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Interested committees:

Title: Draft BS EN 15269-5 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 5: Fire resistance of hinged and pivoted metal framed glazed doorsets and openable windows.

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- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

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 5: Fire resistance of hinged and pivoted
metal framed glazed doorsets and openable 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 5: Résistance
au feu des blocs-

Erweiterte Anwendung von Prüfergebnissen zur
Feuerwiderstandsfähigkeit und/oder Rauchdichtigkeit von
Türen, Toren und zu öffnenden Fenstern einschließlich
ihrer Baubeschläge - Teil 5: Feuerwiderstandsfähigkeit
von verglasten Drehflügeltüren und zu öffnenden Fenstern
mit Metall(rohr)rahmen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 127.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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 (prEN 15269-5:2024) has been prepared by Technical Committee CEN/TC 127 “Fire safety in buildings”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 15269-5:2014+A1:2016.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

This document is part of the EN 15269 series, *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*.

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

1 Scope

This document covers hinged and pivoted steel (any kind) and aluminium based framed, glazed doorsets or openable windows. Throughout this document, the term “doorset” will be used to cover both doorsets and door assemblies. 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 selected from those identified in Clause 4, the extended application can cover all or some of the following examples:

- integrity (E), integrity & radiation (EW) or integrity & insulation (EI₁ or EI₂) classification,
- glazed elements including vision panels and framed glazed doorsets,
- air transfer grilles (louvres and/or vents),
- side, transom or over panels,
- items of building hardware,
- decorative and protective finishes,
- intumescent seals and non-intumescent (smoke, draught or acoustic) seals,
- alternative supporting construction(s).

This document does not cover horizontal doorsets.

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 572-9, *Glass in building - Basic soda lime silicate glass products - Part 9: Evaluation of conformity/Product standard*

EN 1155, *Building hardware - Electrical powered hold-open devices for swing doors - 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 1748-2-2, *Glass in building - Special basic products - Glass ceramics - Part 2-2: Evaluation of conformity/Product standard*

EN 12365-2, *Building hardware - Gasket and weatherstripping for doors, windows, shutters and curtain walling - Part 2: Linear compression force test methods*

EN 13024-2, *Glass in building - Thermally toughened borosilicate safety glass - Part 2: Evaluation of conformity/Product standard*

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

EN 15254-4, *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 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 ISO 13943, EN 1634-1, EN 1634-2 and EN 15269-1 and the following apply.

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

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

3.1

full scale test

test of a full scale doorset

Note 1 to entry: The method of reference for determining the fire resistance of the products in the scope of this standard shall be EN 1634-1.

3.2

small scale test

test on elements of building hardware

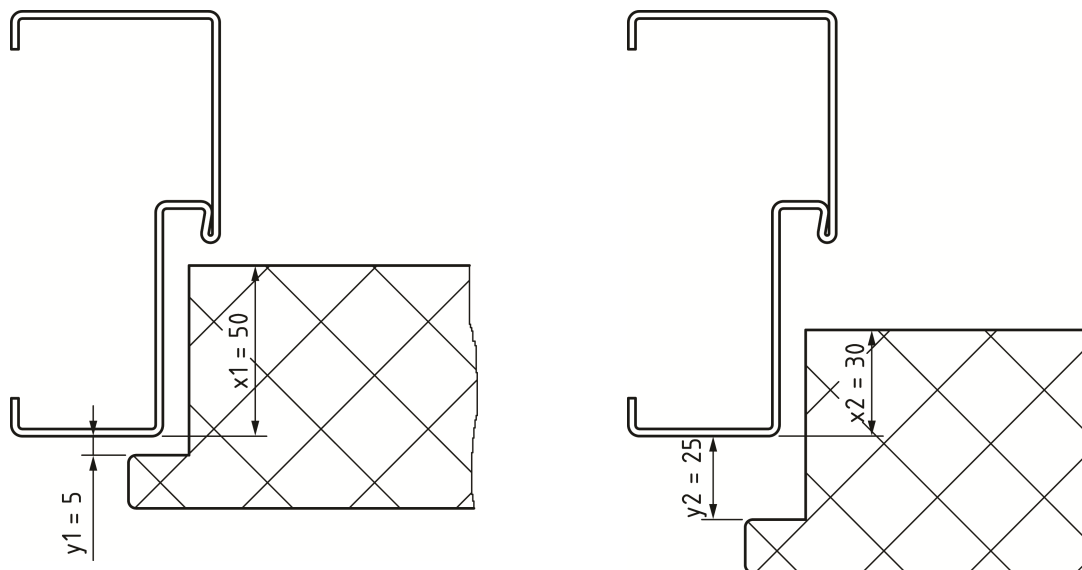
Note 1 to entry: The method of reference for characterizing the influence on fire performance of items of building hardware for incorporation into the products in the scope of this standard shall be EN 1634-2. EN 1634-2 also defines the decision process that permits its use.

3.3

effective rebate depth

dimension of the door leaf thickness of overlapping adjacent edges of door leaf relative to the door frame, transom or side panel or flush overpanel

Note 1 to entry: At the meeting edges and for rebated leaves this dimension will be the rebate where the intumescent seal is fitted or, if no seal is fitted, the depth of the largest rebate (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

Figure 1 — Effective rebate depth

3.4

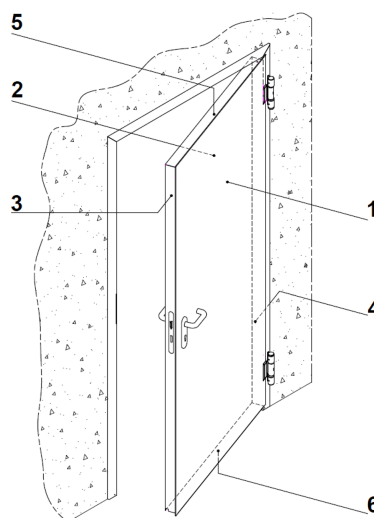
opening outwards

means opening the door leaf away from the fireside

3.5

faces and sides of a hinged door leaf

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



Key

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

Figure 2 — Faces and sides of a hinged door leaf

3.6

representative

similar

door leaf design having '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'.

4 Determination of the field of extended application

4.1 General

4.1.1 Before there can be any consideration for extended application, a representative doorset shall have been tested in accordance with EN 1634-1 to achieve a test result which could generate a classification in accordance with EN 13501-2 at least equal to the 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 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 resistance to fire test unless specifically identified in the relevant Construction Parameter Variation tables.

4.1.3 If, by following the ensuing procedure, any part of the classification cannot be achieved by extended application rules that part of classification shall be omitted from the subsequent extended application report and classification report.

4.2 How to use extended application rules in Annex A

4.2.1 Identify the variations from the original resistance to fire 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 Annex A.

4.2.3 Establish from the contents of column (3) 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 this can be recorded in the extended application report together with any appropriate restrictions and the stated rules from column (3) of Annex A.

4.2.5 Where the variations required can only be achieved from additional testing, the additional test should be made on a representative specimen type, i.e. a doorset of the same or more onerous configuration. Alternatively, column (4) 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 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 can 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 intends to manufacture a range of doorsets incorporating single doorsets and also double doors with or without side, transom or flush over panels, with or without glazing, louvres (ventilation/air transfer grilles), with alternative elements of building hardware, etc., it is recommended that careful consideration is given to the complete range of doorset designs and options. This helps to minimize 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 resistance test or a series of tests and then establish which of the original desired parameter variations have not been covered by the resistance to fire tests, including direct application possibilities.

4.3.5 Identify these 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 Table A.1.

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 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 resistance to fire tests or in the weakest option, as defined in column (4) of Table A.1, double leaf doorset configurations.

4.3.9 Select the required outstanding parameter variations from column (1) and column (2) of Table A.1 and observe from column (4) of Table A.1 which are the most appropriate weakest specimen 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 resistance to fire test or tests may be repeated with the additional product variations incorporated.

4.4 Analysis of resistance to fire 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 failure, as well as details of any significant distortion.

4.4.2 Where a series of resistance to fire tests have been conducted, the extended field of application shall be based on the lowest performance achieved from the complete series of resistance to fire tests unless premature failure has been attributed to one or more specific construction parameter variation.

4.4.3 Where it has been possible to clearly 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 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 can be disregarded, and the failure time and associated Category revised accordingly.

5 Extended application report

Prepare an extended application report in accordance with the requirements of Clause 6 of EN 15269-1:2019, 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.

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.

Annex A (normative)

Construction parameter variations

Table A.1 is designed to be used in the field of fire resistance testing of hinged and pivoted metal framed glazed doorsets and openable windows.

The table shall only be used to evaluate a field of extended application when at least one positive fire resistance test to EN 1634-1 has resulted in a classification according to EN 13501-2. Only results from tests in accordance with European standards can 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 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 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.

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

Where additional tests are deemed to be necessary, the type of specimen approved for incorporation of the changed parameter is defined in column (4). Where it is possible to use information from 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. single action doorsets to double action doorsets.

Where an additional test is required in column (4) the test is a full scale test with the specimen opening outwards (away from the furnace) unless it is otherwise specified.

In order to maximize the possible field of extended application from a minimum number of tests the parameter changes have been spread over a series of test specimens. The recommended tests for each parameter depends on the classification required and the preferred direction of testing indicated in column (4).

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

All the rules in Table A.1 with exception are applicable to doorsets and openable windows. However, in the text only the word “doorset” is used. The word “doorset” can be replaced by “openable windows” in every rule.

All the rules in Table A.1 influencing glass dimensions shall respect the rules for changing them, as mentioned in Table A.1, part F.

Table A.1 — Construction parameter variations

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). For double leaf doorsets, both leaves shall be of the same basic construction.			
A.1 General			
A.1.1 Number of leaves — See Figure A.1	Single leaf from double leaf test	Not possible without an additional test	Additional test single leaf doorset with glazing bead in fire side
A.1.2 Number of leaves — See Figure A.1	Double leaf from single leaf test	Not possible without an additional test	Additional test (s) double leaf doorset open outwards and inwards for doorsets with insulated profiles with glazing bead in fire side Open outwards for doorsets with un-insulated profiles with glazing bead in fire side
A.1.3 Intumescent seals between frame and door leaf / leaves- See Figure A.2a	Location towards the frame rebate	Not possible without an additional test	Additional test single leaf or double leaf doorset (open outwards)
A.1.4 Intumescent seals between frame and door leaf / leaves – See Figure A.2b	Location away from the frame rebate	Not possible without an additional test	Additional test single leaf or double leaf doorset (open outwards)
A.1.5 Intumescent seals between frame and door leaf / leaves	Add	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.1.6 Intumescent seals between frame and door leaf / leaves	Remove	Not possible without an additional test	Additional test single or double leaf doorset
A.1.7 Intumescent seals between meeting edges of the door leaves - See Figure A.3 a)	Location	Not possible without additional test (s)	Additional test (s) double leaf doorset open outwards for E and EW doors For EI aluminium doors: test both directions For EI-steel doors: one test, with fire on opposite side of the operated direction. See Figure A.3 b)
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.4	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 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.1.9 Non-intumescent seals between meeting edges of the door leaves (draught / smoke / acoustic etc.) - (Reaction to fire class A1)	Location	No movement possible without an additional test	Additional test double leaf doorset
A.1.10 Non-intumescent seals between door leaves and / or frames (draught / smoke / acoustic etc.) - < Reaction to fire class A1 (fitted in leaf or frame) - See Figure A.4 a)	Location	No movement possible without an additional test	Additional test (s) double leaf doorset open outwards for E and W doors For EI aluminium doors: test both directions For EI-steel doors: one test, with fire on opposite side of the operated direction See Figure A.4 b)
A.1.11 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.5 a)	Add	Possible for doorsets 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.6	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.1.13 Non-intumescent seals between door leaves and / or frames (draught / smoke / acoustic etc.) – < Reaction to fire class A1 (fitted in leaf or frame) - See Figure A.5 a)	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. Fireside opposite the position where the seal is added. See Figure A.5 b)
A.1.14 Non-intumescent seals between door leaves and / or frames (draught / smoke / acoustic etc. – < Reaction to fire class A1 (fitted in leaf or frame) – See Figure A.6	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.1.15 Ventilation grilles (louvres) in door leaf tested without ventilation grille - See Figure A.7 a)	Add	Not possible without an additional test	Additional test single or double leaf doorset
A.1.16 Ventilation grilles (louvres) in door leaf - See Figure A.7 b)	Remove	Possible providing the cut out is less than 50 % of the infill otherwise not possible without an additional test	Additional test single or double leaf doorset
A.1.17 Ventilation grilles (louvres) in the infill of the door leaf tested with ventilation grille	Location in vertical direction	Possible for lower location than tested otherwise not possible without an additional test	Additional test single or double leaf doorset
A.1.18 Ventilation grilles (louvres) in door leaf tested with ventilation grille - See Figure A.8	Location in horizontal direction	Possible providing the distance between the edge of the louvre and the perimeter of the infill is not decreased and providing any internal stiffening elements are not affected 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.1.19 Ventilation grilles (louvres) in the profile of the door leaf tested with ventilation grille	Location in horizontal and/or vertical direction	Not possible without an additional test	Additional test single or double leaf doorset
A.1.20 Ventilation grilles (louvres) in door leaf tested with ventilation grille - See Figure A.9 a)	Smaller size	Possible for one or more louvres smaller than that tested specimen providing the location is inside the perimeter of the tested louver and minimum spacing between cut outs is not less than 100 mm otherwise not possible without an additional test	Additional test single or double leaf doorset
A.1.21 Ventilation grilles (louvres) in door leaf tested with ventilation grille- See Figure A.9 b)	Larger size	Possible for doorsets have achieved category B, size increase of ventilation grilles in the infill of the door leaf up to 20 % in height and width and increase up to 21 % In area otherwise not possible without an additional test	Additional test single or double leaf doorset
A.1.22 Rebate (door leaves to frames) - See Figure A.10	Add	Insulated profiles: Not possible without an additional test unless the original test had additional thermocouples positioned on the profile maximum 100 mm and/or 25 mm from the edge of the notional rebate (i.e. 100-x) where x means the width of the added rebate and dimension y shall not be reduced, otherwise not possible without an additional test Un-insulated profiles: Not possible without an additional test	Additional test single doorset for single doors, double doorset for double doors

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.1.22 Rebate (meeting edges) - See Figure A.11	Add (one rebate)	Insulated profiles: Not possible without an additional test unless the original test had additional thermocouples positioned on the profile maximum 100 mm and/or 25 mm from the edge of the notional rebate (i.e. 100-x) where x means the width of the added rebate and dimension y shall not be reduced. Otherwise not possible without an additional test Un-insulated profiles: Not possible without an additional test	Additional test single leaf doorset for single doorsets, double leaf doorset for double leaf doorsets (added rebate away from the fire)
A.1.24 Rebate (door leaves to frames and meeting edges) - See Figure A.12	Remove	Not possible without an additional test	Additional test single or double leaf doorset (open inwards)

Construction parameter	Variation	Possibility of extension				Additional evidence required
(1)	(2)	(3)				(4)
A.1.25 Latched condition for single and double leaf doorsets	Change in latching condition	Possible in line with the following relationship:				Additional test to include the required latching condition
			tested without a lock	tested with a latch/lock but unlatched	tested with a latch/lock latched	
		extension to: without a lock/latch	—	possible	not possible	
		extension to: lock with latch/lock but unlocked/unlatched	not possible for EI doors. possible for E or EW doorsets if latch/lock is all metal construction	—	not possible	
		extension to: with a lock/latch, latched	not possible for EI doors. possible for E or EW doorsets if latch/lock is all metal construction	possible	—	

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.1.26 Latching / locking	Remove from door leaf tested with latching / locking	Not possible without an additional test	For single leaf doorsets additional test single leaf doorset (open inwards for EI doors, open outwards for E or W doors) for double leaf doorsets additional test double leaf doorset (open inwards for EI doors, open outwards for E or W doors)
A.2 Size variations			
A.2.1 Size (area, width, height) all distortions	Decrease	E and EW unlimited reduction is Possible EI: possible to decrease to a minimum dimension of the glass as it is mentioned in rule F.1.4 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 for doorsets have achieved category B up to 15 % or possible for doorsets which have achieved category B and medium and low distortion up to 20 % 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 additional for EW a thermal emission calculation in accordance with EN 15254-4 within the 15 KW limit (Rule F.1.3 applies) 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 for doorsets which have achieved category B up to 15 % or Possible for doorsets which have achieved category B and medium and low distortion up to 20 % Providing overlap of door leaf to frame jamb is not reduced and additional (for EW) thermal emission calculation in accordance with EN 15254-4 within the 15 KW limit Rule F.1.3 applies 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 (open outwards)
A.2.4 Area - all distortions	Increase	Possible for doorsets which have achieved category B up to 20 % or Possible for doorsets which have achieved category B and medium and low distortion up to 21 % Providing overlap of door leaf to frame header is not reduced and distance between top hinge and top of the door leaf is equal to or less than tested) and additional (for EW) a thermal emission calculation in accordance with EN 15254-4 within the 15 KW limit Rule F.1.3 applies 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.3. Materials and constructions			
A.3.1 Density of infill of profile or core-material in the panel (organic or Reaction to fire class A1) – all distortions	Increase	Possible by a maximum of 15 % (nominal value) of each core material of the door leaf above 15 % not possible without an additional test	Additional test single or double leaf doorset
A.3.2 Density of infill of profile of core material (organic or Reaction to fire class A1) – all distortions	Decrease	E Possible to reduce with 50 % EI, EW Not possible without an additional test	Additional test single or double leaf doorset
A.3.3 Type of infill of profile 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.3.4 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.3.5 Amount of adhesive (excluded corner connection) / m ² – organic based (<Reaction to fire class A1)	Increase	Not possible without an additional test	Additional test single or double leaf doorset
A.3.6 Amount of adhesive (excluded corner connection) / m ² – organic based (<Reaction to fire class A1)	Decrease	Possible down to 50 % 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.3.7 Amount of adhesive (excluded corner connection) / m ² – inorganic based (Reaction to fire class A1)	Increase	Possible	
A.3.8 amount of adhesive (excluded corner connection) / m ² – inorganic based (Reaction to fire class A1)	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.3.9 Type of adhesive	Change of manufacturer for identical composition	Possible for identical chemical composition otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.10 Type of adhesive	Alternative composition	Not possible without an additional test	Additional test single or double leaf doorset
A.3.11 Additional overlapping edge at the bottom of the door leaf - See Figure A.13 a)	Add	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.3.12 Overlapping edge at the bottom of the door leaf - See Figure A.13 b)	Remove	Possible providing the gap between the bottom of the door leaf and the floor remains the same as the original test specimen and in line with direct application otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.13 Dimension of intumescent seals (leaf or frame fitted) - See Figure A.14 a)	Increase	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 Dimension of intumescent seals (leaf or frame fitted) - See Figure A.14 b)	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.3.15 Type of intumescent seals (leaf or frame fitted)	Change of supplier / manufacturer	Possible but only for identical composition otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.16 Type of intumescent seals (leaf or frame fitted)	Alternative material	Not possible without an additional test	Additional test single or double leaf doorset
A.3.17 Dimension of draught / smoke seals (Reaction to fire class A1); e.g. ceramic products (leaf or frame fitted) - See Figure A.15 a)	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
A.3.18 Dimension of draught / smoke seals (Reaction to fire class A1); e.g. ceramic products (leaf or frame fitted) - See Figure A.15 b)	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
A.3.19 Dimension of draught / smoke seals (<Reaction to fire class A1) (leaf or frame fitted) - See Figure A.16 a)	Increase	Not possible without an additional test.	Additional test single or double leaf doorset
A.3.20 Dimension of draught / smoke seals (<Reaction to fire class A1) (leaf or frame fitted) - See Figure A.16 b)	Decrease	Possible 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

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.3.21 Type of draught / smoke seals (leaf or frame fitted)	Change of supplier / manufacturer	Possible for Reaction to fire class A1 material or for identical chemical composition otherwise not possible without an additional test	Additional test single or double leaf doorset
A.3.22 Type of draught / smoke seals (leaf or frame fitted)	Alternative material (changing to higher Reaction to fire class)	Possible	
A.3.23 Type of draught / smoke seals (leaf or frame fitted)	Alternative material (changing to a equal or a lower Reaction to fire class)	Not possible without an additional test	Additional test single or double leaf doorset
A4. Decorative and / or protective finishes			
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

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.4.5 type of paints with positive contribution to fire resistance (on leaf or frame)	change of supplier / 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.17	Add	Possible in line with direct application Otherwise not possible without additional test	Additional test single or double leaf doorset
A.4.8 Decorative laminates and timber veneers on the face (on leaf or frame) - See Figure A.18	Remove	E Possible EI, EW Possible for category B door providing that the thickness of the laminate is less than or equal to 1,5 mm Otherwise 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.19	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.20	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

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
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
A.4.19 Mouldings/profiles - See Figure A.22	Add	E, EI, EW Possible only for mouldings/profiles which will not change the structural rigidity of the leaf and providing no break through to the opposite face E, EW possible only for inorganic material 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.4.20 Mouldings/profiles - See Figure A.22	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
A.5 Profiles in door leaf (see Figure A.23 for explanation of width and depth of the profile)			
A.5.1. Cross section of profile of the door leaf (including transoms and mullions) based on high distortion	Increase depth	not possible without an additional test	additional test can be single or double leaf doorset; with glazing bead in fire side
A.5.2. Cross section of profile of the door leaf (including transoms and mullions) based on medium and low distortion	Increase depth	Possible to increase the depth to a maximum of 25 % by increasing the shells and/or the insulation-connectors providing: - o The overlap rebate depth (See Figure A.24) of the frame-profile is increased with the same percentage - o If the thickness of one of the outer shell is increased, then the other shell is increased with the same percentage - See Figure A.25 - o The insulation-connectors can be increased in thickness with the same percentage according to the following rule: profile can be cut according to cut C, and all cutted materials shall be filled in with more of the same material. See Figure A.25 Otherwise not possible without an additional test	additional test can be single or double leaf doorset with glazing bead in fire side

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.5.3. Cross section of profile of the door leaf	Decrease depth	Not possible without an additional test	additional test can be single for single leaf doorsets or double leaf for double leaf doorsets; with glazing bead in fire side
A.5.4 Type of Infill material	Change of supplier/ manufacture of material with identical composition and properties	Possible	
A.5.5 Type of Infill material	Alternative material	Not possible without an additional test	additional test can be single or double leaf doorset with glazing bead in fire side
A.5.6 Thickness of Infill material - See Figure A.26	Increase	Possible	
A.5.7 Thickness of Infill material - See Figure A.26	Decrease	Not Possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A. 5.8 Infill of the door leaf profile	Add	Not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A. 5.9 Infill of the door leaf profile	Remove	Not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.10 Cross section of profile of the door leaf based on high distortion	Increase width	Not possible without additional test	additional test can be single or double leaf doorset with glazing bead in fire side

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.5.11 Cross section of profile of the door leaf (including transoms and mullions) Based on Medium and Low distortion	Increase width	The dimensions of the profile can only be increased according to the following rule: - o Profile can be cut according cut B, Figure A.27 - o All cutted materials shall be filled in with more of the same material; see Figure A.27 E, EW and EI1: Possible to increase the width of the vertical side profiles, and the horizontal top profile (together or separately) up to 100 % to a maximum of profile-width of 120 mm	additional test can be single or double leaf doorset with glazing bead in fire side
		Possible to increase the width of profile in the bottom of the door leaf, and transoms and mullions up to 300 % until a maximum of 300 mm EI2: Possible to increase the width of the vertical side profiles, and the horizontal top profile (together or separately) up to 100 % to a maximum profile width of 120 mm It is obliged to measure the temperature on the profile; the increase with 100 % is only allowed when the maximum temperature rise is not higher than 180 °C (measured according to EN 1363-1 Possible to increase the width of profile in the bottom of the door leaf, and transoms and mullions up to 300 % to a maximum of 300 mm Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.5.12 Cross section of profile of the door leaf	Decrease width	EI2: Reduction from a width smaller than 115 mm is allowed with a maximum of 40 % to a minimum of 30 mm E and EW doors: a decrease of 40 % down to a minimum of 30 mm is allowed EI with overrun B a decrease of 40 % down to a minimum of 30 mm is allowed Rule F.1.3 applies for E, EW, EI1 and EI2 Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side.
A.5.13 Thickness of the metal wall of the profile (including transoms and mullions)	Increase	An increase of 0,5 mm to a maximum thickness of 2 mm is allowed, Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.14 Thickness of the metal wall of the profile	decrease	Not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.15 Horizontal rails in door leaf	add	Possible if rail is tested in a leaf in the same construction providing the same glass-retention system is used Otherwise not possible without additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.16 Horizontal rails	remove	Possible provided the height of the glass is not bigger then the biggest tested glass-height (glass tested in the highest position in the same construction, rules for extension of glass height is allowed) Otherwise not possible without additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.17 Vertical stile	add	Possible if the stile is tested in a leaf in the same construction providing the same glass-retention system is used Otherwise not possible without additional test	Additional test can be single or double leaf doorset with glazing bead in fire side

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.5.18 Vertical stile	Remove	Possible provided the width of the glass is not bigger then the biggest tested glass-width (glass tested in the same construction, rules for extension of glass is allowed) Otherwise not possible without additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.19 Position of horizontal rail	Moving upwards	Possible providing the height of the glass is not bigger than the biggest tested in the same construction rules for extension of glass height is allowed)	
A.5.20 Position of horizontal rail	Moving downwards	Possible providing the height of the glass is not bigger than the biggest tested in the same construction in the highest position. rules for extension of glass is allowed)	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.21 Position of vertical stile	Moving away from the hinges	Not possible without an additional test	
A.5.22 Position of vertical stile	Moving to the hinge side	Possible providing the width of the glass is not bigger than tested in the same construction	
A.5.23 Horizontal rails	Changing the angle	Changing the angle of rails in any direction is allowed for E, EW and EI doorsets if worst case as shown in Figure A.28 is tested If worst-case (Figure A.28) is not tested, then turning of the rail is only allowed for EI doorsets within the following conditions: 1. Connection with vertical side profile of the door-leaf cannot be within 200 mm of the inner corner of the door leaf $A > 200$ mm. See Figure A.29 2. Resulting height of the glass cannot be higher than tested in the same construction	Additional test can be single or double leaf doorset with glazing bead in fire side
		Otherwise not possible without additional test Rule F.1.15 and F.1.16 apply	

Construction parameter (1)	Variation (2)	Possibility of extension (3)	Additional evidence required (4)
A.5.24 Vertical stiles	Changing the angle	Changing the angle of stiles in any direction is allowed for E, EW and EI doorsets if worst case as shown in Figure A.28 is tested If worst-case (Figure A.28) is not tested, then turning of the stile is allowed for EI doorsets within the following conditions: 1. Connection with horizontal top- or bottom-profile of the door leaf can only be closer to the hinge-side and cannot be within 200 mm of the inner corner; $A > 200$ mm. See Figure A.30 2. Resulting width of the glass cannot be wider than tested in the same construction Otherwise not possible without additional test Rule F 1.15 and F.1.16 apply	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.25 Other changes of rails and stiles	Bended, shaped, etc.	Not possible without additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
A.5.26 Shapes of door-leaf	Other than rectangular	Not possible without additional test	Additional test: single door for single doors; double door for double doors glazing bead in fire side
A.5.27 Type of steel	Mild to stainless	Not possible without an additional test	Additional test: double leaf door for double leaf doors single leaf door for single and double leaf doors

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.5.28 Type of steel	Stainless to mild	Possible for door sets which have achieved category B Otherwise not possible without an additional test	Additional test: double leaf door for double leaf doors single leaf door for single and double leaf doors
A.5.29 Extra profile	Add	Not possible without an additional test	Additional test: can be single or double leaf doorset with the extra profile at the position (top, bottom, side) where the extra profile is wanted
A.5.30 Extra profile	Remove	Not possible without an additional test	Additional test: can be single or double leaf doorset
A.5.31 Extra profile	Increase width	Not possible without an additional test	Additional test: can be single or double leaf doorset
A.5.32 Extra profile	Decrease width	Possible provided that the rule A.5.11 is considered Otherwise not possible without an additional test	Additional test: can be single or double leaf doorset

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 sections A.1.			
B.1.1 Threshold / Sill / Frame member to bottom of door frame	Add	Possible for threshold / sill made of metal or A1 materials or frame member of identical construction like the upper member of the doorframe providing the door leaf is adapted in the same way Otherwise not possible without an additional test	Additional test single or double leaf doorset
B.1.2 Threshold / Sill / Frame member to bottom of door frame	Remove	Possible providing the gap between the bottom of the door leaf and the floor level remains the same as the original test specimen and in line with direct application otherwise not possible without an additional test	Additional test single or double leaf doorset
B.1.3 Distance between frame of hatch, or door, or openable window and floor level - See Figure A.31	Variation	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 For test furnaces in which the pressure can be adjusted: The test specimen can be placed in any position as long as a pressure of 8,5 Pa is applied to the base of the doorset during the test. For test furnaces in which the pressure cannot be adjusted: The test specimen can be positioned at any height as long as the finished floor level in the test is between 1,5 m and 2,5 m below the door and a pressure of at least 8,5 Pa is applied to the base of the doorset during the test. otherwise not possible without an additional test	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 single for single or double leaf doorset for single and double leaf doorset. (open outwards)

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.1.4 Height of door set above floor	Variation	Possible to a higher position of 0,3 m above the notional floor maximum. Variation of more than 0,3 m possible providing the top edge of the door set was tested with a pressure of +20 Pa and providing a fourth frame member of identical construction like the upper member is added at the bottom, otherwise not possible without an additional test	Additional test with suspension system on the fire side with a pressure of +20 Pa at the top edge or tested in the maximum height of door set above floor
B.2. Materials and constructions rules related to open profiles in perimeter frame			
B.2.1 Overall dimensions and shape - See Figure A.32	Increase	Possible providing that the cross section detail at the overlap/rebate position (shown in bold in Figure A.32) is retained or the overlap dimension is increased otherwise not possible without an additional test	Additional test single or double leaf doorset
B.2.2 Overall dimensions and shape - See Figure A.33	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
B 2.3 Cross - section dimensions and shape - See Figure A.34	Open profile to closed profile	E, EW: possible EI1 and EI2: not possible without an additional test	Additional test single or double leaf doorset
B.2.4 Type of infill material	Change of supplier / manufacturer of material with identical composition and properties	Possible	
B.2.5 Type of infill material- See Table A.2	Change to different material	Possible in line with Table A.2 Otherwise not possible without additional testing	Additional test single or double leaf doorset

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.2.6 Thickness of Infill material - See Figure A.26	Increase	Possible	
B.2.7 Thickness of Infill material - See Figure A.26	Decrease	Not Possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
B.2.8 Infill of open profile	Add	Possible referring to table in B.2.4 Otherwise not possible without additional testing	
B.2.9 Infill of open profile	Remove	Not possible without testing	Additional test can be single or double leaf doorset with glazing bead in fire side
B.2.10 Thickness of metal - See Figure A.35	Increase	Possible in line with direct application or Possible to a maximum of 50 % providing original test satisfied B overrun Otherwise not possible without an additional test	Additional test single or double leaf doorset
B.2.11 Thickness of metal	Decrease	Not possible without an additional test	Additional test single or double leaf doorset
B.2.12 Type of metal	Change of basic material (e.g. Alu ↔ Steel)	Not possible	Additional test single or double leaf doorset
B.2.13 Type of steel	Mild to stainless	Possible only for latched door leaves which have achieved category B and providing that the material thickness shall not be increased 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)
B.2.14 Type of steel	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 an additional test	Additional test single or double leaf doorset
B.3. Materials and constructions; rules related to closed profiles in perimeter of doorset (=frame)			
B.3.1 cross - section dimensions and shape	Increase depth and/or width	Possible providing that the cross section detail at the overlap / rebate position (shown in bold in Figure A.24) is retained or the overlap dimension is increased Otherwise not possible without an additional test	Additional test single or double leaf doorset
B.3.2 cross - section dimensions and shape -	Decrease depth and/or width	Not possible without an additional test	Additional test can be single or double leaf doorset
B.3.3 cross - section dimensions and shape - See Figure A.34	Closed profile to open profile	Possible providing the amount of fixings to the wall is not reduced Otherwise not possible without an additional test	Additional test can be single or double leaf doorset
B.3.4 Type of Infill material	Change of supplier/ manufacture of material with identical composition and properties	Possible	
B.3.5 Type of Infill material	Alternative material	Not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.3.6 Thickness of Infill material - See Figure A.26	Increase	Possible	
B.3.7 Thickness of Infill material - See Figure A.26	Decrease	Not Possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
B.3.8 Infill of closed profile	Add	Possible referring to table in B.2.4 Otherwise not possible without additional testing	
B.3.9 Infill of closed profile	Remove	Not possible without testing	Additional test can be single or double leaf doorset with glazing bead in fire side
B.3.10 Extra profile – See Figure A.36	Add	Not possible without an additional test	Additional test can be single or double leaf doorset with the extra profile at the side where the extra profile is wanted.
B.3.11 Extra profile	Remove	E EW Possible EI: possible if overrun B is achieved and the temperature rise is measured on the door frame profile during the test according to EN 1634-1 rules for thermocouples' positioning Otherwise not possible without additional test	Additional test can be single or double leaf doorset

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.3.12 Extra profile	Increase width	Possible to increase up to 100 % up to an increase of 50 mm and EI: Possible providing the profile satisfies the criteria for Maximum temperature rise for perimeter frame Otherwise not possible without additional test	Additional test can be single or double leaf doorset
B.3.13 Extra profile – See Figure A.37	Decrease width	E EW Possible EI: possible if overrun B is achieved and the temperature rise is measured on the door frame profile during the test according to EN 1634-1 rules for thermocouples' positioning Otherwise not possible without additional test	Additional test can be single or double leaf doorset
B.3.14 Type of steel	Mild to stainless	Possible only for latched door leaves which have achieved category B and providing that the material thickness shall not be increased otherwise not possible without an additional test	Additional test single or double leaf doorset
B.3.15 Type of steel	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 an additional test	Additional test single or double leaf doorset

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.4 Vertical and horizontal mullions in side- and top-lights, excluding perimeter-profiles (perimeter profiles are addressed in the rules B.2.1. until B.3.9). See Figure A.38 for explanation.			
B.4.1. Cross section of profile	Increase depth	Possible to increase the depth to a maximum of 25 % by increasing the shells and/or the isolation-connectors providing: o If the thickness of one of the outer shell is increased, then the other shell is increased with the same percentage - See Figure A.25	Additional test can be single leaf doorset with glazing bead in fire side, with sidelight at locking-side
		- o The isolation-connectors can be increased in thickness with the same percentage according to the following rule: profile can be cut according to cut C, and all cutted materials shall be filled in with more of the same material - See Figure A.25 - o For side and top-profiles associated with the door leave, (profile C in Figure A.38) for low and medium distortion possible if the overlap/rebate position (See Figure A.24 a and b) of the door leaf-profile is increased with the same percentage Otherwise not possible without an additional test	
B.4.2 Cross section of profile	Decrease depth	Not possible without an additional test	Additional test can be single leaf doorset with glazing bead in fire side, with sidelight at locking-side

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.4.3 Type of Infill material	Change of supplier/ manufacture of material with identical composition and properties	Possible	
B.4.4 Type of Infill material	Alternative material	Not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
B.4.4 Thickness of Infill material - See Figure A.26	Increase	Possible referring to table in B.2.4 Otherwise not possible without additional testing	Additional test can be single or double leaf doorset with glazing bead in fire side
B.4.5 Thickness of Infill material - See Figure A.26	Decrease	Not Possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
B.4.6 Infill of vertical and horizontal mullions	Add	Possible referring to table in B.2.4 Otherwise not possible without additional testing	Additional test can be single or double leaf doorset with glazing bead in fire side
B.4.7 Infill of vertical and horizontal mullions	Remove	Not possible without testing	Additional test can be single or double leaf doorset with glazing bead in fire side

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.4.8 Cross section of profile of the side or toplight	Increase width	The dimensions of the profile can only be increased according to the following rule: - o profile can be cut according to cut B, Figure A.27 - o all cutted materials shall be filled in with more of the same material; see Figure A.27	Additional test can be single or double leaf doorset with glazing bead in fire side
		E EW and EI1 For low and medium distortion possible to increase the width of the vertical and horizontal profiles consisting in one or more profiles (together or separately) associated with the door leaf (C-profiles, see Figure A.38) up to 100 % to a maximum of profile-width of 120 mm Possible to increase the width of all other up to 300 % until a maximum of 300 mm EI-2: For low and medium distortion possible to increase the width of the vertical and horizontal side profiles associated with the door leaf (together or separately) up to 100 % to a maximum profile-width of 120 mm	

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
		For EI-2: it is obliged to measure the temperature on the profile (on the midspan of the relevant profiles); the increase with 100 % is only allowed when the maximum measured temperature rise is not higher than 180 °C (measured according to EN 1363-1) Possible to increase the width of all other profiles up to 300 % to a maximum of 300 mm	
		Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
B.4.9 Cross section of profile of side or toplight	Decrease width	E and EW doors: a decrease of 40 % down to a minimum of 30 mm is allowed EI2 doorsets with overrun B for profiles not associate with the door leaf (profile D in Figure A.38): a decrease of 40 % down to a minimum of 30 mm is allowed. Possible for vertical profiles associated with the door leaf (profile C in Figure A.38) to reduce from width smaller than 115 mm is allowed with a maximum of 40 % to a minimum of 30 mm EI1: with overrun B a decrease of 40 % down to a minimum of 30 mm is allowed Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side Additional test can be single or double leaf doorset with glazing bead in fire side

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.4.10 Thickness of the metal wall of the profile	Increase	An increase of 0,5 mm to a maximum thickness of 2 mm is allowed Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
B.4.11 Thickness of the metal wall of the profile	Decrease	Not possible without an additional test	Additional test can be single or double leaf doorset with glazing bead in fire side
B.4.12 Horizontal and vertical mullions in each sidelight	Add	Providing at least one mullion is tested in a doorset given in Annex B then: Maximum of three horizontal mullions are allowed. Providing the minimum height of the glass is bigger than 20 % of its width; for EI providing that the visible height of the glass remains minimum 250 mm Maximum of one vertical mullion is allowed providing that the remaining visible width of the glass associated with the frame is at least 250 mm Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with sidelight(s)

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.4.13 Horizontal and vertical mullions in each Sidelight	Remove	Vertical mullions: possible provided the area and width of the glass is not bigger than the biggest glass tested (glass tested in the same construction, rules for extension of glass width as in rule F.1.3 is allowed) Horizontal mullions: Possible provided the area and height of the glass is not bigger than the biggest glass tested (glass tested in the same construction, rules for extension of glass height as in rule F.1.3 is allowed) and horizontal mullion is tested in bottom half of the sidelight. Otherwise not possible without an additional test	Additional test tests the glass in the required dimension in a comparable construction.
B.4.14 Horizontal mullions in Sidelight	Moving upwards and downwards	Possible providing the height of the glass is not bigger than the biggest tested in the same construction, and the height is not smaller than 20 % of its width Rules for extension of glass height as in rule F.1.3 apply. Otherwise not possible without an additional test	
B.4.15 Vertical mullions in sidelight	Moving	Possible providing that the remaining visible glass associated with the frame is at least 250 mm Otherwise not possible without additional test	Additional test can be single or double leaf doorset with sidelight

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.4.16 Horizontal and vertical mullions in toplight	Add	Providing at least one mullion is tested in a doorset given in Annex B then: Maximum of three vertical mullions are allowed providing that the remaining visible width of the glass associated with the frame is at least 250 mm One or more horizontal mullion are allowed providing the minimum height of the glass is bigger than 20 % of its width; for EI providing that the visible height of the glass remains minimum 250 mm Rule F.1.3 applies. Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with toplight
B.4.17 Horizontal and vertical mullions in toplight	Remove	Vertical mullions: not possible without additional test Horizontal mullions: Possible provided the area and height of the glass is not bigger than the biggest glass tested (glass tested in the same construction, rules for extension of glass height as in rule F.1.7 and F.1.8 apply) Otherwise not possible without additional test	Additional test tests the glass in the required dimension in a comparable construction.

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
B.4.18 Horizontal mullions in toplight	Moving up- and downwards	Possible providing the height of the glass is not bigger than the biggest tested in the same construction, and the height is not smaller than 20 % of its width Rules for extension of glass height as in rule F.1.7 and F.1.8 apply Otherwise not possible without an additional test	Additional test can be single or double leaf doorset with toplight.
B.4.19 Vertical mullions in toplight	Moving sideways	Possible providing that the remaining visible width of the glass associated with the frame is at least 250 mm Otherwise not possible without an additional test.	Additional test can be single or double leaf doorset with toplight.
B. 5 Adhesives			
For parameters related to adhesives, refer to sections A.3.			
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 a doorset which is covered by the scope of this standard. NOTE 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).			

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
C.1. Latches / locks / locking systems for single and double doorsets (mechanical or mechatronic)			
C.1.1 Add	C.1.1.1 Add (original doorset tested without latches/locks)	Not possible without an additional test	For single leaf doors Additional full scale can be 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.39 (C.1.2)	Possible if there is available fire resistance test evidence for the doorset of a representative type when fitted with a latch/lock of similar type and size. If no evidence exists, not possible without additional testing	Further test to include a lock assembly at the desired position and, if this can be identified, in the most onerous exposure condition Additional test can be in accordance with EN 1634-1 or EN 1634-2