
Title:

Classification report assigned to two hinged timber single leaf doors in accordance with the procedure given in the Standard UNE EN 13501-2:2019: "Fire classification of construction products and building elements. Part 2: Classification using data from fire resistance tests, excluding ventilation services" (equivalent to the EN 13501-2:2016).



Material classified:

- Two hinged timber single leaf doors with references 20/473-A and 20/473-B (references provided by the Laboratory).

File number: 20/21505-473-2

Sponsor:

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Report date:

20 November 2020

Test date:

04 March 2020

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This document includes 8 pages.

1.- INTRODUCTION

This fire resistance classification report, in accordance with the procedure given in the Standard UNE EN 13501-2:2019, defines the classification assigned to two hinged timber single leaf doors with reference:

Sample	Reference by Laboratory
Door A	20/473-A
Door B	20/473-B

2.- DETAILS OF THE ELEMENTS CLASSIFIED

2.1.- Type of function

The elements tested are defined as two hinged timber single leaf doors exposed to fire on one side (one door opens outwards the furnace and the other one opens inwards the furnace). Their function is to resist fire regarding the integrity and thermal insulation characteristics provided in section 5 of the Standard UNE EN 13501-2:2019.

2.2.- Description

A complete description of the elements tested is carried out in the test report, in which is based the classification defined in section 5 of this report.

3.- TEST REPORT

This classification report is based on the following test report:

File number: 20/21505-473 (EN)

Report issued on: 20 November 2020

Test date: 04 March 2020

4.- TEST RESULTS

4.1.- Test Standard:

UNE EN 1634-1:2016+A1:2018: "Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware – Part 1: Fire resistance test for door and shutter assemblies and openable windows" (equivalent to the EN 1634-1:2014+A1:2018).

This Standard corresponds to the current version on test date. Results obtained in this test are the ones used in this classification report.

4.2.- EXPOSURE CONDITIONS

Temperature/time curve	$T = 345 \log_{10}(8t + 1) + 20$
Direction of the exposure	Door A opens outwards the furnace. Door B opens inwards the furnace.
Number of exposed sides	1 of each door.
Supporting conditions	Wall of perforated ceramic bricks of 140 mm thick, coated with mortar on the exposed side, total thickness of 150 mm and density of 1270 kg/m ³ (carried out by the Laboratory).

4.3.- TABLE OF RESULTS

Door A reference 20/473-A opening outwards the furnace (hinges outside the furnace).

	Minute of failure	Reason
Integrity	53	A sustained flaming at mid-height of the right lateral of the door, in the lock area, is observed.
Thermal insulation	53	Failure of the integrity criterion.

Door B reference 20/473-B opening inwards the furnace (hinges inside the furnace).

	Minute of failure	Reason
Integrity	-	The integrity criterion was maintained during 52 minutes.
Thermal insulation	-	The thermal insulation criterion was maintained during 52 minutes.

5.- CLASSIFICATION

Pursuant to section 7.5 of the Standard UNE EN 13501-2:2019, the classification of the testes elements is as follows:

Door A:

Hinged timber single leaf door reference 20/473-A, opening outwards the furnace (hinges outside the furnace).	EI₂ 45
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Door B:

Hinged timber single leaf door reference 20/473-B, opening inwards the furnace (hinges inside the furnace).	EI₂ 45
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The decision rule taken to give declaration of conformity with the specification or standard consists in meeting the requirements when the result of the measurement does not exceed the specification limit.

Note: as indicated in section 13.3.2 of the Standard UNE EN 1634-1:2016 + A1:2018 and taking into account the results reflected in section 4.3 of this classification report, the category which corresponds to:

Samples	Classification	Category
20/473-A (Door A)	EI ₂ 45	B
20/473-B (Door B)	EI ₂ 45	B

6.- FIELD OF DIRECT APPLICATION

6.1 General (acc./section 13 of the UNE EN 1634-1:2016 + A1:2018).

The results of the fire test and the obtained classification are directly applicable to constructions equal to the models tested when one or more of the following modifications are made:

Characteristics	Reference of samples tested*	Modification permitted
Hardware	Peepholes by PEDRET; Mirillas Ópticas, S.L.: - Door A: o Great Eye (180°), code GENAF(EI30); D. o Super Eye (200°), code SELAF(EI30); D. o Superviewer 14 (200°); code SWLAF(EI30); CR. - Door B: o Great Eye (180°), code GENAF(EI30); CR. o Super Eye (200°), code SELAF(EI30); NM. o Superviewer 14 (200°); code SWLAF(EI30); D. See section 3 of test report no. 20/21505-473 (EN) for further details.	- Not covered by the field of direct application.
	- Interchange of hardware.	- Not covered by the field of direct application.
	- Lock ref. SI10F-4R60A001 by mcm, upper side of latch bolt placed at 1091 mm from the bottom side of the leaf of each door.	- Not covered by direct application.
	- Four hinges per door ref. TL1117LSS by Litto ASSA ABLOY, upper side of each one placed at 263, 937, 1640 and 1941 mm from the lower side of the leaf of each door.	- Permitted the increase in number but not the reduction in number.
	- One overhead door closer per door, serial Expert 2500; ref. AD2503S.PL by TELESCO, placed one on the upper left corner of the unexposed side of door A and exposed side of door B. Both door closers are engaged throughout the test.	- No changes are allowed.

Materials/construction	<p><u>Timber:</u></p> <p>Leaf (total th. 45 mm) (see distribution in report no. 20/21505-473):</p> <ul style="list-style-type: none"> -MDF board, ref. Fibranor[®] by FINSA, th. 3 mm, dens. 825 kg/m³. -Chipboard, ref. TAFIPAN P2 Fr by Tafibra, th. 18 mm, dens. 660 kg/m³. - See composition of the perimeter lipping of the leaf in report no. 20/21505-473. <p>Frame made up of:</p> <ul style="list-style-type: none"> -MDF board, ref. Fibranor[®], sec. 30 x 95 mm (width x depth). -MDF board, ref. MEDILAND M1, sec. 19 x 55 mm (width x depth). <p>Subframe:</p> <ul style="list-style-type: none"> -Sweden red pine timber, sec. 40 x 150 mm (width x depth). <p>Architraves:</p> <ul style="list-style-type: none"> - MDF board, ref. MEDILAND M1, section 75 x 17 mm. <p>Weight of each door (frame not included):</p> <p>Door A: 64.0 kg. Door B: 63.8 kg.</p> <p>See section 3 of test report no. 20/21505-473 (EN) for further details.</p>	<ul style="list-style-type: none"> - The thickness of the door panel/s shall not be reduced but may be increased. - The door panel thickness and/or density may be increased provided the total increase in weight is not greater than 25%. - For timber based board products (e.g. particle board, blockboard, etc) the composition (e.g. type of resin) shall not change from that tested. The density shall not be reduced but may be increased. - The cross-sectional dimensions and/or the density of the timber frames (including rebates) shall not be reduced but may be increased.
Decorative finishes	<ul style="list-style-type: none"> - Doors tested without paint finish. 	<ul style="list-style-type: none"> - Allowed to apply paints which do not contribute to the fire resistance on door leaves and frames.
	<ul style="list-style-type: none"> - Doors tested without decorative laminate. 	<ul style="list-style-type: none"> - Decorative laminates and timber veneers up to 1.5 mm thickness may be added to the faces (but not the edges) of doors that satisfy the insulation criteria (normal or supplementary procedure).

Fixings	<p>The subframe of each door is fixed to the supporting construction by means of 8 steel claws (crossed pairs) per door:</p> <ul style="list-style-type: none"> - Vertical lateral: centres placed at 300, 1070 and 1820 mm from the lower side of the subframe. - Upper horizontal: centres placed at 200 mm from the ends of the subframe. <p>See section 3 of test report no. 20/21505-473 (EN) for further details.</p>	<ul style="list-style-type: none"> - Not permitted the reduction of the number of fixings. - Not permitted the increase in distance between fixings. - Permitted the increase in the number of fixings. - Permitted the decrease in distance between fixings.
Size variations ¹	<p><u>Door A:</u></p> <ul style="list-style-type: none"> - Hinged timber single leaf door, ref. 20/473-A. Classification 45 minutes. Category B. - Overall dimensions (architraves included): 1000 x 2110 mm (width x height). 	<ul style="list-style-type: none"> - Unlimited size reductions are permitted². - Se permite aumento de tamaño sólo hasta 15% en altura, 15% en anchura y 20% en área³.
	<p><u>Door B:</u></p> <ul style="list-style-type: none"> - Hinged timber single leaf door, ref. 20/473-B. Classification 45 minutes. Category B. - Overall dimensions (architraves included): 1000 x 2110 mm (width x height). 	<ul style="list-style-type: none"> - Se permiten reducciones de tamaño ilimitadas². - Size increase is permitted up to 15% height, 15% width and 20% area³.

¹ The number, size, location and orientation of any joints in the timber framing shall not be changed. Where decorative veneers of 1.5 mm or greater thickness, or other claddings which themselves provide constructive benefits, are part of the test specimen, they shall not be substituted with alternatives of lesser thickness or strength.

² For smaller doorset sizes the relative positioning of movement restrictors shall remain the same as tested or any change to the distances between them will be limited to the same percentage reduction as the decrease of test specimen size.

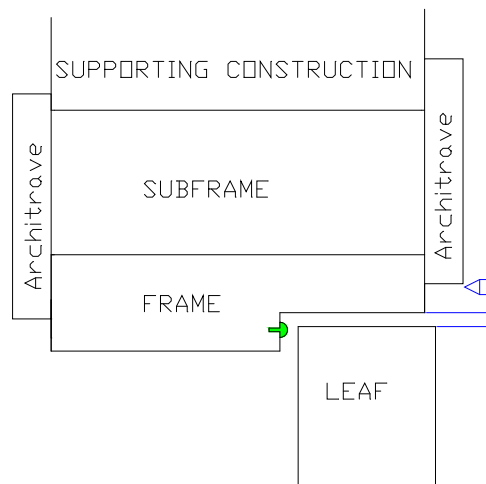
³ For larger doorset sizes the following shall also apply:

- the height of the upper side of the latch bolt of the lock of each door shall be equal to or greater than 1091 mm from the lower side of each leaf, and such increase in height shall be at least proportional to the increase in door height;
- the distance between the upper side of the upper hinge placed on the upper side of the leaf of each door shall be equal to or greater than 89 mm;
- the distance between the upper side of the lower hinge and the lower side of the leaf of each door shall be equal to or less than 236 mm.

Supporting construction	<ul style="list-style-type: none"> - Wall of perforated ceramic bricks, 140 mm thick, coated with mortar on the exposed side, total thickness of 150 mm and density 1270 kg/m³ (carried out by the Laboratory). 	<ul style="list-style-type: none"> - Applicable to other rigid supporting constructions with a density and thickness equal to or greater than the one tested. - Applicable to flexible supporting constructions⁴.
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⁴ Only applicable if the fixing method used in each type of supporting construction are appropriate to that construction.

Gaps	<p><u>Door A:</u></p> <ul style="list-style-type: none"> - Hinged timber single leaf door ref. 20/473-A. (See gaps tested in test report no. 20/21505-473 (EN)). 	<p>Maximum size allowed for primary gaps:</p> <ul style="list-style-type: none"> - Between leaf and lintel (see DETAIL 1): A: 3.4 mm. - Between leaf and hinged lateral (see DETAIL 1): A: 4.3 mm. - Between leaf and lock side (see DETAIL 1): A: 5.6 mm. - Between leaf and floor: 8.3 mm. <p>Permitted the reduction of the minimum size of the primary gaps.</p>
	<p><u>Door B:</u></p> <ul style="list-style-type: none"> - Hinged timber single leaf door ref. 20/473-B. (See gaps tested in test report no. 20/21505-473 (EN)). 	<p>Maximum size allowed for primary gaps:</p> <ul style="list-style-type: none"> - Between leaf and lintel (see DETAIL 1): A: 2.9 mm. - Between leaf and hinged lateral (see DETAIL 1): A: 6.4 mm. - Between leaf and lock side (see DETAIL 1): A: 5.4 mm. - Between leaf and floor (see DETAIL 2): 8.2 mm. <p>Permitted the reduction of the minimum size of the primary gaps.</p>



DETAIL 1

* The reference values of the samples tested not indicated in this section are described in section 3 Samples testes of file number 20/21505-473 (EN).

The modifications permitted in the field of direct application are based on data provided by the sponsor. LGAI Technological Center S.A. is not responsible for this documentation and/or information.

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Fire Laboratory Responsible
LGA Technological Center, S.A.

The results of the tests carried out refer only and exclusively to the sample tested, and in the moment and under the conditions indicated herein.

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