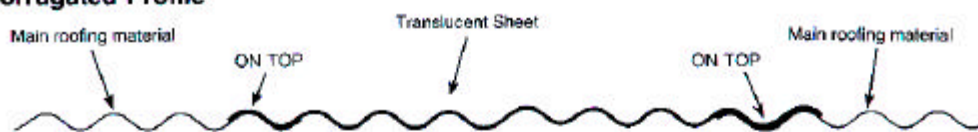


INTRODUCTION

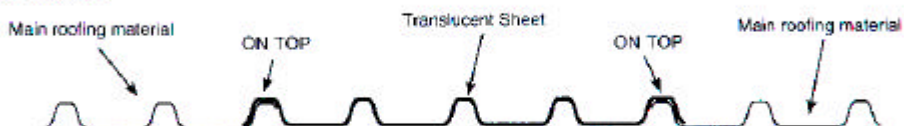
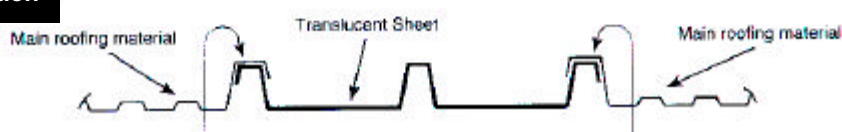
Glass reinforced polyester industrial roofing materials are generally designed to match the profile of the main roof and cladding products to be used on any project. The following considerations are important in the design and general support of Glass Reinforced Polyester profiles.

EDGE INSTALLATION

Alsynite Industrial glass reinforced polyester sheeting is designed to lap over, and be supported by the main roofing material on both edges in accordance with the Australian Fixing Standard AS/NZS 1562.3:1996. The following drawings show typical examples of common profiles. Note all profiles should be supported at both edges.

Typical Corrugated Profile

The Alsynite sheeting in this profile has been extended on one edge to provide additional support and improve weathering (2400 & 3050 grades only).

Typical 5 Rib Profile**Typical 3 Rib Deck Profile****Incorrect Installation**

Main roofing incorrectly installed over the Alsynite Glass Reinforced Polyester Sheet.

WALKING & STANDING ON ROOFS

Where it is necessary to walk or stand on areas where GRP sheeting is installed, you must comply with one or more of the following:

- Provide roof ladders or walkboards as temporary crossings over the GRP sheeting.
- Provide properly constructed walkways or walkboards over the GRP sheeting where they are located in an area used as an access way.
- In any case, provide notices, in conspicuous locations at access points in accordance with statutory regulations warning persons not to step onto the plastic roofing material.

SAFETY MESH REQUIREMENTS

Where required, safety mesh should be fitted to protect persons accidentally falling onto and through GRP sheeting. Mesh must be fitted under all sheets in accordance with AS/NZS 1562.3:1996, unless exempted by clause 2.4.3.2.

For your convenience clause 2.4.3.2. of AS/NSZ 1562.3:1996 reads: -

2.4.3.2. Provision of safety mesh. Safety mesh shall be used in roof construction, subject to local statutory or national building code regulations.

In Australia, safety mesh is not required where one or more of the following conditions prevail:

- a) The roof makes an angle to the horizontal of -
 - i) For Class 2 to 9 buildings, as defined by the Building Code of Australia, 40 degrees or more; and
 - ii) For Class 1 and 10 buildings, as defined by the Building Code of Australia, 30 degrees or more.
- b) There is a substantial and closely boarded floor or similar structure below the roof at a vertical distance of not more than 3 m measured from the highest point of the plastic sheet incorporated into the roof.
Note: This means that safety mesh may only be applicable to those parts of the roof that are over 3 m above a closely boarded floor or similar structure (i.e. only part of the roof may require safety mesh).
- c) There is a raised single arch profile of overall height not less than 100mm from the base support line or both female side lapping ribs are fixed over the supporting male underlapping ribs on either side for the entire length of the sheet and the resultant effective cover width shall be not greater than 450mm.
- d) The roof sheet has an effective cover width not greater than 300mm and a matching metal sheet is located on either side to support the plastic sheet throughout its entire length.
- e) The rafters supporting the roof sheeting are not more than 300mm apart.
- f) For Class 1 and 10 buildings, as defined in the Building Code of Australia, where a roof or a model of the roof passes the resistance to impact test (sand bag test) specified in Clause 5.3 and the plastic roofing material is not being used as an insert surrounded by the main roofing material with each insert being less than 60% of the length of the adjacent main roofing material.
Note: Failure of the resistance to an impact test adjacent to the edge purlin requires safety mesh to be used only for the end spans provided a pass is obtained adjacent to the intermediate purlin in the centre span.
- g) For Class 2 to 9 buildings, as defined in the Building Code of Australia, where a specific roof lifetime is defined and the roof sheet durability against the resistance to impact as claimed in Clause 5.3 has been demonstrated for the same period of time.
Note: Failure of the resistance to an impact test adjacent to the edge purlin requires safety mesh to be used only for the end spans provided a pass is obtained adjacent to the immediate purlin in the centre span.

Chemical Resistance Table

DESIGN CONSIDERATIONS

TABLE OVERVIEW

This guide to chemical resistance of Alsynite Resin Systems provides information on the resin composition and their compatibility to aggressive environments. Contact the Alsynite Technical Department for further information.

CHEMICALS	ALSYNITE GP Resin Orthophthalic	ALSYNITE CR1 Resin Isophthalic	ALSYNITE CR2 Resin Isophthalic/ Neo Pentyl Glycol	ALSYNITE CR3 Resin Bisphenol	ALSYNITE CR4 Resin Vinyl Ester	ALSYNITE 50FR & 25HTH Resin Fire Retardant
ACIDS						
Sulphuric 10%	B	B	A	A	A	B
50%	E	D	C	A	A	D
Hydrochloric 10%	B	A	A	A	A	A
30%	E	B	B	A	A	B
Phosphoric (Concentrated)	D	C	B	B	A	C
Hydrofluoric 10%	E	E	E	C	B	E
40%	E	E	E	E	E	E
Nitric 10%	D	D	C	B/A	B/A	D
40%	E	E	E	E	E	E
Acetic	C	B/C	A/E	A/C	A/C	B/C
ALKALIS						
Caustic Soda 3%	E	E	C	B	B	D
50%	E	E	E	B	B	E
Hydrated Lime	D	B	A	A	A	B
Calcium Carbonate	C	B	A	A	A	B
Ammonia Hydroxide 10%	D	C	B	A	A	D
(Concentrated)	E	E	D	C	C	E
Sodium Hypochloride 5%	D	C	C	B	A	C
SOLVENTS						
Benzene	E	E	D	D	B	E
Acetone	D	D	D	D	D	D
Ethanol	C	B	B	A	A	B
Methanol	E	E	E	E	E	E
Petrol	D	B	B	B	B	B
Diesel	D	B	B	B	B	B
OTHERS						
Salt Water Solution	A	A	A	A	A	A
Distilled H ₂ O	B	A	A	A	A	A
Sewage	C	A/B	A	A	A	A/B
FERTILIZER						
Super Phosphate	E	D	C/D	B	B	D
Ammonia	E	D	B/C	A/B	A/B	D
PLATING						
Nickel	C	B	B	A	A	B
Silver	C	B	B	A	A	B
Gold	C	B	B	A	A	B
Copper	D	C	C	A	A	C
Chrome	E	D	D	D	B	D

CODING

A = not affected **B** = slightly affected **C** = Significantly affected **D** = severely affected **E** = destroyed

Assumes an ambient temperature of 15° C and constant contact with condensation. Alsynite CR3 and CR4 resins severely yellow and are not suitable for translucent applications.

INSTALLATION ARRANGEMENT

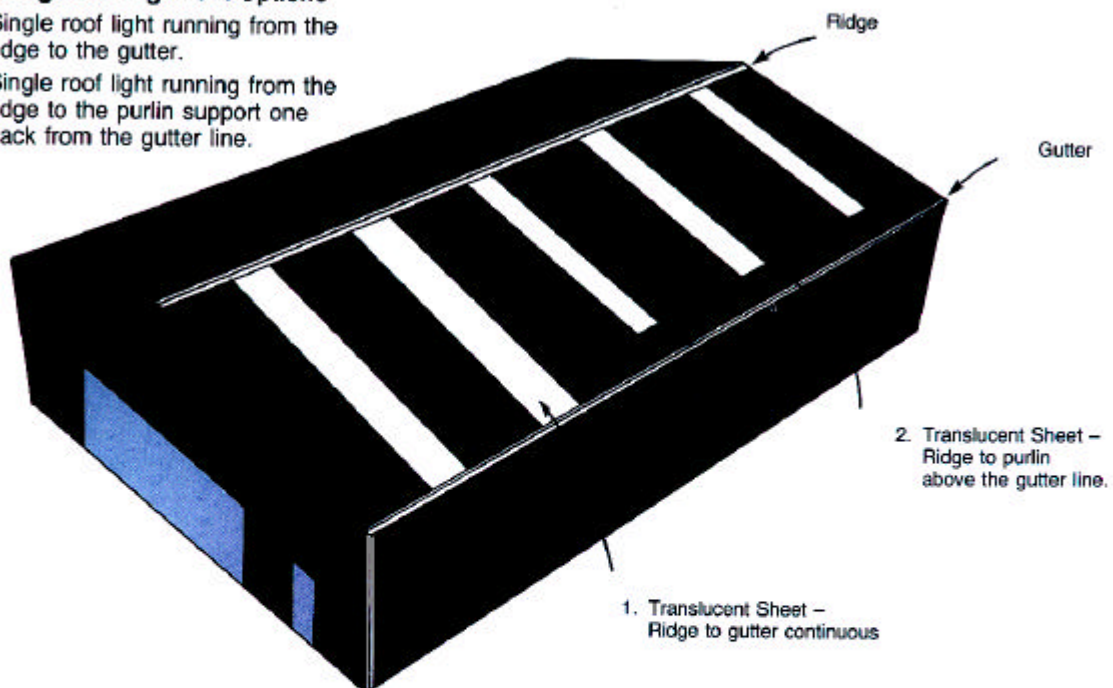
The glass reinforced polyester is required to be supported on both edges when installed in accordance with AS/NZS1562.3:1996, it should be installed in single sheets supported by the main roofing material. Multiple sheets can be used subject to discussion with the Alsynite Technical Department.

INSTALLATION ARRANGEMENT

The glass reinforced polyester is required to be supported on both edges when installed in accordance with AS2424, 1991, it should be installed in single sheets supported by the main roofing material. Multiple sheets can sometimes be used subject to discussion with the Alsynite Technical Department.

Roof Light Arrangement Options

1. Single roof light running from the ridge to the gutter.
2. Single roof light running from the ridge to the purlin support one back from the gutter line.

**Typical End Lap of Translucent Sheet**