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CLASSIFICATION REPORT

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TEST SPECIMEN	Type: WALLS AND CEILINGS COVERING Reference: "RANGE INDUFÓN/IMPRISÁN/POLISÁN IG"
CONCERNING TO	CLASSIFICATION OF THE BEHAVIOUR IN CASE OF FIRE OF THE CONSTRUCTION PRODUCTS AND THE BUILDING ELEMENTS. CLASSIFICATION USING AS A STARTING POINT THE DETAILS OBTAINED AT THE FIRE RESISTANCE TESTS. ACCORDING TO STANDARD UNE-EN 13501 - 1:07+A1:2010
APPLICANT	INDUSTRIAS SAMBARA, S.L. Ctra. DE BELVIS, Km. 1.200 28860 PARACUELLOS DE JARAMA (MADRID)
DATE/S OF TEST/S	Reception of specimens: 07/03/13 and 14/04/13 Beginning of tests: 12/03/13 End of tests: 19/04/13

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1. INTRODUCTION

This classification report describes the classification allocated to the product described on section 2, according to the procedures stated in standard UNE-EN 13501-1:2007+A1:2010 "Classification of the behaviour in case of fire of the construction products and the building elements. Part 1: Classification using as a starting point the details obtained at the fire resistance tests".

2. DETAILS OF THE CLASSIFIED PRODUCT

2.1. Description and identification of the tested item. Inspection before the test

Specimens corresponding to a wall covering made of a fire-retardant MDF board (classified as B-s2-d0 according to UNE EN 13501-1:07+A1: 2010), with an approximated thickness of 19 mm, lacquered in the main face with the same polyurethane system, which consist of a background layer and finish layer that could be of white colour or transparent with different superficial glosses. All the products are applied with spray gun.

The MDF boards, are lacquered in different colours (white and transparent), following always the same process and fire retardant products. The process consists of a background layer and a finish layer with a drying/curing period between layers of 24 hours.

The direct applicability of the fire reaction classification, according to classification standard UNE EN 13501-1, may be valid for all the products within the same family, if as family we mean the range of products within defined limits of variability of their parameters, for which it can be shown that the fire reaction classification does not change.

Therefore, we intend to certify a range of products where a selection is made based on the different parameters provided for by the range. According to the information provided by the customer, the range consist of different finishings regarding the superficial gloss grade (matte, semi matte, satin) and also of two colours (white and transparent), all of them with the same system and production materials.

The range considers, as the most significative parameters, in whose are based the sampling:

- Colour : white and transparent
- Gloss : matte and satin

The tests, as well as the specimen selection are carried out taking as reference the different protocols defined by Sector Group SH02 and Sector Group SG20 (European bodies which coordinate all the aspects related to CE marking regarding the fire performance), and more specifically taking as reference document NB-CDP/SH02/06/029 "Classification following extended application: All specifications covering reaction to fire performance").

Likewise, are also used as referenced documents, the harmonized standard UNE-EN 13986:06 "Wood-based panels for use in construction - Characteristics, evaluation of conformity and marking", the document UNE CEN/TS 15117:09 "Guidance on direct and extended application" and for the sampling regarding the range study or extensión, the recommendations given in the document UNE EN 15725:11/AC:12 "Extended application reports on the fire performance of construction products and building elements.".

Taking into account the recommendations abovementioned, within the test plan, the following criteria for the sampling (considering the transparent / white colour):

- For the test SBI: It should be tested, a sample of the system with the highest gloss value (satin) and a sample of the system with the lowest gloss grade (matte) for each process (white colour and transparent). Once the worst gloss grade and worst colour is determined, two additional samples (with these gloss and colour values) will be tested.

- Small burner test: Whole test for all the specimens selected.

The classification shall be valid for all the products in the range as long as in the selected products the performance obtained can be reached by all the other products in the same classification.

The commercial references of the selected finishing systems, and also the description of the processes according to the customer are:

- "IMPRISÁN BLANCO A 2x1 IG + CATALIZADOR PU-101 IG + POLISÁN MATE BLANCO A 2x1 IG + POLISÁN NA B 2x1 IG". (Ref.: 1303046-01)

Sample corresponding to a pigmented polyurethane system of background layer and finish layer made of resins, pigments, charges, additives and organic solvents, of white colour and fire resistant, applied with spray gun on a 19mm thickness fire-retardant, with an application process that consists of a background layer of "Imprisán blanco A 2x1 IG + Catalizador PU-101 IG" with an approximate application grammage of 250 g/m^2, and a finishing layer of "Polisán mate blanco A 2x1 IG + Polisán NA B 2x1 IG" with an approximate application grammage of 140 g/m^2 and a drying/curing period between layers of 24 hours, and with a total thickness of 20µm.

The system shows an approximate density of 1.250 Kg/m^3 for the background and 1.180 Kg/m^3 for the finishing and a superficial mass of 0,070 Kg/m^2 (background+finishing). The sample is white and has the lowest gloss grade (matte).

Detail of the sample in his main face
Ref.: 1303046-01

- "IMPRISÁN BLANCO A 2x1 IG + CATALIZADOR PU-101 IG + POLISÁN SATINADO BLANCO A 2x1 IG + POLISÁN NA B 2x1 IG". (Ref.: 1303046-02)

Sample corresponding to a pigmented polyurethane system of background layer and finish layer made of resins, pigments, charges, additives and organic solvents, of white colour and fire resistant, applied with spray gun on a 19mm thickness fire-retardant, with an application process that consists of a background layer of "Imprisán blanco A 2x1 IG + Catalizador PU-101 IG" with an approximate application grammage of 250 g/m², and a finishing layer of ""Polisán satinado blanco A 2x1 IG + Polisán NA B 2x1 IG" with an approximate application grammage of 140 g/m² and a drying/curing period between layers of 24 hours, and with a total thickness of 20µm.

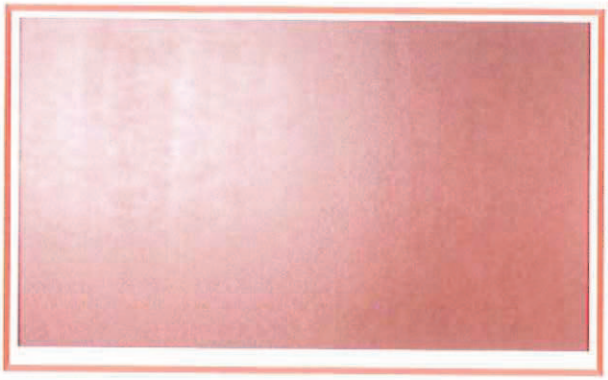
The system shows an approximate density of 1.250 Kg/m³ for the background and 1.180 Kg/m³ for the finishing and a superficial mass of 0,070 Kg/m² (background+finishing). The sample is white and has the highest gloss grade (satin).

Detail of the sample in his main face
Ref.: 1303046-02

- "INDUFÓN IG A 2x1 + CATALIZADOR PU-IG + POLISÁN IG A 2x1 MATE + CATALIZADOR PU-IG". (Ref.: 1303046-03)
-

Sample corresponding to a transparent polyurethane system of background layer and finish layer made of resins, pigments, charges, additives and organic solvents, of white colour and fire resistant, applied with spray gun on a 19mm thickness fire-retardant, with an application process that consists of a background layer of "Indufón IG A 2x1 + Catalizador PU-IG"" with an approximate application grammage of 120 g/m², and a finishing layer of "Polisán IG A 2x1 Mate + Catalizador PU-IG" with an approximate application grammage of 120 g/m² and a drying/curing period between layers of 24 hours, and with a total thickness of 20µm.

The system shows an approximate density of 1.000 Kg/m³ for the background and 1.000 Kg/m³ for the finishing and a superficial mass of 0,030 Kg/m² (background+finishing). The sample is transparent and has the lowest gloss grade (matte).



Detail of sample on his main face
Ref.: 1303046-03

- "INDUFÓN IG A 2x1 + CATALIZADOR PU-IG + POLISÁN IG A 2x1 SATINADO + CATALIZADOR PU-IG". (Ref.: 1303046-04)

Sample corresponding to a transparent polyurethane system of background layer and finish layer made of resins, pigments, charges, additives and organic solvents, of white colour and fire resistant, applied with spray gun on a 19mm thickness fire-retardant, with an application process that consists of a background layer of "Indufón IG A 2x1 + Catalizador PU-IG" with an approximate application grammage of 120 g/m², and a finishing layer of "Polisán IG A 2x1 Satinado + Catalizador PU-IG" with an approximate application grammage of 120 g/m² and a drying/curing period between layers of 24 hours, and with a total thickness of 20µm.

The system shows an approximate density of 1.000 Kg/m³ for the background and 1.000 Kg/m³ for the finishing and a superficial mass of 0,030 Kg/m² (background+finishing). The sample is transparent and has the highest gloss grade (satin).

Detail of sample on his main face
Ref.: 1303046-04

The range of products, according to the information provided by the customer, is referenced as:

- " RANGE INDUFÓN/IMPRISÁN/POLISÁN IG"

2.2. Range of products

The fire reaction classification, according to classification standard UNE EN 13501-1 is valid for products within the same family, if as family we mean the range of products within defined limits of variability of their parameters; in this specific case the parameters colour and gloss grade of the lacquered fire-retardant MDF boards for which it has been shown that the classification of fire reaction does not change.

Therefore, the range of products included in the applicability of the results of the fire reaction classification, according to information provided by the customer, is the one provided for fire-retardant MDF boards (B-s2-d0 according to UNE EN 13501-1: 07+A1:2010), lacquered with different colours and gloss grades, following always the same process and fire retardant products for the wall and ceiling coverings,

3. TEST REPORTS SUPPORTING THE CLASSIFICATION

Laboratory	Company/customer	Reference of the test report	Tests method
AIDIMA	INDUSTRIAS SAMBARA, S.L.	1303046-01 SBI + PQ, 1303046-02 SBI + PQ, 1303046-03 SBI + PQ y 1303046-04 SBI + PQ	UNE-EN 13823: 12
AIDIMA	INDUSTRIAS SAMBARA, S.L.	1303046-01 SBI + PQ, 1303046-02 SBI + PQ, 1303046-03 SBI + PQ y 1303046-04 SBI + PQ	UNE EN ISO 11925-2: 11

4. TEST RESULTS SUPPORTING THE CLASSIFICATION

Tests method	Parameter	N° of tests	Results	
			Average of continuous parameter (m)	Parameters it has to fulfill
UNE EN ISO 11925-2:11 (Small burner) "Imprisán Blanco A 2x1 IG+ Catalizador PU-101 IG +Polisán Mate Blanco A 2x1 IG + Polisán NA B 2x1 IG" Ref.: 1303046-01	Fs ≤ 150mm	6	Not applicable	yes
	Ignition of the filter paper		Not applicable	yes
UNE-EN 13823: 12 (SBI) "Imprisán Blanco A 2x1 IG+ Catalizador PU-101 IG +Polisán Mate Blanco A 2x1 IG + Polisán NA B 2x1 IG" Ref.: 1303046-01	FIGRA $_{0.2MJ}$ (W/s)	1	139,62	Not applicable
	FIGRA $_{0.4MJ}$ (W/s)		139,62	Not applicable
	THR_{600s} (MJ)		3,37	Not applicable
	SMOGRA (m^2/s^2)		14,38	Not applicable
	TSP_{600s} (m^2)		91,92	Not applicable
	LFS (S/N)		Not applicable	yes
	gotas/partículas en llama (S/N)		Not applicable	yes

Tests method	Parameter	N° of tests	Results	
			Average of continuous parameter (m)	Parameters it has to fulfill
UNE EN ISO 11925-2: 11 (small burner)	Fs ≤ 150mm	6	Not applicable	yes
"Imprisán Blanco A 2x1 IG+ Catalizador PU-101 IG + Polisán Satinado Blanco A 2x1 IG + Polisán NA B 2x1 IG" Ref.: 1303046-02	Ignition of the filter paper		Not applicable	yes
UNE-EN 13823: 12 (SBI) "Imprisán Blanco A 2x1 IG+ Catalizador PU-101 IG + Polisán Satinado Blanco A 2x1 IG + Polisán NA B 2x1 IG" Ref.: 1303046-02	FIGRA $_{0,2MJ}$ (W/s)	1	150,66	Not applicable
	FIGRA $_{0,4MJ}$ (W/s)		146,42	Not applicable
	THR_{600s} (MJ)		4,76	Not applicable
	SMOGRA (m^2/s^2)		18,40	Not applicable
	TSP_{600s} (m^2)		124,47	Not applicable
	LFS (S/N)		Not applicable	yes
	gotas/partículas en llama (S/N)		Not applicable	yes

Tests method	Parameter	N° of tests	Results	
			Average of continuous parameter (m)	Parameters it has to fulfill
UNE EN ISO 11925-2: 11 (small burner) "Indufón IG A 2x1 + Catalizador PU-IG + Polisán IG A 2x1 Mate + Catalizador PU-IG" Ref.: 1303046-03	Fs ≤ 150mm	6	Not applicable	yes
	Ignition of the filter paper		Not applicable	yes
UNE-EN 13823: 12 (SBI) "Indufón IG A 2x1 + Catalizador PU-IG + Polisán IG A 2x1 Mate + Catalizador PU-IG" Ref.: 1303046-03	FIGRA $_{0,2MJ}$ (W/s)	3	152,33	Not applicable
	FIGRA $_{0,4MJ}$ (W/s)		136,85	Not applicable
	THR_{600s} (MJ)		4,10	Not applicable
	SMOGRA (m^2/s^2)		13,90	Not applicable
	TSP_{600s} (m^2)		101,38	Not applicable
	LFS (S/N)		Not applicable	yes
	gotas/partículas en llama (S/N)		Not applicable	yes

Tests method	Parameter	N° of tests	Results	
			Average of continuous parameter (m)	Parameters it has to fulfill
UNE EN ISO 11925-2: 11 (small burner) "Indufón IG A 2x1 + Catalizador PU-IG +Polisán IG A 2x1 Satinado + Catalizador PU-IG" Ref.: 1303046-04	Fs ≤ 150mm	6	Not applicable	yes
	Ignition of the filter paper		Not applicable	yes
UNE-EN 13823: 12 (SBI) "Indufón IG A 2x1 + Catalizador PU-IG +Polisán IG A 2x1 Satinado + Catalizador PU-IG" Ref.: 1303046-04	FIGRA $_{0,2MJ}$ (W/s)	1	158,26	Not applicable
	FIGRA $_{0,4MJ}$ (W/s)		149,31	Not applicable
	THR_{600s} (MJ)		4,20	Not applicable
	SMOGRA (m^2/s^2)		14,30	Not applicable
	TSP_{600s} (m^2)		93,34	Not applicable
	LFS (S/N)		Not applicable	yes
	gotas/partículas en llama (S/N)		Not applicable	yes

5. CLASSIFICATION AND DIRECT APPLICABILITY

5.1. Classification

The fire reaction classification, according to classification standard UNE EN 13501-1 is valid for products within the same family, if as family we mean the range of products within defined limits of variability of their parameters; in this specific case the parameters colour and gloss grade of the lacquered fire-retardant MDF boards for which it has been shown that the classification of fire reaction does not change.

The classification is valid for all the products of the range since in the representative specimens selected according to the protocol defined by Sector Group SG20 and Sector Group SH02 (taking as reference the documents NB-CDP/SG20-06/011 and NB-CDP/SH02/06/029, CEN/TS 15117:09 and document UNE EN 15725:11/AC:12,), a similar performance and the same classification are obtained.

Therefore, according to standard UNE-EN 13501-1:07+A1:2010, and in the light of the tests results and the classification criteria attached in the appendix (Table 1 of the said standard), the specimens corresponding to wall coverings made of a fire-retardant MDF board (classified as B-s2-d0 according to UNE EN 13501-1:07+A1: 2010), with an approximated thickness of 19 mm, lacquered in the main face with the same polyurethane system, which consist of a background layer and finish layer that could be of white colour or transparent with different superficial glosses. All the products are applied with spray gun, all this according to information provided by the customer and referenced by him as "GAMA INDUFÓN/IMPRISÁN/POLISÁN IG" ,they are classified in relation to their fire behaviour as **C-s2,d0**

Fire reaction	Smoke production	Burning drops
C	S2	d0

5.2. Direct applicability

The product is defined as walls and ceilings covering. The field of application includes interior wood lacquered products, decorative and protection purposes on walls and ceilings covering in available areas.

6. LIMITATIONS

The result of this report concerns only the products described in section 2 of the said report.

This document is neither a standard approval nor a certification of the product.

The duration of the effect of this classification report is subject to the law applicable when it was issued.

APPENDIX.

CLASSES OF BEHAVIOUR TO FIRE REACTION FOR CONSTRUCTION PRODUCTS EXCLUDING FLOOR PANELLING ACCORDING TO STANDARD UNE EN 13.501-1:07

Class	Test method(s)	Classification criteria	Additional compulsory statement
A1	UNE-EN-ISO 1182:2011 (1); *And*	$\Delta T \leq 30°C$; *and* $\Delta m \leq 50\%$; *and* $t_f = 0$ (that is to say, without sustained flame)	-
	UNE–EN-ISO 1716:2011	PCS ≤ 2.0 MJ.kg^{-1} (1); *and* PCS ≤ 2.0 MJ.kg^{-1} (2) (2a); and PCS ≤ 1.4 MJ.m^{-2} (3); and PCS ≤ 2.0 MJ.kg^{-1} (4)	-
A2	UNE-EN-ISO 1182:2011 (1); *Or*	$\Delta T \leq 50°C$; *and* $\Delta m \leq 50\%$; *and* $t_f \leq 20s$	-
	UNE-EN-ISO 1716:2011; *And*	PCS ≤ 3.0 MJ.kg^{-1} (1); *and* PCS ≤ 4.0 MJ.m^{-2} (2); and PCS ≤ 4.0 MJ.m^{-2} (3); and PCS ≤ 3.0 MJ.kg^{-1} (4)	-
	UNE-EN–13823:2012 (SBI)	FIGRA ≤ 120 W.s^{-1}; *y* LFS < specimen margin; *and* $THR_{600s} \leq 7.5$ MJ	Smoke production(5); *and* Fall of burning drops/particles(6)
B	UNE-EN 13823:2012 (SBI); *And*	FIGRA ≤ 120 W.s^{-1}; *y* LFS < specimen margin; *and* $THR_{600s} \leq 7.5$ MJ	Smoke production(5); *and* Fall of burning drops/particles(6)
	UNE-EN-ISO 11925-2:2011(8); *Exposure = 30s*	Fs ≤ 150mm in 60s	
C	UNE-EN 13823:2012 (SBI); *And*	FIGRA ≤ 250 W.s^{-1}; *y* LFS < specimen margin; *and* $THR_{600s} \leq 15$ MJ	Smoke production(5); *and* Fall of burning drops/particles(6)
	UNE-EN-ISO 11925-2:2011(8); *Exposure = 30s*	Fs ≤ 150mm in 60s	
D	UNE.EN 13823:2012 (SBI); *And*	FIGRA ≤ 750 W.s^{-1}	Smoke production(5); *and* Fall of burning drops and particles(6)
	UNE-EN-ISO 11925-2:2011(8); *Exposure = 30s*	Fs ≤ 150mm in 60s	
E	UNE-EN-ISO 11925-2:2002(8); *Exposure = 15s*	Fs ≤ 150mm en 20s	Fall of burning drops/particles(7)
F	Without determining the properties		

(1) For homogeneous products and substantial components of non-homogeneous products
(2) For any non-substantial components of non-homogeneous products
(2a) Alternatively, for any non-substantial component which has a PCS≤ 2.0 MJ/m^2, provided that the product complies with the following criteria of UNE-EN 13823:2002 (SBI): FIGRA≤ 20 W.s^{-1}, and LFS< specimen margin; and $THR_{600s} \leq 4.0$ MJ; and s1; and d0.
(3) For any non-substantial internal component of non-homogeneous products
(4) For the product as a whole
(5) **s1**= SMOGRA ≤ 30m^2.s^{-2} *and* $TSP_{600s} \leq 50m^2$; **s2** = SMOGRA ≤ 180m^2.s^{-2} *and* $TSP_{600s} \leq 200m^2$; **s3** = neither s1 nor s2
(6) **d0** = Without fall of burning drops and particles in UNE-EN 13823:2002 (SBI) in 600s; **d1** = Without fall of burning drops and particles in 10s in UNE-EN 13823:2002 (SBI) in 600s; **d2** = neither d0 nor d1; ignition of paper in UNE-EN-ISO 11925-2 2002 determines a d2 classification.
(7) Success = absence of paper ignition (without classification); Failure = paper ignition (d2 classification)
(8) Under conditions of surface flame attack and, if appropriate, for the final usage conditions of the product, lateral flame etching

INFORMATION APPENDIX (excluded from the scope of the accreditation): CLASSIFICATION SYSTEM OF FIRE REACTION ACCORDING TO STANDARD UNE EN 13.501-1:07

The European classification system as far as the materials behaviour in their reaction to fire includes 7 euroclasses or main classifications: A1, A2, B, C, D, E and F.
Euroclasses A1, A2 and B correspond to the non-combustible and little combustible product classes. They represent those construction products which are safer regarding safety against fire.
Euroclasses C, D and E correspond to classified products as combustible and represent the most dangerous construction products regarding their behaviour against fire.
Finally, the products classified with Euroclass F do not undergo any kind of evaluation regarding their benefits with respect to their reaction to fire.

On the same normative base, a specific system in order to classify the products for floor panelling has been developed: $A1_{fl}$, $A2_{fl}$, B_{fl}, C_{fl}, D, E_{fl} y F_{fl} (subscript "fl" means ground panelling -floor).

Except for classes A1 and F, in the case of materials for panelling of walls and ceilings, the rest of classes are complemented by two new subclassifications, one regarding the production and opacity of smoke and the other regarding the production of burning drops or particles.
The levels of these parameters are three:

- For the smoke opacity, levels s1 (low amount and speed of smoke emission), s2 (middle amount and speed of smoke emissions) and s3 (high amount and speed of smoke emissions).
- For burning drops or particles, the levels are d0 (burning drops/particles are not produced), d1 (there are not anty burning drops/particles whose duration is longer than 10 seconds) and d2 (products which are not classified neither as d0 nor as d1).

In the case of floor panelling, with the exception also of classes A1 and F, the subclassification only affects at the levels of emission and opacity of smoke and they are only two, s1 (low percentage of smoke emission and production) and s2 (products for which no behaviour regarding the smoke is declared or those who do not meet the condition of s1).

Class A1: materials which cannot contribute in any phase of the FIRE including the corresponding one to the totally developed fire. *It is not affected by the additional classification of smokes and fall of drops.*

Class A2: they have to meet the same criteria as class B. Besides, in conditions of totally developed fire, these products do not have to contribute significantly to the fire load and the growth of the fire. *Additional classification of smoke production and fall of drops.*

Class B: very limited contribution to fire. It is like class C but meeting strictest requirements. *It is affected especially by the additional classification of smoke production and fall of drops.* Besides, in case of a totally developed fire, these products will not increase significantly the thermal load of the premises and the development of the fire.

Class C: limited contribution to fire. It is like class D but meeting the strictest requirements. Besides, under thermal etching by an single burning item they have to offer a side propagation of the limited flame. *It is affected especially by the additional classification of smoke production and fall of drops.*

Class D: **acceptable contribution to fire.** Products which meet the criteria corresponding to class E and which are able to resist, during a longer period of time, the etching of a small flame without producing a substantial propagation of the flame. Besides, they have to be able to resist thermal etching of a single burning item with a sufficient delay and with a limited heat release. *It is affected especially by the additional classification of smoke production and fall of drops.*

Class E: Products which are able to resist, during a short period of time, the etching of a flame without producing a substantial propagation of the flame. *It is only affected by the additional classification of fall of drops.*

Class F: without a determined behaviour. Materials for which characteristics of fire reaction have not been specified or which cannot be classified into any of the other classes.

subclasses related to smoke production	subclasses related to the production of burning drops/particles
S1 (low amount and speed of smoke emission) **S2 (middle amount and speed of smoke emission)** **S3 (high amount and speed of smoke emission)**	**d0 (no burning drops/particles are produced)** **d1 (there are not burning drops/particles whose duration is longer than 10s)** **d2 (products which are not classified neither as d0 nor as d1)**