THOMAS BELL-WRIGHT
A PHENNA GROUP COMPANY

IAS ACCREDITED Product Certification Agency

In accordance with IAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

# Alucopanel Middle East LLC

National Industries Park, P.O. Box 416557,
Dubai, United Arab Emirates

for

## "Alucopanel® A2"
## 4 mm thick Aluminium Composite Panel
## Non-Loadbearing Ventilated Façade System
### Classification Standard: BR 135 Third Edition 2013
### Test Standard: BS 8414-1:2002
### (System Designation: A113B10-4)

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 13th day of November 2025


Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300140**

Initial registration: November 26, 2019 Issued: November 13, 2025 Expiration: November 12, 2028
File Name: ZI021_CRT_SD03FP_Issue6_140_(f) Issue 6

# "Alucopanel® A2"
# 4 mm thick Aluminium Composite Panel
# Non-Loadbearing Ventilated Façade System
## (System Designation: A113B10-4)

A. Certification is given for "Alucopanel® A2" 4 mm thick Aluminium Composite Panel Non-Loadbearing Ventilated Façade System, which has successfully met the requirements for fire propagation characteristics when tested against the requirements of BS 8414-1:2002 "Fire performance of external cladding systems. Test method for non-loadbearing external cladding systems applied to the face of the building" and evaluated according to performance criteria and classification method BR 135 Third Edition 2013 – Annex A "Fire performance of external thermal insulation for walls of multistorey buildings", subject to the limitations herein.

B. Readers of this document should be familiar with the fire test standard and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if it is not so listed.

C. The product is approved based on TBWIC Product Certification Scheme SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 12), which includes pre-test sampling, evidence of performance (under report reference(s) P100759-1000 Issue 2 and P100759-1001 Issue 2), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/Audits.

D. Limitations

D.1. This Certification covers the fire performance characteristics of a non-loadbearing exterior wall cladding system when tested against the requirements of BS 8414-1:2002 and the performance criteria set in Annex A of BR 135 Third Edition 2013.

D.2. This Certification covers the non-loadbearing exterior wall cladding system in its entirety. It does not extend to the individual components of the assembly.

D.3. The design of the non-loadbearing exterior wall cladding assembly covered under this Certification, including the exact specification of the components, the method of fixing and the condition of such components which were subjected to the fire test, shall be duplicated when installed on the site. The design and components of the non-load-bearing exterior wall cladding assembly are not permitted to be substituted, eliminated, or interchanged unless recognised and approved by this Certification.

D.4. This Certification does not cover the mechanical performance of the non-loadbearing exterior wall cladding assembly during the fire exposure, including (but not limited to) the collapse of the system, detaching of panels, or falling of debris that could cause damage in the vicinity where the system is installed.

D.5. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Classification or definition of material as non-combustible
d. Any Resistance to Fire rating
e. The toxicity level of smoke developed during combustion

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f. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible materials
g. Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage, and alike
h. Effects of radiation from nearby fires
i. Other characteristics such as durability, weather-resistance, water permeability, physical and mechanical properties etc.

E. System Configuration

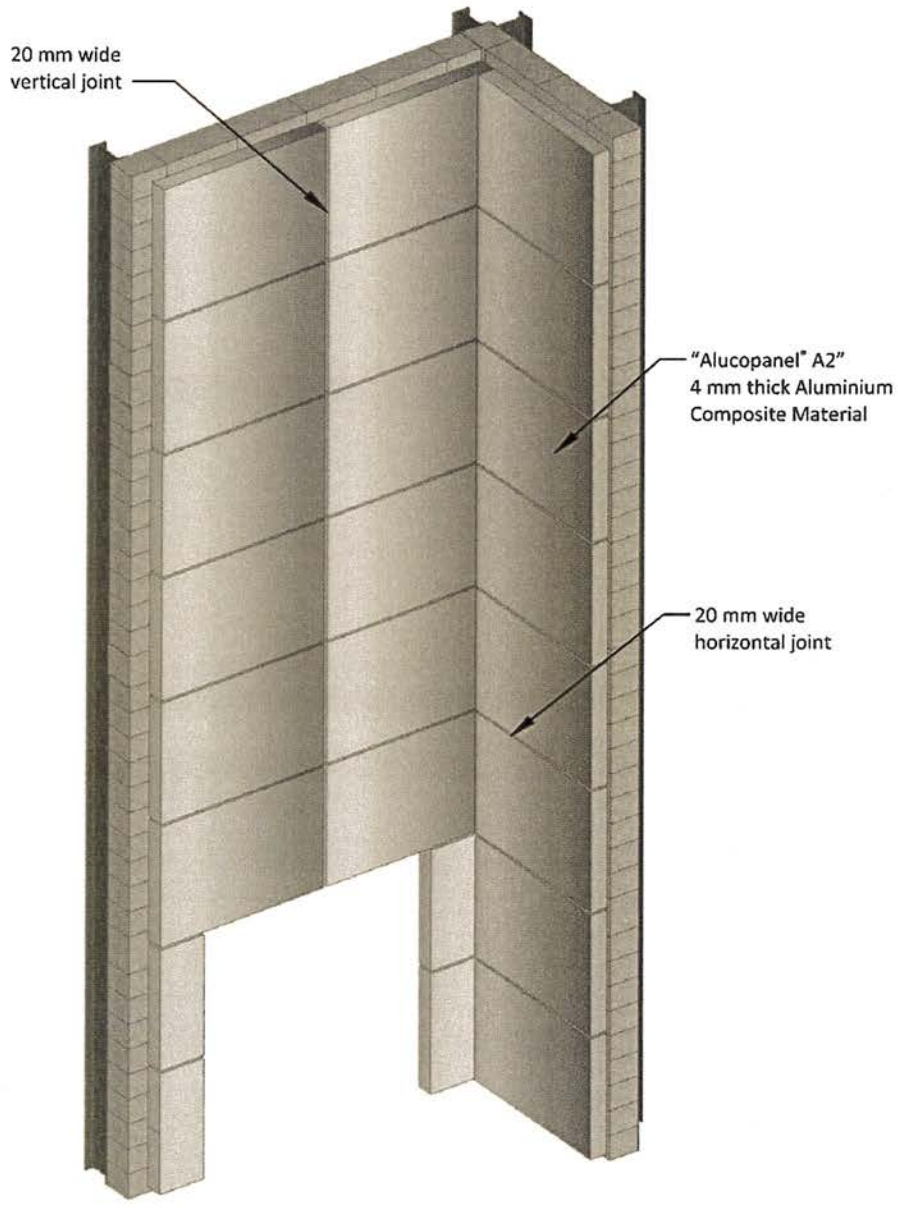



***Figure 1.*** *Aluminium Composite Material Exterior Wall Cladding System*

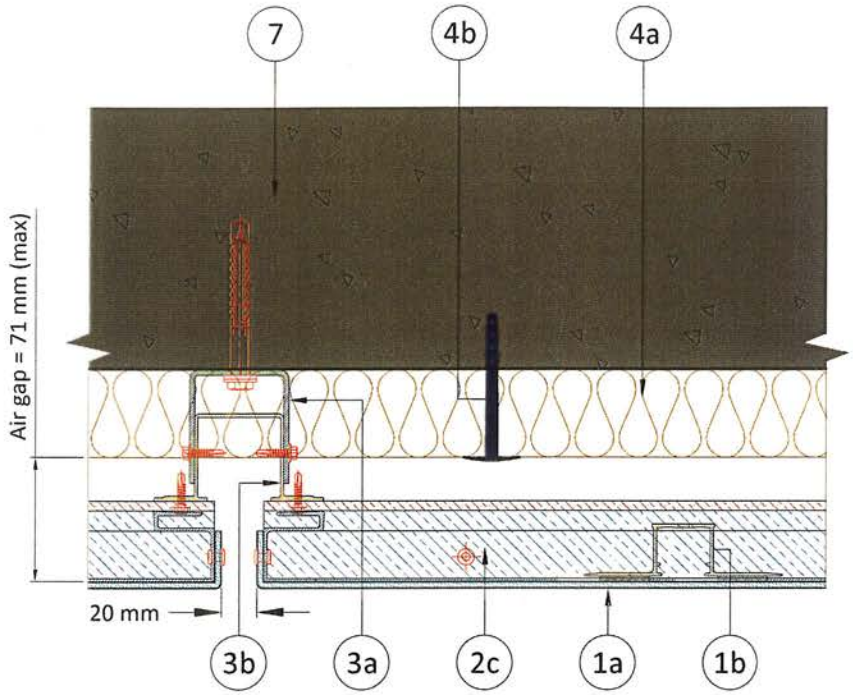



***Figure 2.*** *Horizontal section – joint detail*

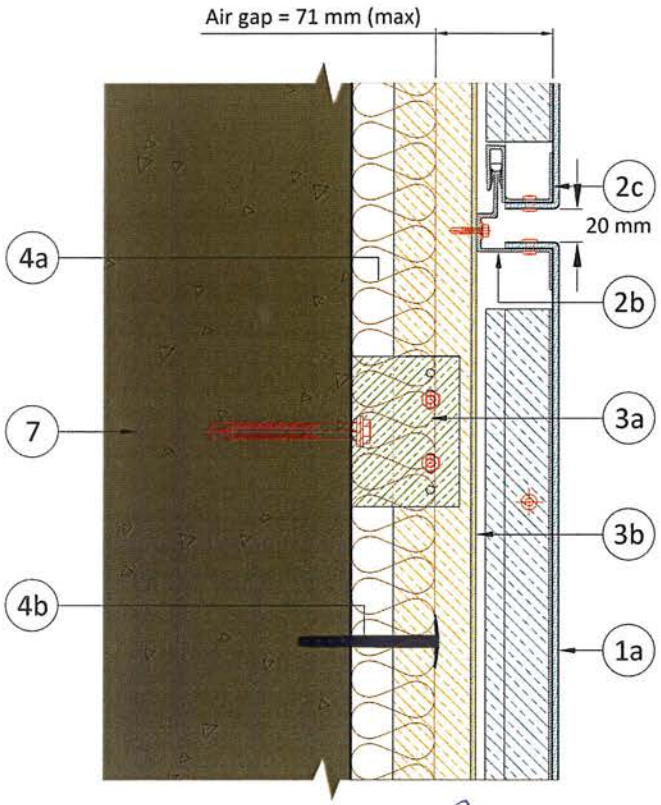



***Figure 3.*** *Vertical section – joint detail*

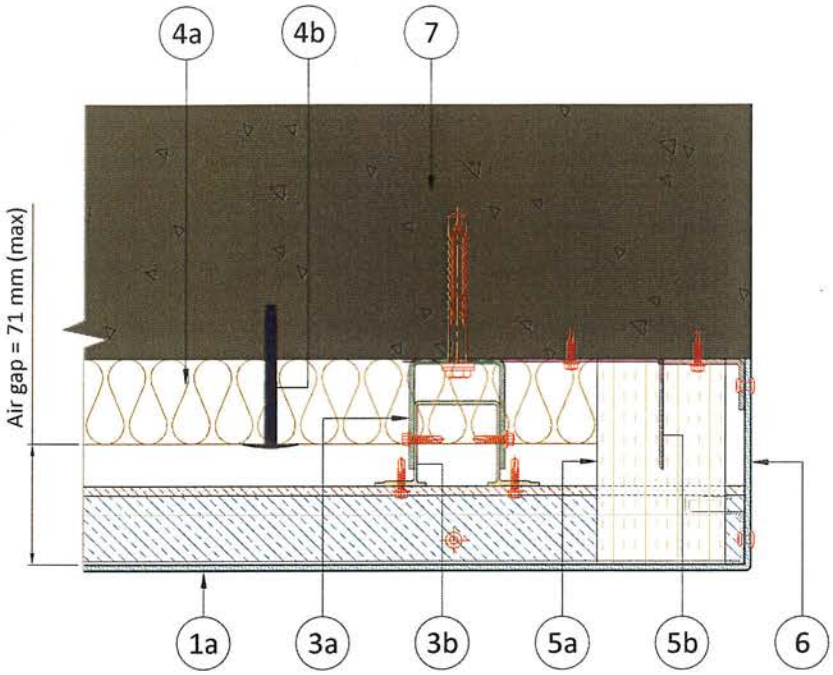



***Figure 4.*** *Horizontal section – window detail*

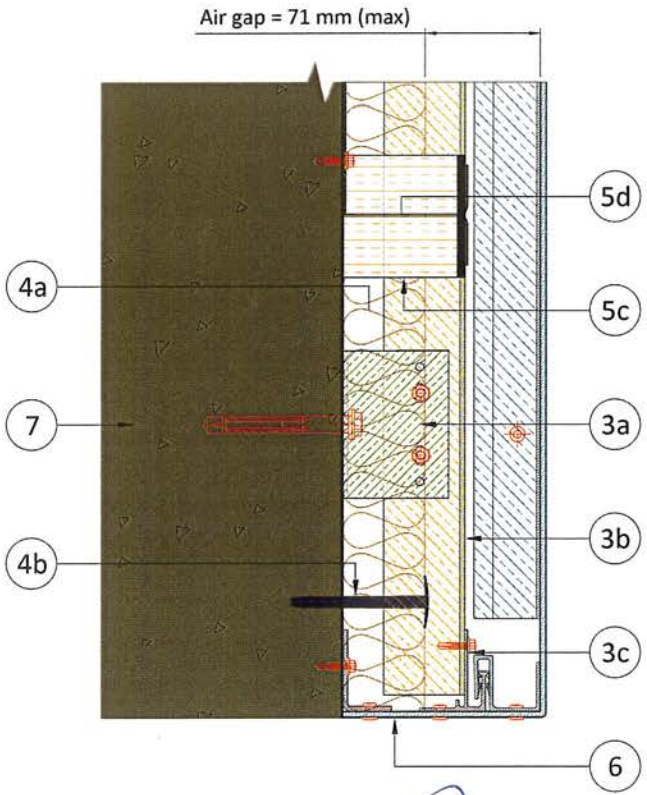



***Figure 5.*** *Vertical section – window detail*

1. Cladding Element

1a. Aluminium Composite Panel (ACP)

"Tray profile" Aluminium Composite Panel with 33 mm deep flanges. A maximum gap of 20 mm shall be maintained between the horizontal and vertical joints. The details of the ACP are as follows:

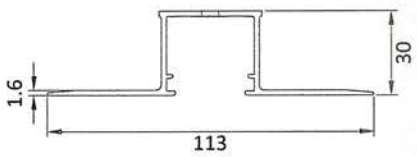
***Table 1.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Weight Per Unit Area | 8 ± 0.5 kg/m² |
| Panel Thickness | 4 ± 0.2 mm |
| Exterior Facing (Top Skin) | Minimum 0.5 mm thick Aluminium Alloy 3105-H16, Polyvinylidene Fluoride (PVDF) coating, 27 microns maximum coating thickness |
| Interior Facing (Bottom Skin) | Minimum 0.5 mm thick Aluminium Alloy 3105-H16, Polyester (PE) coating, 7 microns maximum coating thickness |
| Adhesive | Material: "High molecular content polymer adhesive"<br>Thickness: 70 ± 2 microns<br>Density: 920 ± 10 kg/m³ |
| Core | Description: Mineral-filled inorganic core<br>Thickness: 3 ± 0.1 mm<br>Density: 1800 ± 10 kg/m³ |
| Maximum Panel Width | 1404 mm |
| Minimum Panel Width | 1355 mm |
| Maximum Panel Height | 1050 mm |
| Minimum Panel Height | 970 mm |

1b. Panel Stiffeners

Material: Aluminium, Alloy 6063-T6

Application: Fixed vertically onto the back side of the panels at a maximum spacing of 468 mm, using Acrylic-based adhesive (Lord® 400 Series)

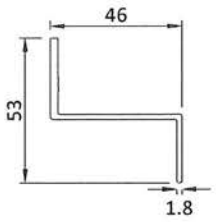



2. Cladding Fixing

2a. Top Fixing

Material: Aluminium, Alloy 6063-T6

Application: Fixed on the top flanges of the top panels using Ø4 × 12 mm stainless steel rivets and fastened against the vertical runners using Ø6.3 × 19 mm stainless steel self-drilling screws




*Note: All dimensions in mm*

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Nicholas Purcell

Seal No.: 103316



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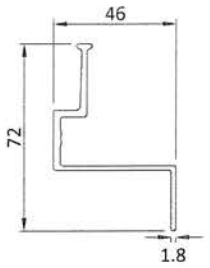
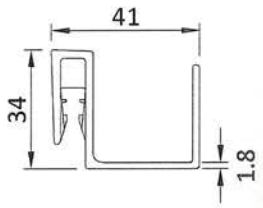
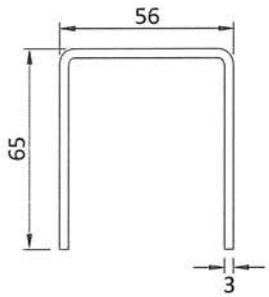
2b. Intermediate Fixing - Top
Material: Aluminium, Alloy 6063-T6
Reference: "DN3466"
Application: Fixed on the top flanges of the panels at intermediate joint locations using Ø4 × 12 mm stainless steel rivets and fastened against the vertical runners using Ø6.3 × 19 mm stainless steel self-drilling screws



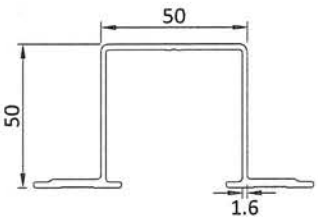

2c. Intermediate Fixing – Bottom and Side
Material: Aluminium, Alloy 6063-T6
Reference: "DN3465"
Application:
- Fixed on the bottom flanges of the panels using Ø4 × 12 mm stainless steel rivets and snap-fitted against the intermediate top fixing and the horizontal runners
- Fixed on the vertical flanges of the panels using Ø4 × 12 mm stainless steel rivets



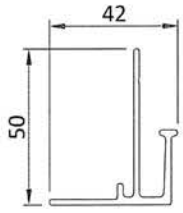

3. Sub-Frame
3a. Wall Brackets
Material: Aluminium, Alloy 6063-T6
Fixing: Fixed against the base wall at a nominal spacing of 846 to 1070 mm vertically and 135 to 712 mm horizontally, using EJOT® Fassadendubel fixings (SDF-KB-10Hx80-E)




3b. Vertical Runners
Material: Aluminium, Alloy 6063-T6
Reference: "DN3468"
Application: Fixed vertically against the wall brackets using 2 nos. of Ø4.8 × 19 mm stainless steel self-drilling hex head screws




3c. Horizontal Runner
Material: Aluminium, Alloy 6063-T6
Reference: "DN3467"
Application: Fixed horizontally at the aperture and the bottom of the assembly, fastened against the flashing using Ø4 × 12 mm stainless steel rivets




*Note: All dimensions in mm*

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4. Exterior Insulation

4a. Mineral Wool

A single layer of mineral wool having Aluminium foil facing on one side, shall be fixed to the base wall using metal insulation fasteners. A maximum air gap of 71 mm shall be maintained between the exterior insulation and the rear face of the ACP panel.

Reference: "S2XX"
Manufacturer: Fujairah Rockwool Factory
Nominal Density: 75 kg/m³
Nominal Thickness: 50 mm
Dimension: 600 × 1200 mm (width × length)

4b. Insulation Fastener

Reference: "MBA-08090"
Material: Galvanised Steel
Dimensions: Ø8 × 90 mm
Manufacturer: Rawlplug S.A.
Application: 5 nos. fixed per slab

5. Cavity Fire Barrier

5a. Vertical Cavity Barrier

A full-seal width cavity barrier shall be mechanically secured to the base wall using fixing brackets. The cavity fire barrier shall be installed vertically adjacent to the vertical edges of the aperture and extend over the full height of the wall assembly.

Material: Pre-compressed Stonewool Lamella with an integral foil facing
Dimension: 75 × 130 mm (width × depth)
Nominal Density: 75 kg/m³
Reference: "Siderise RV-90/30"
Manufacturer: Siderise Insulation Ltd., UK

5b. Vertical Cavity Barrier bracket

The brackets shall be bent into an "L" shape with the short leg fixed to the base wall using Ø4 × 55 mm pan head screws and the long leg impaling the cavity barrier. The fixings shall be located at a nominal spacing of 600 mm centres.

Material: Galvanised steel
Dimension: 120 × 1 mm (total length × thickness)
Manufacturer: Siderise Insulation Ltd., UK

5c. Horizontal Cavity Barrier

An open-state cavity barrier shall be mechanically secured to the base wall using fixing brackets. The cavity fire barrier shall be installed horizontally adjacent to every slab edge termination.

Material: Pre-compressed Stonewool Lamella with an integral foil facing
Dimension: 120 × 90 mm (width × depth)
Nominal Density: 75 kg/m³
Reference: "Siderise RH25-120/90"
Manufacturer: Siderise Insulation Ltd., UK

5d. Horizontal Cavity Barrier bracket
The brackets shall be bent into an "L" shape with the short leg fixed to the base wall using Ø4 × 55 mm pan head screws and the long leg impaling the cavity barrier. The fixings shall be located at a nominal spacing of 600 mm centres.
Material: Galvanised steel
Dimension: 120 × 1 mm (total length × thickness)
Manufacturer: Siderise Insulation Ltd., UK

6. Aperture Flashing
The aperture perimeter shall be covered by extending the flange of the cladding panels. The window flashing shall be fastened to Aluminium angles (Alloy 6063-T6) using Ø4 × 12 mm stainless steel rivets. The angles shall be fixed to the base wall using Ø4 × 55 mm pan head screws.

7. Base Wall with Moisture Barrier
Description: Bituminous waterproof protective coating
Reference: "Nitoproof ® 110/120"
Manufacturer: Al Gurg Fosroc Co. LLC
Application: The base wall shall be made of solid concrete masonry blocks, primed with a layer of Nitoproof 110 bitumen, shall be applied at a coverage rate of 3 m²/litre and allowed to cure for more than 2 hrs after which a layer of Nitoproof 120 bitumen is applied at the coverage rate 3 m²/litre.

F. Approved Manufacturing Location
Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 416557, Dubai,
United Arab Emirates

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UKAS PRODUCT CERTIFICATION
6762

**THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS**

In accordance with UKAS accreditation to ISO 17065

Certification is Hereby Granted

to

# *Alucopanel Middle East LLC*

*P.O. Box 18022, National Industries Park,*
*Dubai, United Arab Emirates*

for

## "Alucopanel® A2"

**4 mm thick Aluminium Composite Material "Close-Joint"**
**Non-Loadbearing Exterior Wall Cladding System**
**Test Method: NFPA 285-2012 Edition**
**(System Designation: A111H81-4)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof this Certificate is issued this 18th day of January 2023

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS
101907
CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300148**

Initial registration: February 16, 2017 Issued: January 18, 2023 Expiration: February 15, 2026
File Name:WL098_CRT_SD03FP_4mm_A2_Issue4_148_(f) Issue 4

# "Alucopanel® A2"
# 4 mm thick Aluminium Composite Material
# "Close-Joint" Non-Loadbearing Exterior Wall Cladding Assembly
# (System Designation: A111H81-4)

A. Certification is given for "Alucopanel® A2" 4 mm thick Aluminium Composite Material "Close-Joint" Non-Loadbearing Exterior Wall Cladding System which has **successfully met** the requirements for fire propagation characteristics when evaluated against NFPA 285-2012 Edition, subject to the limitations below. Readers of this document should be familiar with Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Loadbearing Wall Assemblies Containing Combustible Components and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com, while it remains current. This Certification is not valid if this product is not so listed.

B. The product is approved on the basis of TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies, which includes pre-test sampling, evidence of performance (under ref. TBWIC Test Report No. QJ118 Rev.01), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.

C. Limitations:

C.1. This Certification covers the fire propagation characteristics of a non-loadbearing exterior wall cladding system when evaluated against the ANSI/NFPA 285-2012 Edition. The wall cladding assembly has been evaluated for fire propagation characteristics as specified in the following*:

a. The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly*;

b. The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next*;

c. The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next*; and,

d. The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces*.

C.2. This Certification covers the performance of the non-loadbearing exterior wall cladding system when exposed to fire from an interior room that reaches flashover, breaks exterior windows and exposes the building façade. It is not intended to address fire exposures that originate from the building's exterior*.

C.3. This Certification covers the non-loadbearing exterior wall cladding system in its entirety. Individual components that comprise the wall cladding system (on their own) are not covered under this certification.

C.4. The actual field installations of the non-loadbearing exterior wall cladding system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods and materials are used in the field*.

***NFPA 285 2012 Edition***

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C.5. The design of the non-loadbearing exterior wall cladding assembly covered under this certification including the exact specification of the components, the method of fixing and condition of such components which were subjected to the fire test shall be duplicated when installed on the site. The design and components of the non-loadbearing exterior wall cladding assembly are not permitted to be substituted, eliminated or interchanged unless recognized and approved by this certification.

C.6. The method used to seal the gap at the joints between the panels, along with the components used were evaluated and certified as part of the exterior wall cladding for fire propagation characteristics only. Physical performance, such as (but not limited to) resistance to weathering, resistance to impact/movement, adhesion, mechanical resistance and stability, or thermal properties, are not considered.

C.7. This Certification do not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Classification or definition of material as non-combustible
d. Any Resistance to Fire rating
e. The toxicity level of smoke developed during combustion
f. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible materials
g. Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage and alike
h. Effects of radiation from nearby fires

D. System Configuration

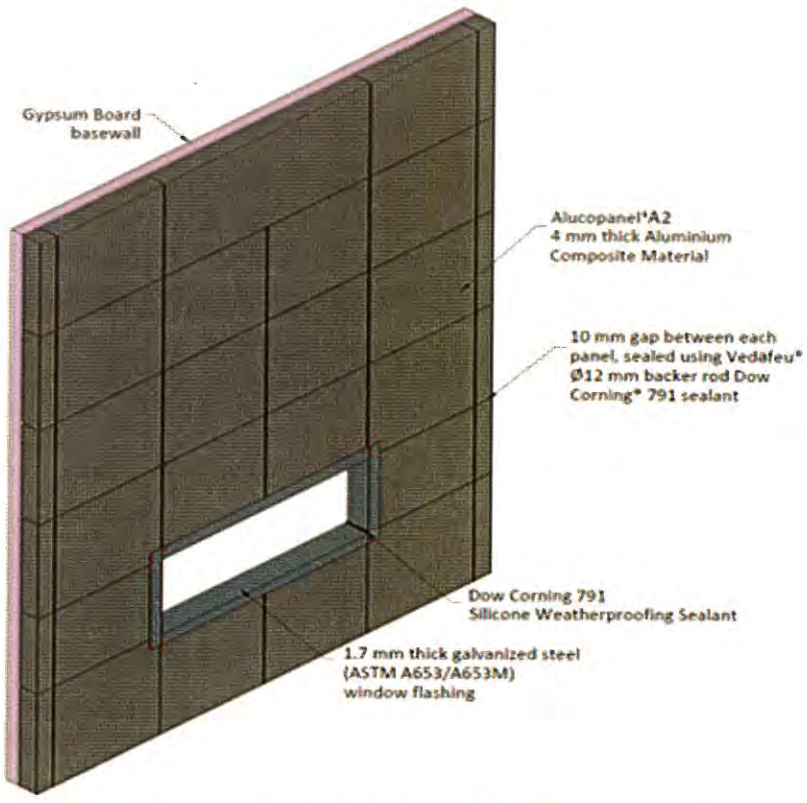


***Figure 1.*** *"Alucopanel® A2" 4 mm thick Aluminium Composite Material "Close-Joint" Non-Loadbearing Exterior Wall Cladding Assembly*

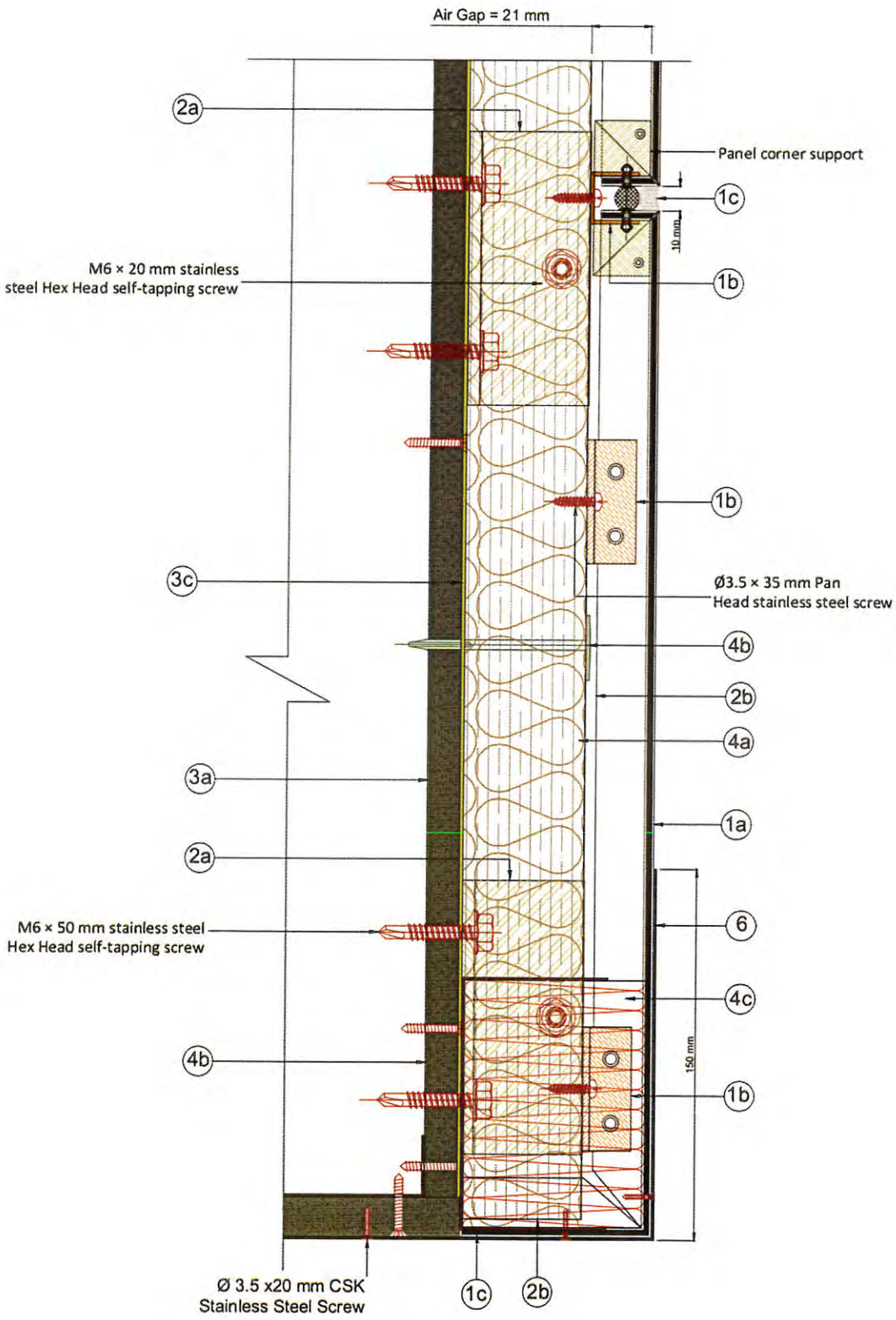


***Figure 2.*** *"Alucopanel® A2" 4 mm thick Aluminium Composite Material "Close-Joint" Non-Loadbearing Exterior Wall Cladding Assembly vertical window section details*

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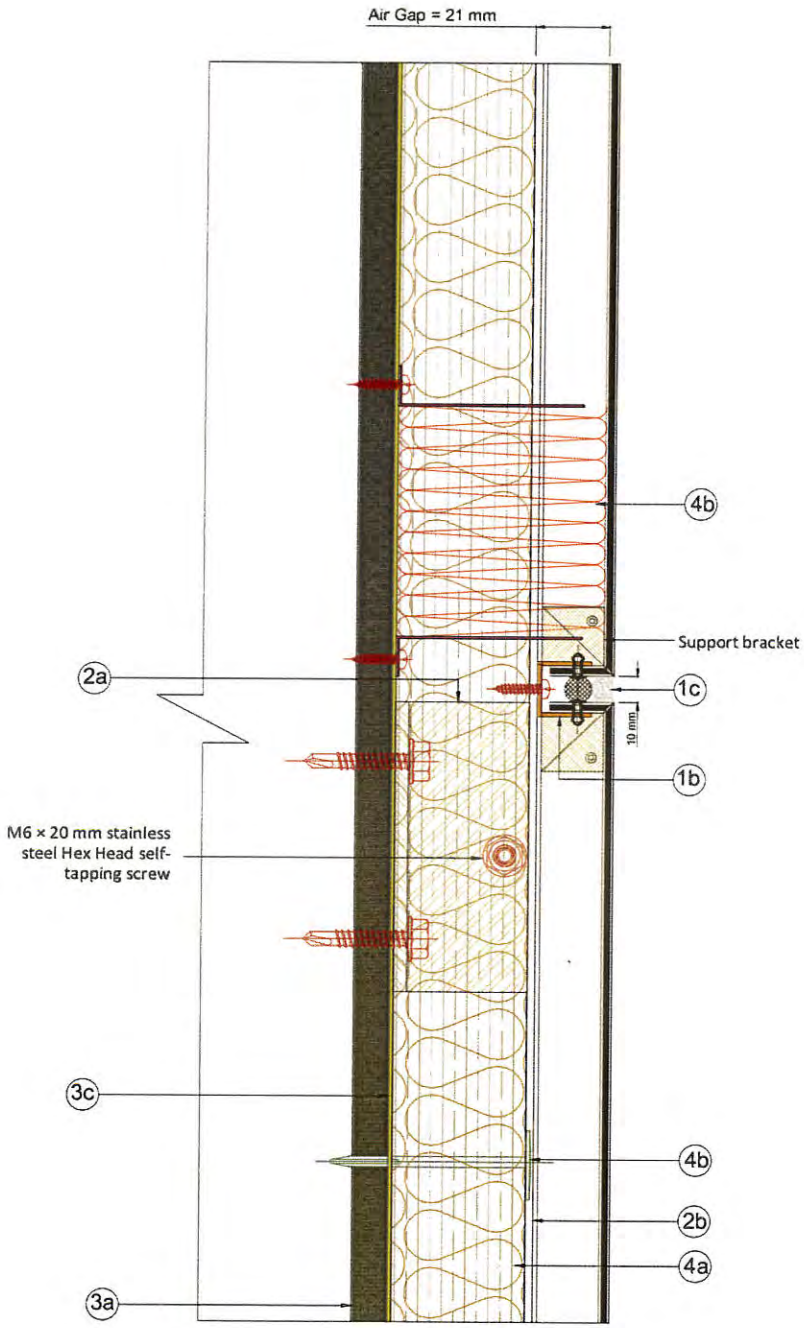


***Figure 3.*** *"Alucopanel® A2" 4 mm thick Aluminium Composite Material "Close-Joint" Non-Loadbearing Exterior Wall Cladding Assembly vertical section details*

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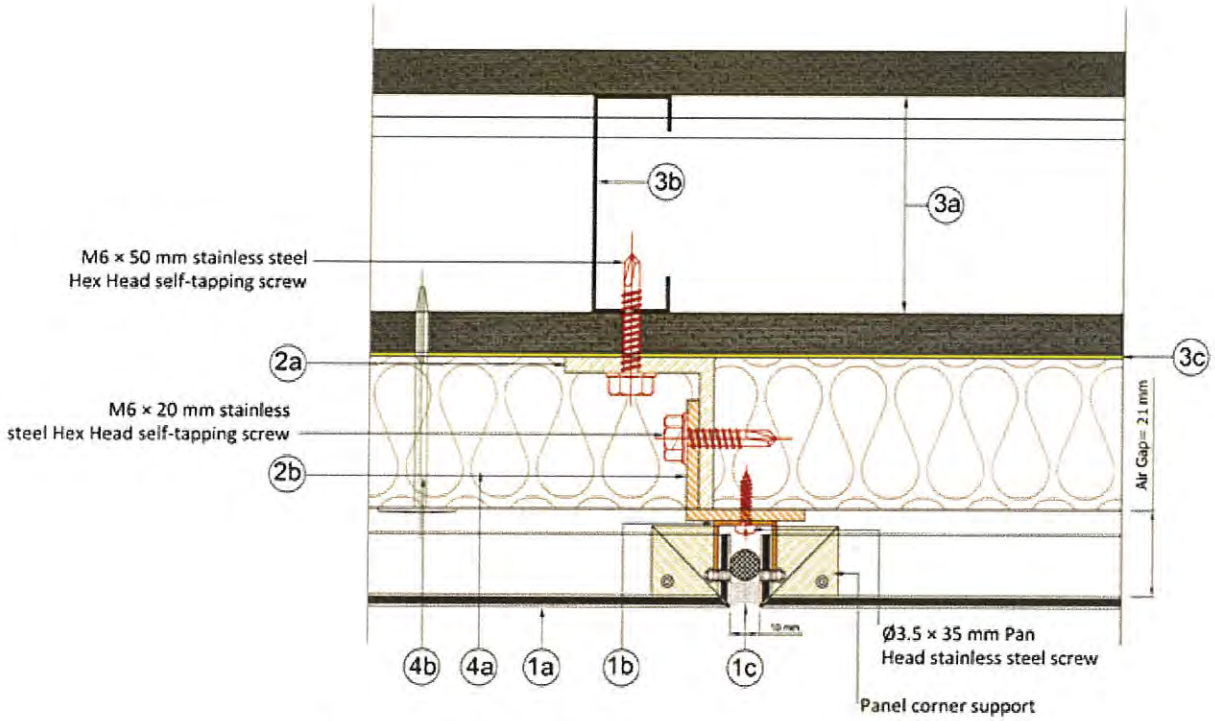


***Figure 4.*** *"Alucopanel® A2" 4 mm thick Aluminium Composite Material "Close-Joint" Non-Loadbearing Exterior Wall Cladding Assembly horizontal section details*

1. Exterior Cladding

1a. Aluminium Composite Panels

"Tray profile" Aluminium Composite Panels (ACP) with 20 mm depth flange. The corner flanges of the panel "tray" shall be reinforced using 1.8 mm thick Aluminium angle 20 × 20 × 20 mm (leg × leg × width) using 2 nos. of Aluminium blind rivets per leg. The details of the ACP are as follows.

***Table 1.*** *"Alucopanel® A2" Panel Details as tested*

| | |
|---|---|
| Panel Weight | 8 ± 0.5 kg/m² |
| Top Skin (exterior skin) | 0.5 mm thick, Aluminium Alloy 3105-H16, Polyvinylidene Fluoride (PVDF) finish, 27 microns max. coating thickness |
| Bottom Skin (interior skin) | 0.5 mm thick, Aluminium, Alloy 3105-H16, Polyester (PE) coating, 7 microns max. coating thickness |
| Panel Thickness | 4 ± 0.2 mm |
| Maximum Panel Width | 2076 mm |
| Maximum Panel Height | 1200 mm |
| Minimum Panel Width | 1033 mm |
| Minimum Panel Height | 850 mm |

1b. Panel Mounting Angles

Panel cleat, one leg fixed to the flanges of the cladding panel tray using 2 nos. of Aluminium blind rivets and located within 150 to 120 mm from the corners of the tray and 500 mm centres. The aluminium support angles were fixed to the runners using a single Ø3.5 x 35 mm pan head stainless steel self-tapping screw.

Material: Aluminium Alloy 6063-T6
Dimension: 20 × 20 × 60 × 1 mm (leg × leg × length × thickness)

1c. Panel Joint Sealing

A gap of 10 mm shall be maintained at the horizontal and vertical panel joints. Ø12 mm Vedafeu mineral fibre rope bound by an outer braiding of fibreglass thread shall be recessed into the joint gap and capped off with "Dow Corning 791" silicone weatherproofing sealant applied at 5 mm depth and finished flush with the exterior surface of the ACP cladding.

2. Mounting System

2a. Wall Brackets

Aluminium "L" angle (Alloy 6063-T5) brackets 50 × 50 x 90 × 4 mm (leg × leg × length × thickness) shall be fixed to the substrate using two nos. of M6 × 50mm Hexagonal head stainless steel self-drilling screws per bracket. The brackets shall be fixed at a nominal spacing of 877 mm to 1146 mm vertically and 1033 mm horizontally.

2b. Vertical Runners

Aluminium angles (Alloy 6063-T5) 40 × 40 x 3 mm (leg × leg × thickness) shall be fixed to the wall brackets using M6 × 20 mm hexagonal head stainless steel self-drilling screws.

3. Base Wall

3a. Interior & Exterior Gypsum Board

1200 x 2400 x 15.9 mm (width x length x thickness) Type X gypsum boards fixed onto 1.2 mm thick galvanised steel studs and tracks using Ø3.5 mm x 35 mm self-tapping screws spaced 300 mm centres. The board joints and screw heads were covered with glass fibre multi-purpose self-adhesive plasterboard jointing tape and jointing compound composed of calcium sulphate-based mineral fillers.

3b. Steel Studs and Tracks

1.2 mm thick galvanised steel (ASTM A653, CS Type B) studs 93 x 32 x 34 x 9 mm (web x flange 1 x flange 2 x lip), and tracks 95 x 32 x 32 x 9 mm (web x flange 1 x flange 2 x lip) welded directly to test frame.

3c. Moisture Barrier

A single coat of Bitumen Nitoproof 110 primer applied to the basewall at the rate of 3 $m^2$/liter using a roller and then allowed to cure before applying a single coat of Bitumen Nitoproof 120 over the primer at the rate of 3 $m^2$/liter using a roller.

4. Exterior Insulation

4a. Mineral Wool

A single layer of 50 mm thick mineral wool slabs, 600 x 1200 mm (width x length), with Aluminium foil facing on one side and a nominal density of 50 kg/$m^3$ shall be fixed to the substrate and secured in place using Rawl Plug MBA08110 Ø8 x 100 mm metal insulation board anchors.

Reference: "S2XX"
Nominal density: 50 kg/$m^3$
Manufacturer: Fujairah Rockwool

4b. Insulation Fastener

Rawl Plug "MBA08110" Ø8 × 100 mm metal insulation board anchors. Minimum 5 nos. per insulation slab.

4c. Cavity Barrier

Installed directly above the window header, and on every floor slab termination across the full width of exterior wall cladding assembly. The cavity barrier shall be made from 100 kg/m³ mineral wool fibre with aluminium facing from Fujairah Rockwool secured between two 60 × 60 × 0.9 mm thick commercial grade galvanised steel "L" angles fixed to the base wall using Ø3.5 × 35 mm self-tapping screws at a nominal spacing of 300 mm. The fire breaks measure 100 × 100 mm (height × thickness) and shall terminate the air gaps between exterior insulation and bottom skin of the ACP.

5. Sealant

Reference: Dow Corning® 791 Silicone Weatherproofing Sealant
Description: "Neutral-curing one-part silicone elastomeric sealant"
Manufacturer: Dow Corning

6. Window Flashing

150 x 232 x 150 x 1.7 mm thick galvanized steel (ASTM A653, CS Type B) flashing sheets, cut to the required length, to cover the inner perimeter of the window opening while overlapping the exterior cladding and interior of the substrate wall by 150 mm. Flashing sections shall be butt-jointed and continuously welded at each corner fold.

E. Approved Manufacturing Location

Sub lease Plot # TP010105B,
National Industries Park,
P.O. Box 18022, Dubai,
United Arab Emirates

Director of Certification
Nicholas Purcell

**THOMAS BELL-WRIGHT**
**INTERNATIONAL CONSULTANTS**

UKAS PRODUCT CERTIFICATION
6762

In accordance with UKAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

*Alucopanel Middle East LLC*

*National Industries Park, P.O. Box 18022,*
*Dubai, United Arab Emirates*

for

**"Alucopanel® A2"**
**4 mm thick Aluminium Composite Material**
**Non-Loadbearing Exterior Wall Cladding System**
**Test Method: NFPA 285-2012 Edition**
**(System Designation: A122H61-4:)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 13th day of August 2023

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS
101734
CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300204**

Initial registration: August 13, 2017 Issued: August 13, 2023 Expiration: August 12, 2026
File Name: XG146_CRT_SD03FP_A2_4mm_Issue4_204_(f) Issue 4

This certificate and schedules are held in force by regular Factory Inspections by Thomas Bell-Wright International Consultants (TBWIC). Refer to www.tbwcert.com or contact TBWIC Certification Division to validate the current status of Certification. This certificate remains the property of Thomas Bell-Wright International Consultants, PO Box 26385, Dubai, UAE. Tel: +971 4 8215777, Email: certification@bell-wright.com
Web: www.bell-wright.com


F 19 Scheme Certificate Issue 7 Issued Feb 2020

# "Alucopanel® A2"
## 4 mm thick Aluminium Composite Material Non-Loadbearing Exterior Wall Cladding System
### (System Designation: A122H61-4)

A. Certification is given for the "Alucopanel® A2" 4 mm thick Aluminium Composite Material Non-Loadbearing Exterior Wall Cladding System, which has **successfully met** the requirements for fire propagation characteristics when evaluated against NFPA 285-2012 Edition – "Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components", subject to the limitations below.

B. Readers of this document should be familiar with the fire test standard and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if this product is not so listed.

C. The product is approved on the basis of TBWIC Product Certification Scheme SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 11), which includes pre-test sampling, evidence of performance (under report reference(s): RE012 (Rev.01)), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.

D. Limitations:

D.1. This Certification covers the fire propagation characteristics of exterior wall assembly when evaluated against the NFPA 285-2012 Edition fire test method. The exterior wall assembly has been evaluated for fire propagation characteristics as specified in the following*:

a. The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly*;
b. The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next*;
c. The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next*; and,
d. The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces*.

D.2. This Certification covers the performance of the non-loadbearing exterior wall cladding system when exposed to fire from an interior room that reaches flashover, breaks exterior windows and exposes the building façade. It is not intended to address fire exposures that originate from the building's exterior*.

D.3. This Certification covers the exterior wall assembly in its entirety. It does not extend to individual components that comprise the exterior wall assembly (on their own).

D.4. The actual field installations of the non-loadbearing exterior wall cladding system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods and materials are used in the field*.

D.5. The design of the non-loadbearing exterior wall assembly covered under this certification including the exact specification of the components, a method of fixing and condition of such component which was subjected to the fire test shall be duplicated when installed on the site. The design and components of the exterior wall cladding assembly are not permitted to be substituted, eliminated or interchanged unless recognized and approved by this certification.

** NFPA 285-2012 Edition*

Certificate Number: TBW0300204

Director of Certification
Nicholas Purcell

Seal number: 101734



Issued: 13 Aug 2023
Valid to: 12 Aug 2026

D.6. The method used to seal the gap in the joints between the panels and the components used was evaluated and certified as part of the exterior wall cladding for fire propagation characteristics only. Physical performance, such as (but not limited to) resistance to weathering, resistance to impact/movement, adhesion, mechanical resistance and stability, or thermal properties, are not considered.

D.7. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Classification or definition of material as non-combustible
d. Any Resistance to Fire rating
e. The toxicity level of smoke developed during combustion
f. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible materials
g. Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage, and alike
h. Effects of radiation from nearby fires

E. System Configuration

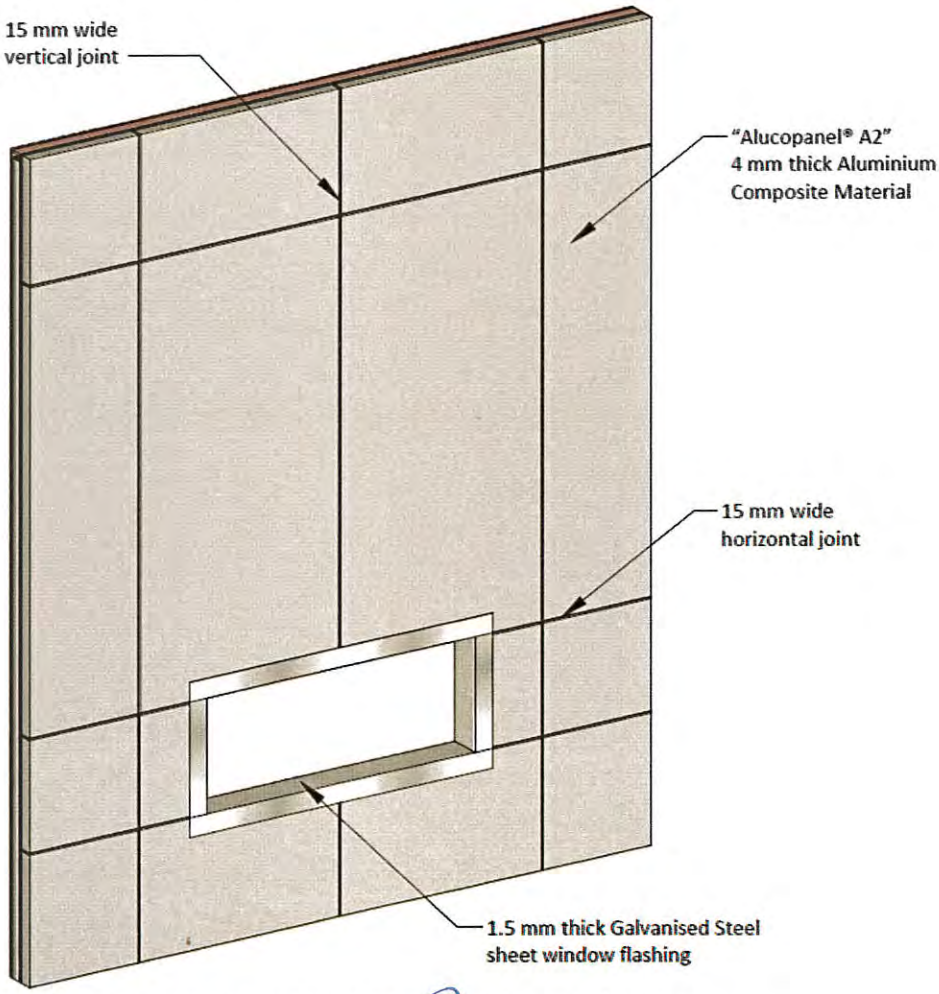


***Figure 1.*** *Aluminium Composite Material Non-Loadbearing Exterior Wall Cladding System*

Certificate Number: TBW0300204

Director of Certification
Nicholas Purcell

Seal number: 101734



Issued: 13 Aug 2023
Valid to: 12 Aug 2026

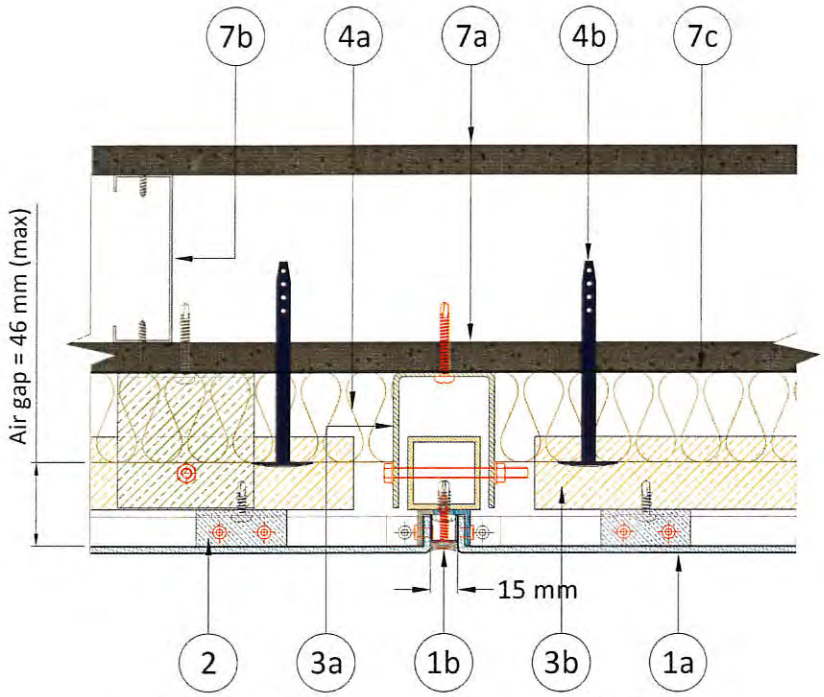


***Figure 2.*** *Horizontal Section – Joint Details*

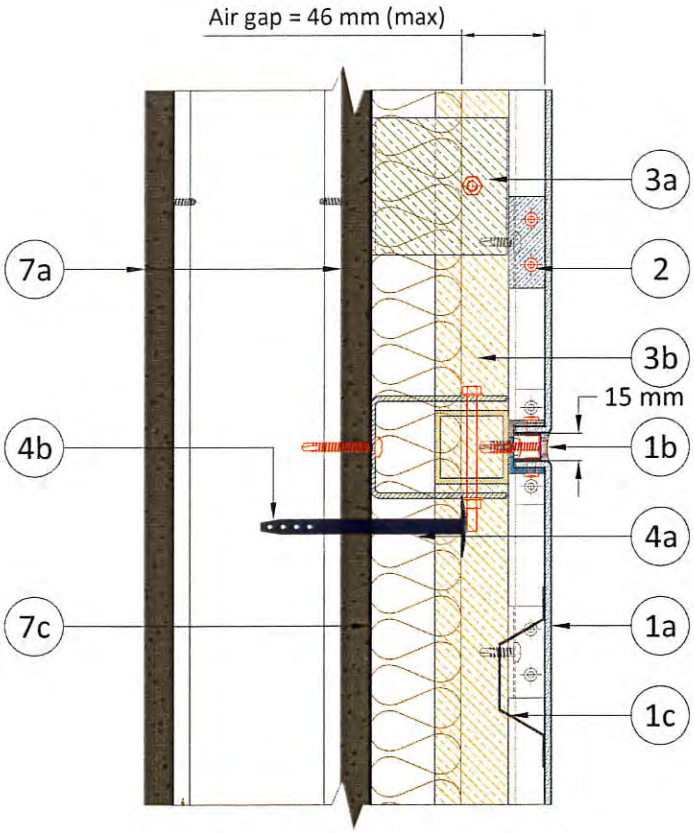


***Figure 3.*** *Vertical Section – Joint Details*

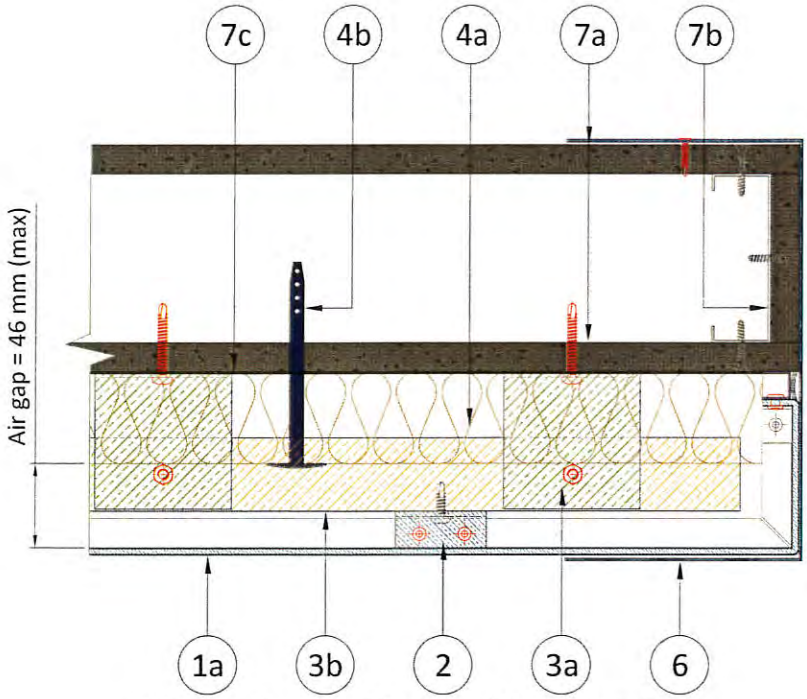


***Figure 4.*** *Horizontal Section – Window Details*

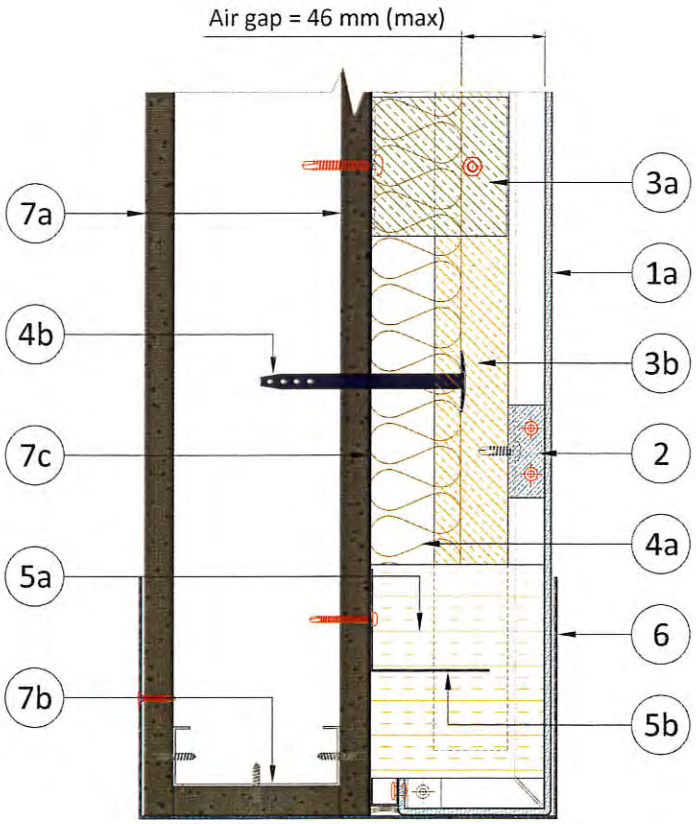


***Figure 5.*** *Vertical Section – Window Details*

1. Cladding Element

1a. Aluminium Composite Panel

"Tray profile" Aluminium Composite Panel with 20 mm deep flanges. The panel corners are reinforced with aluminium angles (20 × 20 × 20 × 1.5 mm, leg × leg × width × thickness) which shall be fixed to the flanges using Ø8 × 15 mm aluminium rivets. The details of the ACP are as follows:

***Table 1.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Weight Per Unit Area | 8 ± 0.5kg/m² |
| Panel Thickness | 4 ± 0.2 mm |
| Exterior Facing (Top Skin) | 0.5 mm thick (minimum) Aluminium Alloy 3105-H16, Polyvinylidene Fluoride (PVDF) coating, 27 microns maximum coating thickness |
| Interior Facing (Bottom Skin) | 0.5 mm thick (minimum) Aluminium Alloy 3105-H16, Polyester (PE) coating, 7 microns maximum coating thickness |
| Adhesive | Material: "High molecular content polymer adhesive" Thickness: 70 ± 2microns Density: 920 ± 10 kg/m³ |
| Core | Material: Mineral-filled inorganic core Thickness: 3 ± 0.1 mm Density: 1800 ± 10 kg/m³ |
| Maximum Panel Height | 2960 mm |
| Maximum Panel Width | 1460 mm |
| Minimum Panel Height | 737 mm |
| Minimum Panel Width | 478 mm |

1b. Panel Joint Seal

A maximum gap of 15 mm, maintained between the panel joints, shall be fixed with a 15 × 15 × 1 mm (web × flange × thickness) Aluminium (Alloy 6063-T4) U-channel using Ø4.8 × 19 mm stainless steel self-tapping pan head screws and capped with "Illbruck FS550" Silicone-based sealant, applied at a nominal depth of 5 mm, extruded smoothly and flush with the exterior surface of the ACP cladding.

1c. Panel Stiffener

Galvanized steel "Hat" profiles, 25 × 97 × 1 mm (height × base × thickness), shall be fixed at the back of the panels, in parallel to the short edge at a nominal spacing of 60 to 65 mm from all edges of the panels and 600 mm centres, using "Tremco PL 400" adhesive.

2. Cladding Fixing

Aluminium angles (Alloy 6063-T6), 20 × 20 × 50 × 3 mm (leg × leg × width × thickness) shall be fixed on the flanges of the tray using 2 nos. of Ø8 mm aluminium blind rivets at a nominal spacing of 150 to 200 mm centres. The angles shall be fixed to the runners using Ø5.5 × 20 mm stainless steel self-drilling pan head screws.

3. Sub-Frame

3a. Wall Bracket
Galvanised Steel (ASTM A653/A653M - Commercial Grade) "U" channels, 50 × 75 × 75 × 3 mm (web × flange × length × thickness), fixed against the base wall using Ø5.5 × 40 mm stainless steel self-tapping pan head screws. The brackets shall be fixed at a nominal vertical spacing of 1000 mm and horizontal spacing according to the panel sizes.

3b. Runner
Aluminium (Alloy 6063-T6) square hollow section (SHS), 40 × 40 × 3 mm, shall be fixed against the wall brackets using Ø6 × 75 mm hex head bolts with nut and washer.

4. Exterior Insulation

4a. Insulation Material
A single layer of mineral wool with Foil Scrim facing on one side, fixed to the base wall using metal insulation fasteners. A maximum air gap of 46 mm shall be maintained between the exterior insulation and the back of the ACP panel.
Reference: "Façade Slab 32 Ultimate"
Manufacturer: Knauf Exeed Insulation LLC
Nominal Density: 36 kg/m³
Nominal Thickness: 50 mm
Dimension: 1000 × 1200 mm (width × length)

4b. Insulation Fastener
Material: Galvanised Steel
Reference: "MBA-08110"
Dimension: Ø8 × 110 mm
Manufacturer: Rawlplug Ltd.
Fixing Details: 6 nos. fixed for each slab

5. Cavity Fire Barrier

5a. Cavity Barrier
A full-seal horizontal cavity barrier shall be mechanically secured to the base wall using steel fixing brackets. The cavity fire barrier shall be installed horizontally above the window header and at the top edge of the cladding assembly.
Material: Pre-compressed Stonewool Lamella with an integral foil facing
Dimension: 115 × 115 mm (thickness × depth)
Nominal Density: 75 kg/m³
Reference: "Siderise® CW-FS120"
Manufacturer: Siderise Insulation Ltd. UK

5b. Cavity Barrier Bracket
Material: Galvanized steel (ASTM A653/A653M - Commercial Grade)
Dimension: 55 × 65 × 1 mm (leg × height × thickness)
Manufacturer: Al Abbar Aluminium
Fixing: Fixed to the base wall at a nominal spacing of 600 mm using Ø3.5 × 35 mm stainless steel self-tapping screws

6. Window Flashing
The window perimeter shall be covered with a pre-bent 1.5 mm thick Galvanised steel sheet (ASTM A653/A653M- Commercial Grade), overlapping to the interior and exterior sides of the base wall by 130 mm. The window flashing shall be fixed to the base wall using Ø3.5 × 20 mm stainless steel self-drilling countersunk head screws at a nominal spacing of 200 mm.

7. Base Wall

7a. Interior & Exterior Gypsum Board
1200 × 2400 × 15.9 mm (width × length × thickness) Type X gypsum boards shall be fixed vertically onto 1.2 mm thick galvanised steel studs and tracks using Ø3.5 × 35 mm self-tapping screws at 300 mm centres vertically. The board joints shall be covered with glass fibre multi-purpose self-adhesive plasterboard jointing tape and jointing compound. The screw heads shall also be covered with the jointing compound.

7b. Steel Studs and Tracks
Galvanised steel (ASTM A653/A653M - Commercial Grade) studs, 93 × 32 × 34 × 9 × 1.2 mm (web × flange × flange × lip × thickness) and tracks, 95 × 32 × 9 × 1.2 mm (web × flange × flange × thickness) welded directly to the test frame.

7c. Moisture Barrier
Reference: "Nitoproof® 110" & "Nitoproof® 120"
Description: Bituminous waterproof protective coating
Manufacturer: Al Gurg Fosroc Co. LLC
Application: The base wall shall be applied with a layer of "Nitoproof 110®", applied at a coverage rate of 3 $m^2$/litre, and finished with a layer of "Nitoproof® 120", applied at the coverage rate 3 $m^2$/litre.

F. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 18022,
Dubai, United Arab Emirates

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UKAS PRODUCT CERTIFICATION
6762

**THOMAS BELL-WRIGHT**
**INTERNATIONAL CONSULTANTS**

In accordance with UKAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

*Alucopanel Middle East L.L.C*

*National Industries Park, P.O. Box 18022,*
*Dubai, United Arab Emirates*

for

**"Alucopanel® A2"**
**6 mm thick Aluminium Composite Panel "Closed-Joint"**
**Non-Loadbearing Exterior Wall Cladding System**
**Test Method: NFPA 285-2012 Edition**
**(System Designation: A121H61-6)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 28th day of September 2023

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS 101767 CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300224**

Initial registration: September 28, 2017 Issued: September 28, 2023 Expiration: September 27, 2026
File Name: XG146_CRT_SD03FP_A2_Issue5_224_(f) Issue 5

# "Alucopanel® A2"
## 6 mm thick Aluminium Composite Panel "Closed-Joint"
## Non-Loadbearing Exterior Wall Cladding System
### (System Designation: A121H61-6)

A. Certification is given for the "Alucopanel® A2" 6 mm thick Aluminium Composite Panel "Closed-Joint" Non-Loadbearing Exterior Wall Cladding System, which has **successfully met** the requirements for fire propagation characteristics when evaluated against NFPA 285-2012 Edition subject to the limitations below.

B. Readers of this document should be familiar with the Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if it is not so listed.

C. The product is approved on the basis of TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 11), which includes pre-test sampling, evidence of performance (under report reference RF095 (Rev.01)), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.

D. Limitations:

D.1. This Certification covers the fire propagation characteristics of exterior wall assembly when evaluated against the NFPA 285-2012 Edition fire test method. The exterior wall assembly has been evaluated for fire propagation characteristics as specified in the following*:

a. The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly*;
b. The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next*;
c. The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next*;
d. The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces*.

D.2. This Certification covers the performance of the non-loadbearing exterior wall cladding assembly when exposed to fire from an interior room that reaches flashover, breaks exterior windows and exposes the building façade. It is not intended to address fire exposures that originate from the building's exterior*.

D.3. This Certification covers the non-loadbearing exterior wall assembly in its entirety. It does not extend to individual components that comprise the exterior wall assembly (on their own).

D.4. The actual field installations of the exterior wall cladding system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods and materials are used in the field*.

D.5. The design of the non-loadbearing exterior wall cladding assembly covered under this certification, including the exact specification of the components, method of fixing, and condition of such components which were subjected to the fire test, shall be duplicated when installed on the site. The design and components of the non-loadbearing exterior wall cladding assembly are not permitted to be substituted, eliminated, or interchanged unless recognised and approved by this certification.

** NFPA 285-2012 Edition*

Certificate Number: TBW0300224

Director of Certification
Nicholas Purcell

Seal number: 101767



Issued: 28 Sep 2023
Valid to: 27 Sep 2026

D.6. The method used to seal the gap on the joints between the panels, along with the components used, were evaluated and certified as part of the exterior wall cladding for fire propagation characteristics only. Physical performance, such as (but not limited to) resistance to weathering, resistance to impact/movement, adhesion, mechanical resistance and stability, or thermal properties, are not considered.

D.7. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Classification or definition of material as non-combustible
d. Any Resistance to Fire rating
e. The toxicity level of smoke developed during combustion
f. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible materials
g. Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage, and alike
h. Effects of radiation from nearby fires

E. System Configuration

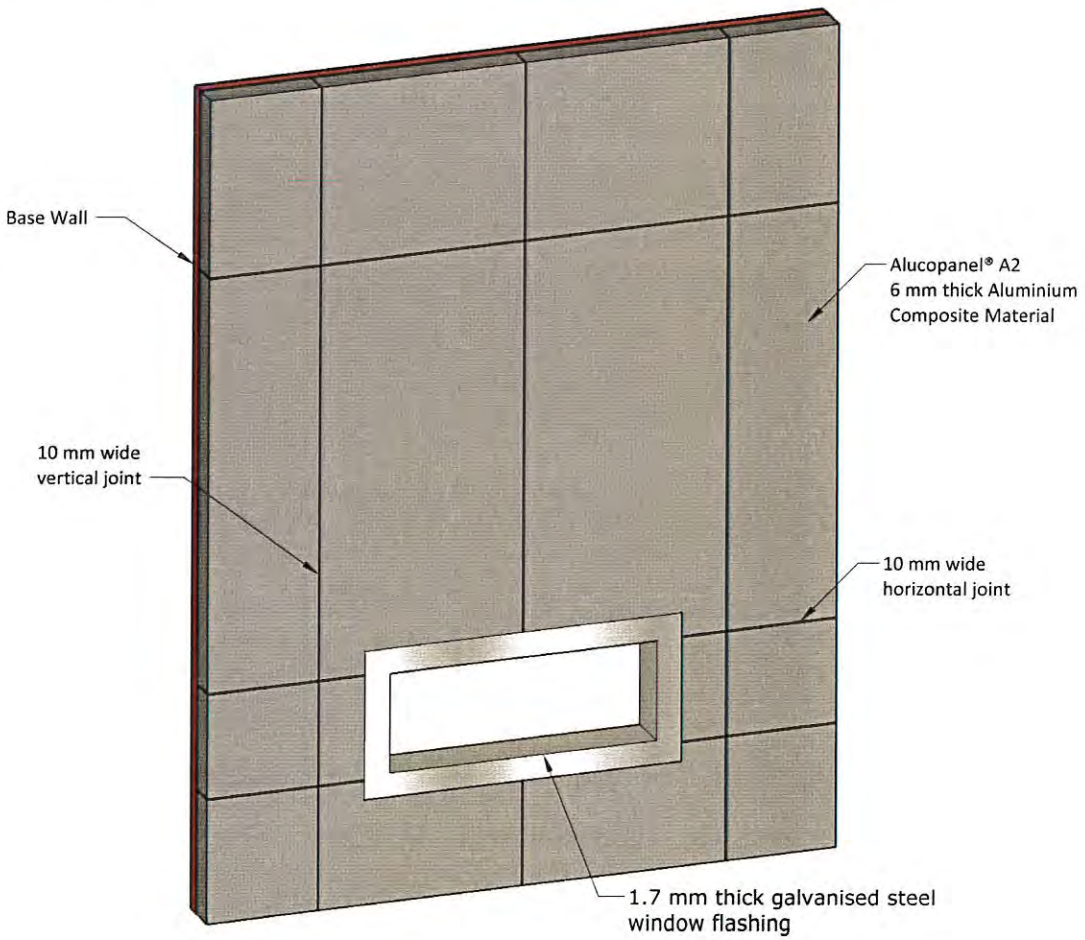


***Figure 1.*** *Aluminium Composite Material Exterior Wall Cladding System*

Certificate Number: TBW0300224

Director of Certification
Nicholas Purcell

Seal number: 101767



Issued: 28 Sep 2023
Valid to: 27 Sep 2026

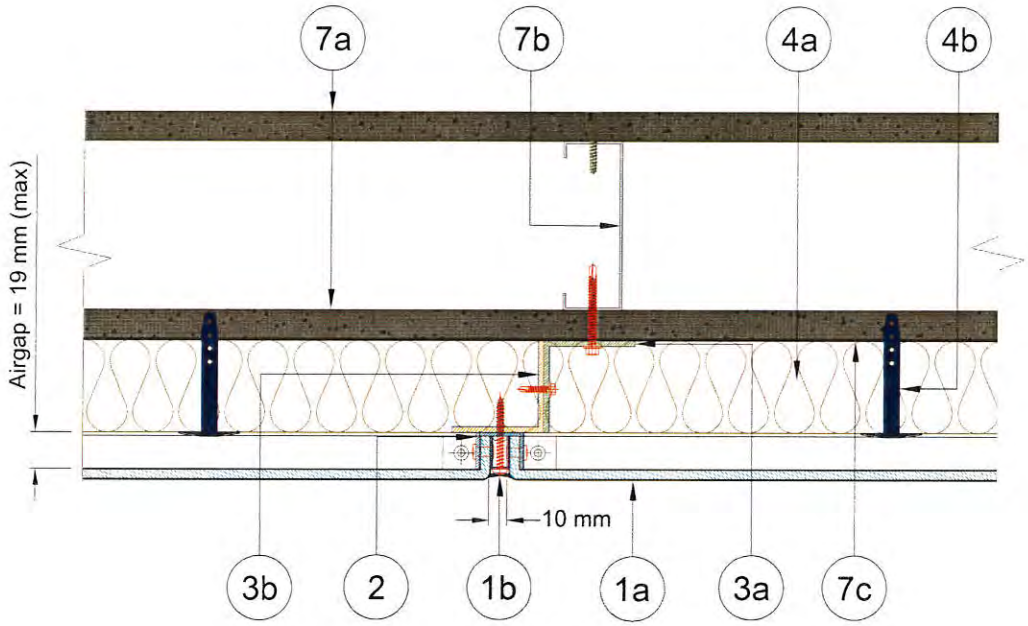


***Figure 2.*** *Horizontal section – joint details*

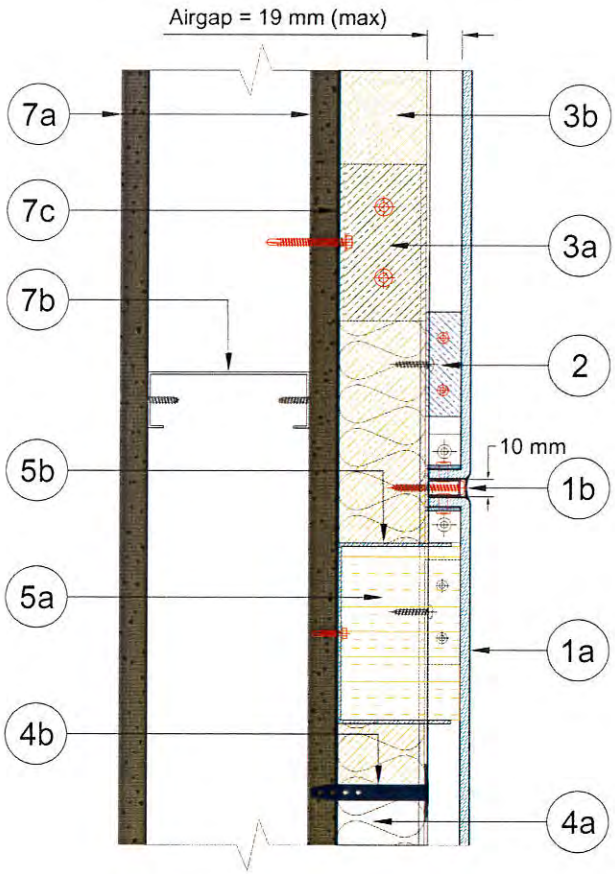


***Figure 3.*** *Vertical section – joint details*

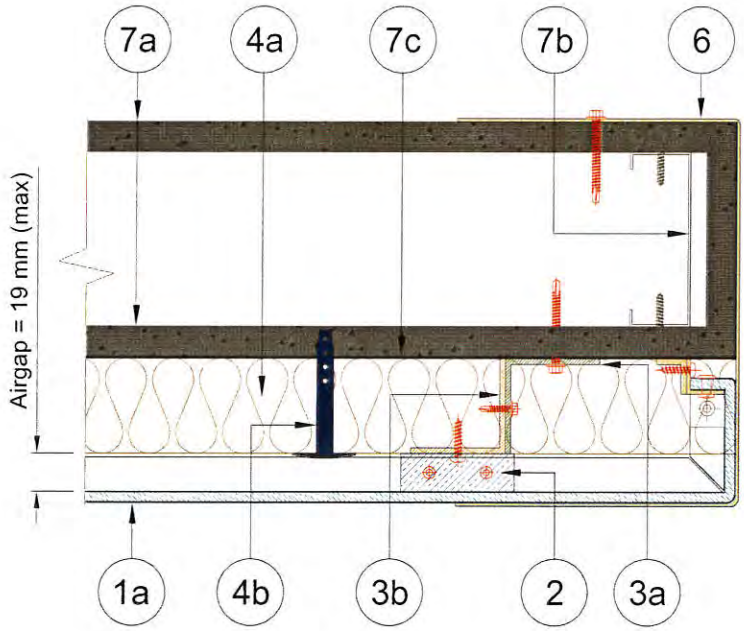


***Figure 4.*** *Horizontal section – window details*

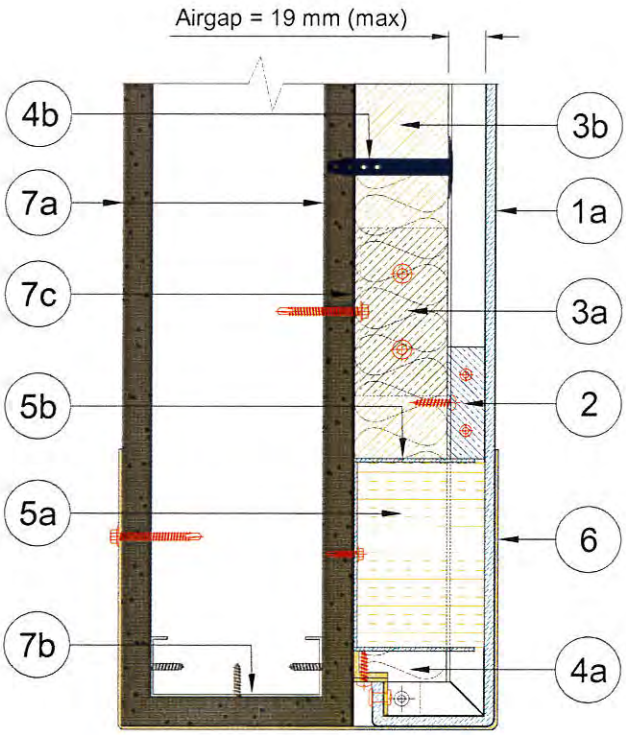


***Figure 5.*** *Vertical section – window details*

Certificate Number: TBW0300224

Director of Certification
Nicholas Purcell

Seal number: 101767



Issued: 28 Sep 2023
Valid to: 27 Sep 2026

1. Cladding Element

1a. Aluminium Composite Panel

"Tray profile" Aluminium Composite Panel (ACP) with 20 mm deep flanges. The panel corners shall be reinforced with aluminium angles (20 × 20 × 15 × 2 mm, leg × leg × width × thickness) using 2 nos. of Ø4 × 16 mm aluminium blind rivets. The details of the ACP are as follows:

***Table 1.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Weight Per Unit Area | 11.8 ± 0.5 kg/m² |
| Panel Thickness | 6 ± 0.2 mm |
| Top Skin<br>(Exterior Facing) | 0.5 mm thick Aluminium Alloy 3105-H16,<br>Polyvinylidene Fluoride (PVDF) coating,<br>27 microns maximum coating thickness |
| Bottom Skin<br>(Interior Facing) | 0.5 mm thick Aluminium Alloy 3105-H16,<br>Polyester (PE) coating,<br>7 microns maximum coating thickness |
| Adhesive | Material: "High molecular content polymer adhesive"<br>Thickness: 70 ± 2 microns<br>Density: 920 ± 10 kg/m³ |
| Core | Description: Mineral-filled inorganic core<br>Thickness: 5 ± 0.1 mm<br>Density: 1800 ± 10 kg/m³ |
| Maximum Panel Width | 1460 mm |
| Minimum Panel Width | 480 mm |
| Maximum Panel Height | 2965 mm |
| Minimum Panel Height | 742 mm |

1b. Panel Joint Seal

A maximum gap of 10 mm, maintained between the panel joints, shall be sealed with a 10 × 18 × 1 mm (web × flange × thickness) Aluminium (Alloy 6063-T6) U-channel fixed with Ø3.5 × 30 mm self-drilling stainless-steel pan head screws, and then capped with "Dow Corning® 813C" silicone sealant, applied at a nominal depth of 4 mm, extruded smoothly and flush with the exterior surface of the ACP cladding.

2. Cladding Fixing

Aluminium angles (Alloy 6063-T6), 20 × 20 × 60 × 2 mm (leg × leg × width × thickness) shall be fixed on the flanges of the tray using 2 nos. of Ø4 × 16 mm aluminium blind rivets at a nominal spacing of 30 to 100 mm centres. The angles shall be fixed to the runners using Ø3.5 × 30 mm stainless steel self-drilling pan head screws.

3. Sub-Frame

3a. Wall Brackets

Aluminium angles (Alloy 6063-T5), 50 × 50 × 90 × 3 mm (leg × leg × width × thickness), fixed against the base wall using Ø4.8 × 50 mm self-drilling stainless steel screws. The brackets shall be fixed at a nominal vertical spacing of 800 mm and horizontal spacing according to the panel width.

3b. Runners

Aluminium (Alloy 6063-T5) angles, 50 × 50 × 3 mm (leg × leg × thickness), shall be fixed vertically against the wall brackets using Ø3.6 × 20 mm stainless steel self-drilling screws. The runners shall be fixed according to the location of the brackets.

4. Exterior Insulation

4a. Mineral Wool

A single layer of mineral wool with foil scrim (FS) facing on one side, shall be fixed to the base wall using galvanised steel insulation fasteners. A maximum air gap of 19 mm shall be maintained between the exterior insulation and the back of the Aluminium Composite Panel.

Reference: "KNAUF Façade Slab 32 Ultimate"
Manufacturer: KNAUF Insulation
Nominal Density: 36 kg/m³
Nominal Thickness: 50 mm
Dimension: 1000 × 1200 mm (width × length)

4b. Insulation Fastener

Description: Stainless steel self-drilling screw with galvanized steel square washer
Screw Dimension: Ø 4.16 × 70 mm (diameter × length)
Washer Dimension: 50 × 50 × 0.5 mm (length × width × thickness)
Manufacturer: Rawl Plug
Fixing Details: Minimum 5 nos. fixed for each slab

5. Cavity Fire Barrier

5a. Cavity Barrier

A full-seal width cavity barrier shall be supported with two "L" angles and then fixed against the base wall. The cavity fire barrier shall be compressed horizontally above the window header and at every floor slab termination.
Material: Unfaced Mineral Wool Slab
Dimension: 76 × 100 mm (depth × thickness)
Nominal Density: 100 kg/m³
Reference: "SXXX"
Manufacturer: Fujairah Rockwool Factory

5b. Cavity Barrier Support Angles

The two "L" shape angles shall overlap each other forming a "C" channel and fixed to the base wall using Ø 3.5 × 20 mm stainless steel self-drilling screws, with a nominal horizontal spacing of 300 mm.
Material: Galvanised Steel
Dimension: 65 × 100 × 0.45 mm (leg × leg × thickness)

6. Window Flashing

The window perimeter shall be covered by a pre-bent 1.7 mm thick galvanized steel (ASTM A653, CS Type B), 150 × 202 × 150 mm. The window flashing shall overlap both the interior and exterior cladding by 150 mm and be fixed to the base wall using Ø 4.7 × 50 mm stainless steel self-drilling pan head screws, with a nominal spacing of 200 mm centres.

7. Base Wall

7a. Interior & Exterior Gypsum Board

1220 × 2400 × 15.9 mm (width × length × thickness) Type X gypsum boards be fixed vertically onto 1.2 mm thick galvanised steel studs and tracks using Ø3.5 mm × 35 mm self-tapping screws at 300 mm centres vertically. The board joints were covered with glass fibre multi-purpose self-adhesive plasterboard jointing tape and jointing compound. The screw heads were also covered with the jointing compound.

7b. Steel Studs and Tracks
Galvanised steel (ASTM A653, CS Type B) studs, 92 × 32 × 32 × 9 × 1.2 mm (web × flange × flange × lip × thickness) and tracks, 95 × 25 × 25 × 1.2 mm (web × flange × flange × thickness) welded directly to the test frame.

7c. Moisture Barrier
The base wall shall be primed with a layer of bituminous Nitoproof® 110, applied at a coverage rate of 3 $m^2$/litre and allowed to cure sufficiently before applying a layer of bituminous Nitoproof® 120 at a coverage rate of 3 $m^2$/litre.

F. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 18022, Dubai,
United Arab Emirates

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THOMAS BELL-WRIGHT
A PHENNA GROUP COMPANY

IAS ACCREDITED Product Certification Agency

In accordance with IAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

# Alucopanel Middle East LLC

National Industries Park, P.O. Box 416557,
Dubai, United Arab Emirates

for

## "Alucopanel® A2"

**4 mm thick Aluminium Composite Panel Exterior Wall Cladding System with AFICO Glass Wool "Mechanical Board Insulation"**

**Test Method: NFPA 285-2019 Edition**

**(System Designation: A124B61-4)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 13th day of November 2025

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS 103317 CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300560**

Initial registration: December 18, 2019 Issued: November 13, 2025 Expiration: November 12, 2028
File Name: ZI021_CRT_SD03FP_Issue3_560_(f) Issue 3

# "Alucopanel® A2"
## 4 mm thick Aluminum Composite Panel Exterior Wall Cladding System with AFICO Glass Wool "Mechanical Board Insulation"
### (System Designation: A124B61-4)

A. Certification is given for "Alucopanel® A2" 4mm thick Aluminium Composite Panel Exterior Wall Cladding system with AFICO Glass Wool "Mechanical Board Insulation", which has successfully met the requirements for fire propagation characteristics when evaluated against NFPA 285-2019 Edition subject to the limitations stated herein.

B. Readers of this document should be familiar with Fire Test Method for evaluation of Fire Propagation characteristics of Exterior wall Assemblies Containing Combustible Components and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if it is not so listed.

C. The product is approved on the basis of TBWIC Product Certification Scheme SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 12), which includes pre-test sampling, evidence of performance (under report reference(s) TH076 Rev.01), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.

D. Limitations

D.1. This Certification covers the fire propagation characteristics of exterior wall assembly when evaluated against the NFPA 285-2019 fire test method. The exterior wall assembly has been evaluated for fire propagation characteristics as specified in the following*:

a. The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly*;
b. The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next*;
c. The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next*;
d. The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces*.

D.2. This Certification covers the performance of the exterior wall assembly when exposed to fire from an interior room that reaches flashover, breaks exterior windows, and exposes the building façade. It is not intended to address the effect of exterior radiation from nearby fires but is relevant to fires that start at the exterior wall assembly*.

D.3. This Certification covers the exterior wall assembly in its entirety. It does not extend to the individual components of the assembly.

D.4. The actual field installations of the non-loadbearing exterior wall system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods and materials are used in the field*.

** NFPA 285:2019*

Certificate No.: TBW0300560

Director of Certification
Nicholas Purcell

Seal No.: 103317



Issued: 13 Nov 2025
Valid to: 12 Nov 2028

D.5. The design of the exterior wall assembly covered under this certification, including the exact specification of the components, method of fixing, and condition of such components which were subjected to the fire test, shall be duplicated when installed on the site. The design and components of the non-loadbearing exterior wall cladding assembly are not permitted to be substituted, eliminated or interchanged unless recognized and approved by this certification.

D.6. The method, technique and sealing materials at the panel joint gaps were evaluated and certified as part of the exterior wall cladding for fire propagation characteristics only. Physical performance, such as (but not limited to), resistance to weathering, resistance to impact/movement, adhesion, mechanical resistance and stability, or thermal properties, are not considered.

D.7. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Classification or definition of material as non-combustible
d. Any Resistance to Fire rating
e. The toxicity level of smoke developed during combustion
f. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible materials
g. Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage, and alike.
h. Effects of radiation from nearby fires
i. Other characteristics such as durability, weather-resistance, water permeability, physical and mechanical properties etc.

E. System Configuration

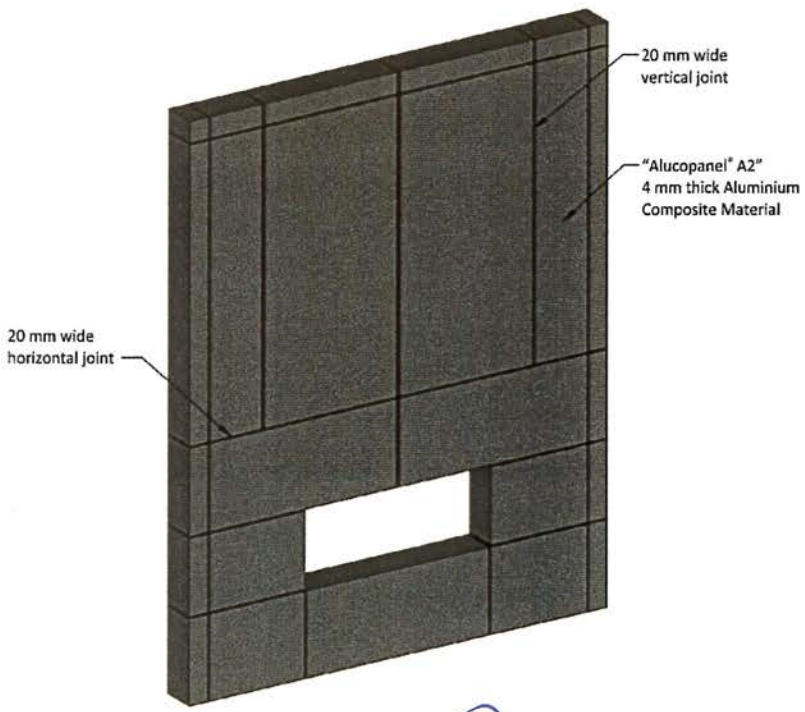


***Figure 1.*** *Aluminium Composite Material Exterior Wall Cladding System*

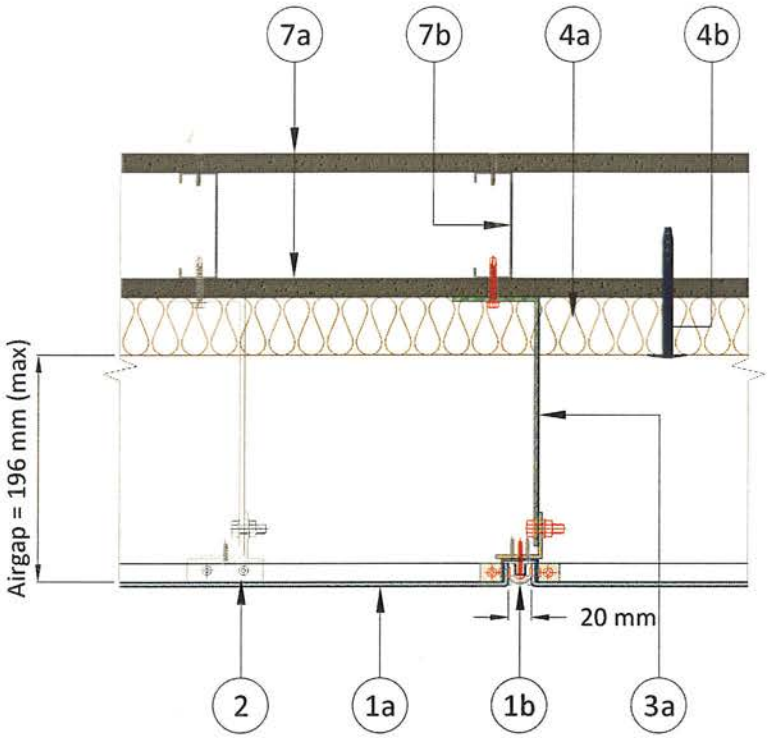


***Figure 2.*** *Horizontal section – joint details*

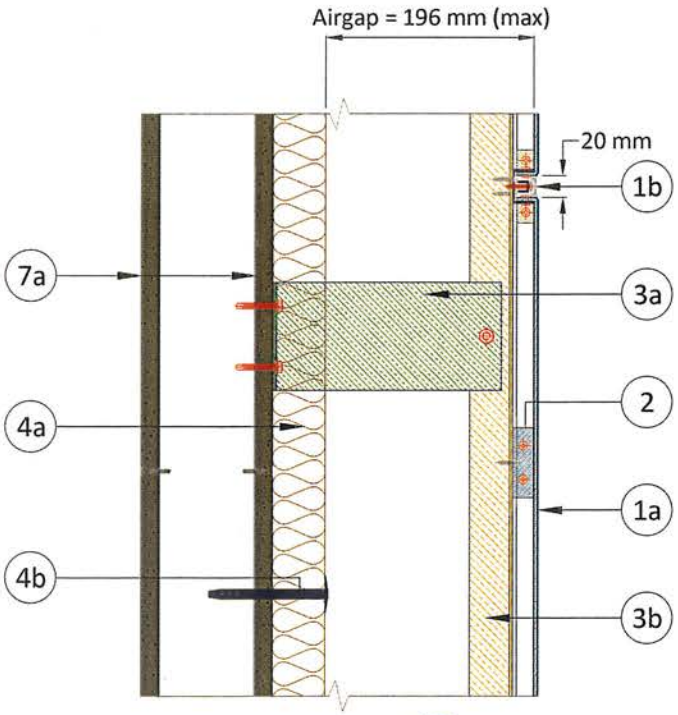


***Figure 3.*** *Vertical section – joint details*

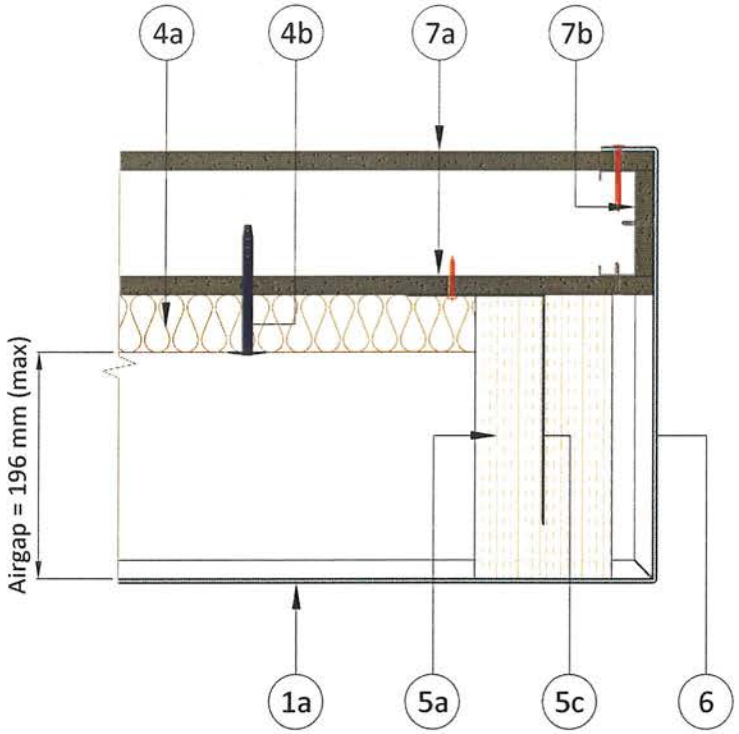


***Figure 4.*** *Horizontal section – window details*

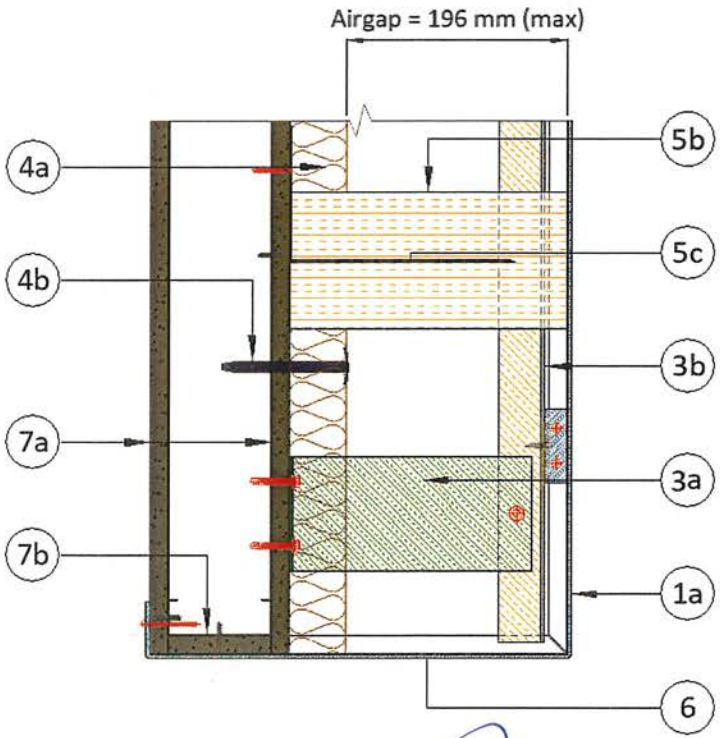


***Figure 5.*** *Vertical section – window details*

1. Cladding Element

1a. Aluminium Composite Panel (ACP)

"Tray profile" Aluminium Composite Panel with 20 mm deep flanges. The panel corners shall be reinforced with aluminium angles (20 × 20 × 15 × 1.5 mm, leg × leg × width × thickness) using 2 nos. of Ø4 × 15 mm aluminium blind rivets. The details of the ACP are as follows:

***Table 1.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Weight Per Unit Area | 8 ± 0.5 kg/m² |
| Panel Thickness | 4 ± 0.2 mm |
| Top Skin (Exterior Facing) | Minimum 0.5 mm thick Aluminium Alloy 3105-H16, Polyvinylidene Fluoride (PVDF) coating, 27 microns maximum coating thickness |
| Bottom Skin (Interior Facing) | Minimum 0.5 mm thick Aluminium Alloy 3105-H16, Polyester (PE) coating, 7 microns maximum coating thickness |
| Adhesive | Material: "High molecular content polymer adhesive"<br>Thickness: 70 ± 2 microns<br>Density: 920 ± 10 kg/m³ |
| Core | Description: Mineral-filled inorganic core<br>Thickness: 3 ± 0.1 mm<br>Density: 1800 ± 10 kg/m³ |
| Maximum Panel Width | 2037 mm |
| Minimum Panel Width | 200 mm |
| Maximum Panel Height | 2824 mm |
| Minimum Panel Height | 200 mm |

1b. Joint Seal

A maximum gap of 20 mm shall be maintained between the panel joints. Aluminium (Alloy 6063-T6) U-channel, 10 × 10 × 1.3 mm (web × flange × thickness), shall be recessed into the joint gap and capped with "Everbuild Tecnic® Fire Sealant 400" silicone-based sealant, applied at a nominal depth of 15 mm, and finished flush with the exterior surface of the ACP cladding.

2. Cladding Fixing

Aluminium angles (Alloy 6063-T6), 20 × 20 × 65 × 2 mm (leg × leg × width × thickness) shall be fixed on the flanges of the tray using 2 nos. of Ø4 × 15 mm blind rivets, located 100 mm from the panel corners and spaced 400 mm. The angles shall be fixed to the runners using Ø5 × 20 mm stainless steel self-tapping pan head screws.

3. Sub-Frame

3a. Wall Brackets

Mild Steel (Grade S275, EN 10025) angle brackets, 75 × 215 × 100 × 4 mm (leg × leg × width × thickness), shall be fixed against the base wall using Ø6.11 × 38 mm stainless steel self-drilling hex head screw. The brackets shall be fixed at a nominal spacing of 486 to 1200 mm vertically and 587 to 735 mm horizontally.

3b. Vertical Runners

Aluminium (Alloy 6063-T6) angles, 40 × 40 × 3 mm (leg × leg × thickness), shall be fixed to the wall brackets using Ø8 × 25 mm stainless steel hex head bolts with nuts and washers.

4. Exterior Insulation

4a. Mineral Wool

A single layer of mineral wool with foil scrim facing on one side, shall be fixed to the base wall using metal insulation fasteners. A maximum air gap of 196 mm shall be maintained between the exterior insulation and the rear face of the ACP panel. The joints between the slabs shall be sealed using a 120 mm wide self-adhesive aluminium foil tape (Reference: "Tickitape").

Reference: "Mechanical Board Insulation (MBD)"
Manufacturer: Arabian Fiberglass Insulation Co. Ltd., KSA
Nominal Density: 36 kg/m³ ± 10%
Nominal Thickness: 50 mm (+5/-3 mm)
Dimension: 600 × 1200 mm (width × length)

4b. Insulation Fastener

Reference: "MBA-08090"
Material: Galvanised Steel
Dimensions: Ø8 × 90 mm
Manufacturer: Rawlplug Ltd.
Application: 5 nos. per slab

5. Cavity Fire Barrier

5a. Cavity Barrier - vertical

A full-seal vertical cavity barrier shall be mechanically secured to the base wall using Siderise "B195" fixing brackets. It shall be installed 50 mm from the vertical edges of the window opening and shall extend continuously along the full height of the wall assembly.

Description: Pre-compressed Stonewool Lamella with an integral foil facing
Dimension: 120 × 260 mm (width × depth)
Nominal Density: 75 kg/m³
Reference: "Siderise CH-CB constructed from CW-FS120"
Manufacturer: Siderise Insulation Ltd., UK

5b. Cavity Barrier - Horizontal

A full-seal horizontal cavity barrier shall be mechanically secured to the base wall using Siderise "B195" fixing brackets. It shall be installed at every floor slab termination and shall extend continuously along the full width of the wall assembly.

Description: Pre-compressed Stonewool Lamella with an integral foil facing

Dimension: 120 × 260 mm (width × depth)
Nominal Density: 75 kg/m³
Reference: "Siderise CH-CB constructed from CW-FS120"
Manufacturer: Siderise Insulation Ltd., UK

5c. Cavity Barrier bracket
The brackets shall be bent into an "L" shape with the short leg fixed to the base wall using Ø4 × 32 mm pan head screws and the long leg impaling the cavity barrier. The fixings shall be located at a nominal spacing of 500 to 800 mm centres.

Material: Galvanised steel

Dimension: 320 × 25 × 1 mm (total length × height × thickness)
Reference: "B195"
Manufacturer: Siderise Insulation Ltd., UK

6. Window Flashing
The window perimeter shall be covered by extending the flange of the cladding panels to overlap the interior side of the base wall by 45 mm. The window flashing shall be fixed to the base wall using Ø4.5 × 75 mm self-tapping countersunk head screws at a nominal spacing of 170 mm around the perimeter.

7. Substrate

7a. Interior & Exterior Gypsum Board
1200 × 2400 × 15.9 mm (width × length × thickness) Type X gypsum boards shall be fixed vertically onto 1.2 mm thick galvanised steel studs and tracks using Ø3.5 mm × 35 mm self-tapping screws at 300 mm centres vertically. The board joints shall be covered with glass fibre multi-purpose self-adhesive plasterboard jointing tape and jointing compound. The screw heads shall also be covered with the jointing compound.

7b. Steel Studs and Tracks
Galvanised steel (ASTM A653M, CS Type B) studs, 92 × 32 × 32 × 9 × 1.2 mm (web × flange 1 × flange 2× lip × thickness) and tracks, 95 × 25 × 25 × 1.2 mm (web × flange 1 × flange 2 × thickness) welded directly to the test frame.

F. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 416557, Dubai,
United Arab Emirates

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Certificate No.: TBW0300560

Director of Certification
Nicholas Purcell

Seal No.: 103317



Issued: 13 Nov 2025
Valid to: 12 Nov 2028

6762

**THOMAS BELL-WRIGHT**
**INTERNATIONAL CONSULTANTS**

In accordance with UKAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

*Alucopanel Middle East L.L.C*

*National Industries Park, P.O. Box 18022,*
*Dubai, United Arab Emirates*

for

# "Alucopanel® A2"

## 4 mm thick Aluminium Composite Panel Exterior Wall Cladding System with "KIMMCO-ISOVER COMFORT Façade Slab FS" Insulation

**Test Method: NFPA 285-2019 Edition**
**(System Designation: A114B61-4)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 9th day of June 2023

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS
101696
CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300620**

Initial registration: July 12, 2020 Issued: June 9, 2023 Expiration: June 8, 2026
File Name: XE018_CRT_SD03FP_A2_Issue2_620_(f) Issue 2

# "Alucopanel® A2"
## 4 mm thick Aluminium Composite Panel Exterior Wall Cladding System with "KIMMCO-ISOVER COMFORT Façade Slab FS" Insulation
### (System Designation: A114B61-4)

A. Certification is given for the "Alucopanel® A2" 4 mm thick Aluminium Composite Panel Exterior Wall Cladding System with "KIMMCO-ISOVER COMFORT Façade Slab FS" Insulation, which has **successfully met** the requirements for fire propagation characteristics when evaluated against NFPA 285-2019 Edition subject to the limitations below. Readers of this document should be familiar with the Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if this product is not so listed.

B. The product is approved on the basis of TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 11), which includes pre-test sampling, evidence of performance (under report reference TH156 (Rev.0)), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.

C. Limitations:

C.1. This Certification covers the fire propagation characteristics of exterior wall assembly when evaluated against the NFPA 285-2019 Edition fire test method. The exterior wall assembly has been evaluated for fire propagation characteristics as specified in the following*:

a. The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly*;
b. The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next*;
c. The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next*;
d. The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces*.

C.2. This Certification covers the performance of the exterior wall assembly when exposed to fire from an interior room that reaches flashover, breaks exterior windows and exposes the building façade. It is not intended to address the effect of exterior radiation from nearby fires but is relevant to fires that start at the exterior wall assembly*.

C.3. This Certification covers the exterior wall assembly in its entirety. It does not extend to individual components that comprise the exterior wall assembly (on their own).

C.4. The actual field installations of the exterior wall cladding system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods and materials are used in the field*.

C.5. The design of the exterior wall assembly covered under this certification, including the exact specification of the components, method of fixing, and condition of such components which were subjected to the fire test, shall be duplicated when installed on the site. The design and components of the exterior wall cladding assembly are not permitted to be substituted, eliminated, or interchanged unless recognised and approved by this certification.

** NFPA 285-2019 Edition*

Certificate Number: TBW0300620

Director of Certification
Nicholas Purcell

Seal number: 101696



Issued: 09 Jun 2023
Valid to: 08 Jun 2026

C.6. The method used to seal the gap on the joints between the panels, along with the components used, were evaluated and certified as part of the exterior wall cladding for fire propagation characteristics only. Physical performance, such as (but not limited to) resistance to weathering, resistance to impact/movement, adhesion, mechanical resistance and stability, or thermal properties, are not considered.

C.7. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Classification or definition of material as non-combustible
d. Any Resistance to Fire rating
e. The toxicity level of smoke developed during combustion
f. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible materials
g. Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage, and alike
h. Effects of radiation from nearby fires

D. System Configuration

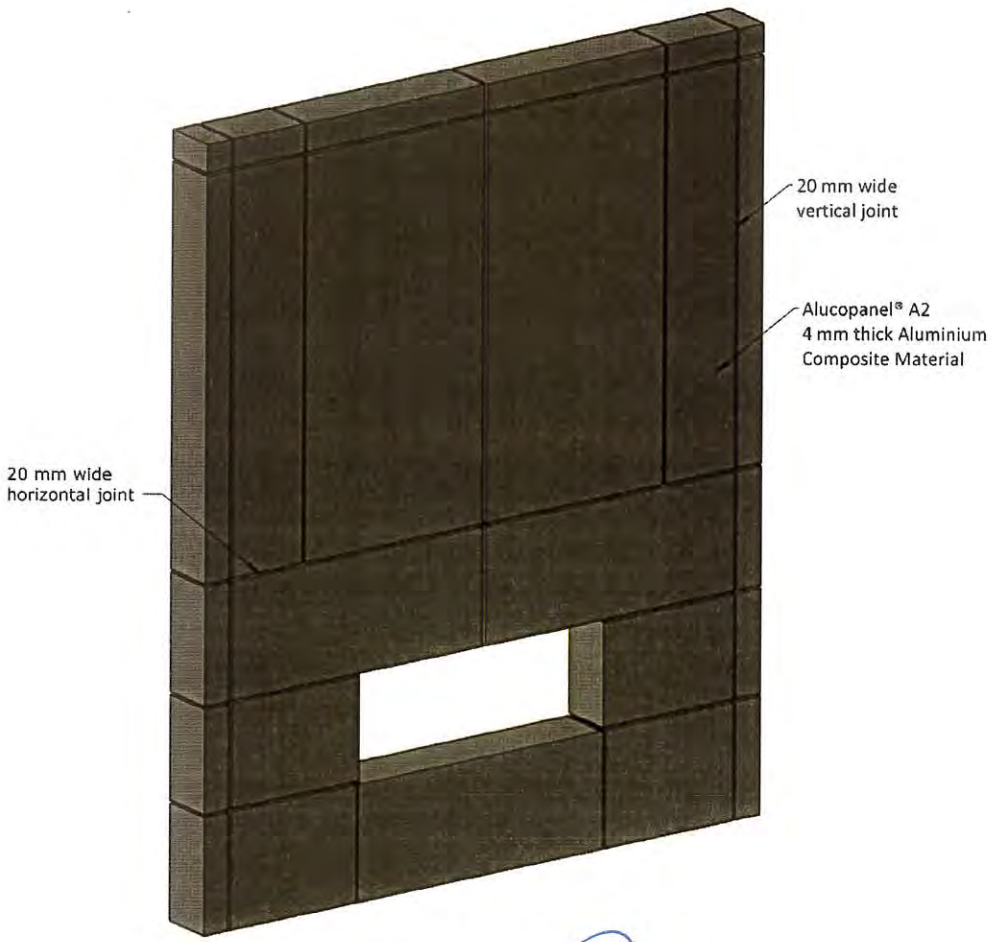


***Figure 1.*** *Aluminium Composite Material Exterior Wall Cladding System*

Certificate Number: TBW0300620

Director of Certification
Nicholas Purcell

Seal number: 101696



Issued: 09 Jun 2023
Valid to: 08 Jun 2026

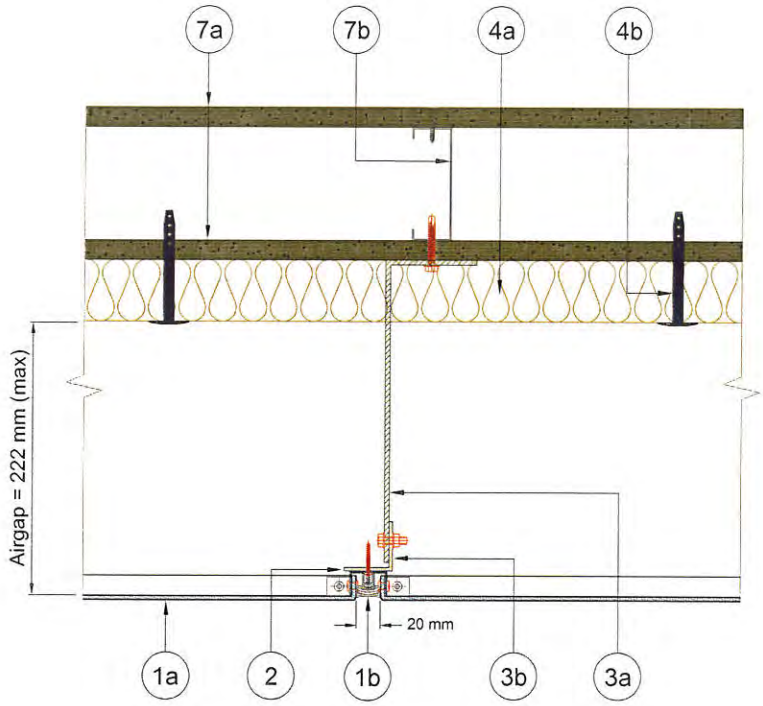


***Figure 2.*** *Horizontal section – joint details*

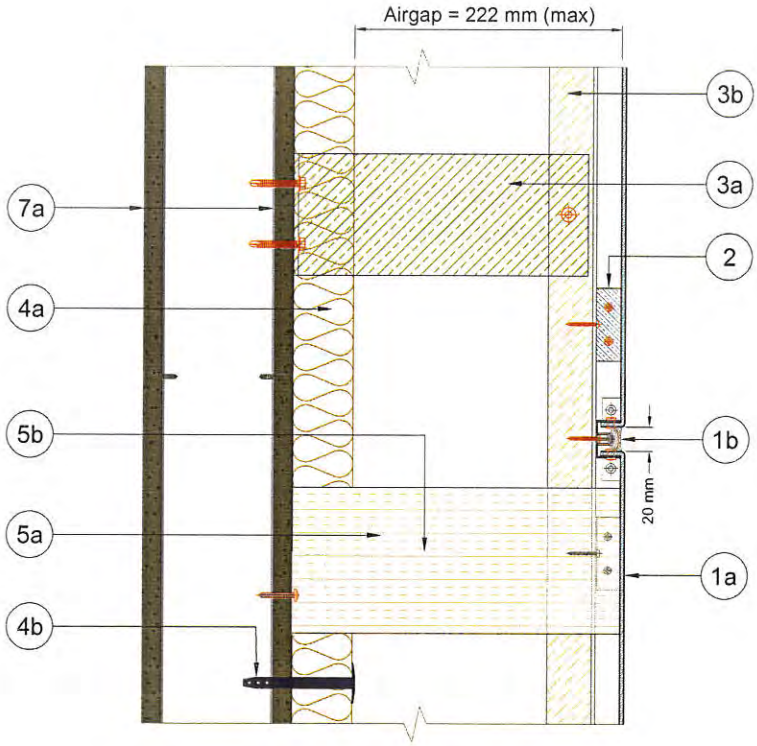


***Figure 3.*** *Vertical section – joint details*

Certificate Number: TBW0300620

Director of Certification
Nicholas Purcell

Seal number: 101696



Issued: 09 Jun 2023
Valid to: 08 Jun 2026

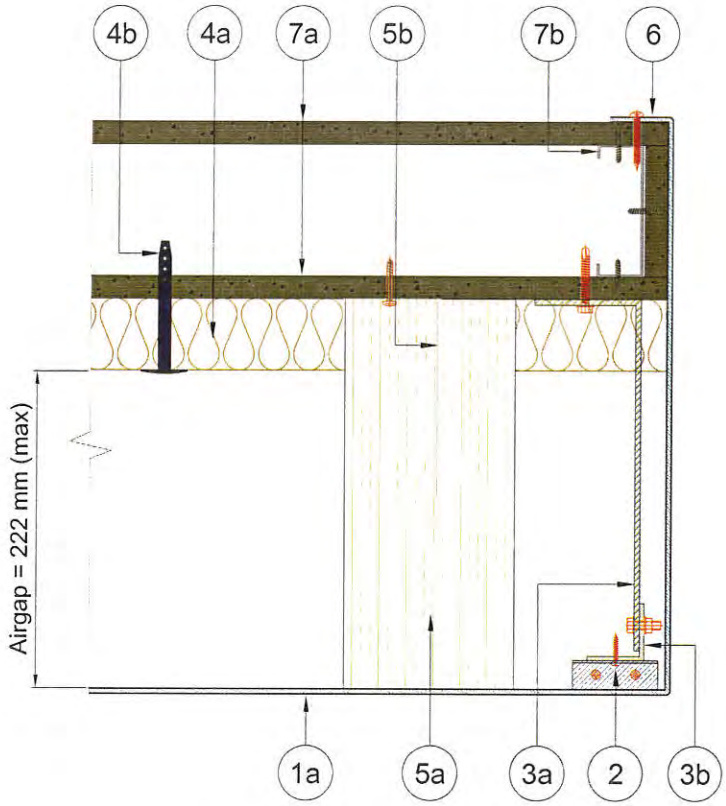


***Figure 4.*** *Horizontal section – window details*

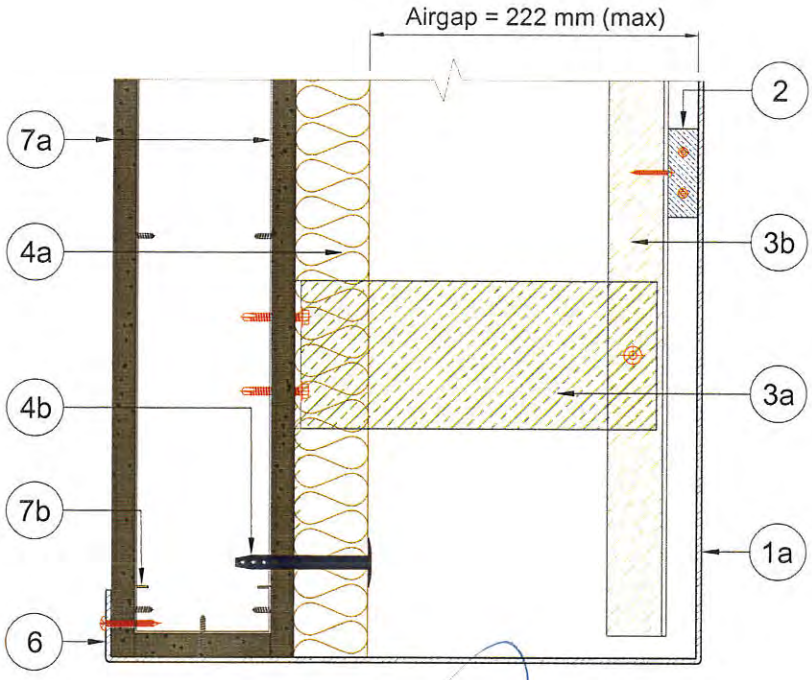


***Figure 5.*** *Vertical section – window details*

1. Cladding Element

1a. Aluminium Composite Panel

"Tray profile" Aluminium Composite Panel with 20 mm deep flanges. The panel corners shall be reinforced with aluminium angles (20 × 20 × 15 × 1.5 mm, leg × leg × width × thickness) using 2 nos. of Ø4 × 15 mm aluminium blind rivets. The details of the ACP are as follows:

***Table 1.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Weight Per Unit Area | 8 ± 0.5 kg/m² |
| Panel Thickness | 4 ± 0.2 mm |
| Top Skin<br>(Exterior Facing) | 0.5 mm thick Aluminium Alloy 3105-H16,<br>Polyvinylidene Fluoride (PVDF) coating,<br>27 microns maximum coating thickness |
| Bottom Skin<br>(Interior Facing) | 0.5 mm thick Aluminium Alloy 3105-H16,<br>Polyester (PE) coating,<br>7 microns maximum coating thickness |
| Adhesive | Material: "High molecular content polymer adhesive"<br>Thickness: 70 ± 2 microns<br>Density: 920 ± 10 kg/m³ |
| Core | Description: Mineral-filled inorganic core<br>Thickness: 3 ± 0.1 mm<br>Density: 1800 ± 10 kg/m³ |
| Maximum Panel Width | 1980 mm |
| Minimum Panel Width | 200 mm |
| Maximum Panel Height | 2824 mm |
| Minimum Panel Height | 200 mm |

1b. Panel Joint Seal

A maximum gap of 20 mm, maintained between the panel joints, shall be fitted with a 10 × 10 × 1.5 mm (web × flange × thickness) Aluminium (Alloy 6063-T6) U-channel, capped with "Dow Corning® 813C", applied at a nominal depth of 6 mm, extruded smoothly and flush with the exterior surface of the ACP cladding.

2. Cladding Fixing

Aluminium angles (Alloy 6063-T6), 20 × 20 × 60 × 1.5 mm (leg × leg × width × thickness) shall be fixed on the flanges of the tray using 2 nos. of Ø4 × 15 mm aluminium blind rivets at a nominal spacing of 300 mm centres. The angles shall be fixed to the runners using Ø4 × 25 mm stainless steel self-tapping pan head screws.

3. Sub-Frame

3a. Wall Brackets

Mild Steel (Grade S275) angle brackets, 245 × 75 × 100 × 4 mm (leg × leg × width × thickness), fixed against the base wall using two nos. Ø4.8 × 38 mm self-drilling hex washer head screws. The brackets shall be fixed at a nominal spacing of 587 to 735 mm horizontally and 486 to 1200 mm vertically.

3b. Runners

Aluminium (Alloy 6063-T6) angles, 40 × 40 × 3 mm (leg × leg × thickness), shall be fixed vertically against the wall brackets using M8 × 25 mm stainless steel hex head bolt with nut and washer. The runners shall be fixed according to the location of the brackets.

4. Exterior Insulation

4a. Mineral Wool

A single layer of mineral wool with foil scrim facing on one side, shall be fixed to the base wall using galvanised steel insulation fasteners. All joints of the insulation slabs shall be covered with 45 mm wide Aluminium foil tape (Tickitape). A maximum air gap of 222 mm shall be maintained between the exterior insulation and the back of the ACP panel.

Reference: "KIMMCO-ISOVER COMFORT Façade Slab FS"
Manufacturer: Saudi International Insulation Manufacturing Company (SIIMCO)
Nominal Density: 50 kg/m$^3$
Nominal Thickness: 50 mm
Dimension: 1000 × 1200 mm (width × length)

4b. Insulation Fastener

Description: Fire-resistant metal insulation fixing
Dimension: Ø 8 × 90 mm
Reference: "MBA-08090"
Manufacturer: Rawl Plug Ltd.
Fixing Details: Minimum 6 nos. fixed for each slab

5. Cavity Fire Barrier

5a. Cavity Barrier

A full-seal cavity barrier shall be impaled mid-depth with the longer leg of the fixing bracket, while the shorter leg of the fixing bracket shall be mechanically secured to the base wall. The cavity fire barrier shall be installed horizontally at every floor slab termination, and vertically at 20 mm distance from the vertical edges of the window opening. All joints of the cavity barrier shall be covered with 45 mm wide Aluminium foil tape.

Material: Pre-compressed Stonewool Lamella with an integral foil facing
Dimension: 120 × 285 mm (height × depth)
Nominal Density: 75 kg/m$^3$
Reference: "Siderise CH-CB constructed from CW-FS120"
Manufacturer: Siderise Insulation Ltd., UK

5b. Cavity Barrier bracket

Material: Galvanised Steel
Dimension: 70 × 120 × 1 mm (leg × height × thickness)
Reference: "B65/110"
Manufacturer: Siderise Insulation Ltd-UK
Fixing Details: Fixed to the substrate at a nominal spacing of 300 mm centres vertically and 600mm centres horizontally using Ø4 × 55 mm stainless steel screws

6. Window Flashing

The window perimeter shall be covered by extending the flange of the cladding panels to overlap the interior face of the base wall by 45 mm. The window flashing shall be fixed to the base wall using Ø4.5 × 35 mm self-drilling pan head screws at a nominal spacing of 150 mm centres.

7. Substrate

7a. Interior & Exterior Gypsum Board
1220 × 2400 × 15.9 mm (width × length × thickness) Type X gypsum boards shall be fixed vertically onto 1.2 mm thick galvanised steel studs and tracks using Ø3.5 mm × 35 mm self-tapping screws at 300 mm centres vertically. The board joints shall be covered with glass fibre multi-purpose self-adhesive plasterboard jointing tape and jointing compound. The screw heads shall also be covered with the jointing compound.

7b. Steel Studs and Tracks
Galvanised steel (ASTM A653/A653M- Commercial Grade) studs, 92 × 32 × 32 × 9 × 1.2 mm (web × flange × flange × lip × thickness) and tracks, 95 × 25 × 25 × 1.2 mm (web × flange × flange × thickness) welded directly to the test frame.

E. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 18022,
Dubai, United Arab Emirates

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Certificate Number: TBW0300620

Director of Certification
Nicholas Purcell

Seal number: 101696



Issued: 09 Jun 2023
Valid to: 08 Jun 2026

6762

**THOMAS BELL-WRIGHT**
**INTERNATIONAL CONSULTANTS**

In accordance with UKAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

# *Alucopanel Middle East L.L.C*

*National Industries Park, P.O. Box 18022,*
*Dubai, United Arab Emirates*

for

## "Alucopanel® A2"
## 4 mm thick Aluminium Composite Panel
## Roof Covering Assembly
**(Classification Standard: EN 13501-5:2016)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 9th day of June 2023

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS
101695
CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300648**

Initial registration: October 4, 2020 Issued: June 9, 2023 Expiration: June 8, 2026
File Name: XE018_CRT_SD03RT_Issue2_648_(f) Issue 2

# "Alucopanel® A2"
## 4 mm thick Aluminium Composite Panel
## Roof Covering Assembly

A. Certification is given for "Alucopanel® A2" 4 mm thick Aluminium Composite Panel Roof Covering Assembly for the classification of roof/roof coverings exposed to external fire according to EN 13501-5:2016 – "Fire classification of construction products and building elements – Part 5: Classification using data from external fire exposure to roofs tests", subject to the limitations stated herein. The summary of the scope of certification is stated below.

***Table 1.*** *Summary of the Scope of Certification*

| System Name/Reference | Fire exposure performance | | Report Reference |
|---|---|---|---|
| | Result | Standard | |
| "Alucopanel® A2" 4 mm thick Aluminium Composite Panel Roof Covering Assembly | $B_{ROOF}$ (t4) | EN 13501-5:2016 | FIRES-CR-140-20-AUPE |

B. Readers of this document should be familiar with Reaction to Fire Testing and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if it is not so listed.

C. The product is approved based on TBWIC Product Certification Scheme SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 11), which includes pre-test sampling, evidence of performance (under report reference(s) in Table 1), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/Audits.

D. Limitations:

D.1. This Certification covers the specifications of the products as tested and described in Section E.

D.2. The test standard covered under this Certification was used to measure the response of materials, products, or system assemblies to heat and flame under controlled conditions. The results described in each particular test report on its own shall not be used as the sole criteria for fire-hazard or fire-risk assessment of the materials, products, or system assemblies under actual fire conditions.

D.3. Changes to the assembly configuration, material specification, and fixing method are not permitted unless recognised and approved by this Certification.

D.4. This Certification is valid only for the fire performance of roof assembly when subjected to external fire exposure. Internal fire exposure is not considered.

D.5. The assembly shall not include any horizontal joints on the fire-exposed surface, and the joints shall only be placed along the vertical sides (Figure 1).

D.6. The classification is valid for the following configurations:
- Roof pitch: 0° to 10° inclination from the horizontal plane
- Deck: Installations without continuous deck
- Supporting structure: Load-bearing construction made of steel tubes

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Director of Certification
Nicholas Purcell

Seal number: 101695



Issued: 09 Jun 2023
Valid to: 08 Jun 2026

D.7. This Certification does not address the following:

a. Measurement of heat transmission
b. Classification or definition of material as non-combustible
c. Any Resistance to Fire rating
d. The toxicity level of smoke developed during combustion
e. Durability and weather-resistance

E. System Configuration

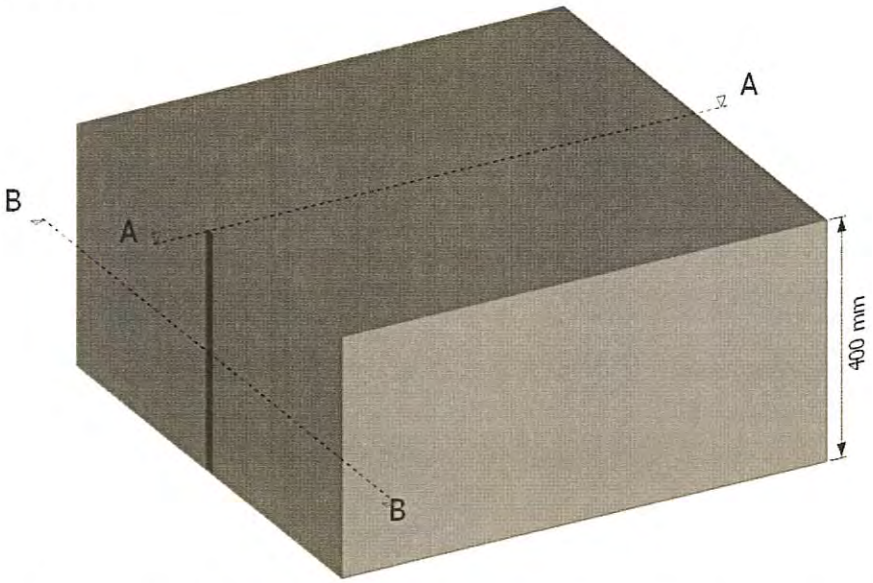


***Figure 1.*** *"Alucopanel A2®" 4 mm thick Aluminium Composite Panel Exterior Roof Covering*

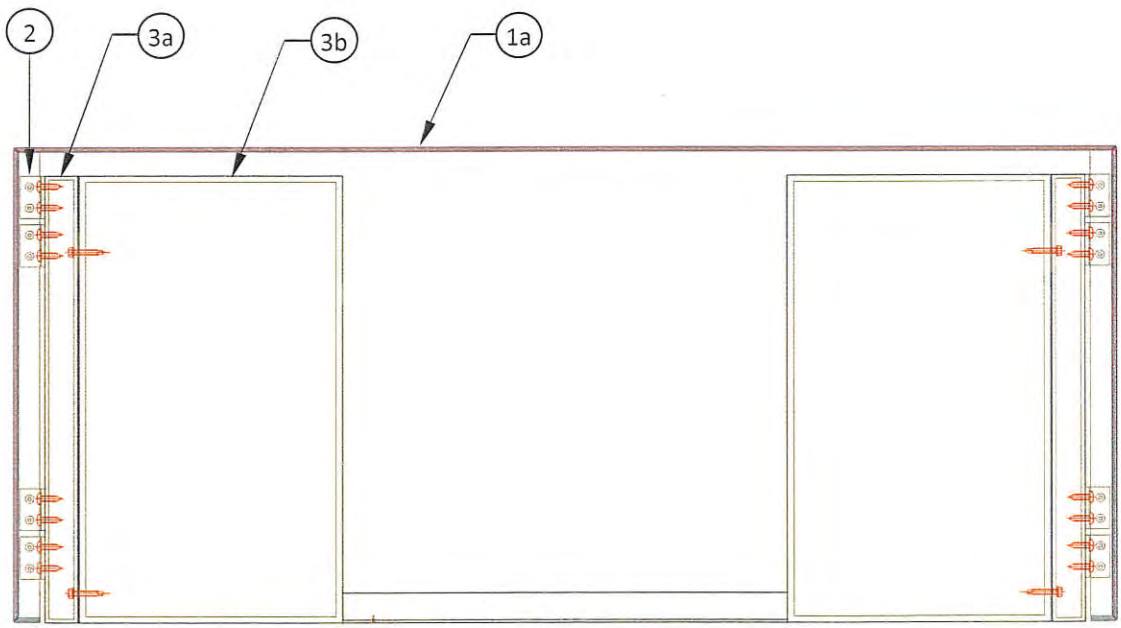


***Figure 2.*** *Section A-A*

Certificate Number: TBW0300648

Director of Certification
Nicholas Purcell

Seal number: 101695



Issued: 09 Jun 2023
Valid to: 08 Jun 2026

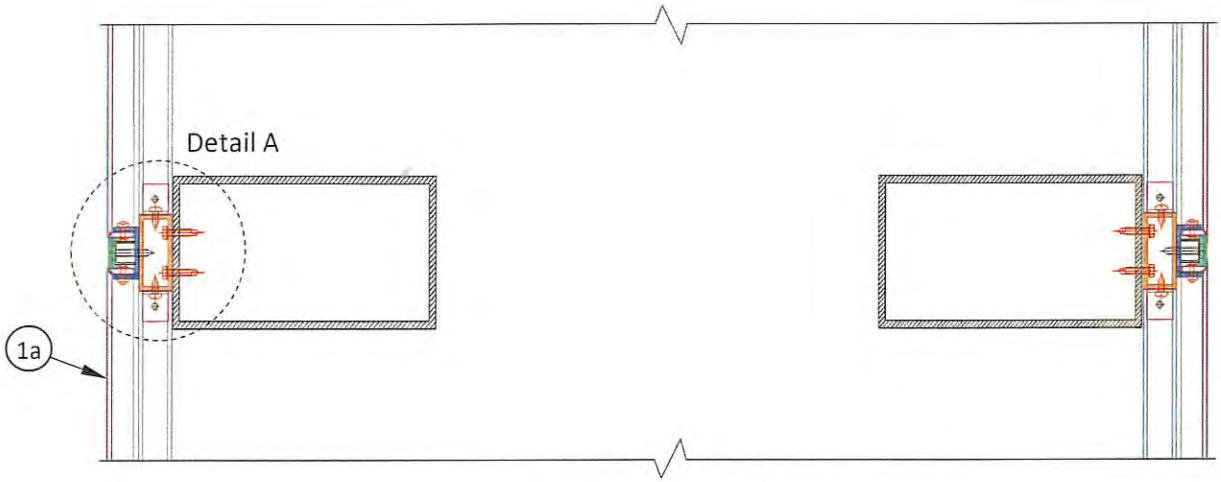


***Figure 3a.*** *Section B-B*

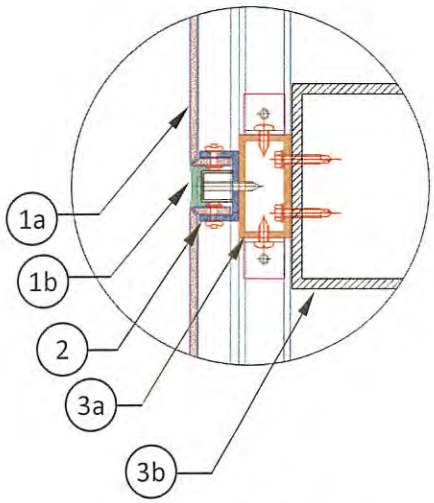


***Figure 3b.*** *Detail A*

1. Roof Covering Element
   1a. Aluminium Composite Panel
   Aluminium Composite Panel (ACP) formed into a "tray profile", with 400 mm high flanges shall be mechanically fixed to the structural support framing. The panel corners shall be reinforced with aluminium angles (20 x 20 x 15 x 1.5 mm, leg x leg x width x thickness) using Ø4 × 15 mm aluminium blind rivets. The details of the ACP are as follows:

***Table 2.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Weight Per Unit Area | 8 ± 0.5 kg/m² |
| Panel Thickness | 4 ± 0.2 mm |
| Top Skin (Exterior Facing) | 0.5 mm thick Aluminium Alloy 3105-H16, Polyvinylidene Fluoride (PVDF) coating, 27 microns maximum coating thickness |

| | |
|---|---|
| Bottom Skin<br>(Interior Facing) | 0.5 mm thick Aluminium Alloy 3105-H16,<br>Polyester (PE) coating,<br>7 microns maximum coating thickness |
| Adhesive | Material: "High molecular content polymer adhesive"<br>Thickness: 70 ± 2 microns<br>Density: 920 ± 10 kg/m³ |
| Core | Description: Mineral-filled inorganic core<br>Thickness: 3 ± 0.1 mm<br>Density: 1800 ± 10 kg/m³ |

1b. Panel Joint Seal
A maximum gap of 20 mm shall be maintained between the vertical joints of the panels. The joints shall be fitted with aluminium (Alloy 6063-T6) "U" channel, 10 × 10 × 10 × 1.5 mm (web × flange × flange × thickness), fixed with Ø4.8 × 19 mm self-drilling hex washer head screws and capped with silicone-based sealant "Dow Corning 813C", extruded at full-depth into the recess and flush with the exterior surface of the ACP panel.

2. Roof Covering Element Fixing
Aluminium (Alloy 6063-T6) angles, 19 × 19 × 30 × 1.5 mm (leg × leg × width × thickness) shall be fixed on the flanges of the tray using 2 nos. of Ø4 × 15 mm aluminium blind rivets within 40 mm from the panel corners and at 260 mm centres nominal spacing. The angles shall be fixed to the sub-framing using Ø4.8 × 19 mm self-drilling hex washer head screws.

3. Framing
3a. Sub-frame
Description: Aluminium hollow box profile
Grade: Aluminium, Alloy 6063-T6
Dimension: 20 × 50 × 1.4 mm (width × depth × wall thickness)
Fixing: Fixed to the structural support using Ø4.8 × 19 mm self-drilling hex washer head screw at 280 mm centres.

3b. Structural Support
Description: Steel rectangular hollow box section
Grade: Structural steel, S235JRH (EN 10219)
Dimension: 200 × 100 × 5 mm (width × depth × wall thickness)

F. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 18022, Dubai,
United Arab Emirates

Certificate Number: TBW0300648

Director of Certification
Nicholas Purcell

Seal number: 101695



Issued: 09 Jun 2023
Valid to: 08 Jun 2026

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**THOMAS BELL-WRIGHT**
**INTERNATIONAL CONSULTANTS**

# In accordance with UKAS accreditation to ISO/IEC 17065 Certification is Hereby Granted

to

## *Alucopanel Middle East L.L.C*

*National Industries Park, P.O. Box 18022,*
*Dubai, United Arab Emirates*

for

## "Alucopanel® A2"

**4 mm thick Aluminium Composite Material Exterior Wall Cladding System with "Knauf Façade Slab 32 Ultimate" Insulation**
**Test Method: NFPA 285-2019 Edition**
**(System Designation: A124B61-4)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 5th day of October 2023

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS
101769
CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300649**

Initial registration: October 7, 2020 Issued: October 5, 2023 Expiration: October 6, 2026
File Name: XG146_CRT_SD03FP_A2_Issue3_649_(f) Issue 3

# "Alucopanel® A2"
# 4 mm thick Aluminium Composite Material Exterior Wall Cladding System with "Knauf Façade Slab 32 Ultimate" Insulation
## (System Designation: A124B61-4)

A. Certification is given for "Alucopanel® A2" 4 mm thick Aluminium Composite Material Exterior Wall Cladding System, which has **successfully met** the requirements for fire propagation characteristics when evaluated against NFPA 285-2019 Edition subject to the limitations below.

B. Readers of this document should be familiar with the Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if it is not so listed.

C. The product is approved on the basis of TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 11), which includes pre-test sampling, evidence of performance (under report reference(s) UA099 Rev.0), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.

D. Limitations:

D.1. This Certification covers the fire propagation characteristics of exterior wall assembly when evaluated against the NFPA 285-2019 Edition fire test method. The exterior wall assembly has been evaluated for fire propagation characteristics as specified in the following*:

a. The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly*;

b. The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next*;

c. The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next*;

d. The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces*.

D.2. This Certification covers the performance of the exterior wall assembly when exposed to fire from an interior room that reaches flashover, breaks exterior windows, and exposes the building façade. It is not intended to address the effect of exterior radiation from nearby fires but is relevant to fires that start at the exterior wall assembly*.

D.3. This Certification covers the exterior wall assembly in its entirety. It does not extend to individual components that comprise the exterior wall assembly (on their own).

D.4. The actual field installations of the exterior wall cladding system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods and materials are used in the field*.

D.5. The design of the exterior wall assembly covered under this certification, including the exact specification of the components, method of fixing, and condition of such components which were subjected to the fire test, shall be duplicated when installed on the site. The design and components of the exterior wall cladding assembly are not permitted to be substituted, eliminated, or interchanged unless recognised and approved by this certification.

** NFPA 285-2019 Edition*

Certificate Number: TBW0300649

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Nicholas Purcell

Seal number: 101769



Issued: 05 Oct 2023
Valid to: 06 Oct 2026

D.6. The method used to seal the gap on the joints between the panels, along with the components used, was evaluated and certified as part of the exterior wall cladding for fire propagation characteristics only. Physical performance, such as (but not limited to) resistance to weathering, resistance to impact/movement, adhesion, mechanical resistance and stability, or thermal properties, are not considered.

D.7. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Classification or definition of material as non-combustible
d. Any Resistance to Fire rating
e. The toxicity level of smoke developed during combustion
f. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible materials
g. Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage, and alike
h. Effects of radiation from nearby fires

E. System Configuration

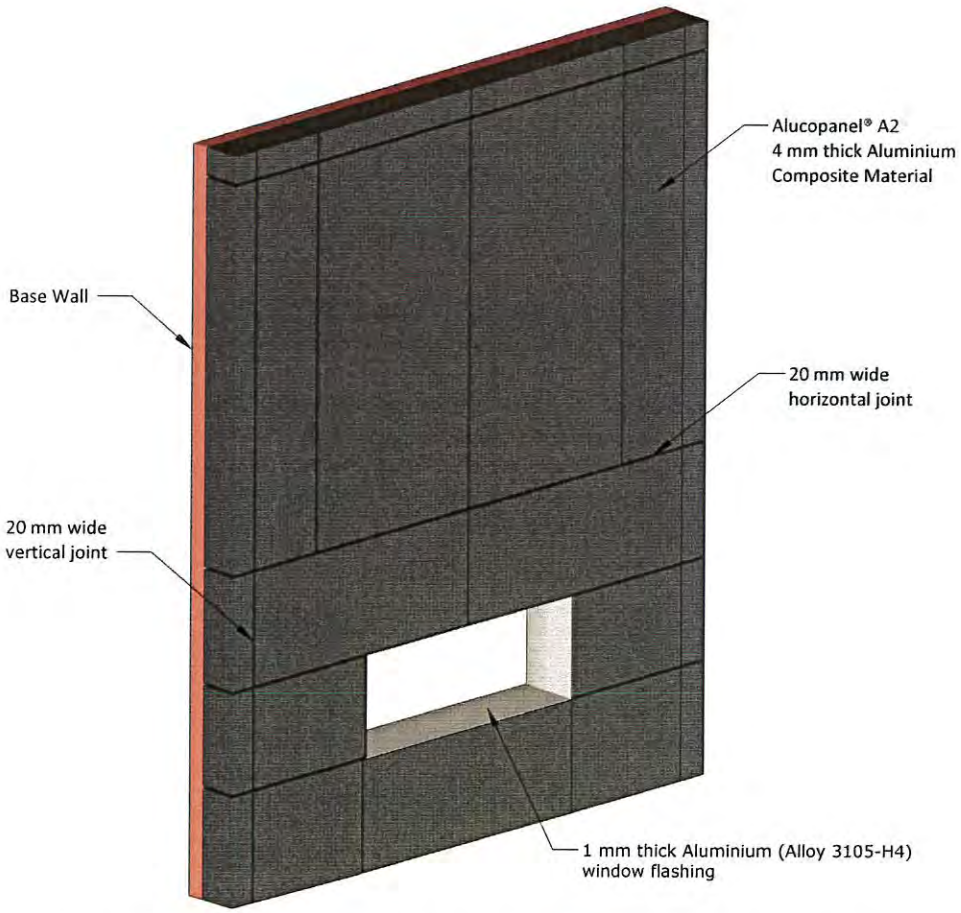


***Figure 1.*** *Aluminium Composite Material Exterior Wall Cladding Assembly*

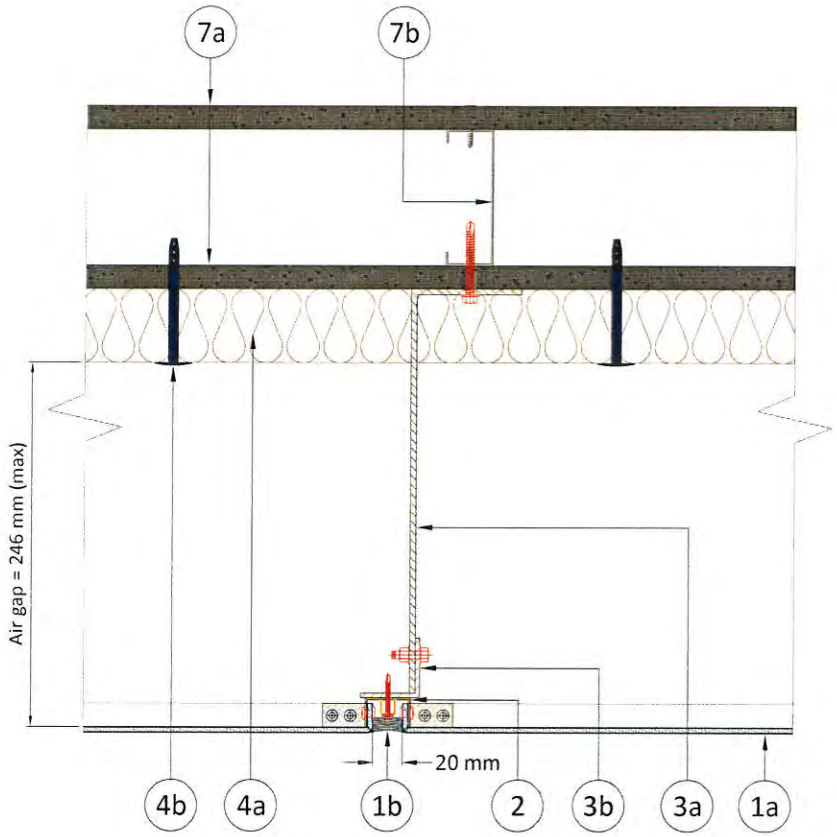


***Figure 2.*** *Horizontal section – joint details*

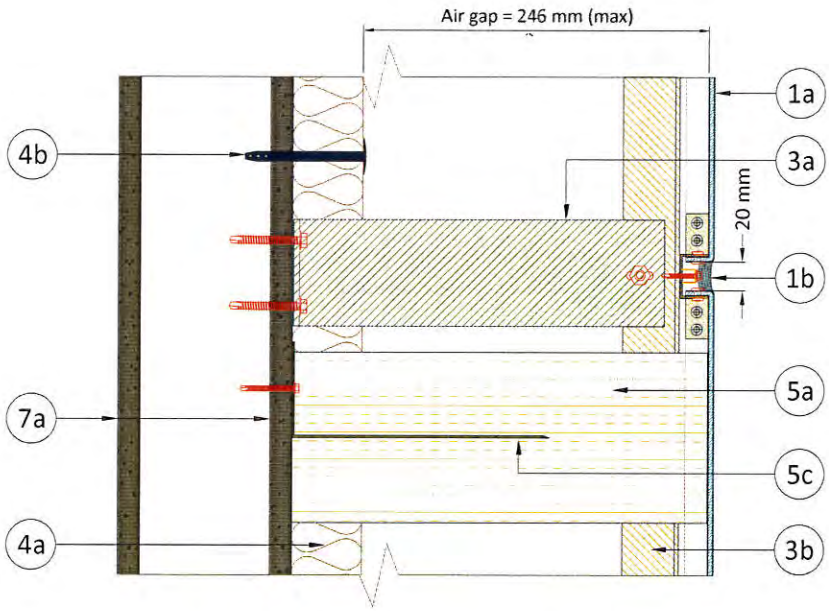


***Figure 3.*** *Vertical section – joint details*

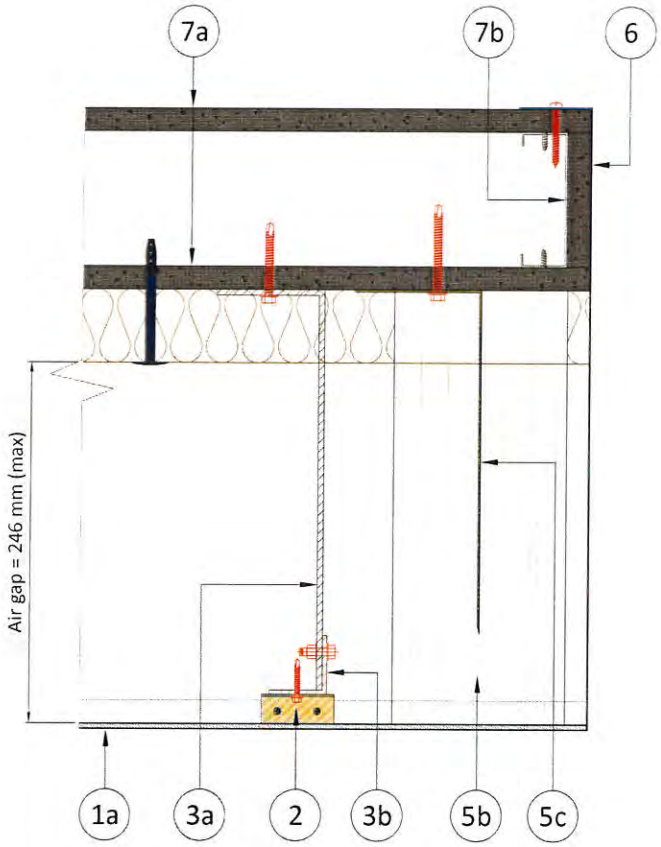


***Figure 4.*** *Horizontal section – window details*

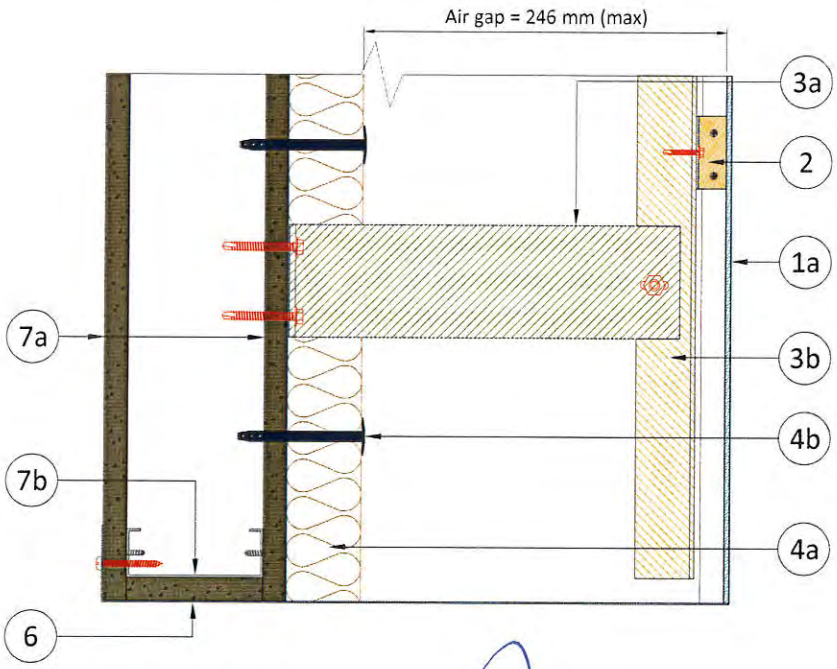


***Figure 5.*** *Vertical section – window details*

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Director of Certification
Nicholas Purcell

Seal number: 101769



Issued: 05 Oct 2023
Valid to: 06 Oct 2026

1. Cladding Element

1a. Aluminium Composite Panel

"Tray profile" Aluminium Composite Panel shall be formed with 20 mm deep flanges. The panel corners shall be reinforced with ACP trimmings (30 × 16 × 4 mm, length × width × thickness) which shall be fixed to the flanges using Ø4 × 21 mm aluminium blind rivets. The details of the ACP are as follows:

***Table 1.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Weight Per Unit Area | 8 ± 0.5 kg/m² |
| Panel Thickness | 4 ± 0.2 mm |
| Top Skin<br>(Exterior Facing) | 0.5 mm thick Aluminium Alloy 3105-H16,<br>Polyvinylidene Fluoride (PVDF) coating,<br>27 microns maximum coating thickness |
| Bottom Skin<br>(Interior Facing) | 0.5 mm thick Aluminium Alloy 3105-H16,<br>Polyester (PE) coating,<br>7 microns maximum coating thickness |
| Adhesive | Material: "High molecular content polymer adhesive"<br>Thickness: 70 ± 2 microns<br>Density: 920 ± 10 kg/m³ |
| Core | Description: Inorganic core with mineral fillers<br>Thickness: 3 ± 0.1 mm<br>Density: 1800 ± 10 kg/m³ |
| Maximum Panel Height | 2824 mm |
| Maximum Panel Width | 2037 mm |
| Minimum Panel Height | 200 mm |
| Minimum Panel Width | 200 mm |

1b. Panel Joint Sealing

A maximum gap of 20mm shall be maintained between the horizontal and vertical joints located between adjacent panels. The gap shall be fitted with 10 × 10 × 10 × 1.4 mm (flange x web x flange x thickness) Aluminium "U" channel (Alloy 6063-T6) recessed into the joint gap and capped off with "Sikasil®670 Fire" silicone-based sealant applied at a nominal depth of 6 mm, extruded smoothly and flush with the exterior surface of the ACP cladding.

2. Cladding fixing

Aluminium "L" angle (Alloy 6063-T6) cleats, 20 × 20 × 50 × 1.5 mm (leg × leg × width × thickness), shall be fixed to the flanges of the tray using 2 nos. of Ø4 mm × 21 mm aluminium blind rivets, at a nominal spacing of 150 mm from the panel corner and 300 mm centres. The angles shall be fixed to the runners using a Ø4.6 × 38 mm hex head self-drilling screw.

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Director of Certification
Nicholas Purcell

Seal number: 101769



Issued: 05 Oct 2023
Valid to: 06 Oct 2026

3. Sub-Frame

3a. Wall Brackets

Galvanised Steel brackets, Grade S275, 75 × 265 × 100 × 4 mm (base × height × width × thickness), shall be fixed against the base wall using 2 nos. of Ø6 × 50 mm hex-head self-drilling screw. The brackets shall be fixed at a nominal spacing of 587 to 735 mm horizontally and 486 to 1200 mm vertically.

3b. Runners

Aluminium angles, Alloy 6063-T6, 40 × 40 × 3 mm (leg × leg × thickness), shall be fixed against the wall brackets using M8 × 20 mm stainless steel hex head bolts with nuts. The runner shall be fixed vertically, and spaced according to the bracket's location.

4. Exterior Insulation

4a. Mineral Wool

A single layer of mineral wool with Foil Scrim facing on one side, fixed to the base wall using metal insulation fasteners. A maximum air gap of 246 mm shall be maintained between the exterior insulation and the back of the ACP panel.

Reference: "Façade Slab 32 Ultimate"
Manufacturer: Knauf Exeed Insulation L.L.C
Nominal Density: 36 ± 2 kg/m³
Nominal Thickness: 50 ± 2 mm
Dimension: 600 × 1200 mm (width × length)

4b. Insulation Fastener

Reference: "MBA-08090"
Description: Galvanised steel insulation anchors
Manufacturer: Rawlplug
Dimensions: Ø8 × 90 mm
Application: 5 nos. fixed per slab

5. Cavity Fire Barrier

5a. Horizontal Cavity Fire Barrier

Full seal width cavity fire barrier shall be mechanically secured to the base wall using cavity barrier fixing brackets. The horizontal cavity barrier shall be installed at every floor slab termination. The joints between the slabs shall be sealed using a 60 mm wide self-adhesive aluminium foil tape.

Material: Pre-compressed stonewool lamella with an integral foil facing
Dimension: 310 × 120mm (depth × thickness)
Nominal Density: 75 kg/m³
Reference: Siderise CH120/120
Manufacturer: Siderise Insulation Ltd-UK

5b. Vertical Cavity Fire Barrier

Full seal width cavity fire barrier shall be mechanically secured to the base wall using cavity barrier fixing brackets. The vertical cavity barrier shall be installed within 15 mm from the vertical edges of the aperture, extending to the full height of the wall assembly. The joints between the slabs shall be sealed using a 60 mm wide self-adhesive aluminium foil tape.

Material: Pre-compressed stonewool lamella with an integral foil facing
Dimension: 310 × 120mm (depth × thickness)
Nominal Density: 75 kg/m³
Reference: Siderise CW-FS120
Manufacturer: Siderise Insulation Ltd-UK

5c. Cavity Barrier fixing bracket
The bracket shall be bent into an "L" shape with the short leg fixed to the base wall using Ø4.6 × 38 mm hex-head self-drilling screw, and the long leg impaling the cavity barrier. The fixing shall be located at a nominal distance of 300 mm from the edges and 600 mm centres.
Material: Galvanised Steel
Manufacturer: Siderise Insulation Ltd. - UK
Reference: "B195"
Dimension: 320 × 25 × 1 mm (total length × width × thickness)

6. Window Flashing
The window perimeter shall be covered by a pre-bent 1 mm thick Aluminium sheet (Alloy 3105-H4), 51 × 432 mm. The window flashing shall overlap the interior cladding by 51 mm, flush with the exterior face of the base wall, and fixed to the base wall using Ø4.8 × 19 mm self-drilling pan head screws, with a nominal spacing of 152 mm centres.

7. Substrate

7a. Interior & Exterior Gypsum Board
1220 × 2400 × 15.9 mm (width × length × thickness) Type X gypsum boards shall be fixed vertically onto 1.2 mm thick galvanised steel studs and tracks using Ø3.5 mm × 35 mm self-drilling screws. The board joints shall be covered with gypsum board joint tape and jointing compound. The screw heads shall also be covered with the jointing compound.

7b. Steel Studs and Tracks
Galvanised steel (ASTM A653/A653M - CS Type B) studs, 92 × 32 × 32 × 9 × 1.2 mm (web × flange × flange × lip × thickness) and tracks, 95 × 25 × 25 × 1.2 mm (web × flange × flange × thickness) welded directly to the test frame.

F. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 18022, Dubai,
United Arab Emirates

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Certificate Number: TBW0300649

Director of Certification
Nicholas Purcell

Seal number: 101769



Issued: 05 Oct 2023
Valid to: 06 Oct 2026

THOMAS BELL-WRIGHT
A PHENNA GROUP COMPANY

UKAS PRODUCT CERTIFICATION 6762

In accordance with UKAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

# Alucopanel Middle East LLC

P.O. Box 416557, National Industries Park,
Dubai, United Arab Emirates

for

## "Alucopanel® A2"

## 4 mm thick Aluminium Composite Panel Roof Covering Assembly with Mineral Wool Insulation

**(Classification according to EN 13501-5:2016)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme
*SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 30th day of August 2024

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS 102147 CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300738**

Initial registration: August 19, 2021 Issued: August 30, 2024 Expiration: August 18, 2027
File Name: YF146_CRT_SD03RT_A2_738_Issue4_(f) Issue 4

# "Alucopanel® A2"
## 4 mm thick Aluminium Composite Panel Roof Covering Assembly with Mineral Wool Insulation

A. Certification is given for **"Alucopanel® A2"** 4 mm thick Aluminium Composite Panel Roof Covering Assembly with Mineral Wool Insulation for Reaction to Fire classification according to EN 13501-5:2016 "Fire classification of construction products and building elements – Part 5: Classification using external fire exposure to roofs tests", subject to the limitations stated herein. The summary of the scope of certification is stated below.

***Table 1.*** *Summary of the Scope of Certification*

| Product Name/Reference | Reaction to Fire Performance | | Report Reference |
|---|---|---|---|
| | Result | Standard | |
| "Alucopanel® A2" 4 mm thick Aluminium Composite Panel Roof Covering Assembly with Mineral Wool Insulation | $B_{ROOF}$ (t4) | EN 13501-5:2016 | FIRES-CR-032-21-AUPE |

B. Readers of this document should be familiar with the fire test standard and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if it is not so listed.

C. The product is approved based on TBWIC Product Certification Scheme SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 11), which includes pre-test sampling, evidence of performance (under report reference(s) in Table 1), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/Audits.

D. Limitations

D.1. This Certification covers the specifications of the products as described in Sections E.

D.2. The test standard covered under this Certification was used to measure the response of materials, products, or system assemblies to heat and flame under controlled conditions. The results described in each particular test report on its own shall not be used as the sole criteria for fire-hazard or fire-risk assessment of the materials, products, or system assemblies under actual fire conditions.

D.3. No variations are allowed in material composition and manufacturing process unless recognised and approved by this Certification.

D.4. This Certification is valid only for the fire performance of roof assembly when subjected to external fire exposure. Internal fire exposure is not considered.

D.5. Panels shall be fastened to structural supports with panel joints secured with fasteners.

D.6. The classification is valid for the following configurations:

a. Roof pitch: greater than 10° and up to 70° inclination from the horizontal plane
b. Deck type: Installations without continuous deck
c. Supporting structure: Aluminium profile supports (non-combustible)

Certificate No.: TBW0300738

Director of Certification
Nicholas Purcell

Seal No.: 102147



Issued: 30 Aug 2024
Valid to: 18 Aug 2027

D.7. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible walls and ceilings
d. Classification or definition of material as non-combustible
e. Any Resistance to Fire rating
f. The toxicity level of smoke developed during combustion
g. Fire propagation characteristics when tested as large-scale façade cladding assembly

E. System Details

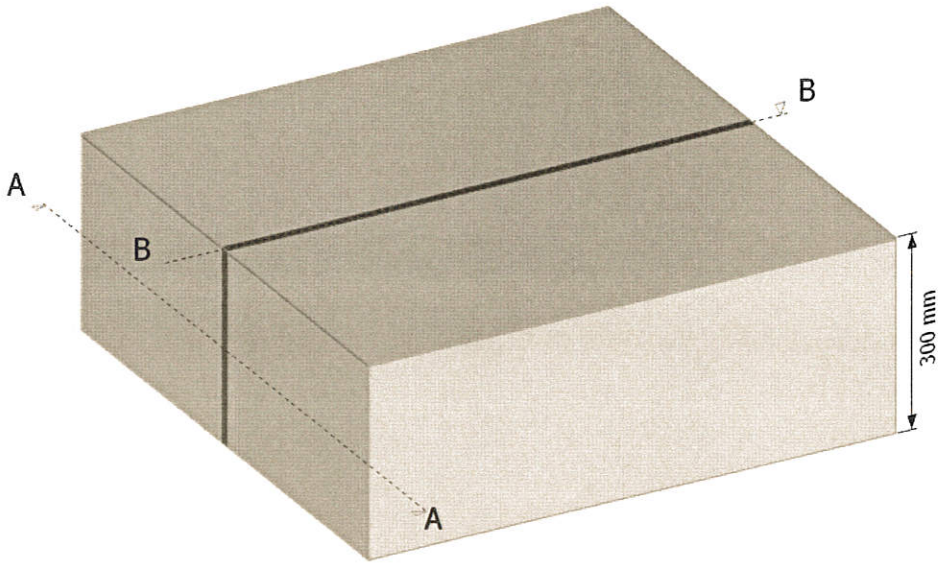


***Figure 1.*** *Exterior Roof Covering Assembly*

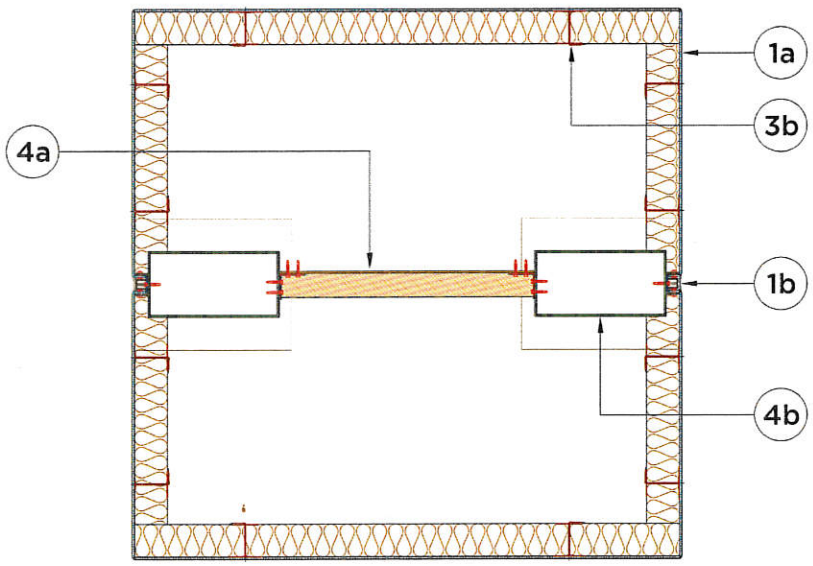


***Figure 2.*** *Section A-A*

Certificate No.: TBW0300738

Director of Certification
Nicholas Purcell

Seal No.: 102147



Issued: 30 Aug 2024
Valid to: 18 Aug 2027

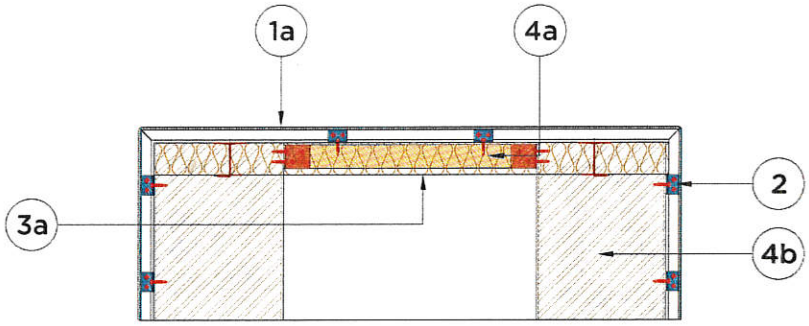


***Figure 3.*** *Section B-B*

1. Roof Covering Element

   1a. Aluminium Composite Panel
   Aluminium Composite Panel formed into a "tray profile", with 300 mm high flanges on the exterior and 20 mm on the panel joints, shall be mechanically fixed to the structural support framing along the vertical and horizontal joints. Refer to Table 2 below for the details of the ACP panel.

***Table 2.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Panel Thickness | 4 ± 0.2 mm |
| Weight Per Unit Area | 8 ± 0.5 kg/m² |
| Exterior Facing (top skin) | 0.5 mm thick (minimum), Aluminium Alloy 3105-H16, 27 microns thick (maximum) Polyvinylidene Fluoride (PVDF) coating |
| Interior Facing (bottom skin) | 0.5 mm thick (minimum), Aluminium Alloy 3105-H16, 7 microns thick (maximum) Polyester (PE) coating |
| Core | Material: Mineral-filled inorganic core<br>Thickness: 3 ± 0.1 mm<br>Density: 1800 ± 10 kg/m³ |
| Adhesive | Material: "High molecular content polymer adhesive"<br>Thickness: 70 ± 2 microns<br>Density: 920 ± 10 kg/m³ |

   1b. Panel Joint Seal
   A maximum gap of 21 mm shall be maintained between the joints of the panels. The joints shall be fitted with an aluminium (Alloy 6063-T6) "U" channel, 15 × 15 × 15 × 1.3 mm (web × flange × flange × thickness), fixed with Ø4.6 × 38 mm self-drilling hex head screws and capped with Silicone-based sealant DOWSIL™ 813C, applied at a nominal depth of 6 mm, extruded smoothly and flush with the exterior surface of the ACP cladding.

2. Cladding Fixing
   Aluminium (Alloy 6063-T6) angles, 20 × 20 × 50 × 1.5 mm (leg × leg × length × thickness), shall be fixed on flanges of the tray using 2 nos. of Ø4 × 21 mm aluminium blind rivets within 100 mm from the corners and at 50 mm centres nominal spacing. The angles shall be fixed to the sub-framing using Ø4.6 × 38 mm self-drilling hex head screws.

3. Insulation

3a. Mineral Wool
A single layer of mineral wool with an aluminium foil facing on one side shall be fixed to the rear face of the roof covering element using insulation board fasteners.

Reference: "S2XX"
Manufacturer: Fujairah Rockwool Factory
Density: 50 kg/m³
Thickness: 50 mm

3b. Insulation Fastener
Description: Self-adhesive metal pin with 50 mm x 50 mm metal base
Reference: "Self-stick insulation pins."
Manufacturer: HVAC Insulation Supplies Co., Ltd.
Fixing: 8 nos. per square metre

4. Framing

4a. Sub-frame
Description: Aluminium angle
Material: Aluminium, Alloy 6063-T6
Dimensions: 40 × 40 × 3 mm (leg × leg × thickness)
Fixing:
- Fixed to the structural support using Aluminium (Alloy 6063-T6) angle, 40 × 40 × 37 × 3 mm (leg × leg × length × thickness), fastened with 4 nos. of Ø4.6 × 38 mm hex head self-drilling screws
- The intersection between sub-frames shall be fastened using Aluminium (Alloy 6063-T6) angle, 40 × 40 × 37 × 3 mm (leg × leg × length × thickness), fastened with 4 nos. of Ø4.6 × 38 mm hex head self-drilling screws

4b. Structural support
Description: Rectangular hollow section profile
Material: Aluminium, Alloy 6063-T6
Dimensions: 200 × 100 × 3 mm (width × depth × thickness)

F. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 416557,
Dubai, United Arab Emirates

Certificate No.: TBW0300738

Director of Certification
Nicholas Purcell

Seal No.: 102147



Issued: 30 Aug 2024
Valid to: 18 Aug 2027

THOMAS BELL-WRIGHT
A PHENNA GROUP COMPANY

UKAS PRODUCT CERTIFICATION 6762

In accordance with UKAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

# Alucopanel Middle East LLC

P.O. Box 416557, National Industries Park,
Dubai, United Arab Emirates

for

## "Alucopanel® A2"

### 4 mm thick Aluminium Composite Panel Roof Covering Assembly

### (Classification according to EN 13501-5:2016)

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme
*SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 30th day of August 2024

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS 102146 CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300739**

Initial registration: August 19, 2021 Issued: August 30, 2024 Expiration: August 18, 2027
File Name: YF146_CRT_SD03RT_A2_739_Issue4_(f) Issue 4

# "Alucopanel® A2"
## 4 mm thick Aluminium Composite Panel Roof Covering Assembly

A. Certification is given for **"Alucopanel® A2"** 4 mm thick Aluminium Composite Panel Roof Covering Assembly for Reaction to Fire classification according to EN 13501-5:2016 "Fire classification of construction products and building elements - Part 5: Classification using external fire exposure to roofs tests", subject to the limitations stated herein. The summary of the scope of certification is stated below.

***Table 1.*** *Summary of the Scope of Certification*

| Product Name/Reference | Reaction to Fire Performance | | Report Reference |
|---|---|---|---|
| | Result | Standard | |
| "Alucopanel® A2" 4 mm thick Aluminium Composite Panel Roof Covering Assembly | $B_{ROOF}$ (t4) | EN 13501-5:2016 | FIRES-CR-032-21-AUPE |

B. Readers of this document should be familiar with the fire test standard and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if it is not so listed.

C. The product is approved based on TBWIC Product Certification Scheme SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 11), which includes pre-test sampling, evidence of performance (under report reference(s) in Table 1), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/Audits.

D. Limitations

D.1. This Certification covers the specifications of the products as described in Sections E.

D.2. The test standard covered under this Certification was used to measure the response of materials, products, or system assemblies to heat and flame under controlled conditions. The results described in each particular test report on its own shall not be used as the sole criteria for fire-hazard or fire-risk assessment of the materials, products, or system assemblies under actual fire conditions.

D.3. No variations are allowed in material composition and manufacturing process unless recognised and approved by this Certification.

D.4. This Certification is valid only for the fire performance of roof assembly when subjected to external fire exposure. Internal fire exposure is not considered.

D.5. Panels shall be fastened to structural supports with panel joints secured with fasteners.

D.6. The classification is valid for the following configurations:

a. Roof pitch: greater than 10° and up to 70° inclination from the horizontal plane
b. Deck type: Installations without continuous deck
c. Supporting structure: Aluminium profile supports (non-combustible)

Certificate No.: TBW0300739

Director of Certification
Nicholas Purcell

Seal No.: 102146



Issued: 30 Aug 2024
Valid to: 18 Aug 2027

D.7. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible walls and ceilings
d. Classification or definition of material as non-combustible
e. Any Resistance to Fire rating
f. The toxicity level of smoke developed during combustion
g. Fire propagation characteristics when tested as large-scale façade cladding assembly

E. System Details

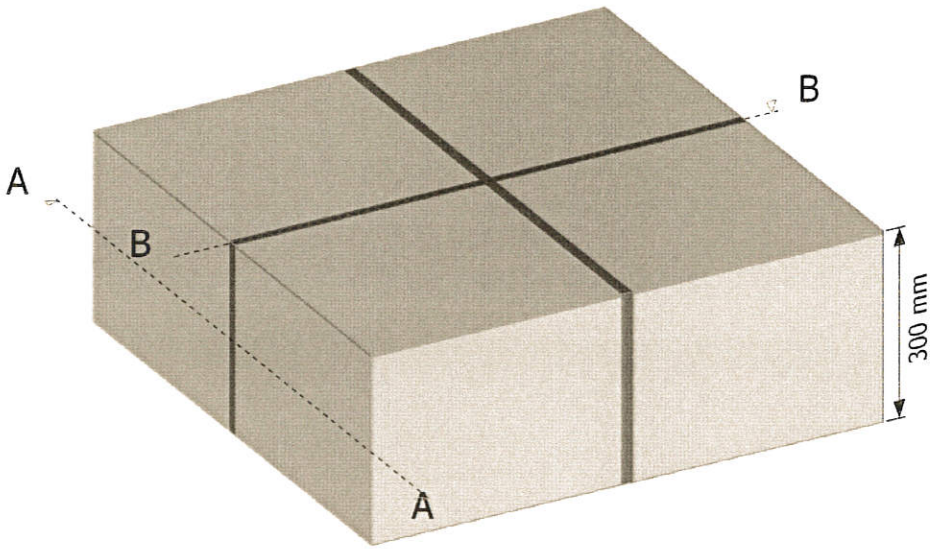


***Figure 1.*** *Exterior Roof Covering Assembly*

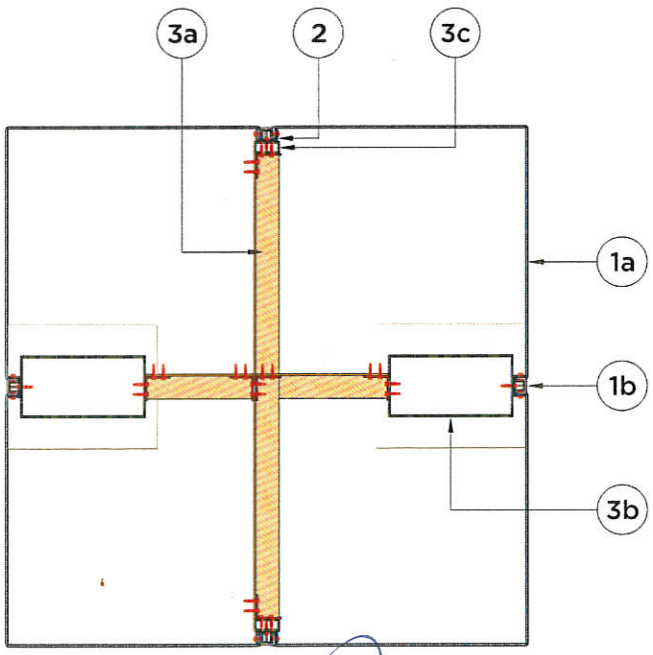


***Figure 2.*** *Section A-A*

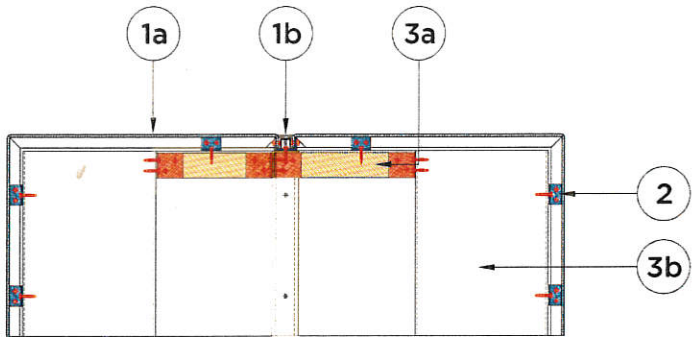


***Figure 3.*** *Section B-B*

1. Roof Covering Element

1a. Aluminium Composite Panel
Aluminium Composite Panel formed into a "tray profile", with 300 mm high flanges on the exterior and 20 mm on the panel joints, shall be mechanically fixed to the structural support framing along the vertical and horizontal joints. Refer to Table 2 below for the details of the ACP panel.

***Table 2.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Panel Thickness | 4 ± 0.2 mm |
| Weight Per Unit Area | 8 ± 0.5 kg/m² |
| Exterior Facing (top skin) | 0.5 mm thick (minimum), Aluminium Alloy 3105-H16, 27 microns thick (maximum) Polyvinylidene Fluoride (PVDF) coating |
| Interior Facing (bottom skin) | 0.5 mm thick (minimum), Aluminium Alloy 3105-H16, 7 microns thick (maximum) Polyester (PE) coating |
| Core | Material: Mineral-filled inorganic core<br>Thickness: 3 ± 0.1 mm<br>Density: 1800 ± 10 kg/m³ |
| Adhesive | Material: "High molecular content polymer adhesive"<br>Thickness: 70 ± 2 microns<br>Density: 920 ± 10 kg/m³ |

1b. Panel Joint Seal
A gap of 20 mm shall be maintained between the joints of the panels. The joints shall be fitted with an aluminium (Alloy 6063-T6) "U' channel, 15 × 15 × 15 × 1.3 mm (web × flange × flange × thickness), fixed with Ø4.6 × 38 mm self-drilling hex head screws and capped with Silicone-based sealant DOWSIL™ 813C, applied at a nominal depth of 6 mm, extruded smoothly and flush with the exterior surface of the ACP cladding.

2. Cladding Fixing
Aluminium (Alloy 6063-T6) angles, 20 × 20 × 50 × 1.5 mm (leg × leg × length × thickness), shall be fixed on flanges of the tray using 2 nos. of Ø4 × 21 mm aluminium blind rivets within 100 mm from the corners and at 50 mm centres nominal spacing. The angles shall be fixed to the sub-framing using Ø4.6 × 38 mm self-drilling hex head screws.

3. Framing

3a. Sub-frame
Description: Aluminium angle
Material: Aluminium, Alloy 6063-T6
Dimension: 40 × 40 × 3mm (leg × leg × thickness)
Fixing:
- Fixed to the structural support using Aluminium (Alloy 6063-T6) angle, 40 × 40 × 37 × 3 mm (leg × leg × length × thickness), fastened with 4 nos. of Ø4.6 × 38 mm hex head self-drilling screws
- The intersection between sub-frames shall be fastened using Aluminium (Alloy 6063-T6) angle, 40 × 40 × 37 × 3 mm (leg × leg × length × thickness), fastened with 4 nos. of Ø4.6 × 38 mm hex head self-drilling screws

3b. Structural support – Type 1
Description: Rectangular hollow section profile
Material: Aluminium, Alloy 6063-T6
Dimensions: 200 × 100 × 3 mm (width × depth × wall thickness)

3c. Structural support – Type 2
Description: Rectangular hollow section profile
Material: Aluminium, Alloy 6063-T6
Dimensions: 20 × 40 × 3 mm (width × depth × wall thickness)

F. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 416557,
Dubai, United Arab Emirates

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**THOMAS BELL-WRIGHT**
**INTERNATIONAL CONSULTANTS**

UKAS PRODUCT CERTIFICATION
6762

In accordance with UKAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

# *Alucopanel Middle East LLC*

*National Industries Park, P.O. Box 18022,*
*Dubai, United Arab Emirates*

for

## "Alucopanel® A2"
### 4 mm thick Aluminium Composite Material
### Exterior Wall Cladding System
### Test Method: NFPA 285-2023 Edition
### (System Designation: A114B61-4)

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies*

In witness whereof, this Certificate is issued this 6th day of June 2023

THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS
101938
CERTIFIED

Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

**Certificate Number: TBW0300930**

Initial registration: June 6, 2023 Issued: June 6, 2023 Expiration: June 5, 2026
File Name: XA068_CRT_SD03FP_A2_Issue1_(f) Issue 1

# "Alucopanel® A2"
## 4 mm thick Aluminium Composite Material
## Exterior Wall Cladding System
### (System Designation: A114B61-4)

A. Certification is given for the "Alucopanel® A2" 4 mm thick Aluminium Composite Material Exterior Wall Cladding System, which has **successfully met** the requirements for fire propagation characteristics when evaluated against NFPA 285-2023 Edition – "Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components", subject to the limitations below.

B. Readers of this document should be familiar with the fire test standard and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if this product is not so listed.

C. The product is approved on the basis of TBWIC Product Certification Scheme SD03 Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies (Issue 11), which includes pre-test sampling, evidence of performance (under report reference(s) XA069-1 Rev.0), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.

D. Limitations:

D.1. This Certification covers the fire propagation characteristics of exterior wall assembly when evaluated against the NFPA 285-2023 Edition fire test method. The exterior wall assembly has been evaluated for fire propagation characteristics as specified in the following*:

a. The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly*;
b. The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next*;
c. The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next*;
d. The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces*.

D.2. This Certification covers the performance of the exterior wall assembly when exposed to fire from an interior room that reaches flashover, breaks exterior windows and exposes the building façade. It is not intended to address the effect of exterior radiation from nearby fires but is relevant to fires that start at the exterior wall assembly*.

D.3. This Certification covers the exterior wall assembly in its entirety. It does not extend to individual components that comprise the exterior wall assembly (on their own).

D.4. The actual field installations of the exterior wall cladding system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods, and materials are used in the field*.

D.5. The design of the exterior wall assembly covered under this certification, including the exact specification of the components, method of fixing, and condition of such components subjected to the fire test, shall be duplicated when installed on the site. The design and components of the exterior wall cladding assembly are not permitted to be substituted, eliminated, or interchanged unless recognised and approved by this certification.

** NFPA 285-2023 Edition*

Certificate Number: TBW0300930

Director of Certification
Nicholas Purcell

Seal number: 101938



Issued: 06 Jun 2023
Valid to: 05 Jun 2026

D.6. The method used to seal the gap in the joints between the panels and the components used was evaluated and certified as part of the exterior wall cladding for fire propagation characteristics only. Physical performance, such as (but not limited to) resistance to weathering, resistance to impact/movement, adhesion, mechanical resistance and stability, or thermal properties, are not considered.

D.7. This Certification does not address the following:

a. Air and Water Permeability
b. Measurement of heat transmission
c. Classification or definition of material as non-combustible
d. Any Resistance to Fire rating
e. The toxicity level of smoke developed during combustion
f. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible materials
g. Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage, and alike
h. Effects of radiation from nearby fires

E. System Configuration

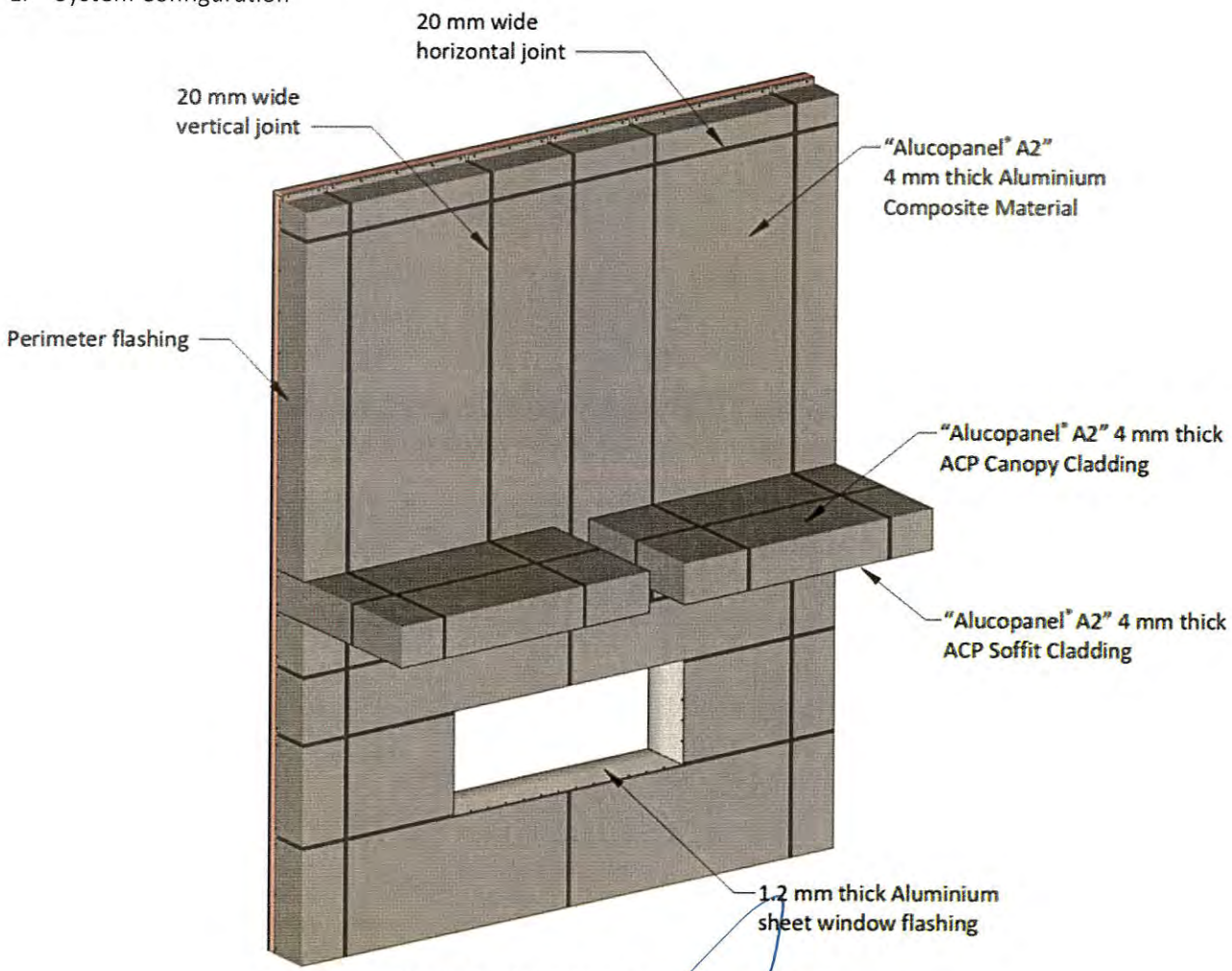


***Figure 1.*** *Aluminium Composite Material Exterior Wall Cladding System*

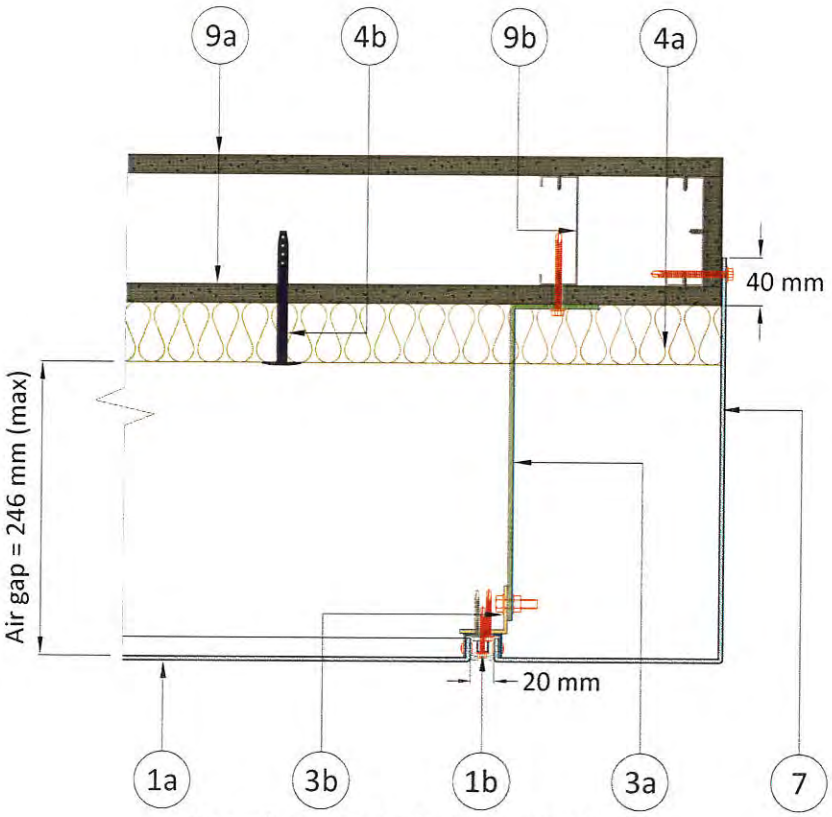


***Figure 2.*** *Horizontal Section – Joint Details*

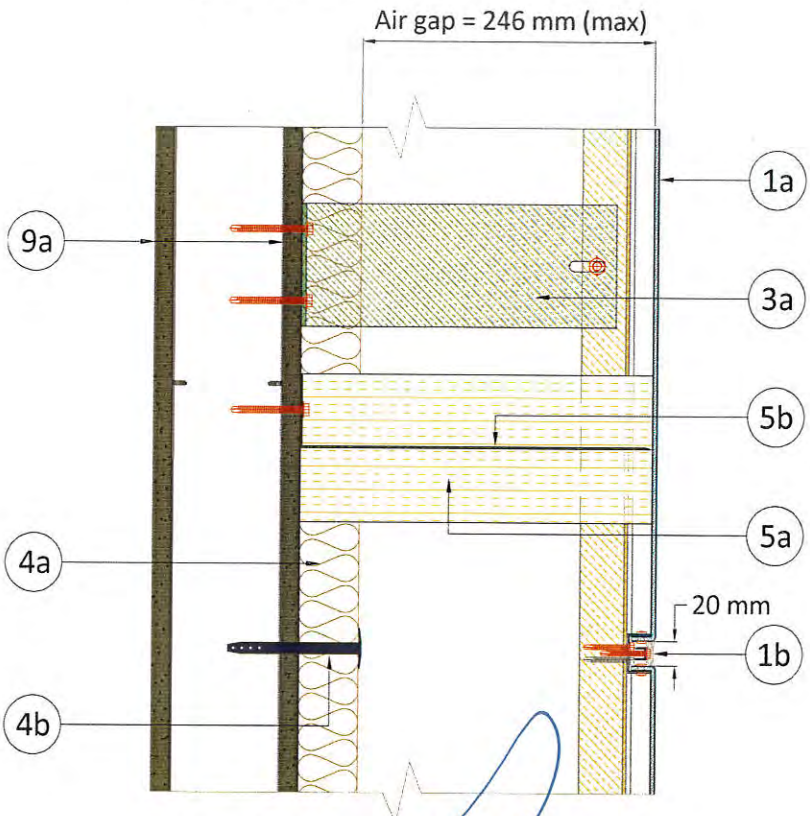


***Figure 3.*** *Vertical Section – Joint Details*

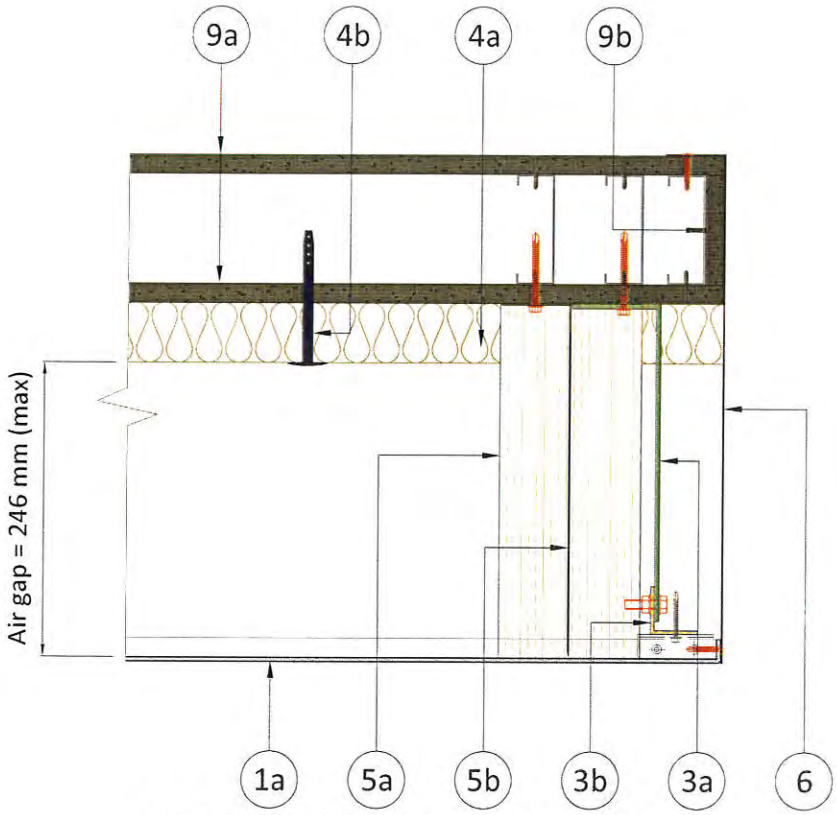


***Figure 4.*** *Horizontal Section – Window Details*

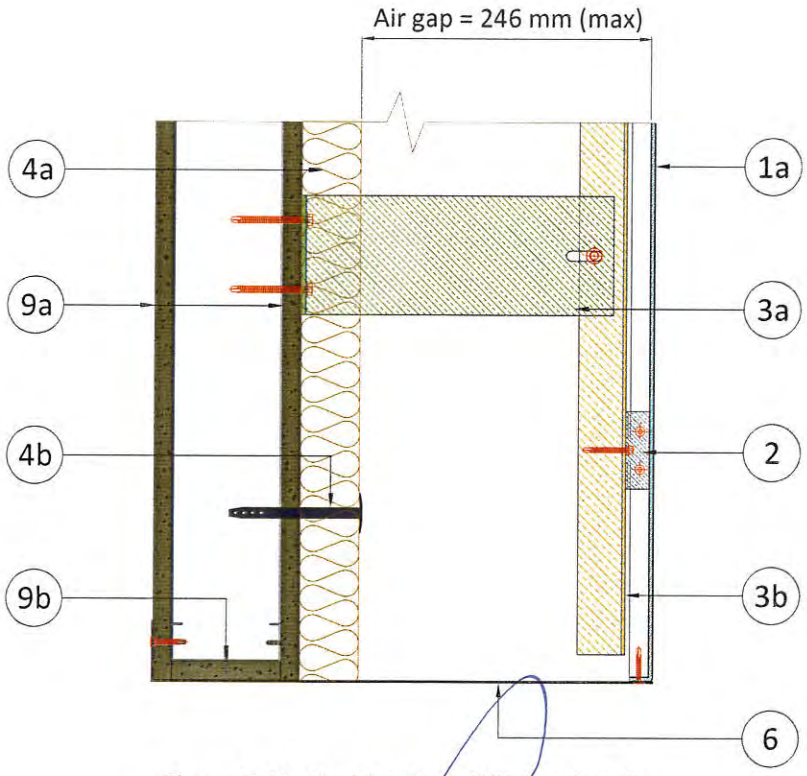


***Figure 5.*** *Vertical Section – Window Details*

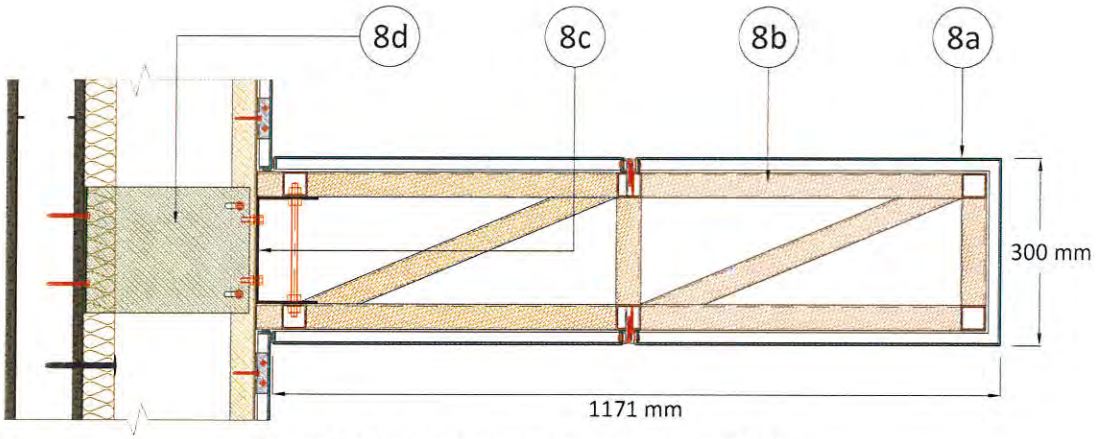


***Figure 6.*** *Vertical Section – Canopy and Soffit Details*

1. Cladding Element

1a. Aluminium Composite Panel

"Tray profile" Aluminium Composite Panel with 20 mm deep flanges. The details of the ACP are as follows:

***Table 1.*** *Aluminium Composite Panel Details*

| | |
|---|---|
| Reference | "Alucopanel® A2" |
| Weight Per Unit Area | 8 ± 0.5kg/m² |
| Panel Thickness | 4 ± 0.2 mm |
| Exterior Facing (Top Skin) | 0.5 mm thick (minimum) Aluminium Alloy 3105-H16, Polyvinylidene Fluoride (PVDF) coating, 27 microns maximum coating thickness |
| Interior Facing (Bottom Skin) | 0.5 mm thick (minimum) Aluminium Alloy 3105-H16, Polyester (PE) coating, 7 microns maximum coating thickness |
| Adhesive | Material: "High molecular content polymer adhesive" Thickness: 70 ± 2microns Density: 920 ± 10 kg/m³ |
| Core | Material: Mineral-filled inorganic core Thickness: 3 ± 0.1 mm Density: 1800 ± 10 kg/m³ |
| Maximum Panel Width | 1880 mm |
| Minimum Panel Width | 356 mm |
| Maximum Panel Height | 3150 mm |
| Minimum Panel Height | 200 mm |

1b. Panel Joint Seal

A maximum gap of 20 mm, maintained between the panel joints, shall be fixed with a 10 × 10 × 1.2 mm (web × flange × thickness) Aluminium (Alloy 6063-T6) U-channel using Ø4.8 × 38 mm stainless steel self-drilling hex head screws and capped with "INCA INSS2460" silicone-based sealant, applied at a nominal depth of 6 mm, extruded smoothly and flush with the exterior surface of the ACP cladding.

2. Cladding Fixing

Aluminium angles (Alloy 6063-T6), 20 × 20 × 65 × 1.5 mm (leg × leg × width × thickness) shall be fixed on the flanges of the tray using 2 nos. of Ø4 × 21 mm aluminium blind rivets at a maximum spacing of 200 mm from the corners and 300 mm centres. The angles shall be fixed to the runners using Ø4.8 × 38 mm stainless steel self-drilling hex head screws.

3. Sub-Frame

3a. Wall Bracket

Mild Steel (Grade: S275, EN 10025) angle brackets, 75 × 265 × 100 × 4 mm (leg × leg × width × thickness), fixed against the base wall using Ø6 × 64 mm stainless steel self-drilling hex head screw. The brackets shall be fixed at a nominal spacing of 486 to 1351 mm vertically and 700 to 1200 mm horizontally.

3b. Runner

Aluminium (Alloy 6063-T6) angles, 40 × 40 × 3 mm (leg × leg × thickness), shall be fixed vertically against the wall brackets using Ø8 × 20 mm hex head bolts with nut and washer.

4. Exterior Insulation

4a. Insulation Material

A single layer of mineral wool with Foil Scrim facing on one side, fixed to the base wall using metal insulation fasteners. A maximum air gap of 246 mm shall be maintained between the exterior insulation and the back of the ACP panel. The joints between the insulation slabs shall be sealed using a 70 mm wide self-adhesive aluminium foil tape (Dyno Tape).
Reference: "SRW Rockwool Panel"
Manufacturer: Saudi Rockwool Factory Co.
Nominal Density: 40 kg/m$^3$
Nominal Thickness: 50 mm
Dimension: 600 × 1200 mm (width × length)

4b. Insulation Fastener

Material: Galvanised Steel
Reference: "MBA-08110"
Dimension: Ø8 × 110 mm
Manufacturer: Rawlplug S.A.
Fixing Details: 5 nos. fixed for each slab

5. Cavity Fire Barrier

5a. Cavity Barrier

A full-seal vertical cavity barrier shall be mechanically secured to the base wall using Siderise B355 G fixing bracket. The cavity fire barrier shall be installed vertically adjacent to the window opening and horizontally at every floor slab termination.
Material: Pre-compressed Stonewool Lamella with an integral foil facing
Dimension: 120 × 310 mm (thickness × depth)
Nominal Density: 75 kg/m$^3$
Reference: "Siderise® CH-120/120"
Manufacturer: Siderise Insulation Ltd. UK

5b. Cavity Barrier Bracket
The brackets shall be bent into an "L" shape with the short leg fixed to the base wall using Ø6 × 64 mm stainless steel self-drilling hex head screws and the long leg impaling the cavity barrier. The fixings shall be located at a nominal spacing of 300 mm from the edges and 600 mm centres.
Material: Galvanised Steel
Reference: "B355 G"
Dimension: 355 × 25 × 1 mm (total length× width × thickness)
Manufacturer: Siderise Insulation Ltd., UK

5c. Jointing Tape
Material: Aluminium Foil Tape
Reference: "Siderise RFT120"
Manufacturer: Siderise Insulation Ltd., UK
Width: 120 mm
Application: Used to seal the gaps between cavity fire barrier slabs

6. Window Flashing
The window perimeter shall be covered with a 1.2 mm thick Aluminium sheet (Alloy 1100-T14), overlapping to the interior side of the base wall by 51 mm. The window flashing shall be fixed to the interior side of the base wall and to the panel flanges using Ø6 × 64 mm stainless steel countersunk head screws at 200 mm and 152 mm nominal spacing, respectively.

7. Perimeter Flashing
The top and vertical edges of the wall system shall be sealed by extending the flanges of the cladding panels to the base wall by 40 mm. The perimeter flashing shall be fixed to the base wall using Ø6 × 64 mm stainless steel self-drilling hex head screws at a nominal spacing of 300 mm.

8. Soffit and Canopy
Two canopies, with a nominal spacing of 304 mm, shall be projecting beyond the outer planar surface of the wall by a nominal depth of 1171 mm, as shown in Figure 6. The canopies shall be located along the 1st floor slab.

8a. Soffit and Canopy Cladding
Aluminium Composite Panels (Item 1a) shall be bent to cover the framing system on all sides. The panels shall be fixed to the framing system using cladding fixings (Item 2). The cladding fixings shall be fixed to the flanges of the panels using 2 nos. of Ø4 × 21 mm aluminium blind rivets.

8b. Sub-Frame
The structural frame of the canopy, with overall dimensions of 1590 × 1175 × 255 mm (length × width × height), shall be comprised of welded Aluminium (Alloy 6063) square hollow section (SHS) profiles, 40 × 40 × 3 mm.

8c. Frame Fixing
Aluminium (Alloy 6063) U-channel, 170 × 100 × 100 × 40 × 4 mm (web × flange × flange × width × thickness) shall be fixed to the soffit frame using Ø10 × 310 mm threaded Stainless Steel rod with nuts. The C-channels shall be fixed to the runners using 2 nos. of Ø8 × 70 mm hex head bolt and nut.

8d. Canopy Bracket
Mild Steel (Grade: S275, EN 10025) angle brackets, 75 × 265 × 200 × 4 mm (leg × leg × width × thickness), fixed against the base wall using Ø6 × 64 mm stainless steel self-drilling hex head screw. The brackets shall be fixed at a nominal horizontal spacing of 360 to 600 mm.

9. Substrate

9a. Interior & Exterior Gypsum Board
1220 × 2400 × 15.9 mm (width × length × thickness) Type X gypsum boards shall be fixed vertically onto 1.2 mm thick galvanised steel studs and tracks using Ø3.5 × 35 mm self-tapping screws at 300 mm centres vertically. The board joints shall be covered with glass fibre multi-purpose self-adhesive plasterboard jointing tape and jointing compound. The screw heads shall also be covered with the jointing compound.

9b. Steel Studs and Tracks
Galvanised steel (ASTM A653/A653M- Commercial Grade) studs, 92 × 32 × 32 × 9 × 1.2 mm (web × flange × flange × lip × thickness) and tracks, 95 × 25 × 25 × 1.2 mm (web × flange × flange × thickness) welded directly to the test frame.

F. Approved Manufacturing Location

Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 18022,
Dubai, United Arab Emirates