

Bellaterra: 9<sup>th</sup> April, 2019  
File: **18/17532-1344 Part 2**  
Petitioner's reference: **NICHIHA CORPORATION**  
12 Shiotome-cho, Minato-ku  
Nagoya, 455-8550, Japan



Activities marked with (\*) are not covered by the ENAC accreditation

## **CLASSIFICATION REPORT**

### **1. - CHARACTERISTICS OF THE PRODUCT**

There were received some panels with the following indications according to technical specifications provided by the petitioner:

The NICHIHA EX Series is material primarily used as exterior wall claddings, and is a material formed into a plate shape using cement, a siliceous material, admixture as a main raw material, and others.

Product trade name: NICHIHA EX Series

The product has three different layers:

-Layer 1: Surface paint with maximum grammage of 139 g/m<sup>2</sup> (solid amount) and various colours.

-Layer 2: Fiber cement board, 16 mm (nominal value) in thickness and density of 1080 kg/m<sup>3</sup> (oven-dry, nominal value).

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-Layer 3: Backside paint with maximum grammage of 80 g/m<sup>2</sup> (solid amount) and transparent colour.

A compressible sealing strips (max. 25g/m<sup>2</sup> in gramme) is bonded onto the tongue which enables the panels to fit neatly together to form a weather resistant joint.

1. Fixing system:  
 Aluminium omega profiles were fixed to the standard substrate (Particleboard, not fire retardant treated according to UNE-EN 13238:2011) with screws.  
 Timber subframes were fixed with screws on the aluminium omega profiles.  
 Subframes were fixed to substrate.  
 The panels were fixed to the subframe with clips and screws.
  
2. Insulation: mineral wool panels, 20 mm thick, fixed to substrate through metallic fixation.
  
3. Waterproof material: Waterproof paper is installed over the insulation.

These constructive system components are installed with an air gap of approximately 20 mm between the inner skin of the panel and the exterior face of the insulation.

Manufacturer: NICHIIHA CORPORATION. Address: 12 Shiotome-cho, Minato-ku, Nagoya, 455-8550, Japan.

## **2- CLASSIFICATION AND DIRECT APPLICATION FIELD**

This classification has been made in compliance with the procedures provided in Standard UNE-EN 13501-1:2007+A1:2010: "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".

### **2.1- Test Reports**

<b>Name of Laboratory</b>	Applus – LGAI
<b>Name of Petitioner</b>	NICHIIHA CORPORATION
<b>Test Report Number</b>	18/17532-1344 Part 1
<b>Testing method</b>	UNE-EN ISO 1716:20111 UNE-EN 13823:2012+A1:2016

## 2.2- Results of the Tests

Test Method	RESULTS			
	CRITERIA CLASS A2	Nº TESTS	AVERAGE	COMPLIANCE
UNE-ENISO 1716:20111	PCS ≤ 4.0 MJ/m <sup>2</sup> (1)	15	3.98 MJ/m <sup>2</sup>	YES
	PCS ≤ 3.0 MJ/kg (3)		2.62 MJ/kg	YES
	PCS ≤ 4.0 MJ/m <sup>2</sup> (2)		1.11 MJ/m <sup>2</sup>	YES
	PCS ≤ 4.0 MJ/m <sup>2</sup> (1)		0.70 MJ/ m <sup>2</sup>	YES
	PCS ≤ 3.0 MJ/kg (4)		2.91 MJ/kg	YES
UNE-EN 13823:2012 +A1:2016	FIGRA <sub>0.2 MJ</sub> ≤ 120 W/s	3	1.79	YES
	LFS < edge of the sample	3	<to edge	YES
	THR <sub>600s</sub> ≤ 7.5 MJ	3	0.49	YES
	<b>CRITERIA subclass 's1'</b>	<b>Nº TESTS</b>	<b>AVERAGE</b>	<b>COMPLIANCE</b>
	SMOGR <sub>A</sub> ≤ 30 m <sup>2</sup> /s <sup>2</sup>	3	0.64	YES
	TSP <sub>600s</sub> ≤ 50 m <sup>2</sup>	3	26.11	YES
	<b>CRITERIA subclass 'd0'</b>	<b>Nº TESTS</b>	<b>AVERAGE</b>	<b>COMPLIANCE</b>
	Fall of droplets/particles in flames within 600 s	3	NO	YES

- (1) Non substantial external component  
 (2) Non substantial internal component  
 (3) Substantial component  
 (4) Product as a whole

## CLASSIFICATION

The product, NICHIIHA EX Series, related to its fire reaction behaviour, is classified as:

Fire Behaviour		Smoke Production		Drops in flames
A2	-	s	1	, d 0

### Fire Reaction Classification: A2-s1,d0

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

## 2.3- Field of application(\*)

- The classification is only valid for the product characteristics shown, and may extend to the following parameters:

**→Variable parameter 1: SURFACE PAINT**

Products with the commercial reference NICHIIHA EX series are manufactured with different colour of surface paint.

After performing the study of the tree surface paints (black, white and red) and having determined which one is the most unfavorable (black), the test was completed over that colour. The obtained results are valid for all colour range.

**→Variable parameter 2: SUBSTRATE**

Having performed the tests with the product applied on the substrate of particleboard, with a density of  $680\pm 50\text{kg/m}^3$ , a thickness of  $12\pm 2$  mm and a class D-s2, d0, the results are valid for substrates for final use based on wood and also whichever substrate for final use with classes A1 and A2-s1, d0 (concrete, brickwall, etc.), as it is indicated in the standard UNE-EN 13238:2011.

**→Variable parameter 3: SUBFRAME**

Having performed the test with wood material (particleboard), timber and metal (aluminum and steel) can be accepted.

**→Variable parameter 4: INSULATION**

Regulations say that testing with A1 rock wool is valid for every other A1 rock wool insulation with equal or greater thickness (20 mm, higher thickness and without insulation) and same density. Also, for constructive systems WITHOUT insulation.

**→Variable parameter 5: AIR GAP**

Any other greater air gaps are validated (20 mm and higher).

**→Variable parameter 6: JUNCTIONS**

According to ETAG agreement, this classification is extending on an identical system and product with horizontal and vertical junctions lower than the tested ones.

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

This product is used in residential, commercial, educational buildings and etc.

**2.4- Limitations**

This classification standard does not represent any type approval neither a product certification

Responsible of the Fire Laboratory  
LGAI Technological Center S.A. (APPLUS)

Responsible of Reaction to Fire  
LGAI Technological Center S.A.(APPLUS)

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The results refer exclusively to the samples tested at the time and under the conditions indicated.

**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: [satisfaccion.cliente@applus.com](mailto:satisfaccion.cliente@applus.com)

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