

EXTENDED APPLICATIONS REPORT (EXAP) FIRE REACTION

NUMBER	251.I.2202.033.EN.01 EXAP	Work sheet : 22104345
DATE OF ISSUE	February 28 th 2022	
NOTIFIED BODY	Notified body for the European Regulation of the Construction Products N° 305/2011 with number n° 1981.	
PAGES	The report consists of 7 pages consecutively numbered.	
TEST SPECIMEN	Type: WALLS AND CEILINGS COVERINGS Reference: "RANGE HSA646X SERIE GLOSS HYDROCOAT NO FIRE"	
STANDARD	UNE-CEN/TS 15117:2009. DIRECTRICES PARA EL ESTABLECIMIENTO DE LAS APLICACIONES DIRECTAS Y DE LA EXTENSIÓN DE LAS APLICACIONES.	
APPLICANT	INDUSTRIAS QUIMICAS IVM, S.A. DIVISION: MILESI P.I. MASIA JUEZ. C/ EL PERELLO 19 46900 TORRENT (VALENCIA) - SPAIN	
DATE/S OF TEST	Reception of specimens:	22/09/2021 and 16/02/2022
	Beginning of test:	06/10/2021
	End of test:	21/02/2022
AUTHORIZED SIGNATORIES		




Signed.: Ms. Raquel Cánovas Ruiz
Technician Fire Lab




Signed.: Mr. Stephane García Malpartida
Head of Section - Fire Laboratory

Document digitally signed by a legal electronic signature

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1. INTRODUCTION

This application extension report concerns the test results obtained in accordance with the test methods described in the following standards:

- **UNE-EN 13823:2021.** *Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item*
- **UNE-EN ISO 11925-2:2021.** *Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test*
- **UNE-EN ISO 1716:2021.** *Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value)*

The determination of the extended field of application of test results has been carried out in accordance with the rules and systematic established in the standards:

- **UNE-CEN/TS 15117:2009.** *Guidance on direct and extended application*
- **UNE-EN 15725:2011/AC:2012.** *Extended application reports on the fire performance of construction products and building elements*

2. DETAILS OF THE PRODUCT INVOLVED

2.1. Information of the product

- **Product family**
Water-based fire retardant paints
- **Intended use**
Walls and ceiling coverings

2.2. Description and identification of the tested object by the company

Samples corresponding to a flame retardant MDF board (classified as B-s1,d0, according to Euroclass UNE EN 13501-1) of 18 mm thickness and density of 760 Kg/m³, on which a transparent matte or semi-matte process is applied consisting of two layers of 120-130 g/m² of product HSA646X (where X marks the degree of gloss that can be a letter or a number), catalyzed at 10% with Hardener HNB 40, with an approximate density of 1027 Kg/m³. The drying between layers is 24 hours. The process is applied with a Air-mix gun, all this according to the information provided by the customer

The reference characteristic values of the tested products are:

	Product 1	Product 2
Gloss	8 Gloss (matte)	20 Gloss (semi-matte)

The main descriptive characteristics of the samples (gloss) have been supplied by the applicant

The comercial references according to the client are:

- “HSA646J HYDROCOAT NO FIRE OP 8 GLOSS”
(Ref. AIDIMME: 2109253-03)
- “HSA6464 HYDROCOAT NO FIRE OP 20 GLOSS”
(Ref. AIDIMME: 2109253-04)

3. REPORTS AND TEST RESULTS ON WHICH THE REPORT ON THE EXTENDED FIELD OF APPLICATION IS SUPPORTED

Laboratory	Company/Customer	Test report reference	Date of issue	Test method
AIDIMME	INDUSTRIAS QUIMICAS IVM, S.A. DIVISION: MILESI	251.I.2202.032.ES.01	February 28 th 2022	UNE-EN 13823:21
AIDIMME	INDUSTRIAS QUIMICAS IVM, S.A. DIVISION: MILESI	251.I.2202.032.ES.01	February 28 th 2022	UNE-EN ISO 11925-2:21
AIDIMME	INDUSTRIAS QUIMICAS IVM, S.A. DIVISION: MILESI	251.I.2202.032.ES.01	February 28 th 2022	UNE-EN ISO 1716:21

4. TEST RESULTS

The following are the values on the parameters that have served as the basis for determining the field of application:

Test method: UNE-EN ISO 1716:2021

Indicative sample	Reference	Result PCS (MJ/m ²)
Matte	"HSA646J HYDROCOAT NO FIRE OP 8 GLOSS" (Ref. AIDIMME: 2109253-03)	6,6
Semi-matte	"HSA6464 HYDROCOAT NO FIRE OP 20 GLOSS" (Ref. AIDIMME: 2109253-04)	6,8

⁽¹⁾ the parameters that have special relevance in determining the fire behavior of the product are considered.

According to the results obtained, the most unfavorable product is the semi-matte. The complete test is carried out on this product to obtain the parameters used to establish the classification of the product range.

5. EXTENDED FIELD OF APPLICATION. PROCESS

5.1. Applied principles for the extension of the field of application

To determine the field of application of the test results, the following methodology has been used:

Method 1: Establish the influence of the variation of the product parameters and the end use condition as specified in:

- UNE-CEN/TS 15117- Annex A

The analysis of how each of the parameters considered can have an influence on the test results (according to the indicated standard), considers that the rest of the parameters remain constant.

5.2. Influence of the variation of the product parameters on the results

Parameter	Test standard*	Results variation rule standard	Standard
Gloss	UNE-EN ISO 1716:2021	A complete sample of each gloss is made. The SBI and little burner test of the worst result are performed.	UNE-CEN/TS 15117:2009
	UNE-EN 13823:2021 and UNE-EN ISO 11925-2:2021	Full sample of worst result	UNE-CEN/TS 15117:2009

* Only reference is made to the test standard whose results show variation as a consequence of the variation of the parameter considered

5.3. Influencia of the variation of the parameters of the final condicional of use

Parameter	Test standard*	Results variation rule standard	Standard
Substrates	UNE-EN 13823:2021 and UNE EN ISO 11925-2:2021	Substrates with density equal or higher to 570 Kg/m ³ with a minimum thickness of 18 mm and reaction to fire B-s1,d0 or better.	UNE-CEN/TS 15117:2009

6. EXTENDED FIELD OF APPLICATION OF TEST RESULTS

6.1. Product range

Hereafter it is shown the range of variation allowed for the different parameters of the product/end use conditions. Rest of parameters shall be kept as described in paragraph 2.2.

ALLOWED RANGE	
Product type	Water-based fireproof paints
Substrate	Substrates with density equal or higher to 570 Kg/m ³ with a minimum thickness of 18 mm and reaction to fire B-s1,d0 or better.
Colour	8 gloss (matte) and 20 gloss (semi-matte)

6.2. Fire behavior parameters of the product range

Test method	Parameter	Results	
		Average of continuous parameter (m)	Compliance with parameters
UNE EN ISO 1716:21 (Gross heat)	PCS (MJ/Kg)	25,2	Compliant
"HSA646J HYDROCOAT NO FIRE OP 8 GLOSS" Ref. AIDIMME: 2109253-03	PCS (MJ/m ²)	6,6	Compliant

Test method	Parameter	Results	
		Average of continuous parameter (m)	Compliance with parameters
UNE EN ISO 1716:21 (Gross heat) "HSA6464 HYDROCOAT NO FIRE OP 20 GLOSS" Ref. AIDIMME: 2109253-04	PCS (MJ/m ²)	26,2	Compliant
	PCS (MJ/Kg)	6,8	Compliant
UNE EN ISO 11925-2:21 (Little burner) "HSA6464 HYDROCOAT NO FIRE OP 20 GLOSS" Ref. AIDIMME: 2109253-04	Fs ≤ 150mm	Not applicable	Compliant
	Ignition of the filter paper	Not applicable	Compliant
UNE EN 13823:2021 (SBI) "HSA6464 HYDROCOAT NO FIRE OP 20 GLOSS" Ref. AIDIMME: 2109253-04	FIGRA _{0,2MJ} (W/s)	55.35	Compliant
	THR _{600s} (MJ)	2.55	Compliant
	TSP _{600s} (m ²)	39.65	Compliant
	SMOGRA (m ² /s ²)	0.00	Compliant
	LFS (Y/N)	Not applicable	Compliant
	Falling of flaming droptles/particles (Y/N)	Not applicable	Compliant