

# Twinskin Systems

Heat Reducing Translucent Roofing



AVANTIDROME, CAMBRIDGE

## Introduction

Where potential condensation issues are of concern, Alsynite One manufacture a Twin-Skin System that offers a solution to this problem. Two independently formed sheets of Topglass® are laid over each other to form an effective air gap between the sheets. Condensation evaporates and this prevents water droplets entering the building. Alsynite One Twin Skin Systems also offers building occupants a reduced noise level from outside influences, as the system offers an effective acoustical reducing solution.

## Key Benefits

- Manufactured from an acrylic modified resin system, reinforced with high quality glass fibre rovings.
- Reduces internal heat build-up and offers a passive natural lighting concept.
- Effective noise reducing system.
- Eliminates condensation in most applications.
- Manufactured and supplied to side-lap most current popular steel roofing profiles.
- Manufactured and supplied in one length as a complete system, ridge-to-gutter or ridge-to-step if a stepped roof.

## Applications

Commercial, industrial, institutional sports stadiums and other projects where long term high quality natural lighting is required.

## Special Applications

Alsynite One Twin Skin System can be supplied to meet varying light and solar transmission requirements to meet any design criteria.



## Surface Coatings

Topglass® GC is the preferred choice for Twin Skin Systems for the external weather surface. Alsynite One 130 micron\* EXO-SET 206 Gelcoat weather surface offers very good protection against solar deterioration. A 20 micron film can be applied to the reverse side of the laminate or where corrosive atmospheres exist which may affect the underside of the sheeting. Alsynite One proprietary high level corrosive resistant protective sheen can be supplied.

## Colours and Tints

Alsynite One Twin Skin Systems typically are supplied with a low pigment additive in the top sheet (Orchid) and a clear support under sheet.

This configuration offers the building interior a soft passive environment without direct sunlight penetration. However any combination of pigment colours is readily available, consult Alsynite One for pigment level recommendations.

## Heat Reducing Sheeting

As an added barrier against solar heat build-up Twin Skin Systems can include SPF 4 and SPF 8 formulations.

## Operating Temperature

Alsynite One Twin Skin Systems operating temperature is -30°C to +70°C

## Fire Retardant

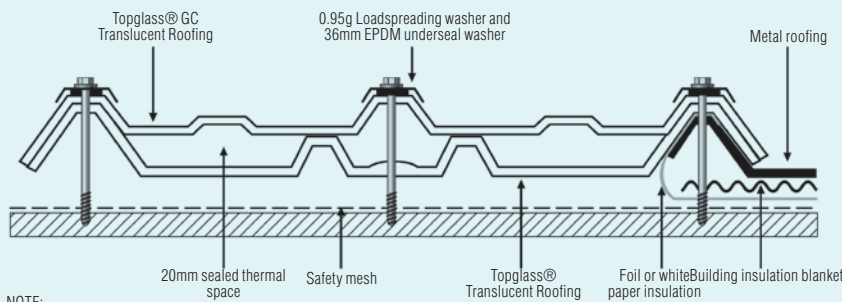
Alsynite One Twin Skin Systems operating temperature is -30°C to +70°C supplied as Topglass GC FR 50 Plus (refer to page 16).

Alsynite One Twin Skin Systems can be supplied as Topglass® FR 50 Plus (refer to page 16).



TWIN SKIN SYSTEMS

### TWIN SKIN SYSTEM



NOTE:  
 • Gutter end sealed with purpose made Alsynite One closed cell foam strip  
 • Twinskin clear roofing at 2400g/m<sup>2</sup> (1.5mm thick) provides light transmission of 70%

### Safety

To comply with the requirements of AS 1562.3:2006 Part 3 Plastic, translucent roofing products are classified as brittle roofing and therefore not suitable to support foot traffic – with the exception of Topglass® GC Ultra-safe (refer to page 12). Note that safety mesh should be installed under all translucent roofing.

Insulated Translucent Roofing systems can be manufactured to meet building fire standard groups 3, 2 and 1-S classifications. Test report available from Alsynite One.

Installation shall be carried out in accordance with the requirements of AS 1562.3:2006 Topglass® technical literature and the Alsynite One NZ technical catalogue.

### Severe Corrosion Environments

In areas where corrosion is severe Twin Skin Systems can be supplied with a vinyl ester resin system.

### Specification

The translucent Twin Skin System shall be Alsynite One reinforced polyester roof sheeting manufactured by Alsynite One to comply with AS4256.3:2006 JAZ-ANZ certification licence number 2349. The sheeting shall be measured in g/m<sup>2</sup> or mm (sheet thickness) and manufactured to conform to the nominated roofing and cladding profile (refer to Technical Information, page 24).

### Test Reports

Test reports have been carried out on Twin Skin products for testing their acoustical and solar optical properties as listed below:

1. Laboratory Measurement of Airborne Sound Insulation of TS20 Twin Skin Roofing System, Auckland UniServices Limited, 3 December 2008. According to ISO 140-3.
2. Measurement and Calculation of TS20 Solar Optical Properties, Vipac Engineers & Scientists Ltd, Melbourne, VIC, 6 March 2008.
3. Measurement and Calculation of Twin Skin Solar Optical Properties, Vipac Engineers & Scientists Ltd, Melbourne, VIC, 20 June 2007.

This information is available upon request.

A copy of the test report is available upon request from Alsynite NZ.

### WARRANTY



Alsynite One Twin Skin Systems are supported by a comprehensive 25 year warranty and a 20 year light transmission warranty. For written project warranties, contact Alsynite One NZ Ltd.

