



BSI Standards Publication

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 2: Fire resistance of hinged and pivoted steel doorsets

National foreword

This British Standard is the UK implementation of EN 15269-2:2024. It supersedes BS EN 15269-2:2012 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee FSH/22/-/5, Fire resistance tests for doors.

A list of organizations represented on this committee can be obtained on request to its committee manager.

BSI, as a member of a CEN, is obliged to publish EN 15269-2:2024 as a British Standard. However, attention is drawn to the fact that, during the development of this European Standard, the UK committee voted against its approval due to its concerns with the outlined programme of testing on steel doorsets.

During the revision of EN 15269-2, a summary of test evidence was submitted by UK Technical Committee FSH/22/5 indicating that the addition of a threshold could influence the anticipated behaviour of some fire resisting steel doors and warranted further investigation.

The primary reason for flagging the issue in the context of the EN 15269-2:2024 standard was in relation to EXAP rule B.1.1.2 (see Table A.2), which permits the inclusion of a threshold without testing providing the profiles are made of steel or aluminium or material of the Reaction to fire class A1 and the gap between the bottom of the door leaf and the threshold/sill remains the same or is less than the originally tested gap.

It is the opinion of the UK committee FSH/22/5 that a restriction in material type is not sufficient to address the potential performance issues flagged by the testing conducted on steel doors with thresholds. Thus, the committee would advise UK users that the inclusion of a frame member to the bottom of the door or threshold via EXAP rules B.1.1.1 and B.1.1.2 would be best applied in instances where there is direct evidence to BS EN 1634-1 to support the threshold design with the tested doorset for the intended performance.

Users of this standard might also note that the organization preparing the EXAP report is responsible for deciding what test evidence is applicable for the threshold and doorset design being considered for extended application. Guidance on the preparation of EXAP reports and the requirements for organizations that undertake EXAPs is given in BS EN 15725.

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Date	Text affected
31 March 2025	Incorporation of additional national foreword text

English Version

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 2: Fire resistance of hinged and pivoted
steel doorsets

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 fenêtres,
y compris leurs éléments de quincaillerie intégrés -
Partie 2 : Résistance au feu des blocs-portes battants et
pivotants en acier

Erweiterter Anwendungsbereich von Prüfergebnissen
zur Feuerwiderstandsfähigkeit und/oder
Rauchdichtigkeit von Türen, Toren und Fenstern
einschließlich ihrer Baubeschläge - Teil 2:
Feuerwiderstandsfähigkeit von Drehflügeltüren aus
Stahl

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 19 February 2025.

This European Standard was approved by CEN on 23 September 2024.

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.

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

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

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European foreword

This document (EN 15269-2:2024) 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 April 2025, and conflicting national standards shall be withdrawn at the latest by April 2025.

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 15269-2:2012.

This document has been prepared under a standardization request addressed to CEN by the European Commission.

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 organisations 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 single and double leaf, hinged and pivoted, steel based doorsets except steel doorsets with metal framed door leaves covered by EN 15269-5. It prescribes the methodology for extending the application of test results obtained from fire resistance test(s) conducted in accordance with EN 1634-1.

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

- integrity (E), integrity and radiation (EW) or integrity and insulation (EI₁ or EI₂) classification;
- door leaf;
- side panels, transom panels, flush overpanels;
- air transfer grilles (e.g. ventilation grilles/louvres);
- components (e.g. frame/suspension system) fixed to the supporting construction (e.g. wall/ceiling);
- glazing within the doorset (e.g. for door leaf, side, transom and flush overpanels);
- items of building hardware;
- decorative and protective finishes;
- intumescent seals, strips and non-intumescent (smoke, draught or acoustic) seals;
- alternative supporting construction(s).

This document does not cover horizontally installed doorsets (e.g. traps).

The effect on the classification 'C' for the doorsets following an extended application process is not addressed in this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of 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 1125, *Building hardware — Panic exit devices operated by a horizontal bar, for use on escape routes — 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 1363-2, *Fire resistance tests — Part 2: Alternative and additional procedures*

EN 1364-1:2015, *Fire resistance tests for non-loadbearing elements — Part 1: Walls*

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 12519, *Windows and pedestrian doors — Terminology*

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 on the fire performance of construction products and building elements: Principle of EXAP standards and EXAP reports*

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 1363-2, EN 1634-1, EN 1634-2, EN 12519, EN 15269-1, EN 15725 and EN ISO 13943 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>

3.1

full scale test

test of a doorset in accordance with EN 1634-1

3.2

small scale test

test on items of building hardware in accordance with EN 1634-2

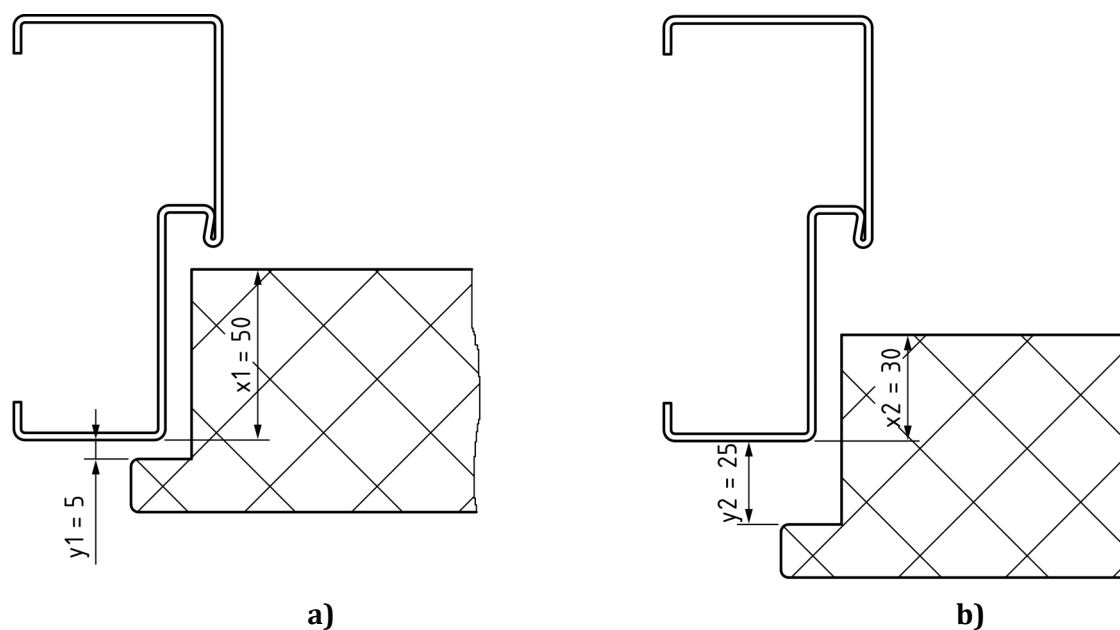
3.3

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 overpanel as well as at door leaf meeting edges

Note 1 to entry: See Figure 1.

Dimensions in millimetres

**Key**

- x1 Example of effective rebate depth in doorset to be tested – 50mm
- x2 Example of resulting effective rebate depth during testing after movement of 20mm – 30mm
- y1 Example of distance between over rebate and frame face in doorset to be tested – 5mm
- y2 Example of distance between over rebate and frame face in doorset after movement of 20mm – 25mm

Calculation: $20/50 \times 100 = 40\%$ (60 % of the initial value is left)

Level of distortion according to Annex A: medium

Figure 1 — Effective rebate depth

3.4**panel**

component of a door leaf separated from other elements by joints which break through the total door leaf thickness

Note 1 to entry: A door leaf can consist of one or more panels.

3.5**decorative finishes**

outer layer of material on the leaf or panel only used for decorative, not for structural purposes

3.6**protective finishes**

outer layer of material on the leaf or panel only used for protective, not for structural purposes

3.7**representative specimen**

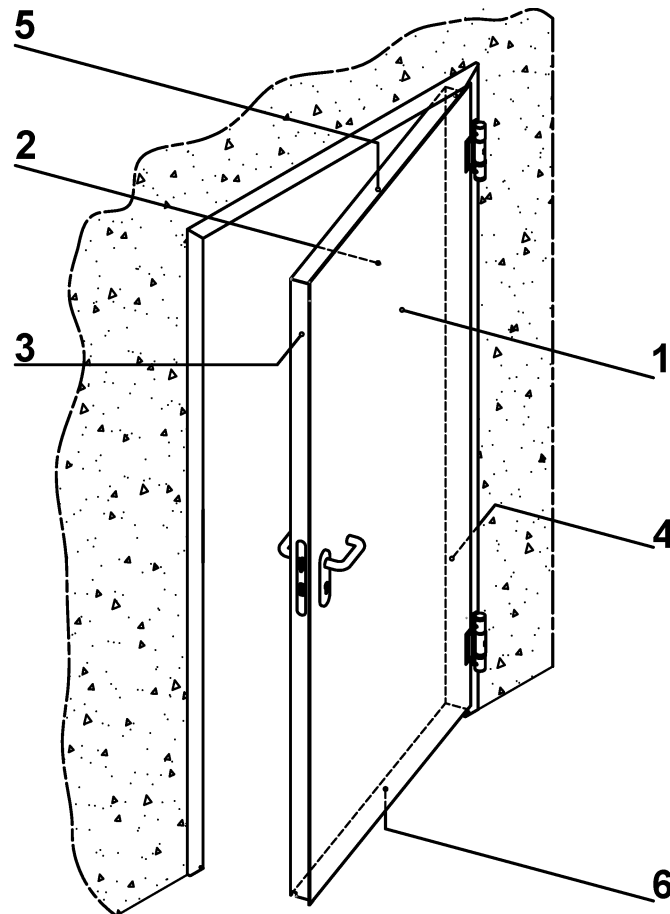
doorset design that has 'fundamentally the same' or 'similar' construction as another doorset design for the purpose of evaluating construction parameter variations providing the relevant aspects of tested performance are considered

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

3.8

faces and sides of a door leaf

faces and sides of a door leaf are shown in Figure 2



Key

- 1 opening face
- 2 closing face
- 3 lock side
- 4 hinge side
- 5 top side
- 6 bottom side

Figure 2 — Faces and sides of a door leaf

3.9

dog bolt / movement restrictor

additional part (e.g. a bolt) on the hinge side of the doorset which can bear forces such as those caused by levering for burglary or by deflection in case of fire

4 Determination of the field of extended application

4.1 General

4.1.1 Before there can be any consideration for extended application, the 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 required from extended application considerations. These tests are referred to in this document as basic tests.

NOTE If a doorset is classified from one side only (e.g. just opening face), the extended application rules cannot lead to a classification of the opposite side or of both sides.

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 classifications obtainable from testing to EN 1634-1, including those lower than the test duration. However, this shall never lead to an increased 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, when following the extended application procedure, any component of the classified product cannot be covered by the extended application rules, a representative specimen incorporating the particular construction parameter variation shall be tested on both sides or on one side, if the required classification is from one side only. Otherwise, that part shall be omitted from the subsequent extended application report and classification report.

4.1.4 A 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 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) in the tables of Annex A.

4.2.3 Establish from the contents of column (3) in the tables 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 can be recorded in the extended application report together with any appropriate restrictions and the stated rules from column (3) in the tables 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 test specimen i.e. a doorset of the same or more onerous configuration. Alternatively, column (4) in the tables of Annex A identifies an option for alternative testing and relevant test parameters.

The 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. For example, if the construction parameter variation involves a change to glazing of side panel and overpanel 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 can therefore be discounted when making the evaluation.

4.2.6 When an additional test according to column (4) in the tables of Annex A is performed and the result of this additional test meets the provisions given in column (3), the possible extensions in column (3) can be applied based on this additional test.

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 intends to produce a range of doorsets incorporating single leaf doorsets and also double leaf doorsets, with or without side, transom or flush overpanels, with or without glazing, with or without air transfer grilles (ventilation grilles/louvres), with alternative items of building hardware, etc., it is recommended that careful consideration be given to the complete range of doorset designs and options in order to minimize the testing required before testing commences.

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

4.3.3 Determine which are the most important design and configuration 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 construction parameter variations have not been covered by the fire resistance tests, including direct application possibilities.

4.3.5 Identify these construction parameter variations in 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 the tables in Annex A.

4.3.7 Evaluate which, if any, of the desired construction 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, only double leaf doorsets or both. 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 single leaf doorsets. Where only double leaf doorsets are to be part of the product range, the outstanding construction parameter variations shall only be incorporated into specimens for double leaf doorsets. 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 weakest option, as defined in column (4) of the table in Annex A, double leaf doorset configurations. See also Annex B.

4.3.9 Select the required outstanding construction parameter variations from column (1) and column (2) in the tables of Annex A and observe from column (4) which are the most appropriate, weakest specimen options for further testing.

4.3.10 If the complete selection of required construction 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 maximize the extended field of application, it is important that the test reports shall record details of any premature integrity and/or insulation and/or radiation failure, also record details of any significant distortion to evaluate low, medium and high distortion (see Annex A).

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.

4.4.3 Where it has been possible to identify specific parameter failures, the extended application for all other construction parameter variations can be based on the performance achieved after isolating the premature failure(s), provided the requirements of subclause 4.1.1 are met. Where the specific construction parameter variation requires category B performance (see EN 1634-1 for the corresponding overrun times) and where failures can be identified as having no relevance to this aspect of the construction, they can 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 similar designs are used to extend the field of application, the rationale for using the test data should be mentioned in the EXAP report.

If the results of the extended application procedure lead to a classification that only covers one side (e.g. either opening or closing face) 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 shall be presented in accordance with EN 13501-2.

Annex A (normative)

Construction parameter variations

A.1 General

The tables below are designed to be used by experts competent in the field of fire resistance testing of hinged or pivoted steel doorsets.

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

For EI doorsets, EW doorsets and E doorsets with insulation inside with an intended classification from both sides (opening into the furnace, opening away from the furnace) the following rules shall only be considered, if the basic tests were performed in both directions.

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 panelled systems. 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.

Evaluations of the influence of a construction parameter variation on the fire resistance performance characteristics (E/EW/EI) lead to the judgement of the possibility of extending 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.

Where additional fire resistance tests are deemed to be necessary, the type of specimen approved for incorporation of the changed construction parameter is defined in column (4). 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 tests required for extended application evaluation e.g. from single action doorsets to double action doorsets.

A.2 Guideline for the evaluation of the required orientation of the test specimens (only for doorsets that are required to be tested from both directions)

Where an additional test is required in column (4) of the following tables, the orientation of the test specimens shall be as follows unless otherwise specified in column (4):

- a) If all basic test(s) achieved category B, both test directions are considered as being equal, so the additional test may be performed opening into the furnace or opening away from the furnace.

b) If any specimen of the basic tests achieved category A only, the evaluation of the test direction for the additional test shall follow the procedure below:

b.1 The test direction for the additional test shall be derived from the result of the basic test(s). The orientation of the specimen on which the first integrity failure occurred during the basic test(s) determines the face to be exposed for the additional test. If no integrity failure occurred during the basic test period, follow items b.2 or b.3.

NOTE The required test period is the time given in EN 1634-1 for the corresponding classification period. The test period for category B includes the corresponding overrun time.

b.2 For construction parameter variations which are critical in relation to deflection (e.g. size, reduction of reinforcements), the following applies: face to be exposed is determined by the direction with the higher deflection during the basic test(s) period. If both directions (opening into the furnace or opening away from the furnace) behave nearly similar related to deflection, follow items b.3 or b.4.

b.3 For construction parameter variations which are critical in relation to temperature and/or radiation (e.g. changes in core material density): the face to be exposed is determined by the direction with the higher temperature and/or radiation during the basic test(s) period dependent on the intended construction parameter variation (e.g. if the intended variation is related to the door leaf only, the temperature on the door frame is not relevant). In case both directions (opening into the furnace or opening away from the furnace) are nearly similar in temperature and/or radiation, follow items b.2 or b.4.

b.4 If the temperature and/or radiation and the deflection are nearly similar for both specimens during the basic test(s) period, both test directions are considered as being equal, so the orientation of the specimen for the additional test may be opening into the furnace or opening away from the furnace.

In order to maximize the possible field of application from a minimum number of fire resistance tests, the construction parameter variations 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 one single parameter variation is required, the influence on other variations shall also be taken into account.

Where an additional test is required in column 4 of the following tables, the fire resistance test shall be a full scale test according to EN 1634-1 at least with the size of the initial test described in 4.1.1. or the details changed are limited to the tested size unless it is otherwise specified. Where column 4 specifies that the additional evidence required is “not size-dependent”, the specimen may be tested at any size as long as the test is in accordance with EN 1634-1.

Interpolations between minimum and maximum size tested of any measure is possible if not otherwise specified in Table A.1 to A.7.

In the Tables A.1 to A.7 below, clause numbers in brackets represent the number of rule in the previous version of EN 15269-2. These are added for information only.

Table A.1 — 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 flush overpanels or the door frame. Where this is the case, it is clearly indicated at the beginning of the relevant section. For double leaf doorsets, both leaves shall be of the same basic construction. The term “intumescent seal” includes both: intumescent strips and seals with intumescent characteristics.			
A.1 General			
A.1.1	Number of leaves — See Figure A.1	Single leaf from double leaf test	Basic test according to 4.1.1 required
A.1.2	Number of leaves — See Figure A.1.	Double leaf from single leaf test	Basic test according to 4.1.1 required
A.1.3	Number of vertical panels per leaf (primary or secondary) — See Figure A.2 a)	Increase (by one panel per leaf — on any leaf)	Additional test single leaf or double leaf doorset
A.1.4	Number of vertical panels per leaf (primary or secondary) — See Figure A.2 b)	Reduce (down to a minimum of two panels per leaf – on any leaf)	Additional test single leaf or double leaf doorset
A.1.5	Intumescent seals between frame and door leaf/leaves — See Figure A.3.	Location towards the frame rebate	Additional test single leaf or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.1.6 Intumescent seals between frame and door leaf/leaves — See Figure A.4.	Location away from the frame rebate	Not possible without an additional test	Additional test single leaf or double leaf doorset
A.1.7 Intumescent seals between meeting edges of the door leaves	Location	Not possible without an additional test(s)	Additional test (s) double leaf doorset (open outwards and inwards for EI doors, open outwards for E or EW doors)
A.1.8 Non intumescent seals between frame and door leaf/leaves (draught/smoke/acoustic etc.) — Reaction to fire class A1, e.g. ceramic products (fitted in leaf or frame) — See Figure A.5	Location	Any movement possible providing no modifications of the construction are required otherwise not possible without an additional test	Additional test single or double leaf doorset
A.1.9 Non intumescent seals between meeting edges of the door leaves (draught/smoke/acoustic etc.) — Reaction to fire class A1, e.g. ceramic products	Location	No movement possible without an additional test	Additional test double leaf doorset
A.1.10 Non-intumescent seals between frame and door leaf/leaves (draught/smoke/acoustic etc.) — < Reaction to fire class A1 (fitted in leaf or frame) — See Figure A.6	Location	No movement possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.1.11 Non-intumescent seals between frame and door leaf/leaves (draught/smoke/acoustic etc.) - Reaction to fire class A1, e.g. ceramic products (fitted in leaf or frame). — See Figure A.7	Add	Possible for doors without intumescent seals and providing the gap between door leaf and door frame is not increased otherwise not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset
A.1.12 Non intumescent seals between door leaves and/or frames (draught/smoke/acoustic etc.) — Reaction to fire class A1, e.g. ceramic products (fitted in leaf or frame) — See Figure A.8	Remove	Not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset
A.1.13 Non-intumescent seals between frame and door leaf/leaves (draught/smoke/acoustic etc.) — < Reaction to fire class A1 (fitted in leaf or frame) — See Figure A.9	Add	Not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset
A.1.14 Non-intumescent seals between frame and door leaf/leaves (draught/smoke/acoustic etc.) — < Reaction to fire class A1 (fitted in leaf or frame) — See Figure A.10	Remove	Not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset

Construction Parameter		Variation	Possibility of extension	Additional Evidence Required
(1)		(2)	(3)	(4)
A.1.15	Rebate (door leaves to frames) — See Figure A.14a	Add	EI Not possible without an additional test unless the original test had additional thermocouples positioned 100 mm for EI₂ or 25 mm for EI₁ from the edge of the notional rebate (i.e. 100-x) where x means the width of the added rebate and dimension y (overlap) shall not be decreased by a maximum of three times the steel thickness of the door leaf E, EW Possible providing no decrease of dimension y (overlap) or leaf edge thickness by a maximum of three times the steel thickness of the door leaf otherwise not possible without an additional test	Additional test single or double leaf doorset
A.1.16	Rebate (meeting edges) — See Figure A.14b	Add (one rebate)		Additional test double leaf doorset (added rebate away from the fire)
A.1.17	Rebate (door leaves to frames) — See Figure A.15	Remove		Additional test single or double leaf doorset (opening into the furnace)
A.1.18	Rebate (meeting edges)	Remove		Additional test double leaf doorset (opening into the furnace)
A.1.19	Latched condition for single and double leaf doorsets	Change in latching condition	Possible in line with the relationship given in Table A.1.19	Additional test to include the required latching condition
A.1.20	Overlap (rebate/astragal) between door leaves and frame or between meeting edges — See Figure A.79	Decrease overlap thickness	Possible providing the door leaf has been tested with an overlap without infill, the leaf thickness does not change, the gaps between door leaf and frame remain as tested otherwise not possible without an additional test	Additional test single or double leaf doorset. In case of meeting edge overlaps the additional test shall be a double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.1.21 Overlap (rebate/astragal) between door leaves and frame or between meeting edges — See Figure A.80	Increase overlap thickness	Possible only for medium or low distortion, providing the overlap thickness shall not be increased by more than three times the thickness of the steel sheet of the door leaf and provided that the effective rebate depth is not reduced otherwise not possible without an additional test	Additional test single or double leaf doorset. In case of meeting edge overlaps the additional test shall be a double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.2 Size variations / single or multiple panel construction			
A.2.1 Size (area, width, height)	Decrease	Possible in line with direct application or for EI doors possible from the size tested down to the size of a second test specimen in the same design using direct application rules otherwise not possible without an additional test	For single leaf doorsets additional test single leaf or double leaf doorset, for double leaf doorsets additional test double leaf doorset
A.2.2 Height - all distortions	Increase	Possible in line with direct application or possible for doorsets which have achieved category B with all distortions to a maximum addition equal to the tested dimension between the latch and top of the door leaf providing an additional top hinge/dog bolt together with additional latch in the area of the top free corner are incorporated and additionally (for EW) an emitted radiation calculation in accordance with EN 1363-2 is within the 15 kW/m ² limit or possible for doorsets which have achieved category B with medium distortion: 20 % increase or low distortion: 25 % increase, providing overlap of door leaf to frame header is not reduced and distance between top hinge and top of door leaf is equal to or less than tested and additionally (for EW) an emitted radiation calculation in accordance with EN 1363-2 is within the 15 kW/ m ² limit otherwise not possible without an additional test	For single leaf doorsets additional test single leaf or double leaf doorset, for double leaf doorsets additional test double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.2.3 Width- all distortions	Increase	Possible in line with direct application or possible for doorsets which have achieved category B with medium distortion: 20 % increase and low distortion: 25 % increase providing overlap of door leaf to frame jamb is not reduced and additionally (for EW) an emitted radiation calculation in accordance with EN 1363-2 is within the 15 kW/m² limit otherwise not possible without an additional test	For single leaf doorsets additional test single leaf or double leaf doorset, for double leaf doorsets additional test double leaf doorset
A.2.4 Area- all distortions	Increase	Possible in line with direct application Possible for doorsets which have achieved category B where height is achieved by additional latch and hinge / dog bolt full width extension can be applied or medium distortion: 25 % increase and low distortion: 30 % increase providing overlap of door leaf to frame header and frame jamb is not reduced and distance between top hinge and top of door leaf is equal to or less than tested and additionally (for EW) an emitted radiation calculation in accordance with EN 1363-2 is within the 15 kW/m² limit. otherwise not possible without an additional test	Additional test see A.2.2 and/or A.2.3

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.2.5 Thickness of the door leaf	Increase	For all distortions: possible providing the increase results only from the increase of the thickness of the steel sheet. Based on high distortion: Not possible without an additional test Based on medium distortion: Possible providing the same increase of thickness of core material up to a maximum of 10 % Based on low distortion: Possible providing the same increase of thickness of core material up to a maximum of 25 % otherwise not possible without an additional test	Additional test single or double leaf doorset
A.2.6 Thickness of the door leaf	Decrease	Possible providing the decrease results only from the decrease of the thickness of the steel sheet otherwise not possible without an additional test	Additional test from both sides, single for single leaf doorsets or double leaf for double leaf doorsets
A.3 Materials and constructions			
Adhesives might be used for different applications, e.g. fixing of the core material to the steel sheet, fixing of internal components or for prefixing (e.g. before screwing) only. For the amount of adhesives, each of the different applications shall be considered separately.			
A.3.1 Density of core material (organic or Reaction to fire class A1)	Increase	Possible up to a maximum of 15 % (nominal value) of each core material of the door leaf otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.2 Density of core material (organic or Reaction to fire class A1)	Decrease	E Possible EI, EW Not possible without an additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.3 Thickness of core material — See Figure A.16	Increase	Based on high distortion: not possible without an additional test Based on medium distortion: possible up to a maximum of 10 % in accordance with thickness of door leaf and providing that no single element of the core is reduced in thickness Based on low distortion: possible up to a maximum of 25 % in accordance with thickness of door leaf and providing that no single element of the core is reduced in thickness otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.4 Thickness of core material — See Figure A.17	Decrease	E Possible up to a maximum of 10 % for a low distortion doorset otherwise not possible without an additional test EI, EW Not possible without an additional test	Additional test single for single leaf doorsets or double leaf for double leaf doorsets
A.3.5 Pattern of core material — See Figure A.18	Increase number of pieces	E Possible EI, EW Possible proportional to any size increase providing the original test specimen includes horizontal and / or vertical joint (s) between the core material pieces as appropriate otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.6 Pattern of core material — See Figure A.19	Decrease number of pieces	Possible	—

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.7 Number of layers of identical and/or different materials — See Figure A.20	Increase	Not possible without an additional test	Additional test single or double leaf doorset
A.3.8 Number of layers of identical and/or different materials — See Figure A.21	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.3.9 Type of core material (single thickness or in combination of different layers)	Change of supplier/manufacturer of identical material with identical composition and properties	Possible	-
A.3.10 Type of core material (single thickness or in combination of different layers)	Alternative composition	Not possible without an additional test	Additional test single or double leaf doorset
A.3.11 Amount of adhesive/m ² – organic based (<Reaction to fire class A1)	Increase	Not possible without an additional test	Additional test single or double leaf doorset
A.3.12 Amount of adhesive/m ² — organic based (<Reaction to fire class A1)	Decrease	Possible up to a maximum of 10 % otherwise not possible without an additional test Possible to use any amount between the minimum and the maximum amount tested on other test specimen(s) in the same design.	Additional test single or double leaf doorset
A.3.13 Amount of adhesive/m ² — inorganic based (Reaction to fire class A1)	Increase	Possible providing no intumescent content otherwise not possible without an additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.14 Amount of adhesive/m ² — inorganic based (Reaction to fire class A1)	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.3.15.1 Type of adhesive	Alternative	Not possible without an additional test	Additional test single or double leaf doorset
A.3.15.2 Chemical composition of adhesive	Alternative	Not possible without an additional test	Additional test single or double leaf doorset
A.3.16 Manufacturer/supplier of adhesive	Alternative	Possible	-
A.3.17 Metal armour sheet (internally mounted) — See Figure A.22a	Add	Not possible without an additional test	Additional test single or double leaf doorset
A.3.18 Metal armour sheet (internally mounted) — See Figure A.22b	Remove	Not possible without an additional test	Additional test single or double leaf doorset
A.3.19 Electronic security mesh — See Figure A.23a	Add	Possible for mesh thickness to a maximum of 1,0 mm with an inorganic coating – face fixed or internally mounted otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.20 Electronic security mesh — See Figure A.23b	Remove	Possible	-
A.3.21 Thickness of steel sheet	Increase	Possible up to a maximum of 10 % otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.22 Thickness of steel sheet	Decrease	Possible up to a maximum of 25 % otherwise not possible without an additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.23 Type of steel sheet	Mild to stainless	Not possible without an additional test	Additional test double for single and double leaf doorsets or single for single leaf doorsets
A.3.24 Type of steel sheet	Stainless to mild	Possible only for latched door leaves providing that the material thickness shall not be decreased but may be increased up to a maximum of 25 % otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.25 Cross — section dimension of stiffening elements — See Figure A.24a	Increase	E, EW Possible up to a maximum increase of 50 % otherwise not possible without an additional test EI Not possible without an additional test	Additional test single or double leaf doorset
A.3.26 Cross — section dimension of stiffening elements — See Figure A.24b	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.3.27 Number of intermediate stiffening elements — See Figure A.25a	Increase	E Possible EI, EW Possible proportional to the increase of height or width of the door leaf, as appropriate, rounded to the nearest whole number of stiffeners otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.28 Number of intermediate stiffening elements — See Figure A.25b	Decrease	Possible proportional to the decrease of height or width of the door leaf, as appropriate, rounded to the nearest whole number of stiffeners otherwise not possible without an additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.29 Stiffening elements — See Figure A.26	Location	Possible within a maximum of 10 % of original separating dimension otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.30 Number of stiffening element fixing points — See Figure A.27a	Increase	Possible	–
A.3.31 Number of stiffening element fixing points — See Figure A.27b	Decrease	Possible if proportionately in line with a leaf size decrease otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.32 Overlap dimension of leaf edge rebate (between leaf and frame) — See Figure A.28a	Increase	E, EW Possible EI Possible providing the original test had additional thermocouples positioned 100mm or 25mm from the edge of the notional rebate otherwise not possible without an additional test	Additional test single or double leaf doorset (opening away from the furnace)
A.3.33 Overlap dimension of panel edge rebate (meeting edges) — See Figure A.28b	Increase	E, EW Possible EI Possible providing the original test had additional thermocouples positioned 100mm or 25mm from the edge of the notional rebate otherwise not possible without an additional test	Additional test single or double leaf doorset (opening away from the furnace)
A.3.34 Overlap dimension of leaf edge rebate (between leaf and frame) — See Figure A.29a	Decrease	Not possible without an additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.35 Overlap dimension of panel edge rebate (meeting edges) — See Figure A.29b	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.3.36 Additional overlapping edge at the bottom of the door leaf— See Figure A.30a	Add	E, EW Possible EI Possible providing the tested overlapping edge at the top of the leaf is added at the bottom of the leaf and providing a fourth frame member is added otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.37 Additional overlapping edge at the bottom of the door leaf— See Figure A.30b	Remove	Possible providing the gap between the bottom of the door leaf and the floor remains the same as the original test specimen otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.38 Leaf edge detail (between leaf and frame and meeting edges) — See Figure A.31	Shape	Straight overlap may be changed to cranked overlap (but not vice versa) providing the overlap dimension and the gap between the leaf and the frame or the meeting edges are not changed otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.39 Jointing/assembly technique (leaf edges, stiffening elements etc.) for leaf or frame — See Figure A.32	Alternative (welding/riveting/screwing)	Possible to interchange only between welding, riveting and screwing, providing that the centre distances are not exceeded, fixings are made from the same materials and cross section dimension of the alternative welds/rivets/screws is not smaller otherwise not possible without an additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.40 Dimension of intumescent seals (leaf or frame fitted) — See Figure A.33a	Increase	Not possible without an additional test	Additional test single or double leaf doorset
A.3.41 Dimension of intumescent seals (leaf or frame fitted) — See Figure A.33b	Decrease	Not possible without an additional test	Additional test single or double leaf doorset for all edges but the meeting edge. For the meeting edge a test from both sides (opening into and opening away from the furnace) is required
A.3.42 Type of intumescent seals (leaf or frame fitted)	Change of manufacturer	Possible but only for identical composition otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.43 Type of intumescent seals (leaf or frame fitted)	Alternative material	Not possible without an additional test	Additional test single or double leaf doorset
A.3.44 Dimension of non-intumescent seals (draught/smoke/acoustic etc.) (Reaction to fire class A1); e.g. ceramic products (leaf or frame fitted) — See Figure A.34a	Increase	Possible providing the gap between door leaf and door frame is not increased otherwise not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset
A.3.45 Dimension of non-intumescent seals (draught/smoke/acoustic etc.) (Reaction to fire class A1); e.g. ceramic products (leaf or frame fitted) — See Figure A.34b	Decrease	Not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.46 Dimension of non-intumescent seals (draught/smoke/acoustic etc.) (<Reaction to fire class A1) - leaf or frame fitted — See Figure A.35a	Increase	Possible by up to 30 % in any cross sectional dimension and by up to 20 % mass providing the same material and the same manufacturer and providing the gap between door leaf and frame is not increased otherwise not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset
A.3.47 Dimension of non-intumescent seals (draught/smoke/acoustic etc.) (<Reaction to fire class A1) - leaf or frame fitted — See Figure A.35b	Decrease	Possible by up to 30 % in any cross sectional dimension providing the same material and the same manufacturer otherwise not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset
A.3.48 Type of non-intumescent seals (draught/smoke/acoustic etc.) (leaf or frame fitted)	Change of manufacturer	Possible for Reaction to fire class A1 material or for identical chemical composition where known otherwise not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset
A.3.49 Type of non-intumescent seals (draught/smoke/acoustic etc.) (leaf or frame fitted)	Alternative material (changing to an equal or higher Reaction to fire class).	Possible	—
A.3.50 Type of non-intumescent seals (draught/smoke/acoustic etc.) (leaf or frame fitted)	Alternative material (changing to a lower Reaction to fire class)	Not possible without an additional test	Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.3.51 Internally mounted reinforcement for face fixed components	Add	Possible for a flat steel sheet located between the skin of the door leaf and the core material, with a maximum thickness of 1,5 mm and maximum area of 0,05 m ² or limited to the area covered by the face fixed component, providing the core accommodates the thickness of the reinforcement either by compression or by reducing the thickness of a rigid core in the area of the reinforcement otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.52 Internally mounted reinforcement for face fixed components	Remove	Possible for a flat steel sheet located between the skin of the door leaf and the core material up to a maximum area of 0,05 m ² or the area covered by the face fixed component, providing remaining gaps are filled with core material otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.53 Internally mounted reinforcement for face fixed components — See Figure A.85	Change location	Possible for lower location than tested otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.54 Dimension of internally mounted reinforcement for face fixed components	Increase	Not possible without an additional test	Additional test single or double leaf doorset
A.3.55 Dimension of internally mounted reinforcement for face fixed components	Increase/Decrease	Possible to interpolate between the biggest and the smallest tested reinforcement otherwise not possible without an additional test	Additional test single or double leaf doorset
A.4 Decorative and/or protective finishes			

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.4.1 Paints without contribution to fire resistance (on leaf or frame)	Addition	Possible in line with direct application beyond the field of direct application rules not possible without an additional test	Additional test single or double leaf doorset
A.4.2 Paints without contribution to fire resistance (on leaf or frame)	Interchange	Possible	–
A.4.3 Thickness of paints with positive contribution to fire resistance (on leaf or frame)	Increase	Possible up to a maximum of 25 % in mass per m ² otherwise not possible without an additional test	Additional test single or double leaf doorset
A.4.4 Thickness of paints with positive contribution to fire resistance (on leaf or frame)	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.4.5 Paints with positive contribution to fire resistance (on leaf or frame)	change of manufacturer	Possible but only for identical composition otherwise not possible without an additional test	Additional test single or double leaf doorset
A.4.6 Type of paints with positive contribution to fire resistance (on leaf or frame)	Alternative material	Not possible without an additional test	Additional test single or double leaf doorset
A.4.7 Decorative laminates and timber veneers on the face (on leaf or frame) — See Figure A.36	Add	Possible in line with direct application otherwise not possible without additional test	Additional test double for single and double leaf doorsets or single for single leaf doorsets

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.4.8 Decorative laminates and timber veneers on the face (on leaf or frame) — See Figure A.37	Remove	E Possible EI, EW Not possible without an additional test	Additional test single or double leaf doorset
A.4.9 Decorative laminates and timber veneers on the edges (on leaf or frame) — See Figure A.38	Add	Not possible without an additional test	Additional test single or double leaf doorset
A.4.10 Decorative laminates and timber veneers on meeting edges	Add	Not possible without an additional test	Additional test double leaf doorset
A.4.11 Decorative laminates and timber veneers on the edges (on leaf or frame) — See Figure A.39	Remove	Possible providing the gap dimension is retained between door leaf and frame otherwise not possible without additional test	Additional test single or double leaf doorset
A.4.12 Types and thickness of decorative laminates and timber veneers on the face (on leaf or frame)	Change material content, increase, decrease	Possible in line with direct application. Beyond the field of direct application rules not possible without an additional test	Additional test single or double leaf doorset
A.4.13 Types and thickness of decorative laminates and timber veneers on the edges (leaf to frame)	Change material content, increase, decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.4.14 Types and thickness of decorative laminates and timber veneers on the meeting edges	Change material content, increase, decrease	Not possible without an additional test	Additional test double leaf doorset
A.4.15 Types of decorative laminates and timber veneers on the face/edges (on leaf or frame)	Colour, pattern	Possible in line with direct application otherwise not possible without additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
A.4.16 Mouldings/profiles — See Figure A.41	Add	EI Possible only for mouldings/profiles which will not change the structural rigidity of the leaf and providing no breakthrough to opposite face. Additionally, for E, EW The mouldings/profiles shall be made from inorganic material (Reaction to fire class A1 or A2) otherwise not possible without an additional test	Additional test single or double leaf doorset
A.4.17 Mouldings/profiles — See Figure A.41	Remove	E Possible providing the removal will not change the structural rigidity of the leaf EI, EW Not possible without an additional test	Additional test single or double leaf doorset

Table A.2 — Construction parameter variations — Section B — Door frame

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
B Door frame			
B.1 General			
For intumescent/draught/smoke seals refer to subclause A.1			
B.1.1.1	Frame member to bottom of door frame	Add	Possible
B.1.1.2	Threshold/sill	Add	Possible providing the profiles are made of steel or aluminium or material of the Reaction to fire class A1 and the gap between the bottom of the door leaf and the threshold/sill remains the same or is less than the originally tested gap otherwise not possible without an additional test
B.1.2	Threshold/sill/frame member to bottom of door frame	Remove	Possible only for doorsets on floor level providing the gap between the bottom of the door leaf and the floor level is the same or is less than the originally tested gap between the bottom of the door leaf and the threshold/sill/frame member otherwise not possible without additional test
B.1.3	Height of hatch door frame above floor— See Figure A.42	Alternative	Possible to position in all locations providing tested to simulate a finished floor level 1,5 m below the doorset i.e. with 8,5 Pa at the base of the doorset otherwise not possible without additional test
B.2 Materials and constructions			

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
B.2.1 Overall dimensions and shape— See Figure A.43	Increase	Possible providing that the cross section detail at the overlap/rebate position (shown in dashed in Figure A.43) is retained or the overlap dimension is increased and providing the width of the faces is limited up to 150 mm otherwise not possible without an additional test	Additional test single or double leaf doorset
B.2.2 Overall dimensions and shape — See Figure A.44	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
B.2.3 Infill material cross section dimensions	Increase	Possible	–
B.2.4 Infill material cross section dimensions	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
B.2.5 Type of infill material	Change of manufacturer of material with identical composition and properties	Possible	–
B.2.6 Type of infill material – see Table B.2.6	Alternative material	Possible providing the infill material is Reaction to fire class A1 or A2-s1, d0 and is in accordance with the Table B.2.6 otherwise not possible without an additional test	Additional test single or double leaf doorset
B.2.7 Type of metal	Mild to stainless	Possible providing that the material thickness shall not be increased but may be decreased up to a maximum of 20 % otherwise not possible without additional test	Additional test single or double leaf doorset
B.2.8 Type of metal	Stainless to mild	Possible providing that the material thickness shall not be decreased but may be increased up to a maximum of 25 % otherwise not possible without additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
B.2.9 Thickness of metal — See Figure A.45a	Increase	E Possible EI, EW possible in line with direct application or possible to a maximum of 50 % providing original test satisfied B overrun, above 50 % needs an additional test using a specimen with maximum required thickness otherwise not possible without additional test	Additional test single or double leaf doorset
B.2.10 Thickness of metal — See Figure A.45b	Decrease	Not possible without an additional test	Additional test single or double leaf doorset

Table A.3 — Construction parameter variations — Section C — Items of building hardware

Variation	Specific Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
C Hardware This document references EN 1634-2 where appropriate as the means to extend the parameters of building hardware. In general, this document provides additional guidance over and above that contained in EN 1634-2. Building hardware shall be suitable for use on fire doorsets and the suitability shall be demonstrated by a successful full scale fire test to EN 1634-1 or a small scale fire test to EN 1634-2. The test specimen shall be representative of the intended doorsets' construction and for the required classification period. Representative in this context means as described in EN 15269-1. The basis of reading the following hardware rules is always: What is tested to what extension is requested? (e.g. face mounted door closer tested - want to go to concealed - so you have to look for a rule under face mounted door closer). In section C below, clause numbers in brackets represent the number of rule in the previous version of EN 15269-2. These are added for information only.			
C.1 Latches / locks / locking systems for single and double leaf doorsets (mechanical, electrical or mechatronic)			
C.1.1 Add	C.1.1.1 Add (original doorset tested without latches/locks)	Not possible without an additional test (see A.1.24)	For single leaf doors additional full scale test single or double leaf doorset. For double leaf doors additional full scale test double leaf doorset
	C.1.1.2 Increase number of latches/locks - See Figure A.46 (C.1.2)	Possible providing the component has been successfully tested in a full scale or small scale test according to EN 1634-2 and the cross-section dimension of the component is smaller or equal than the original one otherwise not possible without additional test	Additional full scale test single or double leaf doorset or small scale test according to EN 1634-2
C.1.2 Remove	C.1.2.1 Remove	E Possible providing originally tested with latch bolt (s) withdrawn EI, EW Possible providing originally tested with latch bolt (s) withdrawn and for internally mounted/mortised locks the remaining recess shall be filled with core material otherwise not possible without an additional test	For single leaf doors additional full scale test single or double leaf doorset. For double leaf doors additional full scale test double leaf doorset

Variation	Specific Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
	C.1.2.2 Decrease number of latches/locks - See Figure A.47 (C.1.3)	Possible if originally tested with latch bolt (s) withdrawn otherwise not possible without an additional test	For single leaf doors additional full scale test single or double leaf doorset. For double leaf doors additional full scale test double leaf doorset
C.1.3 Alternative	C.1.3.1 Alternative latch/lock of the same type (internally mounted/mortised or surface mounted) (C.1.1)	Possible providing that the alternative latch/lock is of the same type, complies with the relevant product standard, is suitable for use on the original doorset and has passed a full scale fire test to EN 1634-1 or a small scale fire test to EN 1634-2. The latch bolt shall have an equal or greater engagement. For internally mounted/mortised locks each of the linear dimensions of the lock shall be no larger than tested successfully in the original doorset, unless the lock was tested within a hollow lock enclosure, to ensure that the amount of material removed from the door leaf shall be as tested or less otherwise not possible without an additional test	In case of equal or greater latch bolt engagement: for single and double leaf doors additional full scale test single or double leaf doorset (opening into the furnace or opening away from the furnace) or small scale test according to EN 1634-2. Smaller latch bolt engagement: for single leaf doors additional full scale test single leaf doorset (opening inwards) and for double leaf doors double leaf doorset (opening into the furnace or opening away from the furnace)
	C.1.3.2 Alternative manufacturer (C.1.8)	Possible	-
	C.1.3.3 Alternative material (C.1.9)	Possible to interchange between mild steel and stainless steel or possible providing the component has been tested in a full scale or small scale test otherwise not possible without an additional test	Additional full scale test single or double leaf doorset or small scale test according to EN 1634-2

Variation	Specific Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
	C.1.3.4.1 Alternative type: Change mortise latch/lock for rim latch/lock - See Figure A.50a (C.1.10 + C.1.14)	Not possible without an additional test	In case of low or medium distortion from the basic test: for single leaf doors additional full scale test single or double, orientation in line with the worst result with regard to deflection from the basic test, for double leaf doors additional full scale test double, orientation in line with the worst result with regard to deflection from the basic test In case of high distortion from the basic test: for single leaf doors additional full scale test single or double (opening into the furnace and opening away from the furnace), for double leaf doors additional full scale test double (opening into the furnace and opening away from the furnace)
	C.1.3.4.2 Alternative type: Change rim latch/lock for mortise latch/lock - See Figure A.50b (C.1.11 + C.1.15)	Not possible, basic test according to 4.1.1 required	-

Variation	Specific Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
	C.1.3.5.1 Alternative function: Change single latch/lock to multipoint latch/lock (C.1.4)	E, EW Possible for internal or surface mounted systems providing the central lock is the same as original or providing the complete system has been successfully tested in a full scale test EI Possible for surface mounted systems providing the complete system has been successfully tested in a full scale test otherwise not possible without an additional test Not possible for internal systems without an additional test	For single leaf doors additional full scale test single or double leaf doorset (opening into the furnace or opening away from the furnace) For double leaf doors additional full scale test double leaf doorset (opening away from the furnace)
	C.1.3.5.2 Alternative function: Change multipoint latch/lock to single latch/lock (C.1.5)	Possible providing the locking system has been tested in a full scale test with only the central latch in an engaged position and all others in disengaged condition and any connecting rods are not fixed to the door leaf otherwise not possible without an additional test	For single leaf doors additional full scale test single or double leaf doorset (opening into the furnace) For double leaf doors additional full scale test double leaf doorset (opening into the furnace)
C.1.4	Location	C.1.4.1 Vertical position of single latch/lock - See Figure A.48 (C.1.6)	For single leaf doors additional full scale test single or double leaf doorset. For double leaf doors additional full scale test double leaf doorset
	C.1.4.2 Vertical position of multiple latches/locks (with or without connecting rods) - See Figure A.49 (C.1.7)	Possible providing the latches/locks have been tested in a full scale test with only the central latch in an engaged position and all others in disengaged condition Where the latches/locks have been tested in an engaged condition the distance from top of door leaf to top latch and bottom of door leaf to bottom latch cannot be changed. Possible variation of intermediate lock/latch only, plus or minus 200 mm otherwise not possible without an additional test	For single leaf doors additional full scale test single or double leaf doorset. For double leaf doors additional full scale test double leaf doorset
C.2	Strike plates (mechanical, electrical or mechatronic)		

Variation	Specific Variation	Possibility of extension	Additional Evidence Required
(1)	(2)	(3)	(4)
C.2.1 Add	C.2.1.1 Add (original doorset tested without strike plates)	Possible for mechanical strike plates made of metal with a melting point higher than 800° C and providing any intumescent seal shall remain as tested otherwise not possible without an additional test	Additional full scale test single or double leaf doorset or small scale test according to EN 1634-2
	C.2.1.2 Increase number of strike plates - See Figure A.46 (C.1.2)	Possible	–
C.2.2 Remove	C.2.2.1 Remove	Possible if the corresponding lock also is removed or possible providing there is test evidence just with a cut out in the frame or leaf otherwise not possible without an additional test	Additional full scale test single or double leaf doorset or small scale test according to EN 1634-2
	C.2.2.2 Decrease number of strike plates - See Figure A.47 (C.1.3)	Possible to decrease the number according to the number of latches/locks otherwise not possible without an additional test	Additional full scale test single or double leaf doorset or small scale test according to EN 1634-2
C.2.3 Alternative	C.2.3.1 Alternative strike plate of the same type (mechanical/electrical/mechantronic)	Possible for mechanical strike plates. Possible for electrical/mechantronic strike plates providing the strike plate has been tested in a full scale test or small scale test according to EN 1634-2 otherwise not possible without an additional test	Additional full scale test single or double leaf doorset or small scale test according to EN 1634-2
	C.2.3.2 Alternative manufacturer (mechanical/electrical/mechantronic) (C.1.8)	Possible for mechanical strike plates. Possible for electrical/mechantronic strike plates providing the strike plate has been tested in a full scale test or small scale test according to EN 1634-2 otherwise not possible without an additional test	Additional full scale test single or double leaf doorset or small scale test according to EN 1634-2