




CLASSIFICATION REPORT n° EFR-23-002251 - RC

According to standard EN 13501-2: 2016

Delivered	_____ by EFFECTIS France/Notified body n° 1812.
Regarding	A range of single hinged timber doors reference "CI 30" Direction of fire: Indifferent.
Sponsor	JELD WEN France 35 avenue de la Ténarèze F – 32800 EAUZE

CHANGE HISTORY

Revision level	Date	Change(s)	Author
0	__/06/23	First issue of the classification report	JeV

BON A EDITER	
<input checked="" type="checkbox"/> Délivré moyennant la prise en considération des observations qui suivent (ou figurant sur les pages jointes portant les n° : _____) : Voir ci-dessous correction à apporter en couleur rouge	
<input checked="" type="checkbox"/> Je souhaite l'envoi simultané de la version papier et de la version .PDF du compte rendu (aucune réédition ne sera effectuée dans le cadre du contrat initial)	
Le : 30/06/2023	Par : JELD-WEN Client
Signataire : David RENON Nom, prénom, fonction	Signature : 

seal reference TP212020S (MARVON), SL2020 (SMALL BOSS) or PJ-B-20x2 (YONG KANG), whose section is 20 x 2 mm, and on the top with an intumescent seal TP210820S (MARVON), SL0820 (SMALL BOSS), PJ-B-8x2 (YONG KANG) or YT2142 (YONG KANG) whose section is 8 x 2 mm. It is fixed to the lower transom by means of screws Ø 3 x 20 mm. The transom is reinforced by increasing its section to 45 x 33,67 mm minimum, or by adding a timber piece with similar characteristics, with minimal section of 31 x 33,7 mm.

1. INTRODUCTION

The classification report defines the classification assigned to a single leaf timber doorset in accordance with the procedures set out in the standard EN 13501-2 : 2016 "Fire classification of construction products and building elements - Part 2 : Classification using data from fire resistance tests, excluding ventilation services".

2. NOTIFIED BODY

Efectis France
Voie Romaine
F - 57280 MAIZIERES-LES-METZ

Notified body : 1812

3. REFERENCE AND ORIGIN OF THE SPECIMEN

Reference : CI 30

Origin : JELD WEN FRANCE
35 avenue de la Ténarèze
F – 32800 EAUZE

4. REFERENCE DOCUMENT

Test number & Test method	Subject of the report	Parameter	Results
12-V-297 EN 1634-1:2008	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	34 min 34 min 34 min
		Insulation - I1 - I2	25 min 34 min

Test number & Test method	Subject of the report	Parameter	Results
12-V-297 EN 1634-1:2008	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	37 min 37 min 37 min
		Insulation - I1 - I2	31 min 37 min

Test number & Test method	Subject of the report	Parameter	Results
12-V-445 EN 1634-1:2008	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	31 min 31 min 31 min
		Insulation - I1 - I2	27 min 31 min

Test number & Test method	Subject of the report	Parameter	Results
12-V-738 EN 1634-1:2008	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	43 min 43 min 43 min
		Insulation - I1 - I2	18 min 42 min

Test number & Test method	Subject of the report	Parameter	Results
12-V-738 EN 1634-1:2008	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	36 min 36 min 36 min
		Insulation - I1 - I2	15 min 36 min

Test number & Test method	Subject of the report	Parameter	Results
13-V-733 EN 1634-1:2008	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	34 min 34 min 34 min
		Insulation - I1 - I2	28 min 34 min

Test number & Test method	Subject of the report	Parameter	Results
13-V-733 EN 1634-1:2008	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming Insulation - I1 - I2	34 min 34 min 34 min 28 min 34 min

Test number & Test method	Subject of the report	Parameter	Results
13-V-959 EN 1634-1:2008	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming Insulation - I1 - I2	28 min 28 min 28 min 15 min 28 min

Test number & Test method	Subject of the report	Parameter	Results
14-V-001124 EN 1634-1:2014	One double leaves timber doorset	Supporting construction	Plasterboard wall
		Exposed face	Opposite to hinges side
		Integrity - cotton pad - gap gauges - sustained flaming Insulation - I1 - I2	40 min 40 min 40 min 40 min 40 min

Test number & Test method	Subject of the report	Parameter	Results
17-V-000459 EN 1634-1:2014	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	Opposite to hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	41 min 41 min 41 min
		Insulation - I1 - I2	41 min 41 min

Test number & Test method	Subject of the report	Parameter	Results
17-V-000459 EN 1634-1:2014	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	41 min 41 min 40 min
		Insulation - I1 - I2	33 min 40 min

Test number & Test method	Subject of the report	Parameter	Results
23-J-002234 EN 1634-1:2018	One single leaf timber doorset	Supporting construction	Plasterboard wall
		Exposed face	On hinges side
		Integrity - cotton pad - gap gauges - sustained flaming	42 min 42 min 41 min
		Insulation - I1 - I2	41 min 41 min

Test number & Test method	Subject of the report	Parameter	Results
15-S-001286 EN 1634-3:2005	One single leaf timber doorset	Smoke leakage	S _a , S _m

Test number & Test method	Subject of the report	Parameter	Results
14-C-001157 EN 1191:2000	One single leaf timber doorset	Durability	C5

Test number & Test method	Subject of the report	Parameter	Results
14-C-001685 EN 1191:2000	One double leaves timber doorset	Durability	C5

5. PRINCIPLE OF THE ASSEMBLY

5.1. FUNCTION

The doors are defined as non-loadbearing elements. Their function is to be fire-resistant regarding the performances given in the section 5 of the standard EN 13501-2: 2016.

5.2. GENERALITY

See appendix 1.

The elements are single leaf timber doorsets.

5.2.1. Permissible dimension variations of leaf

The leaf has for thickness 38,5 mm.

The overall dimensions of the leaf are:

	Minimum	Maximum
Width	Unlimited	1230 mm
Height	Unlimited	2040 mm

or

	Minimum	Maximum
Width	Unlimited	1070 mm
Height	Unlimited	2346 mm

The total area of the leaf has to be lower than **2,28 m²**

Or,

Doorset with internal door framing density mini 530 kg/m³ + panel core density mini 530 kg/m³ + intumescent seal PALUSOL placed into the top rail of the leaf :

	Minimal	Maximal
Width (mm)	Unlimited	1230 mm
Height (mm)	Unlimited	2662 mm

The increase of the leaves area shall not exceed **2,97 m²**.

5.2.2. Maximum authorized clearance measurements

Upper transom	: 3,0 mm
On hinges side	: 2,0 mm
On lock side	: 3,0 mm
At the threshold	: 7,0 mm
At the threshold (with acoustic seal under the leaf)	: 8,0 mm
Minimal engagement of the latch	: 10,0 mm

5.3. DETAILED DESCRIPTION

5.3.1. Frame

Doorset is equipped with a timber frame, realized with 2 mullions and an upper transom in solid or finger jointed or laminated or laminated and finger jointed hardwood or softwood timber with a minimal average density of 450 kg/m³.

Elements have a minimal overall section of 66 x 50 mm with 43 x 15 mm rebate in order to receive the leaf.

The rebate receiving the leaf can be for dimensions 46 x 15 mm and is equipped with a seal reference 1K911 (HUTCHINSON), TV103/A (INDOPLAST), TV123 (INDOPLAST) or JA123A (CTI), on the whole periphery of the frame.

The elements may also have a brick rebate of maximum dimensions 'a' x 8 mm (where 'a' is equal to the width of the wooden profile reduced by a minimum of 6 mm). The brick rebate can be filled with an MDF profile, with a minimum theoretical density of 750 kg/m³ and maximum dimensions 'a' x 8 mm.

5.3.2. Leaf

5.3.2.1. Frame

The frame of the leaf is realized with 2 mullions, an upper and a lower transom in solid or finger jointed or laminated or laminated and finger jointed hardwood or softwood timber with a minimal density of 450 kg/m³.

The mullions have a section of 33,7 x 23 to 54 mm. A self-adhesive intumescent seal reference PALUSOL 100 (ODICE), TP213320S (MARVON), FLAMISEAL S (JUNG), SL2820 (SMALL BOSS), PJ-B-35x2 (YONG KANG) or YT2142 (YONG KANG), whose section is 33 x 3 mm, is placed between the frame and the core.

The upper transom has a section of 33,7 x 26 mm. A self-adhesive intumescent seal reference TP212530S (MARVON), SL2530 (SMALL BOSS), PJ-B-25x3 or YT2142 (YONG KANG) whose section is 25 x 3 mm, or PALUSOL PM SA (ODICE), whose section is 30 x 2,8 mm or PALUSOL PL SA (ODICE) whose section is 30 x 2 mm, is placed on a groove on its upper edge.

The lower transom has a section of 33,7 x 26 mm.

The elements are fixed together, in the angles, by steel staples.

The frame can be reinforced by a second internal frame whose minimal section is 33,7 x 31 mm or by a mullion reference TIMBERSTRAND (TRUS JOICE) whose density is 610 kg/m³ and section is 33,5 x 51 mm. This frame is fixed to the first one by steel staples.

Under the lower transom, can be installed a double lips acoustic seal reference DV163/A (INDOPLAST) or 1R329 (HUTCHINSON). It can also be equipped with an automatic drop seal reference SCHALL-EX-L-15/30 (ATHMER) or DROP 20 MAXI (CCE). The CEE automatic seal is equipped on both sides with an intumescent seal reference TP212020S (MARVON), SL2020 (SMALL BOSS) or PJ-B-20x2 (YONG KANG), whose section is 20 x 2 mm, and on the top with an intumescent seal TP210820S (MARVON), SL0820 (SMALL BOSS), PJ-B-8x2 (YONG KANG) or YT2142 (YONG KANG) whose section is 8 x 2 mm. It is fixed to the lower transom by means of screws Ø 3 x 20 mm. The transom is reinforced by increasing its section to 45 x 33,6 mm minimum, or by adding a timber piece with similar characteristics, with minimal section of 31 x 33,7 mm.

5.3.2.2. Core

The frame receives a core of the following list :

- Wood particle board panel reference SANOPAN (DE SUTTER FRERES), with density 350 kg/m³ or 530 kg/m³.
- Wood and flax particle board panel reference NORMAPORTES (LINEX), with density 400 kg/m³ or 530 kg/m³
- Wood particle board panel reference AIR 500 LIGHT (UNILIN), with density 530 kg/m³
- Wood particle board panel reference AIR EXTREMLIGHT (UNILIN), with density 430 kg/m³
- Wood particle board panel reference AD2BS (ISOROY), with density 450 kg/m³
- Wood particle board panel reference SAD0000505C5G (LOSAN), with density 530 kg/m³
- Wood particle board panel reference 33,5 D 530 (UNILIN), with density 530 kg/m³.

The core has for thickness 33,5 mm and is placed inside the frame with a peripheral 1 mm gap. It can be realized with two vertical elements (with a vertical junction).

5.3.2.3. Facings

The frame and the core are covered on both faces by a MDF facing reference :

- JF25 (KRONOSPAN) with density 800 kg/m³
- 121 HDF HOMADUR (HOMANIT) with density 800 kg/m³
- FIBRAPRINT PRENSA (FINS) with density 825 kg/m³

The facings, with a thickness of 2,5 or 2, 9 mm, are fully glued with vinyl glue reference DORUS MD072 (HENKEL), RAKOLL ECO 3 (HD FULLER) or with urea formaldehyde glue reference UF 1285 (AKZO NOBEL) at an approximate rate of 120 g/m² or RAKOLL 4330 (HD FULLER) at an approximate rate of 80 g/m².

Decorative grooves with maximal dimensions of 10 x 2 mm (W x D) can be done in the facings. Self-adhesive PVC decorative elements reference PVC 808 PL (STILLEMAS) or PVC 50294 (PRO FORM), with dimensions of 8 x 1,5 mm, can be placed on the facings.

MDF or HDF decorative mouldings can be placed on the facings, fixed by vinyl glue reference DORUS MD072 (HENKEL) or DORUS MS295 (HENKEL) or urea formaldehyde glue reference UF 1285 (AKZO NOBEL).

The bottom of the leaf can be equipped with a timber piece with a maximal section of 20 x thickness of the leaf, fixed by steel screws Ø 4 x 50 mm every 200 mm. An intumescent seal reference YT2142 (YONGKANG), with section 25 x 3 mm, is placed in a groove under this timber piece.

PVC protection plate reference ACROVYN (CS FRANCE) or DECOCHOC (SPM), whose maximal thickness is 2 mm, can be placed on each facing, each edge, on the whole height or partial height of the leaf. It is fixed by neoprene glue or double coated face adhesive reference DF9756 (3M).

Stainless steel protection plate whose maximal thickness is 10/10 mm, or aluminum protection plate whose maximal thickness is 15/10 mm, with a maximal width of 300 mm, can be placed on each facing. It is fixed by steel screws Ø 3 x 20 mm or double coated face adhesive reference DF9756 (3M) with a width of 50 mm.

5.3.3. Hardware

5.3.3.1. Hinges

The leaf is hung with :

- Three rolled steel or stainless steel hinges, whose thickness is 25/10 mm and dimensions are 100 x 57 mm or 110 x 55 mm or 140 x 70 mm.
- Three steel or stainless steel hinges (MONIN or JELD WEN or AMI), whose thickness is 30/10 mm and dimensions are 130 x 86 mm.
- Three steel hinges reference 130 UNIVERSELLE BCP NF HR 6035 (MONIN), fixed by 3 screws VBA Ø 3,5 x 25 mm. they can be equipped with two PVC boxes reference 630170 (MONIN) with dimensions Ø 18 x 46 mm.
- Three rolled steel or stainless steel hinges reference 80 x 80 (NANJING TOUTRU), whose thickness is 25/10 mm and dimensions are 82 x 80 mm.

For the 130 mm hinges, the upper hinge is placed at 230 mm from the top of the leaf. The lower hinge is placed at 252 mm of the bottom of the leaf. The third one is placed at the same distance of the two others.

For the 80 x 80 mm hinges, the upper hinge is placed at 120 mm from the top of the leaf. The lower hinge is placed at 119 mm of the bottom of the leaf. The third one is placed at the same distance of the two others.

They are fixed to the frame and the leaf by steel screws Ø 3,5 x 25 mm or Ø 4 x 25 mm.

A fourth hinge can be added. It is positioned at 200 mm from the upper one in the case of a hinge of dimensions 100 x 57 mm or 110 x 55 mm or 140 x 70 mm or 80 x 80 mm and at 165 mm from the upper one in the case of a 130 mm hinge.

The leaf can also be hung with 2 concealed hinges reference TECTUS 240 3D (SIMONSWERK), TECTUS 310 3D (SIMONSWERK), TECTUS 340 3D (SIMONSWERK), TECTUS 340 3D FR (SIMONSWERK), K6200 (KUBICA), K6900 (KUBICA), K2400 (KUBICA), K600 (KUBICA), K7000 (KUBICA), K8000 (KUBICA), K7080 (KUBICA) or W978-00-00 (CEMON MOATTI).

The axis of the hinges is placed at 230 mm from the top and bottom of the leaf.

They are placed into a cutting in the frame and the leaf. Except for hinges reference TECTUS 340 3D FR, they are protected on the 4 faces and at the back by an intumescent seal reference INTERDENS TYPE 15 (ODICE) whose thickness is 1 mm.

They are fixed to the frame and the leaf by steel screws Ø 4 x 25 mm.

A third hinge can be added between the two others.

When concealed hinges are used, the frame of the leaf has to be reinforced (see 5.3.2.1)

5.3.3.2. Lock

The locking of the leaf can be done with :

- A mortised lock reference D40 (ASSA ABLOY) with one latch point, with a 40 or 50 mm axis.
- A mortised lock reference 3150 (TOUTRU) with one latch point, with a 40 or 50 mm axis.
- A mortised lock reference 900 (BRICARD) with one latch point, with a 40 or 50 mm axis.
- A mortised lock reference ROBUST, ROBUST TARGET, PRATIC 1940 or PRATIC 5940 (BRICARD) with one latch point, with a 40 mm axis.
- A mortised lock reference 725, 725 FR, 7250 or 725 NF QC (MARQUES) with one latch point, with a 40 or 50 mm axis.
- A mortised lock reference MULTIBAT 21000 (JPM), with one latch point, with a 50 mm axis.
- A mortised lock reference C55 (FAMASER), with one latch point, with a 40 or 50 mm axis.
- A mortised lock reference NEMEF 1200 SERIES (ASSA ABLOY), with one latch point, with a 50 mm axis.

5.3.4. Supporting construction and installation

5.3.4.1. Rigid supporting construction

Doors can be installed into one of the following rigid supporting constructions :

- High density supporting construction made of concrete or dense concrete blocks or hollow concrete blocks with minimal density of 850 kg/m³ and a minimal thickness of 70 mm.
- Low density supporting construction made of aerated concrete or aerated concrete blocks with density between 450 kg/m³ and 850 kg/m³ and a minimal thickness of 70 mm.
- Low density supporting construction made solid plaster tiles with minimal density 950 kg/m³ and a minimal thickness of 70 mm.

Sealed installation:

The frame of the doorset is equipped on its mullions and upper transom with a batch of nails or sealing steel pieces placed every 500 mm on the mullions and one at mid-width of the transom.

Mechanical installation :

The frame is fixed to the supporting construction by steel screws Ø 4,9 x 100 mm and nylon dowels, adjustable screws Ø 6 x 100 mm or screws HUS Ø 7,5 x 100 mm (HILTI), with at least 3 per mullion and one per transom.

A 20 mm gap can be kept for the installation of the frame. This gap is filled by mineral wool, stone wool, mortar, plaster or polyurethane foam reference 585.5 (KLEIBERIT), MRF (WURTH), DBS 9802 NBS (DEN BRAVEN), SOUDAFOAM FR (SOUDAL), PROMAFOAM C (PROMAT) or FIREFOAM 1C A (ODICE). The maximum gap can be increased to 40 mm for a filling by mortar or plaster.

Installation on pre-frame

The door can be installed onto a pre-frame realized in plywood, or solid or finger jointed or laminated or laminated and finger jointed wood, with minimal average density of 430 kg/m³, or MDF with theoretical density of 650 kg/m³, and minimal section of 72 x 18 mm. The pre-frame is sealed.

The frame of the doorset, with minimal section of 66 x 50 mm, is fixed to the pre-frame with steel screws Ø 5 x 70 mm or adjustable screws Ø 6 x 100 mm reference JAMO T1 (WURTH) and dowels, every 600 mm approximately.

A 20 mm gap can be kept for the installation of the frame. This gap is filled by mineral wool, stone wool, mortar, plaster or polyurethane foam reference 585.5 (KLEIBERIT), MRF (WURTH), DBS 9802 NBS (DEN BRAVEN), SOUDAFOAM FR (SOUDAL), PROMAFOAM C (PROMAT) or FIREFOAM 1C A (ODICE).

5.3.4.2. Flexible supporting construction

Doorset can be installed into a flexible supporting construction :

- Distributive steel framed flexible supporting construction covered on each side by a 18 mm plasterboard, with or without insulation, with a EI60 performance.
- Distributive steel framed flexible supporting construction covered on each side by two or three 12,5 mm plasterboards, with or without insulation, with a EI60 performance.
- Separative steel framed flexible supporting construction covered on each side by two or three 12,5 mm plasterboards, with or without insulation, with a EI60 performance.

When the thickness of the frame is lower than the one of the supporting construction, the internal part of the aperture is protected by a 12,5 or 18 mm plasterboard, fixed to the steel profiles by steel screws Ø 3,5 x 25 mm.

When the thickness of the frame is equal or higher than the one of the supporting construction, the internal part of the aperture can be protected by a 12,5 to 18 mm plasterboard, fixed to the steel profiles by steel screws Ø 3,5 x 25 mm.

Installation during wall construction :

The frame is fixed to the supporting construction by steel screw Ø 3,5 x 25 mm, with at least 3 per mullion and one per transom (every 500 mm approximately).

Installation after wall construction:

- o Without pre-frame :

A 20 mm gap can be kept for the installation of the frame. This gap is filled by mineral wool, mortar, plaster or polyurethane foam reference 585.5 (KLEIBERIT), MRF (WURTH), DBS 9802 NBS (DEN BRAVEN), SOUDAFOAM FR (SOUDAL), PROMAFOAM C (PROMAT) or FIREFOAM 1C A (ODICE).

The frame is fixed with steel screws Ø 3,5 x 80 mm, with at least 3 per mullion and one per transom (every 500 mm approximately).

- o Installation on pré-frame :

The door can be installed onto a pre-frame realized in plywood, or solid or finger jointed or laminated or laminated and finger jointed wood, with minimal average density of 430 kg/m³, or MDF with theoretical density of 650 kg/m³, and minimal section of 72 x 18 mm. The pre-frame is fixed to the supporting construction by steel screws Ø 3,5 x 15 mm, with at least 3 per mullion and one per transom (every 500 mm approximately).

A 20 mm gap can be kept for the installation of the frame. This gap is filled by mineral wool, mortar, plaster or polyurethane foam reference 585.5 (KLEIBERIT), MRF (WURTH), DBS 9802 NBS (DEN BRAVEN), SOUDAFOAM FR (SOUDAL), PROMAFOAM C (PROMAT) or FIREFOAM 1C A (ODICE).

The frame is fixed to the pre-frame with steel screws Ø 3,5 x 80 mm, with at least 3 per mullion and one per transom (every 500 mm approximately), or adjustable screws Ø 6 x 100 mm reference JAMO T1 (WURTH) every 600 mm approximately.

6. FIRE RESISTANCE CLASSIFICATION

6.1. CLASSIFICATION REFERENCE

The classification has been realized regarding the section 7.5.5 of the standard EN 13501:2: 2016.

6.2. CLASSIFICATION

The element is classified regarding the following combination of performances parameters and category.

R	E	I	W		t	-	M	C	S	G	K
	E	I ₁			30			C ₅ [*]	S _a /S _m		
	E	I ₂			30			C ₅ [*]	S _a /S _m		
	E		W		30			C ₅ [*]	S _a /S _m		
	E				30			C ₅ [*]	S _a /S _m		

* C₅ classification is available for doors equipped with a door-closer.

7. FIELD OF DIRECT APPLICATION OF TEST RESULTS

The direct application field of the test results is limited to the determination of the permissible modifications of the test specimens following a successful fire resistance test. These modifications may be automatically introduced without the sponsor having to apply for any additional assessment, calculation or agreement.

Note: When extended prescriptions concerning the dimensions of the element are considered, lower dimensions than the actual dimensions may be used for some elements of the test specimens in order to maximize the extrapolation of the test results by modeling the interaction between the elements at the same scale.

7.1. GENERAL

The field of direct application defines the allowable changes to the test specimens following a successful fire resistance test. These variations can be applied automatically introduced without the need for the sponsor to seek additional evaluation, calculation or approval.

Note: When extended product size requirements are envisaged, the dimensions of certain components within the test specimens can be less than those intended to be used at full size in order to maximize the extrapolation of the test results by modelling the interaction between components at the same scale.

7.2. MATERIALS AND CONSTRUCTION

7.2.1. General

Unless otherwise stated in the following text, the materials and construction of the doorset or openable window shall be the same as that tested. The number of leaves and the mode of operation (e.g. sliding, single action or double action) shall not be changed.

7.2.2. Specific restrictions on materials and construction

7.2.2.1. Timber construction

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.

7.2.2.2. Metal construction

The dimensions of metal warp around frames may be increased to accommodate increased supporting construction thickness. The thickness of the metal may also be increased by up to 25%.

The type of metal shall not be changed from that tested.

The number of stiffening elements for uninsulated doors and the number and type of fixings of such members within the panel fabrication may be increased proportionally with the increase in size but shall not be reduced.

7.2.2.3. Glazed construction

The type of glass and the edge fixing technique, including type and number of fixings per metre of perimeter, shall not be changed from those tested.

~~The number of glazed apertures and each of the dimensions (width and height) of glass in each pane included within a test specimens may be:~~

- ~~• decreased in proportion with size reductions or~~

~~Thus, the overall dimensions of a rectangular glass may be as follows:~~

	Minimal	Maximal
Width (mm)		
Height (mm)		

~~Thus, the overall dimensions of a circular glass may be as follows:~~

	Minimal	Maximal
Diameter (mm)		

- ~~• decreased by a maximum of 25 % for integrity only and/or radiation control constructions and for insulation specimens where the unexposed surface temperature for both the construction and the glazing have been maintained for the classification period or~~

~~Thus, the overall dimensions of the glass may be as follows:~~

	Minimal	Maximal
Width (mm)		
Height (mm)		

- reduced for doorsets, without restriction providing that the total area of the tested panes is less than 15 % of the door leaf or side/over panel area.

The number of glazed apertures and each of the dimensions of glass in each pane included within a test specimen shall not be increased.

The distance between the edge of glazing and the perimeter of the door leaf, or the distance between glazed apertures shall not be reduced from those incorporated in test specimens. Other positioning within the door can only be modified if this does not involve the removal or re-positioning of structural members relative to the glazing.

7.2.3. Decorative finishes

7.2.3.1. Paint

Where the paint finish is not expected to contribute to the fire resistance of the door, alternative paints are acceptable and may be added to door leaves or frames for which unfinished test specimens were tested. ~~Where the paint finish contributes to the fire resistance of the door (e.g. intumescent paints), then no change shall be permitted.~~

7.2.3.2. Decorative laminate

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).

Decorative laminates and timber veneers applied to door leaves that do not satisfy the insulation criteria (normal or supplementary procedure) and/or those in excess of 1,5 mm thickness shall be tested as part of the test specimens. For all doorsets tested with decorative laminate faces, the only variations possible shall be within similar types and thicknesses of material (e.g. for colour, pattern, supplier).

7.2.4. Fixing

The number of fixings per unit length used to attach doorsets to supporting construction may be increased but shall not be decreased and the distance between fixings may be reduced but shall not be increased.

7.2.5. Building hardware

The number of hinges and dog bolts may be increased but shall not be decreased.

NOTE 1: The number of movement restrictors such as locks and latches is not covered by direct application.

Where a door set has been tested with a door closing device fitted, but with the retention force released in accordance with 10.1.4, the door set may be provided either with or without that closing device, i.e. where self-closing characteristics are not required.

NOTE 2: Interchange of building hardware is not covered by the field of direct application.

7.3. PERMISSIBLE SIZE VARIATIONS

7.3.1. General

Doorsets of sizes different from those of tested specimens are permitted within certain limitations, but the variations are dependent on product type and the length of time that the performance criteria are fulfilled.

The increase and decrease of dimensions permitted by the field of direct application are applicable to the overall size and to each door leaf, each side panel and each over panel independently.

The limits of permitted size variation are given in Annex B of standard EN 1634-1: 2014 + A1: 2018.

In accordance with 12.2.2.3, the dimensions (width and height) of any glass pane cannot be increased.

7.3.2. Test periods

~~The amount of variation of size permitted is dependent on whether the classification time was just reached (Category 'A') or whether an extended time (Category 'B') in accordance with the values specified in section 13.3.2 of standard EN 1634-1: 2014 + A1: 2018.~~

7.3.3. Size variation related to product type

7.3.3.1. Permissible dimension variations of the leaf.

	Class « A »		Class « B »	
	Minimal	Maximal	Minimal	Maximal
Width (mm)				
Height (mm)				
				The increase of the leaves area shall not exceed m^2 .

~~Regarding unequal double leaves doors, the overall widths must follow the conditions below:~~

- ~~• the width of the mobile leaf is at most equal to xxx mm~~
- ~~• the width of fixed leaf is at least xxx mm~~
- ~~• the width of the fixed leaf is at most equal to the width of the mobile leaf.~~

7.3.3.2. Other changes

For smaller doorset sizes, the relative positioning of movement restrictors (e.g. hinges and latches) 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 specimens' size.

For larger doorset sizes, the following shall also apply:

- The height of the bolt above floor level shall be equal to or greater than the tested height, and such increase in height shall be at least proportional to the increase in door height;
- The distance of the top hinge from the top of door leaf shall be equal to or less than tested;
- The distance of the bottom hinge from the bottom of door leaf shall be equal to or less than tested;
- Where three hinges or distortion preventers are used, the distance between the bottom of the door leaf and center restraint shall be equal to or greater than that tested.

Side and head panels

The rules for variation to tested specimens of side and head panel arrangements are the same as those applied generally to hinged or pivoted doorsets.

~~If only one side panel can be tested due to the constraints of the furnace size than providing a type 'B' overrun time has been proven, a second panel up to the same size may be added to the opposite side. Where an additional side panel is to be added to a tested single leaf doorset then the tested panel shall be positioned on the latch side.~~

~~The addition of a second side panel is not allowed for doorsets satisfying the radiation control levels, unless they also satisfy the insulation criteria for the reasons given in 13.3.3.1.~~

7.3.3.4. Timber constructions

The number, size, location and orientation of any joints in the timber framing shall not be changed.

Where decorative timber veneers of 1,5 mm thick or greater thicknesses, or other claddings which themselves provide constructive benefits, are part of the test specimens, they shall not be substituted with alternatives of lesser thickness or strength.

7.4. PERMITTED FIRE DIRECTIONS

7.4.1. General

EN 1363-1 states that for separating elements required to be fire resisting from both sides, two test specimens shall be tested (one from each fire direction) unless the element is fully symmetrical, i. e. the construction of the doorset is identical on both sides of the centre line when viewed in plan (from above). However, in some cases, it is possible to develop rules whereby the fire resistance of an asymmetrical door assembly tested in one direction can apply when the fire exposure is from the other direction. The possibility to develop such rules increases if the consideration is limited to certain types of door assembly and on the criteria being applicable (e.g. integrity only doors).

7.4.2. Permitted fire directions

According to the EN 1634-1: 2014 + A1: 2018 standard, paragraph 13.4.2, and taking into account the nature of the fixed and opening leaves of the test specimens on the one hand, and the fire direction applied during the test on the other hand, the fire resistance behaviour specified in section 10 of this test report shall be valid for the following directions of fire:

Fire integrity: fire on hinges side and fire on opposite to fire side.

Thermal insulation: fire on hinges side and fire on opposite to fire side.

These fire directions shall be permissible only if the following conditions are met:

- Each of the door leaves are themselves of symmetrical construction with the exception of the edges (e.g. lock/leading edge and hinge edge or double rebated doors);
- Any restraining/supporting elements of building hardware has been included in a test to EN 1634-1: 2014 + A1: 2018 when exposed in both directions so that they will retain their function when exposed to the heat of the test;
- There is no change in the number of leaves or the mode of operating (e.g. sliding, swinging, single action or double action);
- Side, over and head panels are fully symmetrical.

SUPPORTING CONSTRUCTIONS

7.5.1. General

The fire resistance of a door assembly tested in one form of standard supporting construction may or may not apply when it is mounted in other types of construction. Generally, the rigid and flexible types are not interchangeable and rules governing the direct application within each group are given in sections 13.5.2 to 13.5.4 of standard EN 1634-1: 2014 + A1: 2018. However, in some cases, it is possible for the result of a test on a particular type of door assembly tested in one form of standard supporting construction to be applicable to that door assembly when mounted in a different type of standard supporting construction. Specific rules governing the situation for hinged and pivoted door assemblies are given in section 13.5.4 of standard EN 1634-1: 2014 + A1: 2018.

7.5.2. Permissible supporting structures

In conformity with the rules given in section 13.5 of standard EN 1634-1: 2014 + A1: 2018, the fire resistance behaviour specified in section 10 of this test report shall be valid for door units assembled in:

- a) reinforced concrete slabs, with a density of at least 2200 kg/m³ and a thickness of at least 200 mm ;
- b) Blockwork, masonry or homogenous concrete wall with an overall density at least 850 kg/m³ having a thickness of a least 200 mm
- c) Aerated concrete block wall with an overall density at least 450 kg/m³ having a thickness of a least 200 mm

For blockwork (incorporating aerated concrete) or masonry wall supporting constructions given in b) and c) the individual masonry units shall be bonded together with a mortar appropriate for the expected fire resistance period.

- d) flexible supporting construction as described in paragraph 7.2.2.4. of standard EN 1363-1, of which the fire performance duration are at least equal to those of the doors. Those mean features are defined below:

Intended fire resistance	Nominal steel stud depth [mm]			Gypsum boards type F, EN 520		Insulation: mineral wool	
	Group A	Group B	Group C	number of layers at each side	thickness of boards [mm]	thickness [mm]	density [kg/m ³]
EI 30	44–55	56–75	76–100	1	12,5	40-50	30-60
EI 60	44–55	56–75	76–100	2	12,5	40-50	30-60
EI 90	44–55	56–75	76–100	2	12,5	40-50	85-115
EI 120	62–70	71–75	76–100	2	15	60-70	85-115

e) associated support construction as described in paragraph 5.4. of this document.

8. RESTRICTIONS

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

These conclusions only relate to the fire resistance performances of the elements covered by this document. They are without prejudice, in any case, to other performances related to their use in a structure.

Maizières-lès-Metz, _____

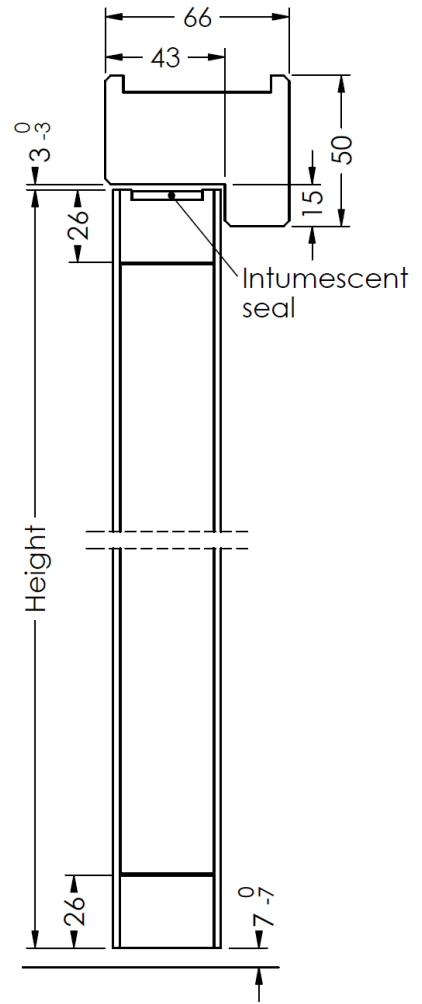
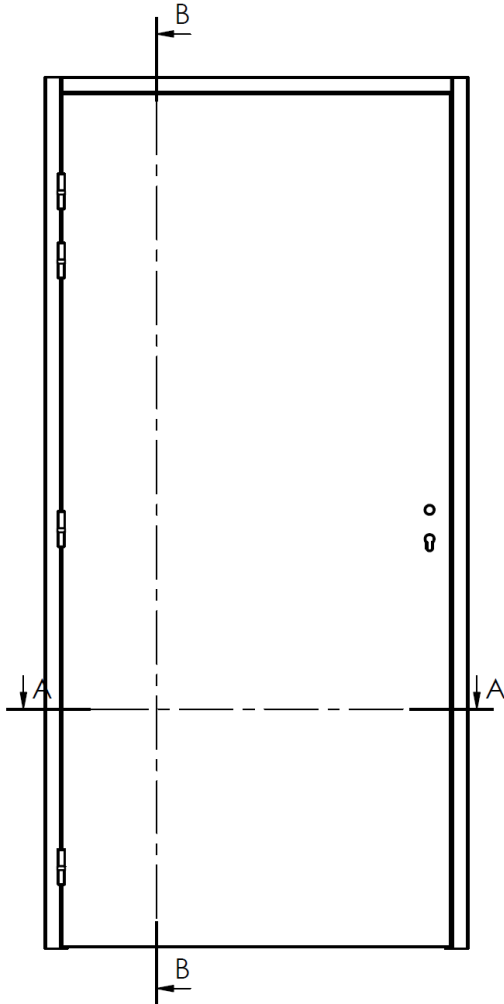
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Project leader

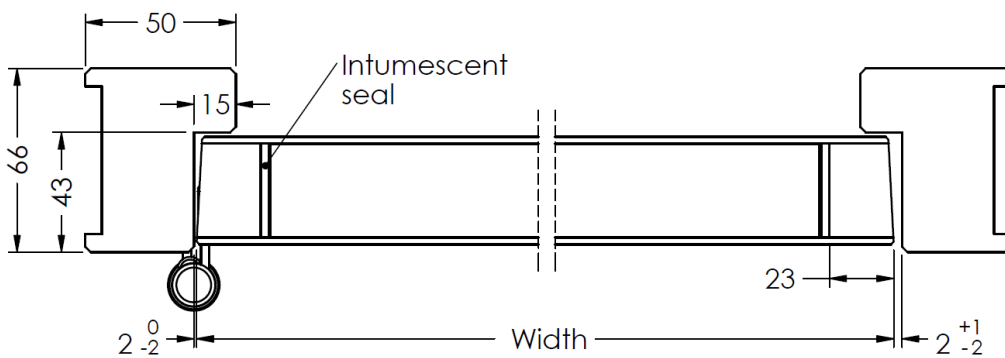
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Supervisor

Plate n° 1: Details of the door.



1 : 3



1 : 3