Alibuild A2Plus

BRANZ

CodeMark Australia


EDWIN W. PAULEY PAVILION

ALIBUILD A2 PLUS

Developed, tested and awarded CodeMark™ certification to demonstrate compliance with New Zealand's building code, Alibuild A2 Plus is the best choice as an exterior cladding material for modern day construction. Manufactured by multi layer extrusion lamination where a fire resistant mineral core is sandwiched between two skins of 0.5mm non-corrosive aluminium. Alibuild A2 Plus is a high quality, lightweight material that offers versatility and style, broadening the design options available to builders and architects.

20 YEAR WARRANTY

FIRE RESISTANT

SUPERIOR FLATNESS

LIGHTWEIGHT

FIRE PERFORMANCE

Alibuild A2 Plus panel, tested to ISO 5560 Parts 1 and 2, meets all NZ external spread of flame requirements. Fireproofing abilities exceed the index requirement grade A2.

PANEL FEATURES

Alibuild panels have excellent torsion and bending strength, whilst remaining extremely rigid and flat.

COLOUR & DESIGN

Alibuild has an extensive range of colours and surface textures including solid, metallic, marble, brushed, wood grain, and chameleon. The in-house coil coating process ensures complete colour consistency.

MACHINABILITY

Alibuild can be easily fixed to any type of cladding application including those consisting of a variety of different shapes, angles, and curves by cutting, bending, folding, fastening, welding, edge joining etc.

WEATHER

Alibuild panels are coated with a fluorocarbon (PVDF) resin, able to withstand extreme weather conditions and minimise the possibility of acid, alkali and salt spray corrosion.

ECO FRIENDLY

A fully recyclable material, Alibuild is RoHS compliant and contains no Lead, Cadmium, Mercury, or Chromium. The core material does not contain any Nitrogen, Chlorine, or Sulphur.

IMPACT RESISTANCE

Alibuild is comprised of a mineral core. This has a higher density than less fire resistant aluminium composite materials which give it greater strength, stiffness and impact resistance.

Alibuild A2Plus

ALIBUILD A2 PLUS

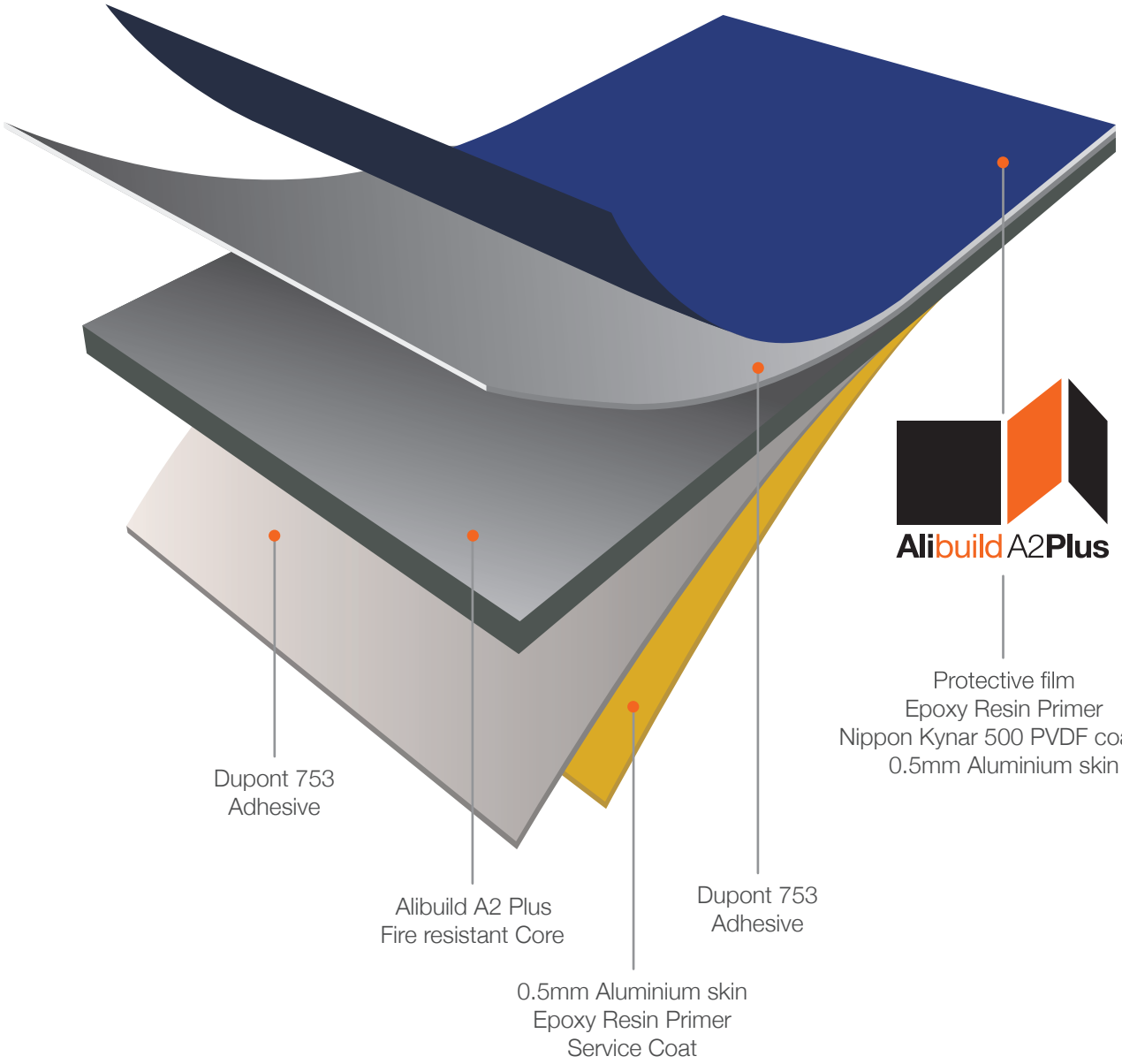
Alibuild A2 Plus is an Aluminium Composite Panel (ACP) exhibiting numerous features and benefits including superior flatness, extreme durability and ease of installation. It is available in a number of standard or custom colours. It is primarily used as an exterior cladding material for modern day construction but is also ideal for internal linings and as a substrate for fascias, signage, facades, and awnings.

Do not confuse Alibuild A2 Plus with other Polyethylene (PE) core ACP's. PE is highly combustible, and unsuitable for use as an external cladding or internal lining and the use of FR is restricted by building height, site location and wall assembly. However, Alibuild A2 Plus has been developed and tested by BRANZ and may be used as an external cladding panel on all buildings. Alibuild A2 Plus has been tested to ISO 5660 and ISO 9705. Alibuild A2 Plus comes with a 20 year warranty against paint degradation, delamination, cracking and peeling.

Alibuild A2 Plus is a superior fire resistant ACP with a core of more than 90% mineral fibre content. It may be used as part of the external wall cladding irrespective of building height or proximity to the notional boundary.

ALIBUILD A2 PLUS | COMPOSITION

Alibuild A2 Plus is the ideal choice as an exterior cladding material for modern day construction. Manufactured by multi layer extrusion lamination where a fire resistant mineral core is sandwiched between two skins of 0.5mm non corrosive aluminium. Alibuild A2 Plus is a high quality, lightweight material that offers versatility and style, broadening the design options available to builders and architects.



ALIBUILD A2 PLUS | PROPERTIES

Physical Properties	Standards	Unit	Value
Aluminium Thickness		mm	0.5mm/0.5mm
Weight		kg/m^2	8
Width		mm	1250 & 1575 Standard – up to 2000

Technical Properties			
Section Modules	DIN53293	cm^3/m	1.75
Rigidity	DIN53293	$kNcm^3/m$	2400
Modules of Elasticity	EN 1999-1	N/mm^2	70000
Tensile Strength of Aluminium	EN 485-2	N/mm^2	Rm: 145-185
Elongation	EN 485-2	%	A50>3%
Peel Strength		N	7
Core	Mineral-filled core with polymer adhesives		

Thermal Properties			
Thermal Resistance	DIN 52612	$kNcm^3/m$	0.002
Thermal Conductivity	DIN 52612	$kNcm^3/m$	1.77
Heat Transition/ Coefficient	DIN 52612	$kNcm^3/m$	5.8
Temperature		C	-50 to +80

FIRE TESTING

Alibuild A2 Plus has been tested to meet the most recent fire performance requirements so lets get a better understanding of the tests, how they are performed, and what they measure.

ISO 9705-1:2016 is an International Standard which specifies the test method to evaluate the reaction of wall and ceiling products to fire when installed at the surface of a small room and exposed directly to a specified ignition source.

The test represents a fire scenario, which starts under well-ventilated conditions in a corner of a specified room with a single open doorway.

Tests performed in accordance with the method specified in this part of ISO provide data for the early stages of a fire from ignition up to flashover. This data is then used to calculate the material group number.

ISO 5660-1:2015 is an International Standard which specifies the heat release rate and smoke production rate. The time to ignition is also measured in this test. Total and peak heat release are the key measurement required to assess suitability of products on high rise buildings and buildings close to boundaries.

The heat release rate is determined by measurement of the oxygen consumption derived from the oxygen concentration and the flow rate in the combustion product stream.

Caution should be taken when using and specifying ACM products that they are appropriate for intended use.

PVDF PAINT COATING

PVDF coating (polyvinylidene fluoride) is a pure thermoplastic fluoropolymer that is non-reactive and possesses multiple coating benefits. PVDF coating is a chemical resistant, thick film barrier coating primarily used on chemical processing equipment due to its low weight and low thermal conductivity.

This coating is unaffected by most chemicals and solvents, and has excellent wear and abrasion resistance. PVDF coatings are especially resistant to solvents, acids and heat, and has low density compared to similar fluoropolymers.

PVDF coatings for steel, aluminium, and other metals also have a high dielectric strength, excellent resistance to weathering elements in harsh environments. Along with the ability to self extinguish, PVDF coating material generates little smoke in the event of a fire.

PVDF COATING | SPECIFICATIONS

POLYVINYL FLOURIDE (PVDF) COATING STATISTICS

Physical Properties	Value
Thickness	.020”- .030”
Temperature	500^{O}F maximum
Chemical Resistance (ASTM D543)	Excellent
Abrasion Resistance (ASTM D4060)	Excellent
Tensile Strength Breaking Point (ASTM D638)	6525 PSI
Coefficient Of Friction (ASTM D1894)	.4 Static/.3 Dynamic
Dielectric Strength (ASTM D149)	260 Volts Per Mil
Hardness (ASTM D676)	80 (Shore D)

ECO FRIENDLY

The Alibuild A2 Plus manufacturers were one of the first companies to develop their own environment management system which is regularly reviewed by independent auditors.

They have successfully achieved certification according to ISO 14001:2015 standard.

All raw material suppliers are chosen from close proximity to reduce CO_2 emissions.

Alibuild A2 Plus is RoHS compliant and contains no Lead, Cadmium, Mercury or Chromium.

The core material does not contain any Nitrogen, Chlorine, or Sulphur.

Alibuild A2 Plus can be fully recycled. Both the core material and the aluminium skin can be recycled and reused for the production of new material.

BRANZ FI 6059-TT
GROUP NUMBER CLASSIFICATION

BRANZ

This is to certify that the specimen described below was tested by BRANZ for determination of Group Number Classification and SMOGRA in accordance with AS ISO 9705 – 2003 and Group Number Classification and Smoke Production Rate in accordance with ISO 9705:1993.

Test Sponsor

Zhanjiagang Feiteng
Aluminium Composite Panel Co Ltd
Houcheng Industry Park
Jingang Town
Zhangjiagang City
Jiangsu
China
215631

Date of test

26th July 2017

Reference BRANZ Test Report

FI 6059-TT – issued 17th August 2017

Test specimen as described by the client

The product submitted for testing was identified by the client as "Feiteng A2 FR Aluminium Composite Panel" and comprised:

- Total Panel thickness 4.13 mm green core and 4.31 mm white core
- Aluminium skin on each side of core ~ 0.4 mm thickness
- A2 FR core material, nominal density 1.75 kg/m².

The product will be marketed as "Alibuild A2" distributed by Mulford Holdings Ltd."

Group Number Classification in accordance with NCC Australia

Calculations were carried out as per AS 5637.1:2015. The Group Number Classification $SMOGRA_{RC}$ for the sample as described above is given in the table below.

Determination of Fire Hazard Properties

The specimen was deemed suitable for testing in accordance with AS 5637.1:2015 and testing was performed in accordance with AS ISO 9705 – 2003 for the purposes of Group Number Classification as specified in the NCC Volume One Specification C1.10 Clause 4.

Group Number Classification in accordance with the New Zealand Building Code

Calculations were carried out according to NZBC Verification Method C/VM2 Appendix A. The classification for the sample as described above is given in the table below.

Building Code Document	Group Number Classification
NCC Volume One Specification C1.10 Clause 4 determined in accordance with AS 5637.1:2015	1 The SMOGRA was 2.5 m^2/s^2 x 1000 and therefore within the 100 m^2/s^2 x 1000 limit
NZBC Verification Method C/VM2 Appendix A	1-S Average Smoke Production Rate was 0.8 m^2/s and therefore within the 5 m^2/s limit

Issued by

P. C. R. Collier
Senior Fire Testing Engineer
IANZ Authorised Signatory

Reviewed by

P. N. Whiting
Senior Fire Engineer/Fire Testing Team Leader
IANZ Authorised Signatory

Issue Date

17th August 2017

Regulatory authorities are advised to examine test reports before approving any product.

IANZ ACCREDITED LABORATORY

All tests and procedures reported herein, unless indicated, have been performed in accordance with the laboratory's scope of accreditation.

1222 Moonshine Road, RD1, Porirua 5381, New Zealand
Private Bag 50 908, Porirua 5240, New Zealand

FH11279-1
NZBC CLASSIFICATION

BRANZ

This is to certify that the specimen described below was tested by BRANZ in accordance with ISO 5660 Parts 1 and 2.

Test Sponsor

Mulford Plastics
5 Arthur Brown Place
Mt Wellington
Auckland
New Zealand

Date of tests

8 and 20 February 2019

Reference BRANZ Test Report

FH11279-1 – issued 14/03/2019

Test specimen as described by the client

ALIBUILD A2 PLUS

A nominally 4 mm thick, black PVDF painted composite panel with 0.5mm aluminium skins on front and back faces bonded to an A2 core.

Specimen ID	Mean Mass (g)	Mean Thickness (mm)	Mean Apparent Density (kg/m³)	Colour
FH11279-1-50-1, 2, 3	72.2	3.5	2062	Black

Classification in accordance with the New Zealand Building Code

Calculations were carried out according to NZBC Verification Method C/VM2 Appendix A. The classification for the sample as described above is given in the table below.

Building Code Document		Performance
NZBC Acceptable Solutions Section 5.8.1	a)	Satisfied
	b)	Satisfied

Issued by

L. F. Hersche
Fire Testing Engineer
BRANZ

Reviewed by

P. C. R. Collier
Senior Fire Testing Engineer
IANZ Approved Signatory

Regulatory authorities are advised to examine test reports before approving any product.

IANZ ACCREDITED LABORATORY

All tests and procedures reported herein, unless indicated, have been performed in accordance with the laboratory's scope of accreditation

Issue Date
14/03/2019

Expiry Date
14/03/2024

CERTIFICATE OF CONFORMITY

This product Certificate is issued under Section 269 of the Building Act 2004 for:

CODEMARK™

Alibuild A2 Plus

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JAS-ANZ

global-mark

Product Description
Alibuild A2 Plus is a 4mm thick aluminum composite material (ACM) with PVDF or NANO PVDF paint finish and mineral A2 core The 0.5mm thick aluminum sheets are made of 3000 or 5000 series Aluminum alloy. The aluminum sheets are glued to the A2 core with a layer EVA Glue on each side of the core. The layer of glue is 30 micron thick or less. Alibuild A2 plus is manufactured and supplied by Feiteng Aluminum Composite Panel
Product purpose and use
Alibuild A2 Plus panels are intended for use as part of an external wall cladding or facade system. The product is only the material used for one of the elements of the external cladding system.
Certificate holder
Mulford Plastics Ltd, 5 Arthur Brown Place, Mt Wellington, New Zealand, Tel: +64 9 573 0145, http://www.mulfordplastics.co.nz

Compliance with the New Zealand Building Code (NZBC):

Alibuild A2 Plus ACM when used in accordance with this Certificate to fabricate a cladding panel, complies with the following provisions of the NZBC:

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2, for the relevant physical conditions of B1.3.3 (a).
Clause B2 DURABILITY: Performance B2.3.1(b).
Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1.

The ACM when, used in accordance with this Certificate, will contribute to meeting the following provisions of the NZBC:

Clause C3 FIRE AFFECTING AREAS BEYOND THE SOURCE: Performance C3.5, C3.7 (b) and (c).
Clause E2 EXTERNAL MOISTURE: Performance E2.3.2.

Certification in respect of C3.5 & C3.7 (b & c) is based on independent tests to ISO5660:2002 in accordance with the method specified in Acceptable Solutions C/AS2-6 Appendix C para C7.1, and the criteria specified in paragraphs 5.8.1 (b). A copy of the test report (BRANZ report FH11279) may be obtained from the certificate holder.

Subject to the following conditions and limitations:

1. This certificate is limited to the compliance with the Building Code of the Alibuild A2 Plus panels only. Establishing compliance of the external cladding system will need to consider the compliance of the other components and the compliance of the installation methodology of the cladding system; this falls outside the scope of this certificate.

End of the document

CodeMark Certification Body		1/4/2019		1/4/2022	GM-CM30098-RevA
Global-Mark Pty Ltd, Suite 4.07, 32 Delhi Road, North Ryde NSW 2113, Australia Tel: +61 (0)2 9886 0222 www.Global-Mark.com.au	Herve Michoux Managing Director	Date of issue	Last update	Date of next re-certification	Certificate Number

The purpose of construction site audits is to confirm the practicability of installing the product; and to confirm the appropriateness and accuracy of installation instructions. In issuing this certificate, Global-Mark has relied on the independent expert and/or laboratory advise or reports.
This certificate is issued by Global-Mark Pty Limited, an independent certification body accredited by the product certification accreditation body (JAS-ANZ) appointed by the Chief Executive of the Ministry of Business Innovation and Employment under the Building Act 2004. The Ministry of Business Innovation and Employment does not in any way warrant, guarantee, or represent that the building method or product the subject of this certificate conforms with the New Zealand Building Code, nor accept any liability arising out of the use of the building method or product. The Ministry of Business Innovation and Employment disclaims, to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages, and costs arising as a result of the use of the building method(s) or product(s) referred to in this certificate. This Certificate may only be reproduced in its entirety.
It is advised to check that this Certificate of Conformity is currently valid and not withdrawn, suspended or superseded by a later issue by referring to the Ministry of Business Innovation and Employment website, http://www.mbie.govt.nz/
New Zealand Building Code (NZBC) references the Building Code in force at the time of issuing the product certificate.
Certificate holder will notify Global-Mark Pty Ltd in accordance with Regulation 15 of the Building (Product Certification) Regulations 2008

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