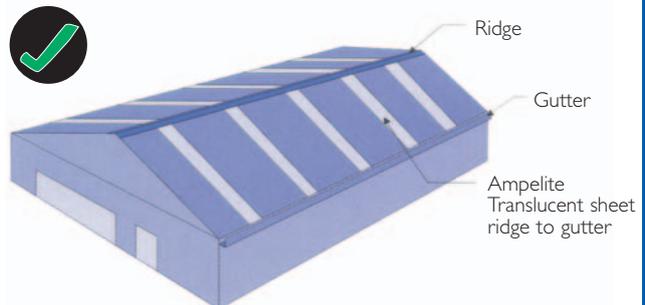
maximum radius in metres

For information regarding recommended spans in high wind and cyclonic regions please contact your local Ampelite branch.

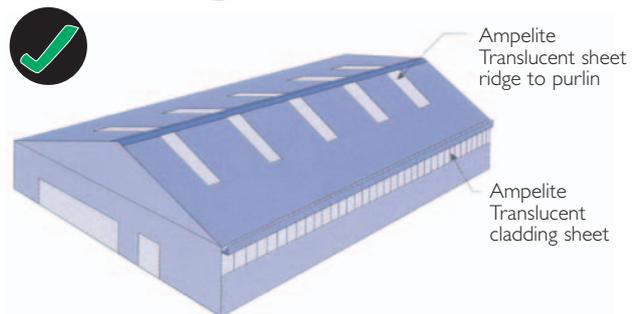
Design Considerations

Examples of good translucent roofing design

For maximum light and sound weatherproofing strip fibreglass skylighting continuously from the ridge to the gutter is the preferred design.



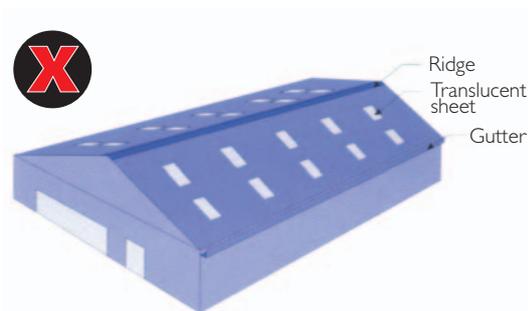
Ridge to purlin installation is also a sound way to achieve good weatherproofing. As there is less skylight area than in ridge to gutter installations the amount of light transmitted is not as great but this can be compensated for by using continuous Ampelite cladding.



A variation of ridge to purlin installation incorporating Ampelite wall cladding, is to install longer cladding sheets at the same intervals as the roofing skylights.



Avoid these examples of poor design



Safety Data

There are no ill effects from handling 'Ampelite' Fibreglass sheets as a finished product. Some exposure to air-borne particles occurs on drilling, cutting and trimming of the material. Although there are no known cases of harmful effect, even after long term exposure, it is recommended to take certain precautionary steps.

Eye (Contact)

Eye contact can cause irritation. Appropriate eye protection should be worn. If irritation occurs due to exposure to dust particles, wash eyes with running water using an eye bath or wash bottle. If irritation persists seek medical attention.

Skin (Contact)

Skin contact can cause irritation. Shower thoroughly using soap and a cloth or sponge.

Inhalation (Breathing)

Dust masks are recommended although particles are not respirable.

Ingestion (Swallowing)

Non-toxic. Extensive studies have revealed no serious effects.

Emergency Fire Fighting Action

In the case of an indoor fire relating to stored Fibreglass Sheets the following action is necessary. Use a self contained breathing apparatus. Fire may be controlled by use of sand, carbon dioxide, dry powder or foam extinguishers, Water can be used to prevent fire from spreading to other goods or buildings. For further information contact your local Ampelite Sales Office.

Storage

Fibreglass sheeting should always be stored in a dry and fire safe area. Do not store heavy materials on top of sheets as they may fracture.

Waste Disposal

Do not incinerate fibreglass off-cuts as burning produces acrid smoke and noxious, toxic fumes.

Non-Trafficable

Ampelite Fibreglass sheeting with the exception of Webglas GC is a non-trafficable material. Sheets should be handled with care to avoid damage to the surface coating (Polyester film or Gel coat). Guarantees will not apply to sheeting that has been damaged in handling, or mechanical damage as a result of foot traffic.

Conclusion

Should all of the above be followed, then Ampelite will be happy to warrant their products for many years to come. Problems such as ocean waving or buckling of fibreglass sheets can be eliminated by taking care with the above installation methods.

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