

DUALROOF PREMIUM PRODUCT TECHNICAL STATEMENT

PRODUCT DESCRIPTION

The Ampelite Dualroof Premium System uses the fundamental principles of double-glazing to create a simple yet functional insulated sky lighting system. Overseas countries with colder climates use complicated double-glazed skylights to prevent heat loss, but the Ampelite Dual Roof Premium System has specifically been designed for the New Zealand climate. With simplicity and ease of installation a high priority, the system provides natural daylight whilst also ensuring minimum loss of heat.

The Dual Roof Premium TW2 and TW5 systems consist of a top sheet of fibreglass roofing with a lower profile height to the main roofing profile, creating a 20mm air gap between the top and bottom sheets. Ampelite Lexan 2 wall or 5 wall sheeting is then utilised as the bottom sheet creating an insulated skylight system with either 2 or 6 air gaps. The R Value of these air gaps are then added together increasing the total R Value of the complete system.

FEATURES

Offering flexibility to meet a range of applications, Ampelite Dualroof Premium is available using either Wonderglas S-996, Coolite IR or Webglas GC. The Wonderglas S-996 top sheet can be supplied in either clear or opal colour. For improved visible light transmission and lower heat transmission, we recommend using our Coolite IR Solar control sheeting. Both Wonderglas S-996 and Coolite IR are protected by the highly UV resistant Silmar 996 gel coat developed in the United States through BP Chemicals, and used widely throughout New Zealand and Australia since 1995.

For applications where the skylights need to be able to withstand foot traffic, we recommend using our Webglas GC – Trafficable fibreglass sheeting.

Ampelite Lexan 2 wall or 5 wall sheeting is then utilised as the bottom sheet creating an insulated skylight system with either 2 or 6 air gaps.

- When compared to other skylighting products, the Ampelite Dualroof Premium System displays superior thermal properties
- Manufactured to suit most New Zealand long run high rib commercial metal roofing profiles.
- The top sheet (weather side) is gel coated with S-996 highly UV resistant resin. This part of the process is identical with all of Ampelites GC premium grade sheeting and provides virtually undiminished performance for 25 years.
- Loss of light transmission after 25 years is just 30% compared to a loss of 30% after 10 years for standard fibreglass. Very high resistance to yellowing and discolouration. Over 10 years the change is negligible and covered by Warranty, only minor changes occur in later years. In addition, inbuilt UV protection eliminates 99% of harmful rays.
- Surface erosion is eliminated and covered by Warranty for 25 years. Low surface erosion also improves weathering properties. The gel coated surface provides an almost impenetrable barrier and is warranted against water penetration for 25 years.
- The top sheet uses Ampelite's Proprietary SL Group 3 "Bromine Free" Fire Retardant Resin System as standard. Wonderglas S-996 manufactured in New Zealand after the 15 October 2020 will now use Ampelite's proprietary Group 3 Bromine Free' fire retardant resin system that is currently used to manufacture our SL sheeting products.
- The bottom sheet uses Ampelite's Lexan 2 wall and 5 wall sheeting achieves an Internal Surface group number of 1-S Performance to meet the requirements of the New Zealand Building Code.

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LIGHT AND HEAT TRANSMISSION

Colour	CLEAR		OPAL	
Transmission	Light	Heat	Light	Heat
DR-TW2	65%	62%	49%	46%
DR-TW5	52%	48%	40%	20%

*For information regarding light and heat transmission when using Coolite IR as a top sheet, please contact your local Ampelite office.

INSULATION VALUE = R

DR PREMIUM - 2 WALL	0.30 m ² .k/w
DR PREMIUM - 5 WALL	0.56 m ² .k/w

*R Value Calculated to NZS 4214 – 2006

INSTALLATION

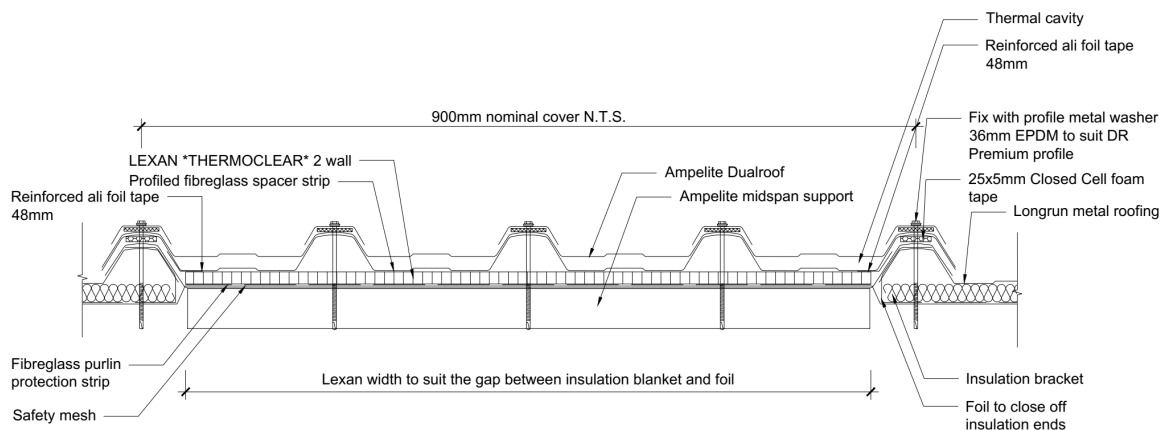
Ampelite Dualroof Premium systems shall be installed in accordance with Ampelite fixing instructions and with AS/NZS 1562.3:1996, Design and installation of sheet roof and wall cladding, Part 3: Plastic, the requirements of the NZ building code and the NZ Metal Roofing Manufacturers Association Code of Practice.

To meet the full terms of warranty, Ampelite Dualroof Premium systems must only be installed using the components and accessories (including fixings) as detailed and supplied by Ampelite.

FOR FULL INSTALLATION DETAILS PLEASE DOWNLOAD A COPY OF OUR INSTALLION GUIDE

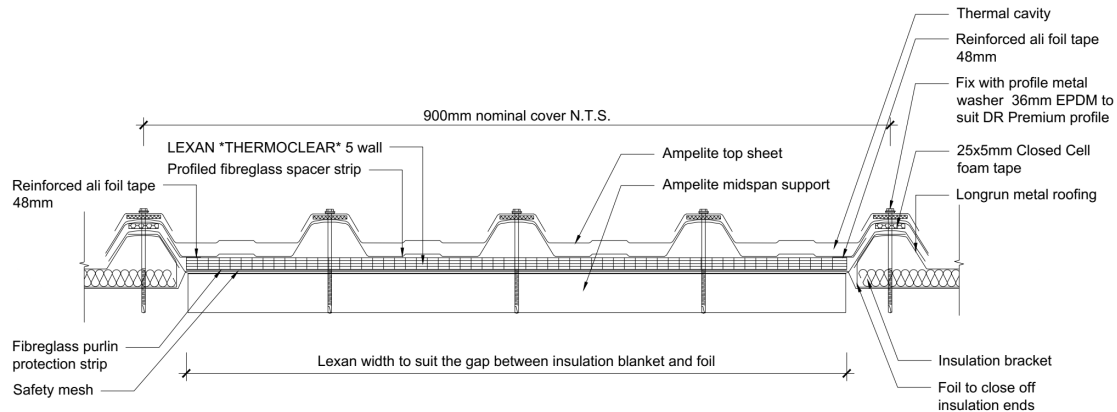
Dualroof Premium DR20/30 profile is compatible with most current commercial roofing profiles such as BB900, Steelspan, Topspan, Maxispan, ST900, Multispan, etc. DP955, Multirib, and ST963 are all available in their own unique profile to match the nominal cover of these profiles.

Dualroof Premium TW2



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Dualroof Premium TW5



SPAN TABLES – 1.5Kpa Wind Load. Concentrated loads as per AS1170.2.F

■ SPANNING CAPACITY

Spanning	1.5KPA				Drape Curve Radius	
	1.1 mm / 1800	1.4 mm / 2400	1.7 mm / 3050	2.2 mm / 3660	1.1 mm / 1800	1.4 mm / 2400
DR-TW2	1600	1800	2000	2300	16 meter	18 meter
DR-TW5	1600	1800	2000	2300	16 meter	18 meter

BUILDING CODE COMPLIANCE

The product will, if used in accordance with the Ampelite installation and maintenance requirements, assist with meeting the following provisions of the building code for a period of 20 years:

- Clause B2 Durability: Performance B2.3.1
- Clause C3 Fire affecting areas beyond the fire source: Buildings C3.3
- Clause E2 External moisture: Performance E2.3.1, E2.3.2
- Clause F2 Hazardous building materials: Performance F2.3.1
- Clause G7 Natural Light

EVIDENCE MEETS NZBC

Test information available from Ampelite (NZ) Ltd and past history of use of Ampelite Dualroof Premium systems in New Zealand indicate that, provided the product use and maintenance is in line with the guidelines contained in the current literature referenced, Ampelite Dualroof Premium systems can be expected to meet the performance criteria in clause B2, C3, E2, F2 and G7 of the New Zealand Building Code, for a period of not less than 20 years.

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EVIDENCE MEETS NZBC

Test information available from Ampelite (NZ) Ltd and past history of use of Ampelite Dualroof Premium systems in New Zealand indicate that, provided the product use and maintenance is in line with the guidelines contained in the current literature referenced, Ampelite Dualroof Premium systems can be expected to meet the performance criteria in clause B2, C3, E2, F2 and G7 of the New Zealand Building Code, for a period of not less than 20 years.

TESTING & SUPPORTING EVIDENCE

The product has and can make available the following additional evidence to support the above statements:

Wonderglas GC (now Wonderglas S-996) has been tested at the Allunga Exposure Laboratory in Allunga QLD, a world renowned testing facility. All methods of testing are performed to strict Standards. The Altrac system (in which the sample tracks the sun), is generally accepted to have a 5 to 1 weathering value. The Wonderglas S-996 result was a light loss of 22% over a period equivalent to 20 years exposure. The test samples still displayed a very smooth, glossy surface with no fibre show at all

ISO5660 (2002), "Reaction to fire test". Fire Group 3 Rating Testing conducted by Centre of Advanced Composite Metals, Engineering, University of Auckland.

Sustainability Document. Environmental Declaration—Sabic Innovative Plastics

EN 13501-1+A1:2009 Fire Classification of construction products & building elements—Part 1: classification using data from reaction to fire tests. Testing conducted by Warrington Fire Gent NV, Global Safety Division, Belgium. The co-relation of wall and ceiling surface finishes derived from Australian or European classifications to the Group Number requirements of NZBC Clause 3.4(a) can, without the need for further testing, be taken as described in the following table:

New Zealand Group Number according to NZBC Clause C3.4(a) using ISO 9705:1993	Australian Group Number according to NCC Specification C1.10 Clause 4 using AS ISO 9705:2003	European Classification using to EN 13501-1:2007+A1:2009
Group Number 1-S	Group 1, and a smoke growth rate index not more than 100	Class A1, A2 or B and Smoke production rating s1 or s2



**World Class, Quality
PLASTIC ROOFING PRODUCTS**

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STANDARDS

Ampelite NZ Limited is an AS/NZS ISO 9001: 2002 SAI Global Certification accredited company providing Quality Assurance in Manufacturing, Supply and Servicing. License number QEC 4787 was certified and issued to the company on the 20 June 1995.

Ampelite Manufactures its products to Australian/New Zealand Standard AS4256.3: 1994, described as "Plastic roof and wall cladding materials – Part 3 – Glass fibre reinforced polyester (GRP)".

COMPANY CONTACT:

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