LGAI Technological Center, S.A. (APPLUS) Campus UAB Ronda de la Font del Carme, s/n E - 08193 Bellaterra (Barcelona) T +34 93 567 20 00 F +34 93 567 20 01 www.appluslaboratories.com



AP/F Page 1 of 6

# REACTION TO FIRE CLASSIFICATION IN ACCORDANCE TO THE STANDARD UNE-EN 13501-1:2019

Petitioner's reference:	RedBOND Composites, S.L.U.
	Avenida de Elche, 164
	03008 – Alicante
	Alicante

Prepared by:	LGAI Technological Center, S.A. (APPLUS) Campus UAB Ronda de la Font del Carme, s/n E - 08193 Bellaterra (Barcelona)
Product name:	REDBOND
Report No.:	24/32304476-2 M1

Date of issue: 9<sup>th</sup> July, 2024

Description of modification: Some titles has been translated

This report replaces test report 24/32304476-1 issued on 14 June 2024. It is the responsibility of the customer to replace the original and all copies.

## **1- INTRODUCCIÓN**

This classification report defines the classification assigned to REDBOND in accordance with the procedures given in the UNE-EN 13501-1:2019 standard.

## 2. DETAILS OF CLASSIFIED PRODUCT

### 2.1.-General

According to the petitioner, the product REDBOND is defined as an aluminium composite panel.

This document may only be copied in full. Digital reports with an electronic signature will be considered as an original document, as well as its respective electronic copies. The impression of this document will not have legal validity. This document has 6 pages, of which -- are annexes. LGAI, Technological Center, S.A. is not responsible for the documentation and/or information provided by the petitionary and such information is not covered by accreditation.





Page 2 of 6

#### 2.2.- Description of the product

Samples of a aluminium composite panel, with Applus internal code 24/24221, was received with the following indications in accordance with the technical specifications provided by the petitioner:

Product trade name: **REDBOND** 

Technical details of the sample:

The aluminium composite sandwich panel consisting of a polyethylene(PE) core is made by 6 layers:

- Layer 1: Aluminium coil with a thickness of 0,18 mm, a density of 2,72 kg/m<sup>3</sup>, superficial density of 0,4896 kg/m<sup>2</sup>, white RAL 9016 mate colour and smooth appearance.
- Layer 2: Single layer adhesive film with a thickness of 0,05 mm, a density of 0,938 kg/m<sup>3</sup>, superficial density of 0,0469 kg/m<sup>2</sup>, white colour and smooth appearance.
- Layer 3: Polyethylene of low density with a thickness of 2,64 mm, a density of 0,93 kg/m<sup>3</sup>, superficial density of 2,4552 kg/m<sup>2</sup>, black colour and smooth appearance.
- Layer 4: Single layer adhesive film with a thickness of 0,05 mm, a density of 0,938 kg/m<sup>3</sup>, superficial density of 0,0469 kg/m<sup>2</sup>, white colour and smooth appearance.
- Layer 5: Aluminium coil with a thickness of 0,18 mm, a density of 2,72 kg/m<sup>3</sup>, superficial density of 0,4896 kg/m<sup>2</sup>, white RAL 9016 mate colour and smooth appearance.
- Layer 6: Polyester lacquer applied in liquid, with a thickness of 0,013 mm/m<sup>2</sup>, a density of 0,00185 kg/m<sup>3</sup> and a superficial density of 0,024 kg/m<sup>2</sup>.

Fixing system: The product was fixed mechanically on a gypsum plasterboard (Gypsum plasterboard in accordance with the specifications of the standard UNE-EN 13238:2011).

Manufacturer: RedBOND Composites, S.L.U., Avenida de Elche, 164, 03008 – Alicante.



Page 3 of 6

### **3- REPORT AND RESULTS IN SUPPORT OF THIS CLASSIFICATION**

# 3.1- Reports

Name of Laboratory	Name of Petitioner	Report ref. no.	Test method and date	
Applus – LGAI	RedBOND Composite S.L.U.	24/22204476-1	EN ISO 11925-2:2020 06-06-2024	
		24/323044/0-1	EN 13823:2020+A1:2022 04-06-2024	

# 3.2- Results of the Tests

Test Method	RESULTS – REDBOND					
	<b>CRITERIA CLASS D</b>	Nº TESTS	AVERAGE	COMPLIANCE		
EN ISO 11925-2:2021	$F_s \le 150 \text{ mm}$ within 60 s	18	$F_{s} < 150 \ mm$	YES		
	$FIGRA_{0,4~\text{MJ}} \leq 750~\text{W/s}$	3	322,67	YES		
EN 13823:2020+A1:2022	LFS < < edge of the sample	3	< to edge	YES		
	CRITERIA subclass `s2'	Nº TESTS	AVERAGE	COMPLIANCE		
	$SMOGRA \leq 180 \ m^2/s^2$	3	13,93	YES		
	$TSP_{600s} \leq 200 \ m^2$	3	107,73	YES		
	CRITERIA subclass 'd0'	Nº TESTS	AVERAGE	COMPLIANCE		
	Fall of droplets/particles in flames within 600 s	3	NO	YES		



# Page 4 of 6

### **4- CLASSIFICATION AND FIELD OF APPLICATION**

#### 4.1- Reference of classification

This classification has been carried out in accordance with UNE-EN 13501-1:2019: "Classification in terms of the behaviour to fire of construction products and building elements. Part 1: Classification made from the data gathered during fire reaction tests".

#### 4.2- Classification

The product, REDBOND in relation to its reaction to fire behaviour is classified:

D

The additional classification in relation to smoke production is:

**S2** 

The additional classification in relation to flaming droplets / particles is:

**d0** 

Fire behaviour		Smoke production			Flaming droplets	
D	-	S	2	,	d	0

## **REACTION TO FIRE CLASSIFICATION: D-s2,d0**

This classification is only valid for the final conditions of use described in the present report.



Page 5 of 6

### 4.3.- Field of application

• This classification is valid for the following product parameters:

The classification is only valid for the product characteristics shown

• The classification is valid for the following final use applications:

The product REDBOND is intended to be used as digital printing and signage.

Substrate	Gypsum pasteboard
Fixing method	Mechanically fixed
Joint	Vertical and horizontal joint
Air cavity	Non-cavity and non-ventilated
Others	-



Page 6 of 6

### 5.- LIMITATIONS

This classification document does not represent type approval or certification of the product.

Laboratory Manager

LGAI Technological Center S.A. (APPLUS)

Responsible of Euroclasses LGAI Technological Center S.A. (APPLUS)

The uncertainties expressed in this document pertain to the expanded uncertainty, which has been obtained by multiplying the typical measurement uncertainty by the coverage factor k=2 which, for a regular distribution, corresponds to a coverage probability of approximately 95%.

The results refer exclusively to the samples tested at the time and under the conditions indicated. The results refer exclusively to the samples tested at the time and under the conditions indicated. At the customer's request, the agreed decision rule to declare conformance to the specification or standard, is by following a simple binary decision rule. In this case, the upper limit of the probability value of false acceptance or false rejection, according to ILAC G8, is 50%.

Uncertainty associated to the Small Burner Test: No inflammation, thus, Time=±1,2 s.

Uncertainty associated to the Single Burned Item (SBI) Test: FIGRA0,4MJ  $\pm$ 28,82 W/s; SMOGRA= $\pm$ 8,77 m<sup>2</sup>/s<sup>2</sup>; TSP600s= $\pm$ 35,48 m<sup>2</sup>; Time (Fall of droplets/particles) =N.A.

Applus+ guarantees that this task has been carried out in compliance with the requirements of our Quality and Sustainability System, and furthermore, that the contractual terms and legal regulations have been complied with. In the framework of our improvement programme, we would appreciate any comments you may deem appropriate. These should be addressed to the manager who signs this document, or to the Quality Director of Applus+, at the following address:<u>satisfaccion.cliente@applus.com</u>