

SLOVENSKI STANDARD

SIST EN 15269-3:2023

01-februar-2023

Nadomešča:
SIST EN 15269-3:2012

Razširjena uporaba rezultatov preskusov požarne odpornosti in/ali dimotesnosti za vrata, zaporne elemente in okna, ki se odpirajo, vključno z njihovim okovjem - 3. del: Požarna odpornost lesenih vrat in oken s tečaji

Extended application of test results for fire resistance and/or smoke control for doorsets, shutter and openable window assemblies, including their elements of building hardware - Part 3: Fire resistance of hinged and pivoted timber doorsets and openable timber framed windows

Erweiterter Anwendungsbereich von Prüfergebnissen zur Feuerwiderstandsfähigkeit und/oder Rauchdichtigkeit von Türen, Toren und Fenstern einschließlich ihrer Baubeschläge - Teil 3: Feuerwiderstandsfähigkeit von Drehflügeltüren und Fenstern aus Holz

Application étendue des résultats d'essais en matière de résistance au feu et/ou d'étanchéité à la fumée des blocs-portes, blocs-fermetures et ouvrants de fenêtre, y compris leurs éléments de quincaillerie intégrés - Partie 3 : Résistance au feu des blocs-portes battants et pivotants en bois et des fenêtres à ossature bois

Ta slovenski standard je istoveten z: EN 15269-3:2022

ICS:

13.220.50	Požarna odpornost gradbenih materialov in elementov	Fire-resistance of building materials and elements
91.060.50	Vrata in okna	Doors and windows

SIST EN 15269-3:2023

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 15269-3

November 2022

ICS 13.220.50; 91.060.50

Supersedes EN 15269-3:2012

English Version

**Extended application of test results for fire resistance
and/or smoke control for doorsets, shutter and openable
window assemblies, including their elements of building
hardware - Part 3: Fire resistance of hinged and pivoted
timber doorsets and openable timber framed windows**

Application étendue des résultats d'essais en matière
de résistance au feu et/ou d'étanchéité à la fumée des
blocs-portes, blocs-fermetures et ouvrants de fenêtre, y
compris leurs éléments de quincaillerie intégrés -
Partie 3 : Résistance au feu des blocs-portes battants et
pivotants en bois et des fenêtres à ossature bois

Erweiterter Anwendungsbereich von Prüfergebnissen
zur Feuerwiderstandsfähigkeit und/oder
Rauchdichtigkeit von Türen, Toren und Fenstern
einschließlich ihrer Baubeschläge - Teil 3:
Feuerwiderstandsfähigkeit von Drehflügeltüren und
Fenstern aus Holz

This European Standard was approved by CEN on 19 September 2022.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 Determination of the field of extended application	8
4.1 General.....	8
4.2 How to use the extended application rules in Annex A.....	8
4.3 Procedure for maximum field of extended application	9
4.4 Analysis of test results.....	9
5 Extended application report	10
6 Classification report	10
Annex A (normative) Construction parameter variations	11
Annex B (normative) Configurations for doorsets incorporating side and/or over panels	159
Annex C (normative) How to use the configuration matrix for timber leaf/timber frame configurations	179
Annex D (normative) How to use the configuration matrix for timber leaf/metal frame configurations	190
Bibliography	198

Tables

Table A.1 — Timber groupings	12
Table A.2 — Construction parameter variations – Section A – Door leaf.....	13
Table A.3 — Construction parameter variations – Section B – Door frame	46
Table A.4 — Construction parameter variations – Section C – Items of building hardware.....	57
Table A.5 — Construction parameter variations – Section D – Side, transom and over panels.....	111
Table A.6 — Construction parameter variations – Section E – Glazing.....	113
Table A.7 — Construction parameter variations – Section F – Supporting construction and attachment of door frame or side/over panels	126
Table A.8 — Latched conditions	138
Table A.9 — Meeting edge details.....	140
Table A.10 — Threshold matrix.....	145
Table A.11 — Possible frame infill materials (in steel frames)	150
Table B.1 — Configuration matrix timber leaf / timber frame.....	161
Table B.2 — Configuration matrix timber leaf/ steel frame	171

European foreword

This document (EN 15269-3:2022) has been prepared by Technical Committee CEN/TC 127 “Fire safety in buildings”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2023 and conflicting national standards shall be withdrawn at the latest by May 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 15269-3:2012.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

In comparison with the previous edition, the following significant changes have been made:

- a) Scope clarified;
- b) Normative references updated;
- c) Definitions updated;
- d) Main text updated;
- e) Annex A rewritten and updated;
- f) Annex B updated;
- g) Annex C and D added.

A list of all parts in the EN 15269 series can be found on the CEN website.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document covers hinged or pivoted doorsets and door assemblies with wood-based door leaves and/or timber framed glazed door leaves and openable timber framed windows. Throughout this document, the term “doorset” will be used to cover doorsets, door assemblies and openable windows. It prescribes the rules for extending the application of test results obtained from fire resistance test(s) conducted in accordance with EN 1634-1.

This document covers only doorsets with wood-based or metal frames. The door leaves are comprised of wood-based perimeter framing and wood-based structural facings.

Subject to the completion of the appropriate test or tests, the extended application can cover all or some of the following examples:

- integrity (E), integrity & radiation (EW) or integrity & insulation (EI₁ or EI₂) classifications;
- glazing within the doorset, e.g. side and over panels, vision panels and framed glazed doorsets;
- air transfer grilles (e.g. ventilation grilles/louvres);
- side, transom or over panels;
- items of building hardware;
- decorative and protective finishes;
- intumescent strips and non-intumescent seals (e.g. smoke, draught or acoustic seals);
- alternative supporting construction(s).

This document covers only the effect on the fire resistance classifications E, EW, EI₁ and EI₂.

This document does not cover horizontal doorsets.

2 Normative references

The following documents are referred to in the text in such a way that some or all their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 179, *Building hardware - Emergency exit devices operated by a lever handle or push pad, for use on escape routes - Requirements and test methods*

EN 844, *Round and sawn timber - Terminology*

EN 923, *Adhesives - Terms and definitions*

EN 1125, *Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods*

EN 1154, *Building hardware - Controlled door closing devices - Requirements and test methods*

EN 1155, *Building hardware - Electrically powered hold-open devices for swing doors - Requirements and test methods*

EN 1158, *Building hardware - Door coordinator devices - Requirements and test methods*

EN 1363-1, *Fire resistance tests - Part 1: General requirements*

EN 1634-1, *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*

EN 1634-2, *Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware - Part 2: Fire resistance characterisation test for elements of building hardware*

EN 1935, *Building hardware - Single-axis hinges - Requirements and test methods*

EN 12519, *Windows and pedestrian doors - Terminology*

EN 13381-4, *Test methods for determining the contribution to the fire resistance of structural members - Part 4: Applied passive protection to steel members*

EN 13381-8, *Test methods for determining the contribution to the fire resistance of structural members - Part 8: Applied reactive protection to steel members*

EN 13501-2, *Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 15254-4:2018, *Extended application of results from fire resistance tests - Non-loadbearing walls - Part 4: Glazed constructions*

EN 15269-1, *Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware - Part 1: General requirements*

EN 15725, *Extended application reports on the fire performance of construction products and building elements*

EN 17372, *Power operated pedestrian swing door drives with self closing function - Requirements and test methods*

EN ISO 13943, *Fire safety - Vocabulary (ISO 13943)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1363-1, EN 12519, EN 844, EN ISO 13943, EN 1634-1, EN 1634-2 and EN 15269-1, EN 15725 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

EN 15269-3:2022 (E)

3.1

core

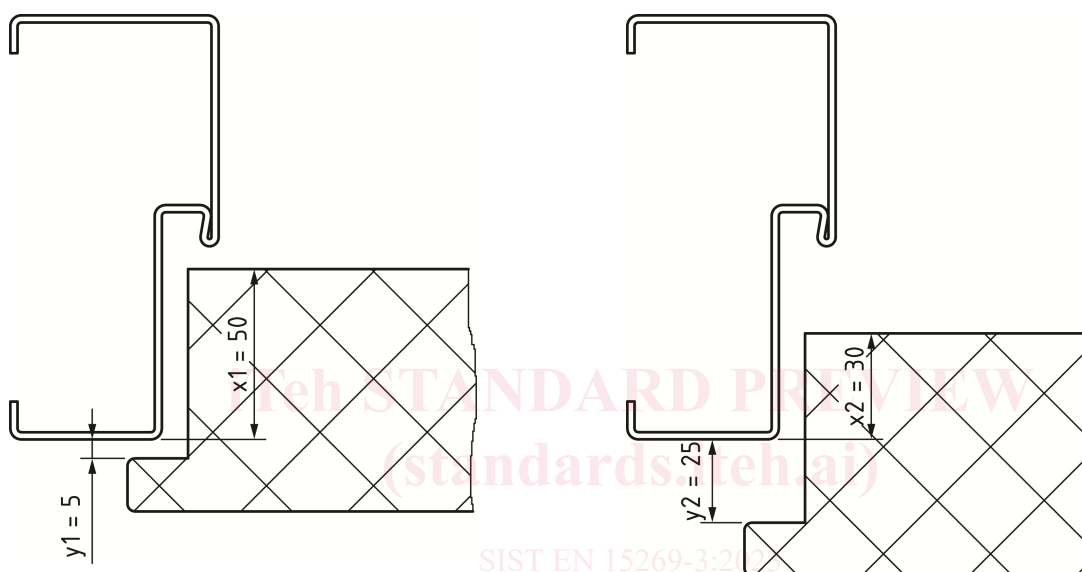
material fitted centrally within the thickness of a door leaf which may consist of a single sheet of material or a combination either of sheets of the same material or layers of different materials

3.2

effective rebate depth

dimension of the door leaf thickness of overlapping adjacent edges of the door leaf relative to the door frame, transom or side panel or flush over panel as well as at door leaf meeting edges

Note 1 to entry: See Figure 1.

**Key**

x1 example of effective rebate depth in doorset to be tested

x2 example of resulting effective rebate depth during testing after movement of 20 mm

y1 example of over rebate to frame face clearance in doorset to be tested

y2 example of over rebate to frame face clearance in doorset after movement of 20 mm

NOTE The dimensions 5 mm, 50 mm, 25 mm and 30 mm are examples only.

Figure 1 — Effective rebate depth

3.3

leaf symmetry

construction of a door leaf, without consideration of any leaf edge rebates, viewed either side of an imaginary plane drawn centrally in the thickness of the door leaf

Note 1 to entry: A symmetrical door leaf will be identical either side of this imaginary plane, whilst an asymmetrical door leaf will differ.

3.4

exposed intumescent strip

intumescent strip which is fitted in the perimeter of the door leaf or in the door frame and is visible when the door leaf is in the open position

3.5

concealed intumescent strip

intumescent strip which is fitted in the perimeter of the door leaf or in the door frame and is not visible when the door leaf is in the open position, including strips behind veneers and laminates

3.6

decorative and/or protective finishes

outer layer of material on the door leaf or panel, only used for decorative and/or protective (not for structural) purposes

3.7

structural facing

layer (or layers) of material between the core and the decorative and/or protective finishes (if fitted) in the door leaf or panel used for structural purposes

3.8

lipping

edge piece added to the door leaf for structural purpose

Note 1 to entry: In this document, lippings of more than 30 mm thickness are handled as a part of the door leaf framing element. Lippings of less than 3 mm thick are handled as decorative finishes.

3.9

representative specimen

door leaf design that has 'fundamentally the same' or 'similar' construction as another door leaf design for the purpose of evaluating parameter variations providing the relevant aspects of tested performance are considered

Note 1 to entry: See EN 15269-1 for further guidance on evaluation of similar/fundamentally the same.

3.10

cladding

protective or decorative layer that is fixed to the doorset with clips/hooks or similar, which creates an air gap between the surface and the cladding

3.11

spring hinge

any door hinge where the energy for closing the door is stored within a spring being part of the hinge mechanism and which may contain simple damping mechanisms without the provision for controlling the closing speed (e.g. without valves)

3.12

glazing system

all components used to retain and seal around the glass within the aperture of the door leaf and/or side and over panel

Note 1 to entry: See Figure A.38.

3.13

capping

decorative or protective facing on the visible parts of the glazing bead

4 Determination of the field of extended application

4.1 General

4.1.1 Before there can be any consideration for extended application (EXAP), at least one representative doorset shall have been tested in accordance with EN 1634-1 to achieve a test result which could generate a fire resistance classification in accordance with EN 13501-2 at least equal to the fire resistance classification subsequently required from extended application considerations.

4.1.2 A review of the doorset construction parameters can indicate that one or more characteristics may be improved by a particular parameter variation. All evaluations shall be made on the basis of retaining the fire resistance classifications obtainable from testing to EN 1634-1, including those lower than the test duration. However, this shall never lead to an increased fire resistance classification for any specific parameter beyond that achieved during any one test, unless specifically identified in the relevant Construction Parameter Variation tables.

4.1.3 If no extended application rule exists for a particular parameter variation, then no extension or change of this particular parameter is possible without further testing.

4.1.4 Hardware performance sheet (HPS), according to EN 16035 may be part of the documentation for the assessment and determination of the extended application.

4.2 How to use the extended application rules in Annex A

4.2.1 Identify the variations from the original test specimen(s), which are required to be covered by an extended application report.

4.2.2 Locate the variations in the appropriate parameter variation by reference to columns (1) and (2) of Table A.2 to Table A.7 of Annex A.

4.2.3 Establish from the contents of column (3) of Table A.2 to Table A.7 of Annex A whether any extended application is available beyond the direct application rules (DIAP) in EN 1634-1 without the need for further testing.

4.2.4 Where this is deemed to be possible, it may be recorded in the extended application report together with any appropriate restrictions and the stated rules from column (3) of Table A.2 to Table A.7 of Annex A.

4.2.5 Where the variations required can only be achieved from additional testing, the additional test shall be made on a representative specimen type i.e., a doorset of the same or more onerous configuration. Alternatively, column (4) of Table A.2 to Table A.7 of Annex A identifies an option for alternative testing and relevant test parameters.

Most onerous configuration shall be the one with the lowest relevant performance in terms of mode of failure and/or highest distortion but shall also be evaluated taking the intended construction parameter variation(s) into account.

Example: If the construction parameter variation involves a change to glazing or side panel and over panel configurations then the previous result where these have been tested would need to be used to make the evaluation of most onerous. The result for a single unglazed doorset would not be suitable and may therefore be discounted when making the evaluation.

4.3 Procedure for maximum field of extended application

4.3.1 It is possible to provide an extended field of application from a single test. However, where a manufacturer envisages to manufacture a range of doorsets incorporating single leaf doorsets and also double leaf doorsets with or without side, transom or over panels, with or without glazing, air transfer grilles (e.g. ventilation grilles/louvres), with alternative items of building hardware, etc. It is recommended that careful consideration is given to the complete range of doorset designs and options. This helps to minimise the testing required before testing commences.

4.3.2 Establish all the parameter variations, which are required to be part of the product range.

4.3.3 Determine which are the most important specification requirements and incorporate as many as possible into the specimen(s) for the first tests in the series.

4.3.4 Conduct the first fire resistance test or a series of tests and then establish which of the original desired parameter variations have not been covered by the fire resistance tests, including direct application possibilities.

4.3.5 Identify these parameter variations in Table A.2 to Table A.7 of Annex A and establish if any extended application is possible without further testing.

4.3.6 Record this for the extended application report together with any restrictions and rules given in column (3) in Table A.2 to Table A.7 of Annex A.

4.3.7 Evaluate which, if any, of the desired parameter variations have not been covered by the field of direct application or the initial field of extended application derived from 4.3.5.

4.3.8 Determine if the product range is to include only single leaf doorsets or if the range is to also include double leaf configurations. Where only single leaf doorsets are to be part of the product range, the outstanding construction parameter variations shall only be incorporated into specimens for the single leaf doorset. Where single leaf and double leaf doorsets are to be included in the product range, the outstanding construction parameter variations for the extended application of single leaf doorsets may be incorporated into either repeated single leaf doorset tests or, in the most onerous option, as defined in column (4) of Table A.2 to Table A.7 of Annex A, double leaf doorset configurations. See also the rules in Annex B.

4.3.9 Select the required outstanding parameter variations from column (1) and column (2) of Table A.2 to Table A.7 of Annex A and observe from column (4) which are the most appropriate, most onerous options for further testing.

4.3.10 If the complete selection of required parameter variations has not been covered by the tests completed in accordance with 4.3.8 and 4.3.9 above, then an appropriate test or tests may be repeated with the additional product variations incorporated.

4.4 Analysis of test results

4.4.1 In order to maximise the field of extended application, it is important that the test reports shall record details of any premature integrity and/or insulation failure, as well as details of any significant distortion.

4.4.2 Where a series of tests forms the basis for the extended application, the field of extended application shall be based on the lowest performance achieved from the complete series of tests unless premature failure has been attributed to one or more specific construction parameter variations.

EN 15269-3:2022 (E)

4.4.3 Where it has been possible to clearly identify specific parameter failures, the extended application for all other construction parameter variations may be based on the performance achieved after isolating the premature failure(s), provided the requirements of 4.1.1 are met. Where the specific construction parameter variation requires Category B performance and where failures can be identified as having no relevance to this aspect of the construction, they may be disregarded, and the failure time and associated Category revised accordingly.

5 Extended application report

Prepare an extended application report in line with EN 15725 and in accordance with the requirements of EN 15269-1, based on the results of evaluations in accordance with the above.

When additional test data based on representative specimens are used to extend the field of application, the rationale for using the test data shall be mentioned in the EXAP report.

If the results of the extended application procedure lead to a classification that only covers one side (opening or closing) of the doorset, this shall be unambiguously stated in the report.

6 Classification report

The classification report shall be determined from the results of the extended application report and presented in accordance with EN 13501-2.

iteh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 15269-3:2023

<https://standards.iteh.ai/catalog/standards/sist/e1dcfe2e-2eb4-4a1b-8f1c-bd00886f414b/sist-en-15269-3-2023>

Annex A (normative)

Construction parameter variations

This table is designed to be used by experts competent in the field of fire resistance testing of products covered by the scope of this standard.

This table shall only be used to assess a field of extended application when at least one positive fire resistance test to EN 1634-1 has generated a fire resistance classification according to EN 13501-2. Only results from fire resistance tests in accordance with European Standards may be used as basis for extended application.

The first two columns identify possible variations to the construction details of the specimen tested.

For some parameters, it is necessary to evaluate whether the specimen displayed a high, medium or low level of distortion during the fire resistance test. Where this is the case, the following levels shall be used to establish high, medium and low distortion doorsets as measured using the maximum relative movement at any position between the edge of the door leaf and door frame or between the meeting edges of door leaves or the relative movement of the framing members for side and over panels. The measurements shall be taken from the start of the fire resistance test at any time during the complete required classification period. The deflections shall be measured at the positions given in EN 1634-1:

- Low: < 40 % of effective rebate depth;
- Medium: ≥ 40 % and ≤ 85 % of effective rebate depth;
- High: > 85 % of effective rebate depth.

Where there is one intumescent strip, the depth of the rebate is the one in which the intumescent strip is fitted. If no intumescent strip or more than one intumescent strip is fitted, it is the depth of the largest rebate (see Figure 1).

The evaluation of the influence of a parameter variation on performance characteristics (E/EW/EI₁/EI₂) lead to the judgement of the possibility of the extension of the field of application, the results of which are given in column (3) of the following tables. In certain cases in column (3), it is a requirement to achieve Category B; the requirements for this are given in EN 1634-1.

If the conditions specified in column (3) is not fulfilled, additional fire resistance tests are deemed to be necessary. In this case, the type of specimen approved for incorporation of the changed parameter is defined in column (4) and Annex B. Where no specific test configuration is described in column (4) of each rule in the following tables, the additional test may be on either single or double leaf doorset, for the relevant classification time, from the most onerous direction and cover the other configuration.

Where it is possible to use information from fire resistance tests performed on one configuration for evidence on a different configuration, this allowance has been made in order to reduce the overall number of fire resistance tests required for extended application evaluation, e.g. single action doorsets to double action doorsets.

EN 15269-3:2022 (E)

In order to maximize the possible field of extended application from a minimum number of fire resistance tests, the parameter changes have been spread over a series of test specimens. The recommended tests for each parameter are dependent on the classification required and the preferred options.

Where more than a single parameter variation is required, the influence on other variations shall also be taken into account.

When specific rules refer to melting points of different materials, this may be evaluated based on commonly available information about material behaviour.

Some parameter variations may result in a door leaf with increased weight. For all design variations contained within this EXAP standard, the total weight of any design shall not exceed the loadbearing capacity of the supporting items of building hardware.

Table A.1 — Timber groupings

Solid timber may be replaced by other solid timber of the same group of equal or higher nominal density or solid timber of a higher group, where Group 4 is the highest group.		
Group No.	Type of timber	Nominal density kg/m ³
1	Softwood	> 350 < 450
2	Hardwood	> 350 < 450
3	Softwood	≥ 450
3a	Beech (<i>Fagus sylvatica</i>)	All
4	Hardwood	≥ 450

NOTE The density is normally declared at a moisture level of 12 % according to EN 350.

The clause numbers in brackets in column (1) of Table A.2 to Table A.7 below, refer to the clause number from EN 15269-3:2012. These are added for information only.

Table A.2 — Construction parameter variations – Section A – Door leaf

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A. Door leaf In certain cases, the rules given in Section A are also appropriate to side, transom and over panels or the door frame; where this is the case it is clearly indicated in column (1) by the word “panel”. For double leaf doorsets, both leaves shall be of the same basic construction.			
A.1 General			
A.1.1 Number of leaves.	Single leaf from double leaf doorset test.	Possible only for doorsets with wood-based door frames and provided that: <ul style="list-style-type: none"> • The distortion of the door leaf is low • The doorsets have exposed or no intumescent strips • The passive door leaf of the tested doorset shall be bolted at the top or at the top and the bottom; otherwise not possible without additional test. For doorsets with wood-based door frames, where there is an inactive and an active door leaf, only the construction and parameters of the active door leaf may be used for the single leaf doorset. Intumescent strips and their positioning shall be retained in the (primary) active leaf or positioned in the door frame if they were in the inactive leaf. The rebate dimensions of the meeting edges of the double leaf doorset shall be replicated on both door leaf and door frame of the single leaf doorset. For doorsets with wood-based frames with side- or over panels, where the configuration matrix in Annex B is used, the rules and definitions of Annex C for doorsets shall be considered. For doorsets with metal frames, where the configuration matrix in Annex B is used, the rules and definitions of Annex D for doorsets shall be considered. Single leaf doorsets with metal frames shall be tested in accordance with Annex D, D.2.1.	Annex B gives the test protocol and hierarchy for various options on door leaf (and panel) configurations.