

**THOMAS BELL-WRIGHT
INTERNATIONAL CONSULTANTS**

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® A1”

**4 mm thick Aluminium Composite Material
(BS EN 13501-1:2018 and ASTM D1929-16)**

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 September 2023



Sandy Dweik

Sandy Dweik
Chief Executive Officer

Nicholas Purcell

Nicholas Purcell
Director of Certification

Certificate Number: TBW0300647

Initial registration: September 30, 2020

Issued: September 30, 2023

Expiration: September 29, 2026

File Name: XG146_CRT_SD03RX_A1_Issue2_647_(f)

Issue 2

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

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F 19 Scheme Certificate Issue 7 Issued Feb 2020

“Alucopanel® A1” 4 mm thick Aluminium Composite Material

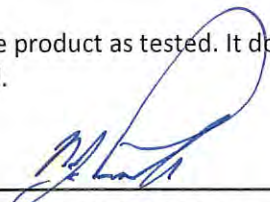
- A. Certification is given for “Alucopanel® A1” 4 mm thick Aluminium Composite Material for Reaction to Fire classification according to BS EN 13501-1:2018 – “Fire Classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests” and Reaction to Fire performance to test standard ASTM D1929-16 – “Standard Test Method for Determining Ignition Temperature of Plastics” for Spontaneous Ignition Temperature (SIT) & Flash Ignition Temperature (FIT), 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 References
	Result	Standard	
“Alucopanel® A1” 4 mm thick Aluminium Composite Material	A1	BS EN 13501-1:2018	UB032-4 Rev.0
	SIT: 525 °C FIT: 524 °C	ASTM D1929-16	UB031-2 Rev.0
3 mm thick core of “Alucopanel® A1” Aluminium Composite Panel	A1	BS EN 13501-1:2018	UB032-5 Rev.0
	SIT: >750 °C FIT: >750 °C	ASTM D1929-16	UB031-1 Rev.0

- 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 product(s) as tested and described in Section E.
- D.2. The test standards covered under this Certification were used to measure the response of materials, products, or system assemblies to heat and flame under controlled conditions. The results described in each 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 pertains only to the product as tested. It does not extend to the construction build-up or assembly comprising the material.

Certificate Number: TBW0300647



 Director of Certification
 Nicholas Purcell

Seal number: 101614

Page 2 of 4
Issue 2

Issued: 30 Sep 2023
Valid to: 29 Sep 2026

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Registered office: P.O. Box 26385, Dubai, UAE. F 19 Scheme Certificate Issue 7 Issued: Feb 2020

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- D.5. This Certification shall be limited to the colour range of the exterior PVDF coating listed in the manufacturer's colour chart (Reference: APL/CC001).
- D.6. This Certification does not address the following:
- Measurement of heat transmission
 - Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible walls and ceilings
 - Classification or definition of material as non-combustible
 - Any Resistance to Fire rating
 - The toxicity level of smoke developed during combustion
 - Fire propagation characteristics when tested as large-scale façade cladding assembly
 - Fire performance of panels having perforations or discontinuous surface

E. Product Details

E.1. Product Description

Reference: "Alucopanel® A1"

Description: Aluminium composite material with an inorganic modified mineral core

Panel Thickness: 4.0 ± 0.2 mm

Weight Per Unit Area: 7.8 ± 0.5 kg/m²

E.2. Product Component Details

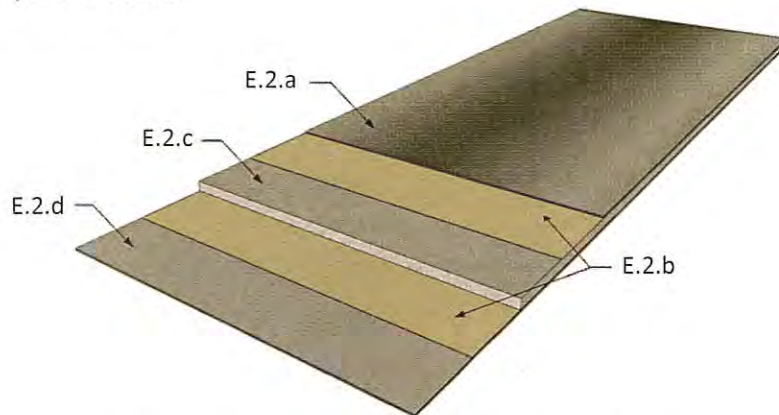



Figure 1. Aluminium Composite Panel - Typical details

- Exterior Facing (Top Skin)
 - Material: Aluminium, Alloy 3105-H16
 - Thickness: 0.5 ± 0.02 mm
 - Coating Type: Polyvinylidene Fluoride (PVDF)
 - Coating Thickness: 25-27 microns
- Adhesive
 - Material: Polyethylene-based film
 - Thickness: 30 ± 2 microns
 - Density: 920 ± 10 kg/m³
- Core
 - Material: Inorganic modified mineral core
 - Thickness: 3 ± 0.1 mm
 - Density: 1600-1900 kg/m³

Certificate Number: TBW0300647


 Director of Certification
 Nicholas Purcell

Seal number: 101614

Page 3 of 4
 Issue 2

Issued: 30 Sep 2023
 Valid to: 29 Sep 2026

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- d. Interior Facing (Bottom Skin)
Material: Aluminium, Alloy 3105-H16
Thickness: 0.5 ± 0.02 mm
Coating type: Polyester (PE)
Coating thickness: 5-7 microns

- F. Approved Manufacturing Location
Sublease Plot # TP010105B,
National Industries Park,
P.O. Box 18022, Dubai,
United Arab Emirates
-

Certificate Number: TBW0300647

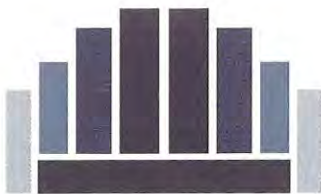
Page 4 of 4
Issue 2



Director of Certification
Nicholas Purcell

Seal number: 101614

Issued: 30 Sep 2023
Valid to: 29 Sep 2026



**THOMAS BELL-WRIGHT
INTERNATIONAL CONSULTANTS**

In accordance with UKAS accreditation to ISO 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”

Aluminium Composite Material

**(ASTM E84-16, ASTM D1929-16, BS EN 13501-1:2018 /
BS EN 13501-1:2007 + A1:2009 / UNE EN 13501-1:2007 + A1:2010)**

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 25th day of November 2022



Sandy Dweik

Sandy Dweik
Chief Executive Officer

Nicholas Purcell

Nicholas Purcell
Director of Certification

Certificate Number: TBW0300135

Initial registration: November 25, 2019

Issued: November 25, 2022

Expiration: November 24, 2025

File Name: WI014_CRT_SD03RX_Issue5_135_(f)

Issue 5

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

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F 19 Scheme Certificate Issue 7 Issued Feb 2020

“Alucopanel® A2” Aluminium Composite Material

- A. Certification is given for “Alucopanel® A2” Aluminium Composite Material for Reaction to Fire performance to test standard ASTM E84-16 – “Standard Test Method for Surface Burning Characteristics of Building Materials” for Flame Spread Index (FSI) and Smoke Developed Index(SDI), ASTM D1929-16 – “Standard Test Method for Determining Ignition Temperature of Plastics” for Spontaneous Ignition Temperature (SIT) & Flash Ignition Temperature (FIT), and Reaction to Fire classification according to BS EN 13501-1:2018/BS EN 13501-1:2007 + A1:2009/UNE EN 13501-1:2007 + A1:2010 – “Fire Classification of construction products and building elements – Part 1: Classification using data from reaction to fire 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 Material	A2 - s1, d0	BS EN 13501-1:2018	TH083-9 Rev.0
	SIT: 450 °C FIT: 450 °C	ASTM D1929-16	G1024.01-106-31
3 mm thick core of “Alucopanel® A2” Aluminium Composite Material	A2 - s1, d0	BS EN 13501-1:2007 + A1:2009	SJ167-4 Rev.0
	SIT: 510 °C FIT: 510 °C	ASTM D1929-16	H7447.01-106-31 R0
	Class A ^[1] (FSI: 15, SDI: 15)	ASTM E84-16	QG048-2 Rev.0
“Alucopanel® A2” 6 mm thick Aluminium Composite Material	A2 - s1, d0	UNE EN 13501-1:2007 + A1:2010	16/12569-1549 Part 2
	SIT: 450 °C FIT: 450 °C	ASTM D1929-16	G1024.01-106-31
5 mm thick core of “Alucopanel® A2” Aluminium Composite Material	A2 - s1, d0	BS EN 13501-1:2007 + A1:2009	SJ167-2 Rev.0
	SIT: 510 °C FIT: 510 °C	ASTM D1929-16	H7447.02-106-31 R0
	Class A ^[1] (FSI: 15, SDI: 30)	ASTM E84-16	QG048-1 Rev.0

Note 1. Certification is based on ASTM E84-16 test result, and classification is based on the International Building Code 2012, Section 803.1.1, according to Flame Spread Index (FSI) and Smoke Developed Index (SDI).

Certificate Number: TBW0300135


 Director of Certification
 Nicholas Purcell

Seal number: 101856

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Issue 5

Issued: 25 Nov 2022
Valid to: 24 Nov 2025

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Registered office: P.O. Box 26385, Dubai, UAE. F 19 Scheme Certificate Issue 7 Issued: Feb 2020

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- 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 listed.
- C. The product is approved based on TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies, 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 standards covered under this Certification were 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 pertains only to the product as tested. It does not extend to the construction build-up or assembly comprising the material.
- D.5. This Certification shall be limited to the colour range of the exterior PVDF coating listed in the manufacturer's colour chart (Reference: *APL/CC001*).
- D.6. This Certification does not address the following:
- Measurement of heat transmission
 - Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible walls and ceilings
 - Classification or definition of material as non-combustible
 - Any Resistance to Fire rating
 - The toxicity level of smoke developed during combustion
 - Fire propagation characteristics when tested as large-scale façade cladding assembly
 - Fire performance of panels having perforations or discontinuous surface

E. Product Details

E.1. Product Description

Reference: "Alucopanel® A2"

Panel thickness: 4.0 ± 0.2 mm / 6.0 ± 0.2 mm

Weight Per Unit Area: 8 ± 0.5 kg/m² (4 mm thick ACP)

11.8 ± 0.5 kg/m² (6 mm thick ACP)

Certificate Number: TBW0300135

Page 3 of 4
Issue 5



Director of Certification
Nicholas Purcell

Seal number: 101856

Issued: 25 Nov 2022
Valid to: 24 Nov 2025

E.2. Product component details

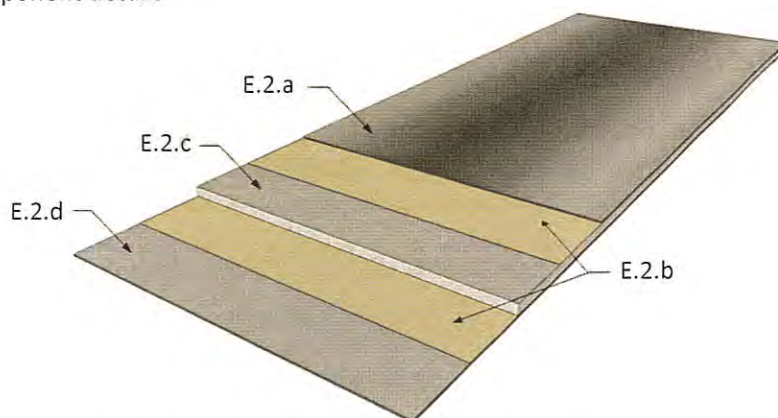


Figure 1. Aluminium Composite Panel - Typical details

- a. Exterior Facing (Top Skin)
Material: Aluminium, Alloy 3105-H16
Minimum Thickness: 0.5 mm
Coating Type: Polyvinylidene Flouride (PVDF)
Maximum Coating Thickness: 27 microns
- b. Adhesive
Material: "High molecular content polymer adhesive"
Thickness: 70 ± 2 microns
Density: 920 ± 10 kg/m³
- c. Core
Description: Mineral-filled inorganic core
Thickness: 3 ± 0.1 mm / 5 ± 0.1 mm
Density: 1800 ± 10 kg/m³
- d. Interior Facing (Bottom Skin)
Material: Aluminium, Alloy 3105-H16
Minimum Thickness: 0.5 mm
Coating Type: Polyester (PE)
Maximum Coating Thickness: 7 microns

F. Approved Manufacturing Location

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

Certificate Number: TBW0300135

Page 4 of 4
Issue 5



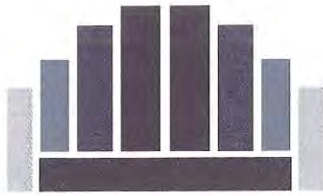
Director of Certification
Nicholas Purcell

Seal number: 101856

Issued: 25 Nov 2022
Valid to: 24 Nov 2025

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**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, U.A.E.

for

“Alucopanel® FR”

Aluminium Composite Material

**(ASTM E84-13/15b/16, ASTM D1929-16, UNE EN 13501-1:2007+A1:2010
and BS EN 13501-1:2007+A1:2009)**

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 May 2022



Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

Certificate Number: TBW0300136

Initial registration: October 17, 2016

Issued: May 05, 2022

Expiration: May 04, 2025

File Name: WC045_CRT_SD03RX_FR_Issue4_(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

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F 19 Scheme Certificate Issue 7 Issued Feb 2020

“Alucopanel®FR”

Aluminium Composite Material

- A. Certification is given for “Alucopanel® FR” aluminium composite panel material for Reaction to Fire performance for Flame Spread Index (FSI) and Smoke Developed (SDI) to test standard ASTM E84-13/15b/16, “Standard Test Method for Surface Burning Characteristics of Building Materials”, Spontaneous ignition temperature (SIT) & Flash ignition temperature (FIT) to test standard ASTM D1929-16, “Standard Test Method for Determining Ignition Temperature of Plastics”, and Reaction to Fire classification according to BS EN 13501-1:2007+A1:2009 and UNE EN 13501-1:2007+A1:2010, “Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests”, subject to the limitations stated herein. The summary of the scope of this Certification is listed in Table 1 below.

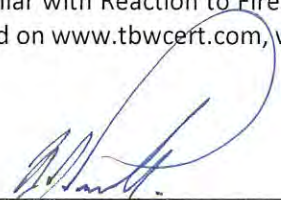
Table 1. Summary of the scope of certification

Product Name/Reference	Reaction to Fire performance		Report Reference
	Result	Standard	
“Alucopanel® FR” 4 mm thick Aluminium Composite Panel Material	B - s1, d0	UNE EN 13501-1:2007+A1:2010	APPLUS/ 16/12570-1550 Part 2
	FSI: 15 SDI: 30	ASTM E84-16	TBWIC/ QJ022-1 Rev.0
	FIT: 415 °C SIT: 417 °C	ASTM D1929-16	TBWIC/ TA115-1 Rev.0
“Alucopanel® FR” 3 mm thick core of Aluminium Composite Panel Material	B - s1, d0	BS EN 13501-1:2007+A1:2009	TBWIC/ SJ167-10 Rev.0
	FSI: 10 SDI: 50	ASTM E84-13	TBWIC/ OC036 Rev.0
	FIT: 406 °C SIT: 414 °C	ASTM D1929-16	TBWIC/ TA115-3 Rev.0
“Alucopanel® FR” 6 mm thick Aluminium Composite Panel Material	B - s1, d0	UNE EN 13501-1:2007+A1:2010	APPLUS/ 16/12570-1550 Part 2
	FSI: 15 SDI: 40	ASTM E84-16	TBWIC/ QJ022-2 Rev.0
	FIT: 452 °C SIT: 454 °C	ASTM D1929-16	TBWIC/ TA115-2 Rev.0
“Alucopanel® FR” 5 mm thick core of Aluminium Composite Panel Material	B - s1, d0	BS EN 13501-1:2007+A1:2009	TBWIC/ SJ167-7 Rev.0
	FSI: 10 SDI: 185	ASTM E84-15b	TBWIC/ QB090 Rev.0
	FIT: 406 °C SIT: 414 °C	ASTM D1929-16	TBWIC/ TA115-3 Rev.0

- 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.

Certificate Number: TBW0300136

Page 2 of 4
Issue 4


 Director of Certification
 Nicholas Purcell

Seal number: 101970

Issued: 05 May 2022
Valid to: 04 May 2025

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C. The product is approved based on TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Curtain Walls, Building Materials, Products & Assemblies, 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 product as tested and described in Section E.

D.2. The test standards covered under this Certification were 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, mix recipe, and manufacturing process unless recognised and approved by this Certification.

D.4. This Certification pertains only to the product as tested. It does not extend to the construction build-up or assembly comprising the material.

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

- a. Measurement of heat transmission
- b. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible walls and ceilings
- 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. Fire propagation characteristics when tested as large-scale façade cladding assembly

E. Product Configuration

E.1. Product Details

Reference: "Alucopanel® FR"

Description: Aluminium Composite Material with mineral-filled core

Panel thickness: 4.0 ± 0.2 mm / 6.0 ± 0.2 mm

Minimum weight per unit area: 8.64 kg/m² (4 mm thick ACP Panel) /
 12 kg/m² (6 mm thick ACP Panel)

E.2. Product Component Details

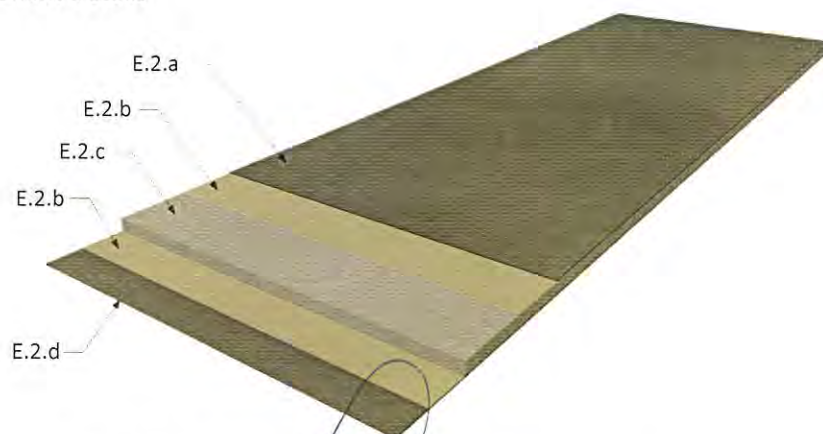
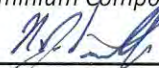


Figure 1. Aluminium Composite Panel - Typical details

Certificate Number: TBW0300136


Director of Certification
Nicholas Purcell

Seal number: 101970

Page 3 of 4
Issue 4

Issued: 05 May 2022
Valid to: 04 May 2025

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Registered office: P.O. Box 26385, Dubai, UAE. F 19 Scheme Certificate Issue 7 Issued: Feb 2020

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- a. Exterior Facing (top skin)
Minimum Thickness: 0.5 mm
Material: Aluminium, Alloy 3105-H16
Paint Type: Polyvinylidene Fluoride (PVDF) with Polyester primer
Maximum Paint Thickness: 30 microns PVDF coat + 7 microns PE primer
- b. Adhesive Film
Material: High molecular content polymer adhesive
Thickness: 70 microns
Nominal Density: 0.920 g/cm³
- c. Core
Nominal thickness: 3.0 mm / 5.0 mm
Material: Mineral filled core material
Minimum Density: 1.8 g/cm³
- d. Interior Facing (bottom skin)
Minimum Thickness: 0.5 mm
Material: Aluminium, Alloy 3105
Paint Type: Primer coating-Solvent based paint (Polyester (PE) coating)
Maximum Paint Thickness: 7 microns PE primer

F. Approved Manufacturing Location

Sub lease Plot # TP010105B,
National Industries Park
PO Box 18022
Dubai, United Arab Emirates

Certificate Number: TBW0300136

Page 4 of 4
Issue 4



Director of Certification
Nicholas Purcell

Seal number: 101970

Issued: 05 May 2022
Valid to: 04 May 2025

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Registered office: P.O. Box 26385, Dubai, UAE. F 19 Scheme Certificate Issue 7 Issued: Feb 2020

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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

**“Alucosign® FR”
4 mm thick Aluminium Composite Material
Test Method: ASTM E84-16**

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 8th day of June 2023



Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

Certificate Number: TBW0300185

Initial registration: June 15, 2017

Issued: June 8, 2023

Expiration: June 14, 2026

File Name: XE018_CRT_SD03RX_FR_Issue4_185_(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 the 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

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F 19 Scheme Certificate Issue 7 Issued Feb 2020

“Alucosign® FR”

4 mm thick Aluminium Composite Material

- A. Certification is given for “Alucosign® FR” 4 mm thick Aluminium Composite Material for Reaction to Fire performance to test standard ASTM E84-16 – “Standard Test Method for Surface Burning Characteristics of Building Materials” for Flame Spread Index (FSI) and Smoke Developed Index (SDI), 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	
“Alucosign® FR” 4 mm thick Aluminium Composite Material	Class A ⁽¹⁾ (FSI: 20, SDI: 75)	ASTM E84-16	RC055 Rev.01

Note 1: Certification is based on ASTM 84-16 test result; and classification is based on the International Building Code 2015, Section 803.1.1 according to Flame Spread Index (FSI) and Smoke Developed Index (SDI) values.

- 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. No variations are allowed in the material composition, physical properties and manufacturing process unless recognised and approved by this Certification.
- D.4. This Certification pertains only to the product as tested. It does not extend to the construction build-up or assembly comprising the material.
- D.5. This Certification does not address the following:
- a. Measurement of heat transmission
 - b. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible walls and ceilings
 - c. Classification or definition of material as non-combustible
 - d. Any Resistance to Fire rating

Certificate Number: TBW0300185



Director of Certification
Nicholas Purcell

Seal number: 101693

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Issued: 08 Jun 2023
Valid to: 14 Jun 2026

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- e. The toxicity level of smoke developed during combustion
- f. Fire propagation characteristics when tested as large-scale façade cladding assembly
- g. Fire performance of panels having perforations or discontinuous surface

E. Product Details

E.1. Product Description

Reference: "Alucosign® FR"

Description: Aluminium Composite Material panel with "mineral-filled inorganic core"

Panel thickness: 4 ± 0.2 mm

Weight Per Unit Area: 7 ± 0.5 kg/m²

E.2. Product component details

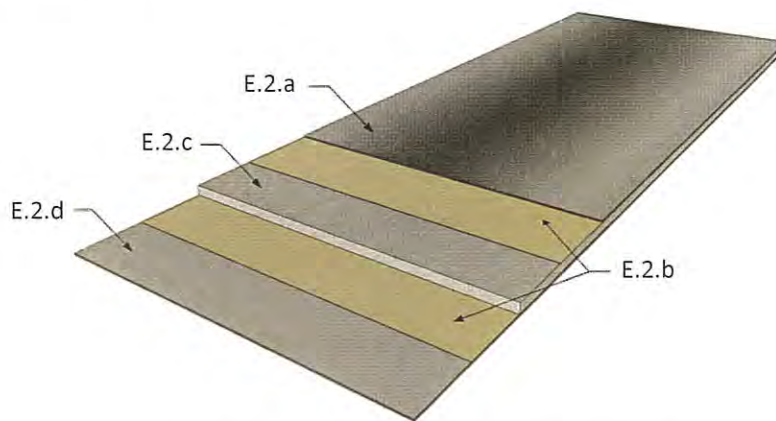


Figure 1. Aluminium Composite Panel - Typical details

- a. Exterior Facing (Top Skin)
 - Material: Aluminium, Alloy 1100-H16
 - Minimum Thickness: 0.3 mm
 - Coating Type: High Durable Polyester (HDPE)
 - Colour: Bright Silver
 - Maximum Coating Thickness: 28 microns
- b. Adhesive
 - Material: "high molecular content polymer adhesive"
 - Thickness: 70 ± 2 microns
 - Density: 920 ± 10 kg/m³
- c. Core
 - Material: "mineral-filled inorganic core"
 - Thickness: 3.4 ± 0.1 mm
 - Nominal Density: 1800 kg/m³

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- d. Interior Facing (Bottom Skin)
Material: Aluminium, Alloy 1100-H16
Minimum Thickness: 0.3 mm
Coating Type: Polyester (PE)
Coating Thickness: 5 ± 2 microns

F. Approved Manufacturing Location

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

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