FIBREGLASS TRANSLUCENT SHEET

ROOFING, WALLING, FLAT SHEET, D-LITE WAVE, D-LITE RIDGE & LOUVRE

AMPELITE

World Class Fibreglass Technology











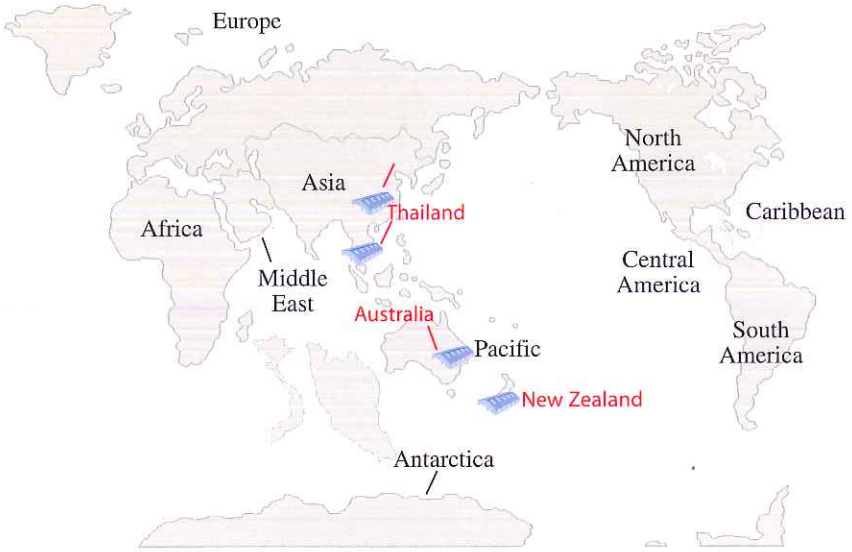
TIS 612-2549

ISO 9001
BUREAU VERITAS Certification
N° TH 007145

UKAS QUALITY MANAGEMENT

The First Fibreglass Translucent Sheeting Manufacturer In Asia Certified to AS 4256.3 : 2006
The First Fibreglass Translucent Sheeting Manufacturer In Thailand Achieved ISO 9001 : 2008

COMPANY PROFILE



Ampelite's Factories



Ampelite's Factory, Rayong, Thailand



Ampelite's Factory, Australia

Ampelite Fibreglass Pty Ltd
Is Australia largest producer and marketer of F.R.P / G.R.P sheeting and cladding. Ampelite Australia has an enviable reputation and have constantly developed a broad range of F.R.P / G.R.P products since the company begun production over 40 years ago.
With the great success in Australia and promising marketing potential in Asia, Ampelite formed Ampelite Manufacturing Co., Ltd. in Thailand as a Board of Investment's privileged company to expand its production base of high quality fiberglass sheeting.
The companies major aim was to serve both the Thailand domestic market and to support other markets within the ASEAN zone.

Ampelite (Malaysia) Sdn Bhd as part of the Ampelite Global Group are supported totally regarding F.R.P / G.R.P products from both Ampelite Thailand and Ampelite Australia.
The company is the very first in Asia to obtain certification to AS 4256.3:2006 from SAI Global under license number SMKB20629 and also meets ISO 9001:2008, Certificate no. TH 003614 both for being fibreglass translucent sheeting manufacturer under BVQI Certificate No. 195672 and being sales and service center under BVQI certificate number 07000429.

» Use Distribution Disc technology to uniformly scatter fibreglass

» Modern production process certified to AS 4256.3 : 2006 by SAI Global

» Reliable quality system with ISO 9001 : 2008

» Stringently selected raw materials from world renowned sources

KEY FEATURE& PRODUCT GROUP

WEBGLAS

- Extra strong and trafficable
- Reinforce with Ampelite web matt for better strength
- Top surface is coated with Maxil Shield providing long lasting elegance
- Bottom surface is coated with DuPont Melinex film for extended working life and profile stability.
- Suitable for a building extra durability, safety high chemical resistance or located in high wind area such as:-
- √ Air Hanger, Airport Buildings, Power Plant, Chemical Plant
- Series: 3660gsm, 4270gsm & 4880gsm
- Warranty: 30 years with terms and condition

WonderCOOL IR®

- Allowing superb Visible Light into the building.
- Reinforce with Ampelite web matt for better strength
- Two Layers of top surface coated with Maxil Shield and Dupont Melinexproviding extra protection against.
- UV and surface erosion.
- Bottom surface is coated with DuPont Melinex film.
- Suitable for a building extra durable ideal for air-conditioned building requiring excellent infrared reflection,
- and low heat transmission such as:-
- √ Supercenter, Mega Store, Department Store, Commercial Building
- Series: 2400gsm, 3050gsm, 3200gsm, 3660gsm, 4270gsm & 4880gsm
- Warranty: 30 years with terms and condition.

COOL-LITE
PRIMIUM GRADE

- Excellent reduce heat transmission while allowing natural light into a building
- Uniformly reinforced with glass fibre across the sheet with Distribution Disc Technology for extra strength
- Top surface is coated with Maxil Shield providing long lasting and more elegance
- Bottom surface is coated with DuPont Melinex film for extended working life and profile stability
- Suitable for a building requiring heat inflow reduction or for air-conditioned building such as:-
- √ Department store, Supermarket, Gymnasium, Power Plant, Chemical Plant
- Series: 2400gsm, 3050gsm, 3200gsm, 3660gsm, 4270gsm & 4880gsm
- Warranty: 30 years with terms and condition

SUPRA

- Provide uniform illuminance, durable and elegantly long lasting
- Uniformly reinforced with glass fibre across the sheet with Distribution Disc Technology for extra strength
- Top surface is coated with Maxil Shield providing long lasting and more elegance
- Bottom surface is coated with DuPont Melinex film for extended working life and profile stability
- Suitable for a building requiring natural light and lasting beauty such as:-
- √ Air Hanger, Factory, Warehouse, Swimming Pool, Walkway, Sport Stadium
- Series: 2400gsm, 3050gsm, 3200gsm, 3660gsm, 4270gsm & 4880gsm
- Warranty: 30 years with terms and condition

SEALEX DuraGel®

- Provide natural light, power saving and long lasting
- Uniformly reinforced with glass fibre across the sheet with Distribution Disc Technology for extra strength
- Top surface is coated with Sealex UV film providing long lasting
- Bottom surface is coated with DuPont Melinex film for extended working life and profile stability
- Suitable for a modern building requiring evenly diffused natural light such as:-
- √ Factory, warehouse, rice mill, Gymnasium and General Building
- Series: 2400gsm, 3050gsm, 3200gsm, 3660gsm, 4270gsm & 4880gsm
  Warranty: 25 years with terms and condition

TopLite®

- Provide natural light and energy saving
- Uniformly reinforced with glass fibre across the sheet with Distribution Disc Technology for extra strength
- Top surface is coated with TopLite @ MX Film providing long lasting and elegance
- Bottom surface is coated with DuPont Melinex film for extended working life and profile stability
- Suitable for a building when requiring natural light such as:-
- √ Factory and warehouse
- Series: 1800gsm, 2400gsm, 3050gsm, 3200gsm, 3660gsm, 4270gsm & 4880gsm
  Warranty: 10 and 15 years with terms and condition

Chemical Resistant product:- Orthophthalic, Isopthalic, Neo Pentyl Gylcol, Bisphenol and Vinyl Ester

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World Class Fibreglass Technology

AMPELITE PRODUCES OF WORLD CLASS FIBREGLASS TECHNOLOGY

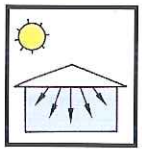
» Manufactured by fully automatic machine with latest Australian Technology.
» Use Distribution Disc technology to uniformly scatter fibreglass

» Modern production process certified to AS 4256.3 : 2006 by SAI Global.

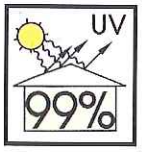
» Stringently selected raw materials from world renowned sources



» Let natural light into building for free and save energy



» Provide superior light diffusion



» Provide UV protection

Fibreglass Translucent Sheeting Selection :-

With the continual development of modern building construction for both steel and concrete structure, most international project designer and owners nowadays require both metal roof and wall for up to standard construction and controllable construction lead time and cost. Building interior lighting design and skylight selection vary to type of industry and working activities inside the building, optimal product selection should be based on the following.

- Natural day light saves energy consumption and lighting maintenance. Moreover it lowers global warming from over consuming energy

- Activities :
  Iluminance appropriate to activity in the building which may directly affect efficiency and productivity

- Industry criteria :
  Different industry requires different illuminance depending on complexity of the product

- Heat transmission :
  Lowering heat transmission into building helps create good working atmosphere and cut air-conditioning bill

- Ventilation :
  To provide good ventilation and interior illumination, it is recommended to install metal louver together with fiberglass translucent louver

- Product quality :
  Ampelite translucent sheets are manufactured from premium raw materials by state of the art machinery. First in Asia to receive AS 4256.3:2006 certification from SAI Global, Australian leading certifying body and first in Thailand to obtain ISO 9001: 2008 certification for both production and overall services.

Thickness

Series	Thickness	Weight
1800 gsm	1.2mm	1.80 kg/m^2
2400 gsm	1.5mm	2.40 kg/m^2
3050 gsm	1.9mm	3.05 kg/m^2
3660 gsm	2.3mm	3.66 kg/m^2
4270 gsm	2.6mm	4.27 kg/m^2
4880 gsm	3.0mm	4.88 kg/m^2

*Above thickness are average thickness with tolerance of +- 10%

Materials Expansion Comparison. [0 °C to 40 °C temperature variation. Sheet length 12 metres]

	Fibreglass	Polycarbonate / Acrylic	Steel	Aluminium
Thermal Expansion	14.4mm	32.4mm	5.8mm	11.5mm
Thermal Co-efficient	3.0 x 10^{-5} cm/cm °C	6.75 x 10^{-5} cm/cm °C	1.2 x 10^{-5} cm/cm °C	2.4 x 10^{-5} cm/cm °C

Physical Properties

Product	Webglass		Cool-Lite	Supra Glas	Sealex Extra		Toplite	
Colour	Ice Clear	Opal	White	Snow Blue	Ice Clear	Opal	Ice Clear	Opal
Series	3660 gsm		2400 gsm & upwards				1800 gsm & upwards	
Light Transmission	60%	56%	38%	54%	70%	54%	70%	54%
Heat Transmission	58%	52%	23.5%	47%	70%	47%	70%	47%
Shading Co-efficient	0.69	0.46	0.27	0.53	0.79	0.53	0.79	0.53
Top Coating	Maxil Shield				Sealex UV Film		TopLite @ MX Film	
Bottom Coating	DuPont Melinex Film							
Tensile Strength	111MPa				100MPa			
Impact Strength	10 Joules				8 Joules			
Thermal Expansion	1.9 x 10^{-5} c/cm °C				3.0 x 10^{-5} c/cm °C			
Shear Strength	90 MPa							
Modulus of Elasticity	5300 MPa				5500 MPa			
Compressive Strength	151 MPa				135 MPa			
Flexural Strength	181 MPa				150 MPa			
Specific Gravity	1.60				1.45			
Thermal Conductivity	0.096 watt/m °C				0.158 watt/m °C			
Water Absorption	0.2% in 24 hrs/26 °C							
Recommended Service Temperature	-20 °C to +110 °C							

Remark : Shading Coefficient is the ratio of the Solar Heat Gain Coefficient of test sample to the Solar Heat Gain Coefficient of a standard 3mm thick single layered glass sheet.

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Product Group

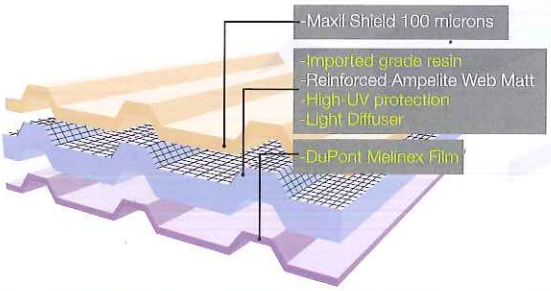
WEBGLAS

Ampelite's Webglas translucent roof and wall cladding sheet Ice Clear and Opal colors can safely take foot traffic. Suitable for tall building and strong wind area, Specially resistant to chemicals. Ideal for building requiring natural illumination and extra strong translucent roof sheet such as :-

- Air Hanger Airport Buildings Chemical Plant Building in strong wind area

Ampelite's Webglas translucent roofing and walling are manufactured from premium quality Australian standard polyester resin system reinforced with Ampelite web matt in compliant with Australia standard AS 4256.3 : 2006 certified by SAI Global Licence No. SMKB20629 specific weight 3660gsm. Top surface coated with 100 micron thick Maxil Shield providing excellent resistance to UV and surface erosion. Bottom surface coated with DuPont Melinex Film.

Color	Color Shading	Light Transmission	Heat Transmission	Shading Co-efficient
Ice Clear		60%	58%	0.69
Opal		56%	52%	0.46





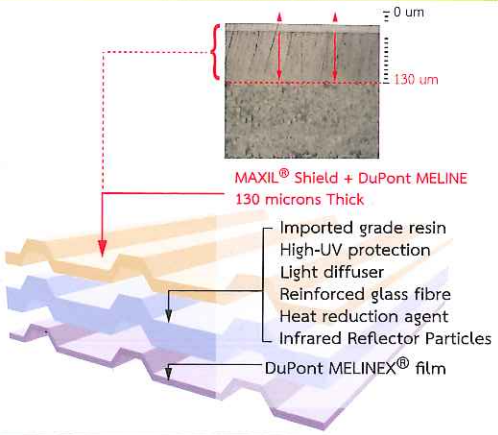
WONDERCOOL IR

Ampelite's WonderCool IR translucent roof and wall sheets in Sea Pearl color can reflect heat radiation and infrared while allowing natural light to enter the building with our Solar Nano technology.
With its unique heat reduction characteristic and unrivaled durability and lifespan, it is highly suitable for air-conditioning buildings or buildings which require both excellent heat reduction and uniformly distributed natural light such as :-

- **Supercenter /Hypermarket Department Store Commercial Building**

Ampelite's WonderCool IR translucent roofing and walling are manufactured from Australian Standard certified, heat reduction polyester resin system mixed with IR (Infrared Reflector) particles, a Solar Nano technology innovation. The resin reinforced with anti-static glass fibre which is distributed evenly by Distribution Disc Technology in compliance with Australian standard AS 4256.3:2006, certified by SAI Global License No. SMKB20629 specific to weight 2400gsm. Top surface is coated with dual layer coating technology, 130 microns thick MAXIL Shield and DuPont Melinex Film, to provide an extra protection against UV radiation and surface erosion. Bottom surface is coated with DuPont Melinex Film.

Color	Color Shading	Light Transmission	Heat Transmission	Shading Co-efficient
Sea Pearl		44%	20.2%	0.232





Product Group

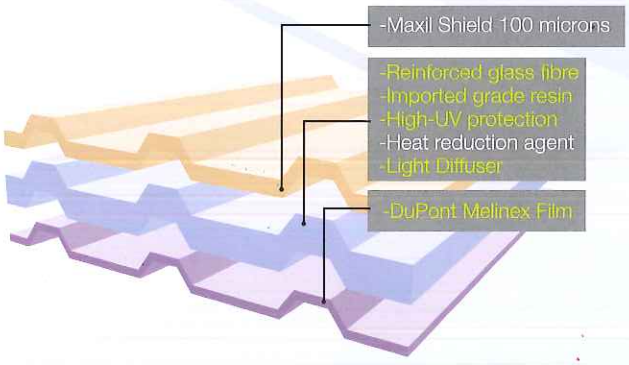
COOL-LITE SUPRA

Ampelite's Cool-Lite Supra translucent roof and wall cladding sheet White color superbly helps lower heat transmission while allowing natural light into building extra durable ideal for building requiring heat transmission reduction with air-conditioning such as :-

- Department Store Supermarket Gymnasium

Ampelite's Cool-Lite Supra translucent roofing and walling are manufactured from premium quality Australian standard heat reduction polyester resin system reinforced with Anti-static high quality glass fibre distributed evenly by using Distribution Disc Technology in compliance with Australia standard AS 4256.3 : 2006 certified by SAI Global Licence No. SMKB20629 specific weight 2400gsm. Top surface coated with 100 micron thick Maxil Shield providing extra protection against UV and surface erosion. Bottom surface coated with DuPont Melinex Film.

Color	Color Shading	Light Transmission	Heat Transmission	Shading Co-efficient
White		38%	23.5%	0.27





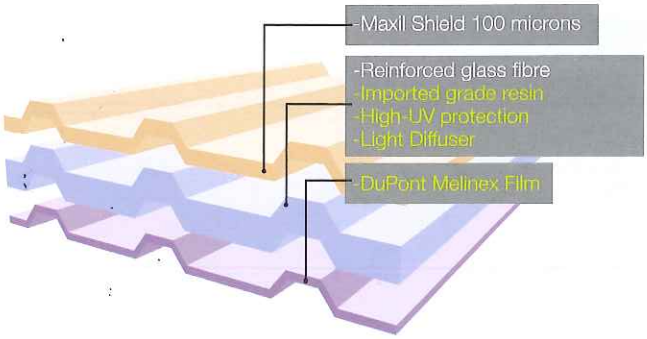
SUPRA

Ampelite's Supraglas translucent roof and wall cladding sheet Snow Blue colors are durable, elegantly long lasting and provide uniform illuminance :-

- Air Hanger Factory Warehouse Walk way Sport Stadium

Ampelite's Supraglas translucent roofing and walling are manufactured from premium quality Australian standard polyester resin system reinforced with Anti-static high quality glass fibre distributed evenly by using Distribution Disc Technology in compliance with Australia standard AS 4256.3 : 2006 certified by SAI Global Licence No. SMKB20629 specific weight 3660gsm. Top surface coated with 100 micron thick Maxil Shield providing extra protection against UV and surface erosion. Bottom surface coated with DuPont Melinex Film.

Color	Color Shading	Light Transmission	Heat Transmission	Shading Co-efficient
Snow Blue		54%	47%	0.53





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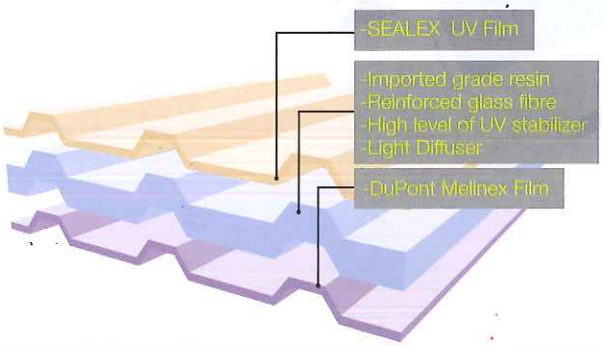
SEALEX DuraGel®

Ampelite's Sealex Extra translucent roof and wall cladding sheet Ice Clear and Opal color add illuminance inside building and save electricity, long lasting suitable for modern building requiring evenly diffused illuminance such as :-

- Factory Warehouse Rice Mill Gymnasium General Building

Ampelite's Sealex Extra translucent roofing and walling are manufactured from high quality Australian standard polyester resin system reinforced with Anti-static high quality glass fibre distributed evenly by using Distribution Disc Technology in compliance with Australia standard AS 4256.3 : 2006 certified by SAI Global Licence No. SMKB20629 specific weight 2400gsm. Top surface coated with 100 micron thick Maxil Shield providing extra protection against UV and surface erosion. Bottom surface coated with DuPont Melinex Film.

Ice Clear		70%	70%	0.79
Opal		54%	47%	0.53





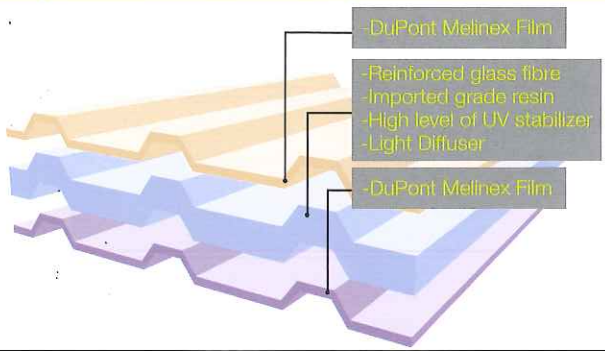
TOPLITE®

Ampelite's Toplite translucent roof and wall cladding sheet Ice Clear and Opal colors add illuminance inside building and save electricity, suitable for modern building requiring evenly diffused illuminance such as :-

- Factory Warehouse

Ampelite's Toplite translucent roofing and walling are manufactured from high quality Australian standard polyester resin system reinforced with Anti-static high quality glass fibre distributed evenly by using Distribution Disc Technology in compliance with Australia standard AS 4256.3 : 2006 certified by SAI Global Licence No. SMKB20629 specific weight 2400gsm. Top surface coated with TopLite @ MX Film providing UV protection. Bottom surface coated with DuPont Melinex Film.

Color	Color Shading	Light Transmission	Heat Transmission	Shading Co-efficient
Ice Clear		70%	70%	0.79
Opal		54%	47%	0.53





Match Most
Popular Profiles

Maximum Span of popular profiles for a wind load of 0.5 kpa. When use in conjunction with steel roof

Profile	Series		
	1800 gsm. (1.2mm thk)	2400 gsm. (1.5mm thk)	3050 gsm (1.9mm thk)
Clip System Profile :- Lok Deck / M-Clipp 430 / Kliplok 406 & 812 / Steelok / Speed Deck 508	-	2000mm	2300mm
Clip System Profile :- AceCliplock 710 & 700 / CLS 705 / CL710 / CL660 / Clipfix 672~41 Clip Lock 710 / ClipDeck 680 / FormKlip 710 / Grip Deck 3~Pan 680 Hicondek 40 / M-Clipp 700 / One Clip 700 / R670 / Seal Klip / SunClip TH~Clip 710 / TH~Clip Optima 730 / Winclip / SengDek Cliplock TS 3 Pans Clip / Weatherclip I & II / 3 Pan Klip 660 & 700 BW V Clip / I Clip 700 / Unilok 672 & 700 / YK Lok / Clipdeck W710	-	1700mm	2000mm
Clip System Profile :- Kliplok Optima 980 / Kliplok Opt 2~Pans 655	-	1500mm	1700mm
Screw System Profile :- AP Rib / Astana / AceRib / AceTrim / Cool-deck / Ecodek / E~Clad EP762~25 / Formflex 30 & 762 / Innodeck / Icon Deck / KS 760 Deck K~Line / Ledex Flex / Metaldek / OneTrim / R760 / Skydeck II Seal Deck / Stee Deck / Sun Roof Sundek I & II / Superspan SengDek / Superdek / Superior Rib 762 / TH~Deck Trimdek 760 & 812 TS Regal Rib / Windek / Weatherdek I & II / YK Deck Trimdek Optima / Megadek / MegaSpan / S-Deck / EP1000~35 / Kalbaus Speed Deck / Seal Form Lycorrib 28 / Monoclad / M-Clad 1015 Top Deck / Brisdeck / Flexideck / Interdek / Zindek Amdex / Polydek / Unidek / Yundek / I~Deck / Baseline V	1300mm	1500mm	1700mm
Screw System Profile :- High Rib 30 / Mega Rib 30 & 35 / TH Rib / I Rib / TH Superior Rib 35	-	1300mm	1500mm
Screw System Profile :- D'Span 700 / M-Span / Multideck 700 / R695 / Spandek 675, 690 & 700 Spandek Optima / Sphere Span / Weatherspan / V~Deck	1500mm	1900mm	2300mm
Screw System Profile :- Flat Sheet [Std Size 1.22m (W) x 6.10m (L)] / D~Lite Wave / Minideck	-	550mm	610mm
Seaming System Profile :- R650 I & II / Seamlock / Eurozip 65 / KZ400 / Kalzip / Zip Deck 400 & 800	***Wall Cladding Profile :-*** Alrib / D~Clad / M~Clad 805 / Metal Sphere Multiclad / Seal Klad / V~Clad / Winclad / V~Crimp		
Others Profile :- Aludeck 6P & 7P / Comspan / EP900~35 / HR 29 Optima / HR29 R715 / SK Rib 38 II / R600 / Roof Deck Custom ORB / Corrugated 990 / Big Corrugated 960	Louvre Type I / Louvre B200 / Louvre B300 Louvre B400 / Louvre B400-II / Louvre B600		

*** Maximum Purlin Spanning for series 3660gsm up to 4880gsm dependent upon specification*

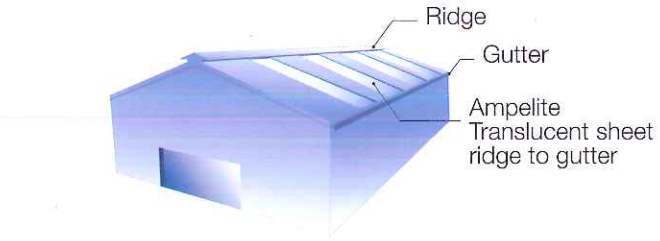
*** Others new profile available upon request*

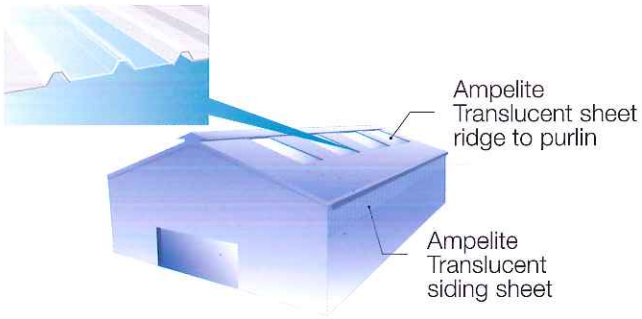
In reference of columner expansion and thermal movement of the roof structure Ampelite recommended that the weight if the fibreglass sheeting should be in accordance to the maximum allowable span of the purlin spacing. This is to provide the necessary strength needed to withstand the design purposes and also to compliment the metal roof and the supporting structure of the building. Sheeting shall be installed in accordance with Ampelite fixing instructions.
General installation requirements and design of roofing systems AS 2424,91.

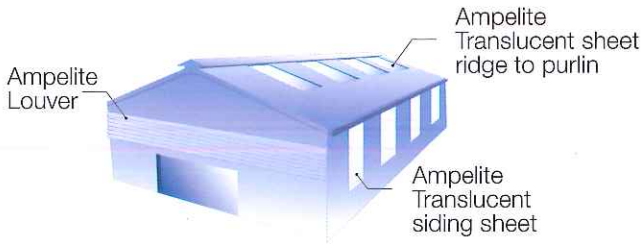
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Design
Consideration Tip

Recommended

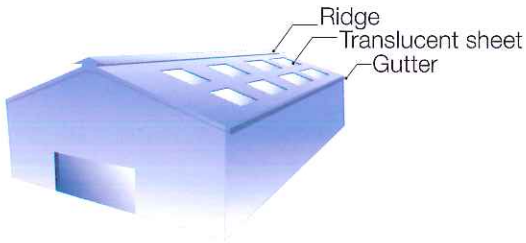


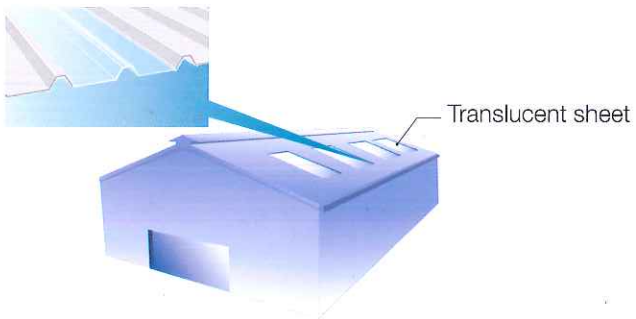


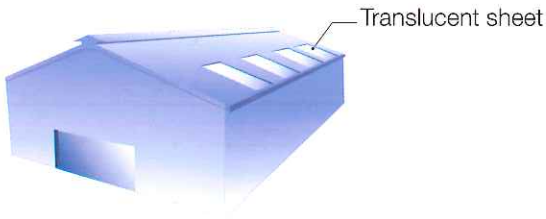


1. It is recommended to start fiberglass sheeting installation from the ridge capping will help prevent leak.
2. Fiberglass translucent sheeting must be placed above metal roof due to its thermal expansion is higher than metal sheet's thermal expansion while its strength is lower.
3. Installing translucent sheets on sides of building will add illuminance.
4. Generally recommended quantity fiberglass translucent sheeting is not less than 10% of total roof area.

Not Recommended







1. Good fiberglass translucent sheet must diffuse light evenly instead of split themselves to an area where light required.
2. In case of GRP sheets splitting is required, they must be placed above metal sheet to prevent any GRP damaging.
3. In case "not recommended" installation is, unavoidable, 2 continuous beads of clear non-hardening silicone sealant must be applied to prevent leaks. (applicable for metal screw system profile only.)

   Remarks: Not applicable to match metal clip system & seaming system profile.

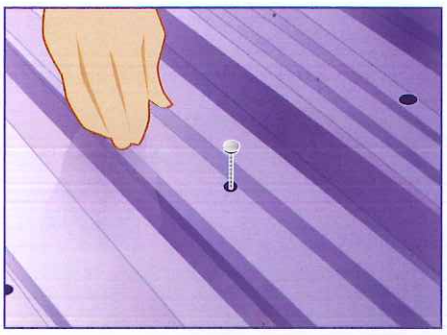
Installation
Guide



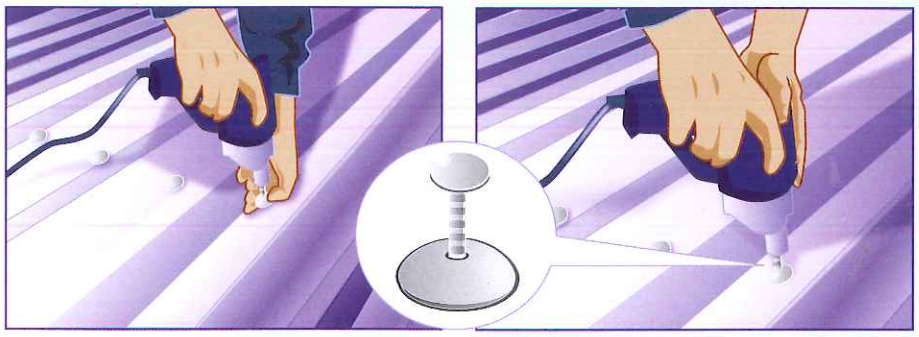


1. Start metal roof installation first and leave opening for fiberglass sheets. Put the fiberglass sheets in place with both sides on the metal roof and screw.



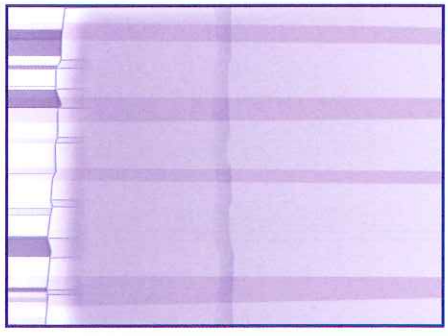


2. Oversized holes must be pre-drilled. The basic calculation is 0.75 multiply by meter length of sheet plus shank diameter of screw. Example : 10m. Sheet = (0.75 x 10)+4 mm. (screw) = 11.5 mm. pre-drilled hole.



3. The fiberglass sheet must be screwed on every rib with 32 mm. Ampelok washer. Screw must be placed at the center of the pre-drilled hole.





4. Minimum end lapping is 30 cm. and to be on top of purlin with two strips of single sided foam filler tape or 1 continuous beads of non-hardening neutral silicone.

Remark 1. Minimum 30cm for roof slope within 3-5 degree and greatest / longer for roof slope less than 3°.
2. Appropriate sheet length < 12m. to allow for thermal expansion.

Ampelite (Malaysia) Sdn Bhd *(618830-x)*

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Tel : 03 – 9200 3257 / 9875 Fax : 03 – 9200 8290

Branch Office & Warehouse (J.B) :
No. 21, Jalan Penaga 2, Taman Kota Putri, 81750 Masai, Johor Bahru
Tel : 07 – 3864 814 Fax : 07 – 3864 827

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SIRIM QAS International Sdn. Bhd. (410334-X)
Plastics and Composite Materials Section
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MS ISO/IEC 17025
TESTING
SAMM 474

REPORT NO: PTS/ER13/334	PAGE NO: 1 of 3

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TEST REPORT

Title:	**Evaluation of Ampelite "Toplite" Fibreglass Translucent Sheet**
Date:	20 August 2013
Project No.:	P13371
Sample:	Ampelite "Toplite" Fibreglass Translucent Sheet
Company Name:	Ampelite (Malaysia) Sdn. Bhd.
Address:	No.14, Jalan 13/91 Taman Shamelin Perkasa 56100 Cheras Kuala Lumpur

Approved Signatory

SIRIM QAS INTERNATIONAL SDN BHD
PLASTICS & COMPOSITE MATERIALS SECTION

Rahmad Abd Shukor

Dr Ahmad Fuad Md. Yusuf
Head
Plastics and Composite Materials Section
Testing Services Department

7.0 CONDITIONS RELATING TO THE USE OF SIRIM QAS INTERNATIONAL TEST REPORT

7.1 A Test Report will be issued in respect of Testing Services conducted and shall relate only to the Sample actually tested. SIRIM QAS International makes no warranty whatsoever and the Applicant shall not represent in any manner that any duplication or mass production of the Product is same as the Sample actually tested or that SIRIM QAS International has tested any of the duplicated or mass produced Product.

7.2 The Test Report shall not be amended, changed, varied or modified in any manner whatsoever by the Applicant or otherwise.

7.3 If the Test Report is to be furnished to any third party or to the public, each such Test Report shall be furnished in full, legible and in its entirety.

7.4 The Test Report shall not be reproduced and shall not in any manner be used for any advertising purposes or whatsoever without written approval from the Managing Director of SIRIM QAS International of No. 1, Persiaran Dato' Menteri, Building 8, Section 2, P.O. Box 7035, 40700 Shah Alam, Selangor Darul Ehsan.

7.5 Further or in the alternative, it is strictly forbidden unless with prior written approval from the Managing Director of SIRIM QAS International, to represent in any manner whatsoever that SIRIM and/or other SIRIM's subsidiaries has endorsed, approved or validated the Product of the Applicant in any manner whatsoever.

7.6 The use of SIRIM QAS International, SIRIM or other SIRIM's subsidiaries logo and/or words such as "SIRIM: Tested and Proven" and similar representations are strictly forbidden in any manner whatsoever without the prior written approval from the Managing Director of SIRIM QAS International.

7.7 In the event the Applicant is found in breach of this provision, SIRIM QAS International, SIRIM and/or other SIRIM's subsidiaries without prejudice to any other right and remedies may take whatever action necessary including but not limited to:

a) Informing and placing a notice in the media;
b) Obtaining an injunction from Court (cost on a solicitor-client basis to be borne by the Applicant);
c) Refusing to accept any further Product for Testing Services from the Applicant or whosoever related to the Applicant, whether subsidiary or otherwise;
d) Instructing the Applicant to withdraw and recall the advertisement, statement or document in question and advertise a clarification and apology to SIRIM QAS International, SIRIM and/or other SIRIM's subsidiaries twice in a national publication of SIRIM QAS International's choice at the Applicant's sole cost; and
e) Informing or lodging a report pertaining the Applicant's Test Report with the relevant authorities.

7.8 In the event of an investigation from any third party concerning the Applicant's Test Report, SIRIM QAS International may disclose the same for purposes of such investigation.

7.9 If such approval is obtained from the Managing Director of SIRIM QAS International, the Applicant may only include the phrase. "A sample of this product has been tested by SIRIM QAS International... (Test Report No) ... (dated) .... (for what test) ... (to which standard)" or such similar words which stress that only the Sample was actually tested.

7.10 Certified true copies of the Test Report may be issued upon request by the Applicant upon payment of the relevant fee.

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Specification/Test Method:

a. ASTM D 638: 2010 – Standard Test Method for Tensile Properties of Plastics.

b. ASTM D 790: 2010 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

c. ASTM D 1003: 2007 – Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics.

Sample Identification:

One type of sample indicated as Ampelite "Toplite" Fibreglass Translucent Sheet was received on 1 August 2013.

The test specimens of nominal thickness 1.4 mm were prepared by the client with the following descriptions:

No.	Type of Test	Dimensions	Quantity (pieces)
1	Tensile Properties	200 mm x 200 mm x thickness	3
2	Flexural Properties	127 mm x 12.7 mm x thickness	11
3	Luminous Transmittance	50 mm x 50 mm x thickness	7

COMPOSITE MATERIALS & PLASTICS SECTION
SIRIM QAS INTERNATIONAL SDN BHD

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Rahmad Abd Shukor

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Results:

Ampelite "Toplite" Fibreglass Translucent Sheet

No.	Property	Result	Test Method
1	Tensile Strength, MPa	63.8	ASTM D 638 Test Speed : 5 mm/min Specimen : Dumbell Type 1
2	Flexural Strength, MPa	154	ASTM D 790 Test Speed : 0.8 mm/min Support Span Distance : 25.4 mi
3	Flexural Modulus, MPa	5,260	
4	Luminous Transmittance*, %	65.2	ASTM D 1003

Note:* Not SAMM Accredited

SIRIM QAS INTERNATIONAL SDN BHD
COMPOSITE MATERIALS & PLASTICS SECTION

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Rahmad Abd Shukor

No Lesen : **PC037702**
Licence No :

LESEN PENSIJILAN BARANGAN
Product Certification Licence

SIRIM

PC 05102004 CB 01

SIRIM QAS International Sdn. Bhd. dengan ini menganugerahkan kepada
SIRIM QAS International Sdn. Bhd. hereby grants to

CHRS SAMAWIRA MESH SDN. BHD.
LOT 7401, PT 1888
JALAN ZAMRUD 1, KAWASAN PERINDUSTRIAN NILAI
FASA II
71800 NILAI
NEGERI SEMBILAN, MALAYSIA

Lesen untuk menggunakan Tanda Pensijilan di atas barangan
a licence to use the Certification Mark on

COLD WORKED STEEL WIRE FOR REINFORCEMENT OF CONCRETE PRODUCTS

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with

MS 144 : 2014

Nur Fadhilah binti Muhammad
Ketua Pegawai Eksekutif
Chief Executive Officer
SIRIM QAS International Sdn. Bhd.

SIRIM QAS International Sdn. Bhd.
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http://www.sirim.my
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Tarikh Mula Pensijilan	**: 27 January 2005**	**Tarikh Dikeluarkan**	**: 06 January 2022**
Certified Since		*Issue Date*	
Sah Sehingga	**: 27 January 2023**	**No Siri**	: 070558
Valid Until		*Serial No*	

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No Lesen : **PC037702**
Licence No :

SCHEDULE

CHRS SAMAWIRA MESH SDN. BHD.

SIRIM

PC 05102004 CB 01

Trade Mark	: COMPANY ID = CHRS SAMAWIRA MESH SDN. BHD.
Model	: GRADE 500
Type	: PLAIN STEEL WIRE; PRODUCED IN COIL AND DELIVERED DECOILED
Size	: NOMINAL SIZE (mm) = 4, 5, 6, 7, 8, 9, 10

Trade Mark	: COMPANY ID = CHRS SAMAWIRA MESH SDN. BHD.
Model	: GRADE 500
Type	: RIBBED STEEL WIRE; PRODUCED IN COIL AND DELIVERED DECOILED
Size	: NOMINAL SIZE (mm) = 6, 7, 8, 9, 10

End of page

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