

**THOMAS BELL-WRIGHT
INTERNATIONAL CONSULTANTS**



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

to

Emerge Metal Industry L.L.C

*P.O. Box 1269, Plot no. R-288-290, Al Ghail Industrial Area,
Ras Al Khaimah, United Arab Emirates*

for

“Emerge U.K. FR Plus”

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

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, Cladding, Curtain Walls, Building Materials,
Products and Assemblies*

In witness whereof, this Certificate is issued this 22nd day of September 2019



Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

Certificate Number: TBW0300527

Initial registration: September 22, 2019

Issued: September 22, 2019

Expiration: September 21, 2022

File Name: TG074 Emerge Metal Industry LLC (FR-Plus)

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 Fire Compliance 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 4 821 5777, Email: certification@bell-wright.com. Web: www.bell-wright.com F 19 Scheme Certificate Issue 5 Dec 2016

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“Emerge U.K. FR Plus” 4 mm thick Aluminium Composite Material

1. Certification is given for “Emerge U.K. FR Plus” Aluminium Composite Material for Reaction to Fire performance to test standard ASTM D1929-16 for Spontaneous Ignition & Flash ignition temperature performance and 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 test”, subject to the limitations stated herein. Readers of this document should be familiar with Reaction to Fire Testing and the requirements of ISO/IEC 17065:2012. The scope of certification is stated below:

Table 1: Scope of Certification

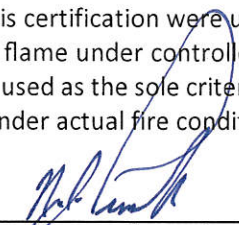
Description	Reaction to Fire performance		Report reference
	Result	Standard	
“Emerge U.K. FR Plus” 4 mm thick Aluminium Composite Panel	Class B - s1, d0	BS EN 13501-1:2018	TF161-10 Rev.01
	SIT: 470 °C, FIT: 460 °C	ASTM D1929-16	UL/47889 84632.2.1
“Emerge U.K. FR Plus” 3 mm thick core of Aluminium Composite Panel	Class B - s1, d0	BS EN 13501-1:2018	TF161-11 Rev.0
	SIT: 600 °C, FIT: 450 °C	ASTM D1929-16	UL/47889 84632.2.1

SIT – “Spontaneous Ignition Temperature, “FIT” – Flash Ignition Temperature

2. The Certification will be listed on www.tbwcert.com, while it remains current. This Certification is not valid if it is not listed.
3. The product is approved on the basis of TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Cladding, Curtain Walls, Building Materials, Products and Assemblies which includes pre-test sampling, evidence of performance (under reference test report no. UL/4788984632.2.1; and Classification report nos.: TF161-10 Rev.01 and TF161-11 Rev.0), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.
 - 3.1. ASTM D1929-16 – Standard Test Method for Determining Ignition Temperature of Plastics
 - 3.2. BS EN 13501-1:2018 – Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests
4. This certification pertains to “Emerge U.K. FR Plus” Aluminium Composite Material panel composed of 0.5 mm thick coated aluminium facings adhered to a fire retardant mineral-filled core. Refer to Section 6 for further details.
5. Limitations:
 - 5.1. This Certification covers the specifications of the material as tested and described in the reference report(s).
 - 5.2. The test standards covered under this certification were used to measure the response of materials, products, or assemblies to heat and flame under controlled conditions. The results described in the respective test report(s) shall not be used as the sole criteria for fire-hazard or fire-risk assessment of an installation system or assembly under actual fire conditions.

Certificate number: TBW0300527

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Director of Certification
Nicholas Purcell

Seal number: 100665

Issued: 22 Sep. 2019
Valid to: 21 Sep. 2022

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- 5.3. This certification pertains to the material as a standalone product; it does not extend to the overall system or assembly in which the product is installed.
- 5.4. The test (and Certification) do not address the following:
- 5.4.1. Measurement of heat transmission
 - 5.4.2. Effect of aggravated flame spread behaviour of an assembly resulting from the proximity of combustible walls and ceilings
 - 5.4.3. Classification or definition of material as non-combustible
 - 5.4.4. Any Resistance to Fire rating
 - 5.4.5. The toxicity level of smoke developed during combustion
 - 5.4.6. Fire propagation characteristics when tested as a large-scale façade cladding assembly
 - 5.4.7. Fire performance of panels having perforations or discontinuous surface
6. Product details and test results
- 6.1. Product description
- a. Trade Name: "Emerge U.K. FR Plus"
 - b. Description: Aluminium Composite Material with mineral-filled core
 - c. Weight per square metre: $8.0 \pm 0.5 \text{ kg/m}^2$
 - d. Panel thickness: $4.0 \pm 0.2 \text{ mm}$
- 6.2. Product component details

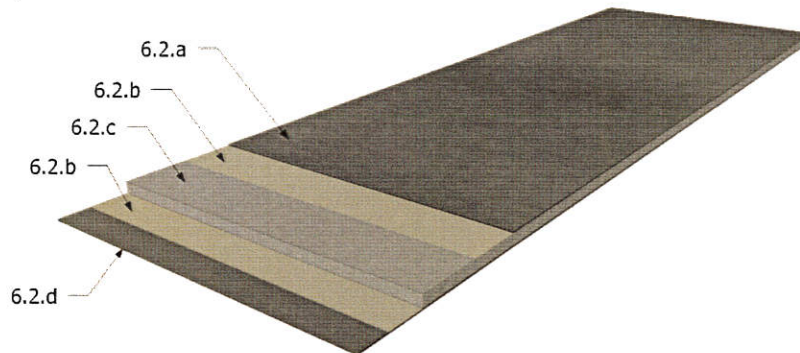



Figure 1: "Emerge U.K. FR Plus" 4 mm thick Aluminium Composite Panel material - Typical details

- a. Exterior Skin (top skin)
Material: Aluminium, Alloy 3003-H16
Thickness: $0.5 \pm 0.028 \text{ mm}$
Coating type: Polyvinylidene Fluoride (PVDF)
Coating thickness: $25 \pm 3 \text{ microns}$
- b. Adhesive Film
Material: Modified Polyethylene polyolefin
Thickness: $80 \pm 5 \text{ microns}$
Weight per unit area: $76 \pm 5 \text{ g/m}^2$
- c. Core
Description: Fire retardant mineral-filled core
Thickness: $3.1 \pm 0.1 \text{ mm}$
Density: $1750 \pm 150 \text{ kg/m}^3$

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d. Interior Skin (bottom skin)
Material: Aluminium, Alloy 3003-H16
Thickness: 0.5 ± 0.028 mm
Coating type: Polyester
Coating thickness: 6 ± 2 microns

7. Approved Manufacturing Location

P.O. Box 1269, Plot no. R-288-290,
Al Ghail Industrial Area,
Ras Al Khaimah, United Arab Emirates

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