BS EN 15269-3:2012

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 3: Fire resistance of hinged and pivoted timber doorsets and openable timb

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National foreword

This British Standard is the UK implementation of EN 15269-3:2012.

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 secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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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 3: Fire resistance of hinged and pivoted timber doorsets and openable timber framed windows

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

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

This European Standard was approved by CEN on 16 June 2012.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 15269-3:2012) 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of an identical text or by endorsement, at the latest by February 2013, and conflicting national standards shall be withdrawn at the latest by February 2013.

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

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

This document is one of a series entitled “EN 15269, *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*” which consists of the following parts:

— *Part 1: General requirements;*

— *Part 2: Fire resistance of hinged and pivoted steel doorsets;*

— *Part 3: Fire resistance of hinged and pivoted timber doorsets and openable timber framed windows;*

— *Part 4: Fire resistance of hinged and pivoted glass doorsets;*

— *Part 5: Fire resistance of hinged and pivoted, metal framed, glazed doorsets and openable windows;*

— *Part 6: Fire resistance of sliding timber doorsets;*

— *Part 7: Fire resistance of sliding steel doorsets;*

— *Part 8: Fire resistance of horizontally folding timber doorsets;*

— *Part 9: Fire resistance of horizontally folding steel doorsets;*

— *Part 10: Fire resistance of steel rolling shutter assemblies;*

— *Part 11: Fire resistance of operable fabric curtains;*

— *Part 20: Smoke control for hinged and pivoted steel, timber and metal framed glazed doorsets.*

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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1 Scope

This European Standard covers hinged or pivoted doorsets with timber based leaves, timber framed glazed doors and openable timber framed windows. It prescribes the methodology for extending the application of test results obtained from fire resistance test(s) conducted in accordance with EN 1634-1. This standard covers doorsets with internal structural elements which are comprised of timber.

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/radiation (EW) or integrity/insulation (EI_1 or EI_2) classification;

— glazed elements including vision panels and framed glazed doorsets,

— louvres and/or vents;

— side, transom or overpanels;

— items of building hardware;

— decorative finishes;

— intumescent, smoke, draught or acoustic seals;

— alternative supporting construction(s).

The effect on the Classification ‘C’ for the doorsets following an extended application process is not addressed in this European Standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

EN 844 (all parts), *Round and sawn timber — Terminology*

EN 1125, *Building hardware — Panic exit devices operated by a horizontal bar, for use on escape routes — 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, shutter and openable window assemblies and elements of building hardware — Part 1: Fire resistance test for doors, shutters 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*

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

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

EN 15269-1:2010, *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 12519, EN ISO 13943, EN 1634-1, EN 1634-2 and EN 15269-1 and the following apply.

3.1
core
material fitted centrally within the thickness of a door leaf which may consist of a single sheet of material or a combination either of sheets of the same material or layers of different materials

3.2
effective rebate depth
dimension of the door leaf thickness of overlapping adjacent edges of 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).

3.3
leaf symmetry
construction of a door leaf, without consideration of any leaf edge rebates, viewed either side of an imaginary plane drawn centrally in the thickness of the leaf

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

3.4
exposed intumescent seal
intumescent seal which is fitted in the perimeter of the leaf or in the door frame rebate and is visible when the leaf is in the open position

3.5
concealed intumescent seal
intumescent seal which is fitted in the perimeter of the leaf or in the door frame rebate and is not visible when the leaf is in the open position, including seals behind veneers and laminates

3.6
facing (and decorative facing)
outer layer of material on the leaf or panel normally only used for decorative, not for structural, purposes

3.7
subfacing
layer (or layers) of material between the core and the facing in the leaf or panel normally used for structural purposes

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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 test, unless specifically identified in the relevant Construction Parameter Variation tables.

4.1.3 If, when following the extended application procedure, any part of the classified product cannot be covered by the extended application rules then that part shall be omitted from the subsequent extended application report and classification report.

4.2 How to use the extended application rules in Annex A

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

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

4.2.3 Review the type of classification to be retained from column (3) of Annex A and establish from the contents of column (4) of Annex A whether any extended application is available beyond the direct application rules 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 (4) of Annex A.

4.2.5 Where the variations required can only be achieved from additional testing, the additional test can be made on a similar specimen type i.e. a doorset of the same or more onerous configuration where the leaf construction is fundamentally the same as that tested. Alternatively, column (5) of Annex A identifies an option for alternative testing and relevant test parameters.

4.3 Procedure for maximum field of extended application

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

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

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

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

4.3.5 Identify these parameter variations in 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 (4) in Annex A.

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

4.3.8 Determine if the product range is to include only single leaf doorsets or if the range is to also include double leaf configurations. Where only single doorsets are to be part of the product range, the outstanding construction parameter variations shall only be incorporated into specimens for the single leaf doorset. Where single leaf and double leaf doorsets are to be included in the product range, the outstanding construction parameter variations for the extended application of single leaf doorsets may be incorporated into either repeated single leaf doorset tests or, in the weakest option, as defined in column 5 of Table A.2,double leaf doorset configurations.

4.3.9 Select the required outstanding parameter variations from column (1) and column (2) of Annex A and observe from column (5) in Annex A 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 test or tests may be repeated with the additional product variations incorporated.

4.4 Analysis of test results

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

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

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).

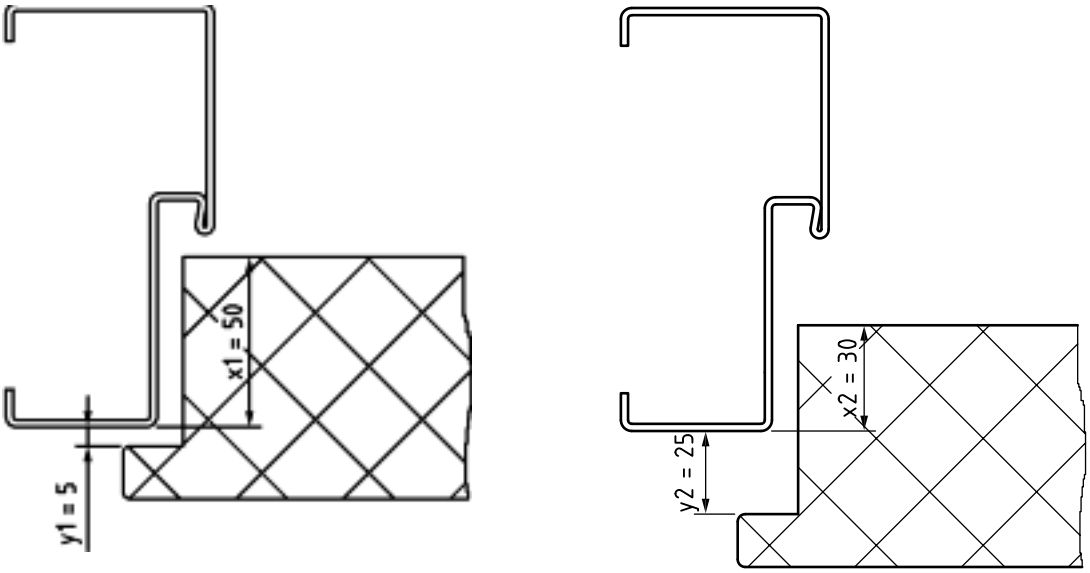
5 Extended application report

Prepare an extended application report in accordance with the requirements of Clause 6 of EN 15269-1:2010, based on the results of evaluations in accordance with the above.

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.

Dimensions in millimetres



Key

x1: Example of effective rebate depth in doorset to be tested

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

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 20mm

Figure 1 — Effective rebate depth

Annex A
(normative)

Construction parameter variations

This table is designed to be used by experts competent in the field of fire resistance testing of hinged or pivoted doorsets with timber based leaves.

This table shall only be used to assess a field of extended application when at least one positive fire resistance test to EN 1634-1 has generated a classification according to EN 13501-2.

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

The influence of variation on performance characteristic is identified in column 3 as, integrity, insulation or radiation (E, I or W respectively). 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 effect of the change in each parameter is evaluated for each characteristic in column 3 under E for effects under I for integrity, for effects on insulation (whether I_1 or I_2) and under W for the effects on radiation.

These evaluations lead to the judgement of the possibility of the extension of the field of application, the results of which are given in column 4. In certain cases in column 4, 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 5. 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.

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 are dependant on the classification required and the preferred options.

Solid timber can be replaced by other solid timber of the same group of equal or higher density or solid timber of a higher group, where Group 4 in Table A.1 is the highest group.

Table A.1 — Timber groupings

Group Nr.	Type of timber	Medium density [kg/m^3]
1	Softwood and Beech* (Fagus sylvatica)	> 350 < 450
2	Hardwood excluding Beech*	> 350 < 450
3	Softwood	≥ 450
4	Hardwood excluding Beech*	≥ 450

The following definitions are taken from EN 844, *Round and sawn timber — Terminology*.

Softwood

Wood of trees of the botanical group Gymnosperms

NOTE Most commercial softwoods belong to the group “conifers” which is a part of the botanical group Gymnosperms.

Hardwood

Wood of trees which represent one group of the Angiosperms known as the Dicotyledons

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

Table A.2 — Construction parameter variations

Table A.2 – Key to symbols in Column 3 (which is informative only)

> - higher performance anticipated
< - lower performance anticipated
= - no significant change in performance anticipated
≥ - equal or higher performance anticipated
≤ - equal or lower performance anticipated
>=< - the influence on performance could be worse, equal or better: hence variations are not possible unless specific, limited conditions are identified

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3) E	I	W	(4)	(5)
A Door leaf. *In certain cases, the rules given in Section A are also appropriate to side, transom and overpanels 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. Only applicable to doorsets tested without transom and/or overpanels. See Annex B.	Single leaf from double leaf door test.	>=<	=	=	Possible for doorsets with exposed intumescent seals only and when the distortion of the leaf is low. In doorsets where there is an inactive and an active leaf, only the construction and parameters of the active leaf may be used for the single leaf doorset; otherwise not possible without additional test. Intumescent seals and their positioning shall be retained in the (primary) active leaf or positioned in the door frame if they were in the inactive leaf.	Annex B gives the test protocol and hierarchy for various options on leaf (and panel) configurations.

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3) E	I	W	(4)	(5)
A.1.2 Number of leaves Only applicable to doorsets tested without transom and/or overpanels. See Annex B.	Double leaf from single leaf door test.	<	=	=	Not possible without additional test.	Annex B gives the test protocol and hierarchy for various options on leaf (and panel) configurations.
A.1.3 Intumescent seals (fitted at leaf to frame interface). **See Figure A.1.**	Location towards the frame rebate.	≤	=	=	Not possible without additional test.	Additional test to include seal fitted in the required position. Test can be single or double leaf depending upon the required configuration.
A.1.4 Intumescent seals (fitted at leaf to frame interface). **See Figure A.2.**	Location away from the frame rebate.	≥	=	=	Possible for a proportionate movement in line with an increase in leaf thickness and frame rebate depth, otherwise not possible without additional test.	Additional test to include seal fitted in the required position. Test can be single or double leaf depending upon the required configuration.
A.1.5 Intumescent seals (fitted in meeting edges).	Location change.	>=<	=	=	Possible to change the tested seal arrangement from the leaf in which it was tested to the opposite leaf providing the leaves were low distortion and the seal arrangement is replicated and the minimum tested length of intumescent seal is retained (including at building hardware positions), otherwise not possible without additional test.	Additional test to include seal fitted in the required position. Test can be single or double leaf depending upon the required configuration.
A.1.6 Intumescent seals.	Location change.	≤	=	=	Not possible to change from leaf to frame and *vice versa*.	Additional test to include seal fitted in the required position. Test can be single or double leaf.

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
A.1.7 Non intumescent seals (draught/smoke/acoustic etc.) – Reaction to Fire class A1 or A2, (fitted in leaf or frame including threshold).	Location change.	>=<	=	=	Possible to change from leaf to frame and *vice versa* and from one leaf to the opposing leaf at the meeting edges providing the seal arrangement is replicated, otherwise not possible without additional test.	Additional test to include seal fitted in the required position. Test can be single or double leaf.
A.1.8 Non-intumescent seals (draught/smoke/acoustic etc.) – , Reaction to Fire class B-F(fitted in leaf or frame including threshold).	Location change.	>=<	=	=	Possible to change from leaf to frame and *vice versa* and from one leaf to the opposing leaf at the meeting edges providing the seal arrangement is replicated, otherwise not possible without additional test.	Additional test to include seal fitted in the required position. Test can be single or double leaf.
A.1.9 Non-intumescent seals (draught/smoke/acoustic etc.) - Reaction to Fire class A1 or A2, (fitted in leaf or frame including threshold).	Add.	>=<	=	=	Possible providing the gap is not increased and the expansion of the intumescent seal is not affected, otherwise not possible without additional test.	Additional test to include seal fitted in the required position. Test can be single or double leaf.
A.1.10 Non intumescent seals (draught / smoke / acoustic etc.) - Reaction to Fire class A1 or A2, (fitted in leaf or frame including threshold).	Remove.	<	=	=	Not possible without additional test.	Further test to prove the leaf to frame detail with no seal fitted. Test can be single or double leaf.
A.1.11 Non-intumescent seals (draught/smoke/acoustic etc.) – Reaction to Fire class B-F (fitted in leaf or frame including threshold).	Add.	<	=	=	Not possible without additional test.	Additional test to include seal fitted in the required position on a similar doorset. Test can be single or double leaf. In the case of a double door test the leaf to frame seals may be different between the 2 leaves generating evidence on alternative types of seals from a single test.

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3) E	I	W	(4)	(5)
A.1.12 Non-intumescent seals (draught/smoke/acoustic etc. – Reaction to Fire class B-F (fitted in leaf or frame including threshold).	Remove.	<	=	=	Not possible without additional test.	Additional test to include seal fitted in the required position. Test can be single or double leaf.
A.1.13 Louvres in door leaf or panel.	Add.	>=<	=	=	Possible to change tested louvre from the active leaf to the inactive leaf but not *vice versa*. Also possible to add louvre to single leaf doorset if it was tested in the active leaf of a double-leaf doorset. In both cases, the louvre cannot be greater than 25 % of the leaf area, otherwise not possible without additional test.	Additional test to include louvre fitted in the required position. Test can be single or active leaf of double leaf.
A.1.14 Louvres in door leaf or panel.	Remove.	≥	=	=	Possible providing tested louvre size ≤ 25 % of leaf area or ≤ 30 % of leaf area for low distortion doors or ≤ 35 % of leaf area for low distortion doors that achieve Category B, otherwise not possible without additional test	Test can be single or double leaf.
A.1.15 Louvres in door leaf or panel tested with louvre.	Fitting higher or lower in the leaf.	<	=	=	Tested positions will define the maximum and minimum fitting positions i.e. louvres may be fitted between the highest and lowest tested positions, subject to the rules given in A1.16 and A1.17, otherwise not possible without additional test.	Additional test to include louvre fitted in the required position. Test can be single or double leaf.
A.1.16 Louvres in door leaf or panel tested with louvre.	Fitting to the side of the tested position.	≥	=	=	Possible providing the minimum distance between the edge of the leaf and the aperture is not reduced, otherwise not possible without additional test.	Test can be single or double leaf.

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
A.1.17 Louvres in door leaf or panel tested with louvre **– See Figure A.3.**	Smaller area.	≥	=	=	Possible to reduce the area of the louvre by 50 % and minimum distance between the edge of the leaf and the aperture is not reduced, otherwise a separate test is required and then sizes between the 2 extended louvre areas are acceptable.	Test to include louvre at 25 % of leaf area. Test can be single or double leaf.
A.1.18 Louvres in door leaf or panel tested with louvre.	Larger size (for area or dimensions).	<	=	=	Possible up to a maximum 15 % increase in height and/or width or 20 % in area for louvre tested in a door which achieved Category B overrun time; and providing the minimum distance between the edge of louvre and the perimeter of the door leaf / panel is not decreased and possible in line with a leaf size increase, otherwise not possible without an additional test.	Further test required with maximum louvre required. Test can be single or double leaf.

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
A.1.19 Leaf edge rebate (not at the meeting edges. See section A2 for meeting edge parameters) **- See Figure A.4.**	Create a rebate (added material shown shaded in figures).	>=<	=	≥	Possible for the constructions shown in drawings A4a, A4b & A4c, for timber based materials with a maximum of 30mm overlap. The additional material shown in drawings A4a and A4c may be applied to the full face of the leaf in which case and the maximum thickness is limited to 25 % of the thickness of the door leaf. Also possible for rebates made from materials with a melting point < 450°C for the construction shown in drawing 4b only, if the leaf thickness is increased by the addition of a 'profile' or 'astragal' to create the rebate and the hinges, locking devices, intumescent seals, pivots and any protective (sub)facings remain as tested, e.g. not cut. In all above conditions, the symmetry of the leaf construction shall be maintained. For double leaf doorsets, both leaves will include the same rebate detail, otherwise the required rebate and leaf detail shall be tested.	Additional test to include the required rebate and leaf detail. Test can be single or double leaf.
A.1.20 Leaf edge rebate (not at the meeting edges. See A.2 for meeting edge parameters).	Remove a rebate.	≤	=	=	Not possible.	The required detail shall be tested. Test can be single or double leaf.
A.1.21 Change in mode of operation (double acting from single acting and *vice versa*).	Alternative.	<=	<=	=	Not possible.	Test to be on the required mode of operation.

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
A.1.22 Latched condition for single leaf doorsets.	Change in latching condition. (See also Section C of this table for hardware variation).	>=<	=	=	Possible to change the latching condition from unlatched to latched but not vice versa.	Additional test to include the required latching condition.

<table>
<tr>
<td rowspan="5">A.1.23 Latched condition for double leaf doorsets – see Figure A.5.</td>
<td rowspan="5">Change in latching condition (See also Section C of this table for hardware variation).</td>
<td rowspan="5">>=<</td>
<td rowspan="5">=</td>
<td rowspan="5">=</td>
<td colspan="4">Possible in line with the following relationship and providing a latch and bolt have been included in the tested doorset ,otherwise additional test required.</td>
<td>Additional test to include the required latching condition.</td>
</tr>
<tr>
<td></td>
<td>Tested unlatched and unbolted</td>
<td>Tested unlatched but bolted</td>
<td>Tested latched and bolted</td>
<td rowspan="4"></td>
</tr>
<tr>
<td>Extension to unlatched and unbolted</td>
<td></td>
<td>not possible</td>
<td>not possible</td>
</tr>
<tr>
<td>Extension to unlatched but bolted</td>
<td>possible</td>
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<td>not possible</td>
</tr>
<tr>
<td>Extension to latched and bolted</td>
<td>possible for low distortion door leaves only</td>
<td>possible</td>
<td></td>
</tr>
</table>

A.2 Meeting edge detail						
A.2.1 Rebated, or plain meeting edge detail – **see Figure A 6.**	Change in edge detail.	>=<	>=<	=	Possible for timber based materials with a maximum of 30mm overlap which may be applied to the full face of the leaf in which case and the maximum thickness is limited to 25 % of the thickness of the door leaf. Also possible for the detail shown in Figure A6f for rebates made from timber or materials with a melting point <450ºC for the construction shown in drawing 4b only, if the leaf thickness is increased by the addition of a 'profile' or 'astragal' to create the rebate and the hinges, locking devices, intumescent seals, pivots and any protective (sub)facings remain as tested, e.g. not cut. In all above conditions, the symmetry of the leaf construction shall be maintained. For full face 'panels' both leaves will include the same rebate detail, otherwise the required rebate and leaf detail shall be tested.	Test shall be double leaf.
A.2.2 Plain meeting edge detail – **see Figure A.6**.	Change between plain edge details.	>=<	=	=	Possible to change from plain to slanted (by a maximum of 5º) for Category B doors and *vice versa* for Category A and B doors and from rounded/radiused to plain or slanted, otherwise not possible without additional test.	Test shall be double leaf.
A.2.3 astragal detail.	Add.	<	=	=	Possible to change from plain edge detail to astragal detail if the rebate is created by the addition of a timber based or low melt material of < 450 ºC melting point and the seal arrangement remains as tested, otherwise not possible without additional test.	
A.2.4 astragal detail.	Remove.	>=<	>=<	>=<	Not possible without additional test.	Test shall be double leaf.

A.3. Size variations						
A.3.1 Size of leaf or panel (area, width, height).	Decrease.	>=<	>=<	=	Possible in line with Direct Application	Additional test to include the required leaf size.
A.3.2 Height of leaf or panel.	Increase.	≤	≤	≤	Possible in line with Direct Application or in line with the following classification period/overrun period relationship (distortion measured throughout the required classification period only). For double leaf doorsets, both leaves shall be of the same construction, otherwise not possible without additional test.	For sizes above that allowed by the adjacent column, the specific size shall be tested.
	Low distortion leaf or panel.	≤	≤	≤	Possible to increase the leaf height by the same percentage as achieved overrun when factored by 0,50 for doorsets intended to be classified 15, 20, 30, 45 or 60 and when factored by 0,75 for 90 minute classifications and when factored by 1,00 for 120 minute classification.	
	Medium distortion leaf or panel.	≤	≤	≤	Possible to increase the leaf height by the same percentage as achieved overrun when factored by 0,33 for doorsets intended to be classified 15, 20,30, 45 or 60 and when factored by 0,50 for 90 min classifications and when factored by 0,66 for 120 min classification.	
	High distortion leaf or panel.	≤	≤	≤	Possible to increase the leaf height by the same percentage as achieved overrun when factored by 0,25 for doorsets intended to be classified 15, 20, 30, 45 or 60 and when factored by 0,375 for 90 min classifications and when factored by 0,50 for 120 min classification.	
A.3.3 Width of leaf or panel.	Increase.	>=<	>=<	>=<	Possible in line with Direct Application or in line with the principles given above (in A.3.2 for height increase).	For sizes above that allowed by the adjacent column, the specific size shall be tested.

A.3.4 Area of leaf or panel.	Increase.	>=<	>=<	>=<	Possible in line with the principles given above (in A.3.2 for height increase) except for double leaf doorsets which shall be subject to the principles for width proportions given in direct application, otherwise not possible without additional test.	For sizes above that allowed by the adjacent column, the specific size shall be tested.
A.3.5 Thickness of the door leaf or panel.	Increase.	>=<	>=<	>=<	Possible in line with direct application and the position of any intumescent material should remain in the same position in relation to the effective rebate depth and core material, otherwise not possible without an additional test. For double leaf doorsets, both leaves shall be of the same thickness.	
A.3.6 Thickness of the door leaf or panel.	Decrease.	<	<	<	Not possible without additional test.	Additional test to include the required thickness of leaf or panel.
A.4. Materials and constructions						
A.4.1 Density of core material of leaf or panel.	Increase.	>=<	>=<	>=<	Possible providing the **type** of material remains as that tested and the leaf symmetry is not affected and the density of the core material does not increase by greater than 50 % and providing the overall weight of the leaf does not increase by more than 25 %, otherwise not possible without additional test.	Test to include the maximum density required.
A.4.2 Density of core material of leaf or panel.	Decrease.	≤	≤	≤	Not possible without additional test.	Additional test to include the required density of core material.
A.4.3 Thickness of core material or individual layers of core material in leaf or panel.	Increase.	>=<	>=	>=	Possible in line with direct application, otherwise not possible without additional test.	

A.4.4 Thickness of core material or individual layers of core material in leaf or panel.	Decrease.	≤	≤	≤	Not possible without additional test.	
A.4.5 Pieces of core material of leaf or panel **– See Figure A.7.**	Increase number of pieces.	>=<	=	=	Possible up to 50 % providing the test included at least one joint. For double leaf doorsets, the rule shall be applied to each leaf separately, otherwise not possible without additional test.	Test shall be on a leaf with the maximum number of required pieces.
A.4.6 Pieces of core material of leaf or panel.	Decrease number of pieces.	>=<	=	=	Possible by up to 50 % providing one joint in the core material remains. For double leaf doorsets, the rule shall be applied to each leaf separately, otherwise not possible without additional test.	Test shall be on a leaf with the minimum number of required pieces.
A.4.7 Number of layers of identical core material of leaf or panel.	Decrease number of layers of identical core material.	>=<	=	=	Possible up to 50 % for Category B doors. For double leaf doorsets, the rule shall be applied to each leaf separately. In all cases, the core thickness shall remain as tested, otherwise not possible without additional test.	Test shall be on a leaf with the minimum number of required pieces.
A.4.8 Number of layers of identical core material of leaf or panel.	Increase number of layers.	>=<	=	=	Not possible unless the increase results in a thicker door leaf i.e. by adding an extra layer, otherwise not possible without additional test	Test shall be on a leaf with the maximum number of required layers.
A.4.9 Number of layers of core material of different materials in leaf or panel.	Decrease.	≤	≤	≤	Not possible without additional test.	Test shall be on a leaf with the minimum number of required layers.
A.4.10 Number of layers of core material of different materials in leaf or panel.	Increase.	>=<	>=<	>=<	Possible providing the increase results in a thicker door leaf i.e. by adding an extra layer and only of the tested materials, otherwise not possible without additional test	Test shall be on a leaf with the required layers.

A.4.11 Type of core material in leaf or panel (single thickness or in combination of different layers).	Change of manufacturer.	>=<	>=<	>=<	Possible providing the composition remains as tested, otherwise not possible without additional test.	Further test to be on the specific manufacturer of core material.
A.4.12 Type of core material in leaf or panel (single thickness or in combination of different layers).	Alternative composition of same basic product type.	>=<	>=<	>=<	Possible in line with Table A1, otherwise not possible without additional test.	Further test using the specific type of core material.
A.4.13 Structural subfacing.	Alternative type.	>=<	>=<	>=<	Possible to change timber based types providing the alternative timber is of the same or higher density and the same or greater thickness (subject to A4.13). Lower density timbers or other materials not possible without additional test	Additional test to include the specific type of subfacing required.
A.4.14 Structural subfacing.	Change in thickness.	>=<	>=<	>=<	For timber based subfacings, it is possible to increase the thickness of the tested subfacing by up to 100 % provided the thickness and total weight of the door leaf is not increased by more than 25 %, otherwise not possible without additional test.	Additional test to include the specific thickness of subfacing required.
A.4.15 Amount of adhesives / g/m^2 l.	Increase.	>=<	>=<	>=<	Possible up to 25 %in g/m², otherwise not possible without additional test.	Additional test to include the minimum amount of adhesive.
A.4.16 Amount of adhesives / g/m^2.	Decrease.	≤	≤	≤	Possible up 10 % in g/m², otherwise not possible without additional test.	Additional test to include the minimum amount of adhesive.
A.4.17 Type of adhesives used in leaf or panel.	Change of supplier/manufacturer for identical composition.	>=<	>=<	>=<	Possible.	
A.4.18 Type of adhesives used in leaf or panel.	Alternative composition.	≤	≤	≤	Not possible.	Additional test to include the alternative adhesive.

A.4.19 Metal protective sheet used in leaf or panel.	Add.	>=<	>=<	>=<	Possible if the metal sheet is placed on the outer face of the subfacings and only for metals with a melting point of not more than 660 °C with total thickness for all the required sheets not exceeding 1mm and providing the symmetry of the leaf is maintained, otherwise additional test required	Further test to include the required sheets.
A.4.20 Metal protective sheet used in leaf or panel.	Remove.	≤	≤	≤	Not possible without additional test.	Additional test to include a door leaf with no metal protective sheet.
A.4.21 Electronic security mesh in leaf or panel.	Add.	>=<	>=<	>=<	Possible for mesh with a maximum of 1 mm thickness and a minimum mesh width of 1 mm by 1 mm, otherwise not possible without additional test.	Additional test to include the required mesh size.
A.4.22 Electronic security mesh in leaf or panel.	Remove.	>=<	>=<	>=<	Possible to remove mesh if that tested is at least 5 mm by 5 mm width and maximum 2 mm thickness otherwise not possible without additional test.	Further test to include required mesh width.
A.4.23 Cross-section dimension of perimeter framing elements in leaf or panel.	Increase.	>=<	>=<	>=<	Possible to increase the thickness of the elements in line with an increase in leaf thickness and to increase the width by up to 100 % for each element, otherwise not possible without additional test.	
A.4.24 Change of species of perimeter framing elements in leaf or panel.	Solid timber.	>=<	>=<	>=<	Possible to change species for other solid timber and possible to change from finger joint timber to solid timber and vice versa within the same or higher group as described in Table A.1 for the same or higher density timber only, otherwise not possible without additional test.	
A.4.25 Change of material of perimeter framing elements in leaf or panel.	Change of material.		≤	≤	Not possible without further test.	Additional test to include the required material.

A.4.26 Cross-section dimension of perimeter framing elements in leaf or panel.	Decrease.	≤	≤	≤	Not possible to decrease the thickness without further test Possible to decrease the width by a maximum of 10 % for Category B doors with low distortion, otherwise not possible without further test.	Additional test to include the minimum dimension of framing element.
A.4.27 Decorative leaf or panel edge detail – **See Figure A.8.**	Shape.	>=<	>=<	>=<	Possible only if adding amount of leaf material at leaf edge i.e. the cross section shall increase. The modification shall not affect the detail within the rebate, otherwise not possible without further test.	Further test to include the required minimum cross section.
A.4.28 Jointing technique of internal leaf or panel framing.	Alternative.	>=<	≤	≤	Possible providing the alternative jointing technique can be demonstrated not to reduce the mechanical strength of the framing member, otherwise not possible without additional test.	The required jointing method & detail shall be tested.
A.4.29 Dimension of intumescent seals (fitted in leaf or frame).	Increase.	>=<	>=<	>=<	Possible without limitation for low pressure forming seals, otherwise possible for pressure forming seals, by up to 10 % in cross sectional area or by a proportionate amount with a leaf thickness increase and if used on latched door leaves otherwise further test required.	Additional test to include maximum size of intumescent seals.
A.4.30 Dimension of intumescent seals (fitted in leaf or frame).	Decrease.	≤	≤	≤	Not possible.	Test to include minimum size of intumescent seals.
A.4.31 Exposed intumescent seal (fitted within leaf or frame).	Change to concealed intumescent seal.	≤	≤	≤	Not possible.	Additional test to include required detail of intumescent seals.
A.4.32 Concealed intumescent seal (fitted within leaf or frame).	Change to exposed intumescent seal.	≤	≤	≤	Not possible.	Additional test to include required detail of intumescent seals.
A.4.33 Type of intumescent seals (fitted in leaf or frame).	Change of supplier/manufacturer for identical composition.	≤	≤	≤	Possible.	

A.4.34 Type of intumescent seals (fitted in leaf or frame).	Alternative material.	>=<	≤	≤	Not possible.	The required material shall be tested in a similar doorset
A.4.35 Dimension of draught / smoke seals (Reaction to fire class A1 or A2); e.g. ceramic products (fitted in leaf or frame).	Increase.	>=<	=	=	Possible providing the gap is not increased and the operation of any intumescent seal is not affected, otherwise not possible without an additional test.	Additional test to include the maximum size of seal.
A.4.36 Dimension of draught / smoke seals (Reaction to fire class A1 or A2); e.g. ceramic products (fitted in leaf or frame).	Decrease.	≤	≤	≤	Not possible.	Additional test to include the minimum size of seal.
A.4.37 Dimension/cross-section of draught / smoke seals (Reaction to fire class B-F) (fitted in leaf or frame).	Increase.	>=<	>=<	>=<	Possible up to a maximum of 20 % and providing the gap is not increased and the operation of any intumescent seal is not affected, otherwise not possible without an additional test.	Additional test to include the maximum size of seal.
A.4.38 Dimension of draught / smoke seals (Reaction to fire class B-F) (fitted in leaf or frame).	Decrease.	>=<	>=<	>=<	Possible up to a maximum of 20 % and providing the gap is not increased and the operation of any intumescent seal is not affected, otherwise not possible without an additional test.	Additional test to include the minimum size of seal.
A.4.39 Type of draught / smoke seals (fitted in leaf or frame).	Change of supplier/manufacturer for identical composition.	≥	≥	≥	Possible.	Additional test to include the required choice of seal manufacturer/composition.
A.4.40 Type of draught / smoke seals (fitted in leaf or frame).	Alternative material (changing to a equal or higher Euroclass).	>=<	>=<	>=<	Possible providing the gap is not increased and the size of the seal is not reduced, otherwise not possible without an additional test.	Additional test to include the required seal.
A.4.41 Type of draught / smoke seals (fitted in leaf or frame).	Alternative material (changing to a lower Euroclass.)	≤	≤	≤	Not possible without an additional test.	The required choice of material shall be tested.

A.5. Decorative and / or protective finishes						
A.5.1 Decorative facings on the face of the leaf, panel and/or frame with a Reaction to Fire class B-F or a melting point below 660 °C such as timber veneer, laminate, plastic, cloth, leather etc.	Add.	>=<	>=<	>=<	Possible for timber veneer up to 3 mm thick and 2 mm thick for other materials on each face but not the edges, provided the edge conditions remain the same and provided the insulation criteria is satisfied on the original doorset (in line with direct application), otherwise additional test required.	Additional test to include the thicker laminate/veneer or required decorative facing on the required configuration of doorset but double leaf would cover single leaf.
A.5.2 Decorative facings on the face of the leaf, panel and/or frame with a Reaction to Fire class B-F or a melting point below 660 °C such as timber veneer, laminate, plastic, cloth, leather etc.	Remove.	>=<	>=<	>=<	Possible for timber veneer up to 3 mm thick and 2 mm thick for other materials on each face provided that the door has a Category B pass and the leaf thickness is not reduced and provided the edge conditions remain the same, otherwise additional test required.	Additional test to include the required construction of doorset but double leaf would cover single leaf.
A.5.3 Decorative facings on the edges of the leaf, panel and/or frame with a Reaction to Fire class B-F or a melting point below 660 °C such as timber veneer, laminate, plastic, cloth, leather etc.	Add.	>=<	>=<	>=<	Not possible if there is no intumescent seal present. Possible providing: - the leaf to frame gaps remain as tested; - the intumescent seal is pressure forming; - the thickness of an applied timber veneer/plastic edging is not greater than 3 mm or a decorative laminate is not greater than 0,8 mm; - the door exhibits low distortion; - the leaf size is not increased (other components are reduced accordingly). Otherwise not possible without a further test.	Additional test to include the required facing on the required configuration of doorset but double leaf would cover single leaf.
A.5.4 Decorative facings on the edges of the leaf, panel and/or frame with a Reaction to Fire class B-F or a melting point below 660 °C such as timber veneer, laminate, plastic, cloth, leather etc.	Remove.	>=<	>=<	>=<	Not possible.	Additional test to include the required facing on the required configuration of doorset but double leaf would cover single leaf.

A.5.5 Decorative facings on the face of the leaf, panel and/or frame with a Reaction to Fire class A1 or A2 and a melting point of 660 °C or above such as glass sheet, stone, marble, ceramic tile etc.	Add.	>=<	>=<	>=<	Possible providing the total increase in leaf weight is not more than 25 % and providing the faces are fixed with adhesive and the facing is not added to the area of the leaf behind the door frame rebates. Otherwise not possible without a further test.	Additional test to include the required facing on the required configuration of doorset but double leaf would cover single leaf.
A.5.6 Decorative facings on the face of the leaf, panel and/or frame with a Reaction to Fire class A1 or A2 and a melting point of 660 °C or above such as glass sheet, stone, marble, ceramic tile etc	Remove.	>=<	>=<	>=<	Not possible.	Additional test to include the required facing on the required configuration of doorset but double leaf would cover single leaf.
A.5.7 Decorative facings on the edges of the leaf, panel and/or frame with a Reaction to Fire class A1 or A2 and a melting point of 660 °C or above such as glass sheet, stone, marble, ceramic tile etc.	Add.	>=<	>=<	>=<	Not possible if there is no intumescent seal present. Possible providing: - the leaf to frame gaps remain as tested; - the intumescent seal is pressure forming; - the thickness of an applied timber veneer/plastic edging is not greater than 3 mm or a decorative laminate is not greater than 0,8 mm; - the door exhibits low distortion; - the leaf size is not increased (other components are reduced accordingly). Otherwise not possible without a further test.	Additional test to include the required facing on the required configuration of doorset but double leaf would cover single leaf.
A.5.8 Decorative facings on the edges of the leaf, panel and/or frame with a Reaction to Fire class A1 or A2 and a melting point of 660 °C or above such as glass sheet, stone, marble, ceramic tile etc.	Remove.	>=<	>=<	>=<	Not possible.	Additional test to include the required facing on the required configuration of doorset but double leaf would cover single leaf.

A.5.9 Decorative facings on the face of the leaf, panel and/or frame with a Reaction to Fire class B-F or a melting point below 660 °C such as timber veneer, laminate, plastic, cloth, leather etc.	Change material.	>=<	>=<	>=<	Possible to interchange between veneers of up to 3 mm thickness and laminates up to 2 mm on each face. Possible for the other materials provided that the door has a Category B pass and providing that the leaf thickness is not reduced and provided the edge conditions remain the same. Otherwise not possible without an additional test.	Additional test to include the alternative laminate/veneer/facing material.
A.5. 10 Decorative facings on the face of the leaf, panel and/or frame with a Reaction to Fire class A1 or A2 and a melting point of 660 °C or above such as glass sheet, stone, marble, ceramic tile etc.	Change material.	>=<	>=<	>=<	Not possible.	Additional test to include the required facing on the required configuration of doorset but double leaf would cover single leaf.
A.5.11 Decorative facings on the edges of the leaf, panel and/or frame with a Reaction to Fire class B-F or a melting point below 660 °C such as timber veneer, laminate, plastic, cloth, leather etc.	Change material.	>=<	>=<	>=<	Not possible if there is no intumescent seal present. Possible providing: - the leaf to frame gaps remain as tested; - the intumescent seal is pressure forming; - the thickness of an applied timber veneer/plastic edging is not greater than 3 mm or a decorative laminate is not greater than 0,8 mm; - the door exhibits low distortion; - the leaf size is not increased (other components are reduced accordingly). otherwise not possible without a further test.	Additional test to include the alternative laminate/veneer/facing material.
A.5. 12 Decorative facings on the edges of the leaf, panel and/or frame with a Reaction to Fire class A1 or A2 and a melting point of 660 °C or above such as glass sheet, stone, marble, ceramic tile etc.	Change material.	>=<	>=<	>=<	Not possible.	Additional test to include the required facing on the required configuration of doorset but double leaf would cover single leaf.

A.5.13 Types and thickness of timber veneers on the edges of the leaf, panel or frame.	Change of species.	>=<	>=<	>=<	Possible provided thickness is not more than 3 mm.	
A.5.14 Species of timber lippings on leaf or panel.	Change of species.	>=<	>=<	>=<	Possible to change species as described in Table A.1 for the same or higher density timber only.	
A.5.15 Lippings on leaf or panel. **See Figure A.9.**	Change size.	>=<	>=<	>=<	Possible up to 25 % of the tested thickness, limited to a tested thickness of 12 mm. 'Lippings' of more than 12 mm thickness are deemed to be a leaf framing element, and can be increased by 25 % of the tested thickness. Lippings of less than 3 mm thick are deemed to be a veneer. Lippings between 3 mm and 12 mm in thickness can be reduced by 25 % of the original thickness, provided that this does not reduce the minimum thickness of the lipping below 3 mm. Where a lipping thickness is increased, and a concealed intumescent seal used, no void shall be left between the intumescent seal and the internal leaf framing. Any void shall be filled with timber which is of a quality equal to or better than that from which the lipping is made as shown in Table A.1.	
A.5.16 Lippings on leaf or panel.	Add.	>=<	>=<	>=<	Possible in line with rule A.5.5.	
A.5.17 Lippings on leaf or panel.	Remove.	≤	≤	≤	Not possible.	Additional test to include the doorset with no lippings.
A.5.18 Protective plates – face fixed (kick plates / push plates / protective plates) on leaf or panel.	Recessed to unrecessed.	>=<	>=<	>=<	Possible to change recessed plates to unrecessed plates. Material to remain as tested.	
A.5.19 Protective plates – face fixed (kick plates / push plates / protective plates) on leaf or panel.	Unrecessed to recessed.	>=<	>=<	>=<	Possible to interchange the condition up to 2 mm thick plates otherwise an additional test is required.	

A.5.20 Protective metal plates – face fixed (kick plates / push plates / protective plates) on leaf or panel **– See Figure A.10.**	Add (screw fixed).	>=<	>=<	>=<	Possible for horizontal plates across the full opening width of the closing face and full leaf width of the opening face to a maximum of 500 mm high. Vertical plates no more than 200 mm wide running the clear opening height on the closing face and full height of the leaf on the opening face. Maximum area permitted to be covered by plates/signs is 40 % of the clear opening area or 1 m², whichever is the smaller. Plate thickness to be limited to 2 mm and fixed with maximum 25 mm long screws and a minimum of 200 mm centres along the length of the plates. For double doorsets, protective plates may be dissimilar. For plates outside these parameters a further test is required.	Additional test to include the maximum required size of plates.
A.5.21 Protective metal plates – face fixed (kick plates / push plates / protective plates) on leaf or panel.	Add (glued).	>=<	≥	≥	Possible for plates across the full opening size of the closing face and full leaf size of the opening face (see surface conditions below) and up to a maximum of 2 mm thick and not restrained by mechanical means, e.g. by building hardware. Maximum area permitted to be covered by plates is 40 % of the clear opening area. May be applied to the face of the leaf only, i.e. not the edge of the leaf. For double doorsets, the rule may be applied to each leaf separately.	
A.5.22 Protective metal plates on leaf or panel;	Remove (screw fixed or glued).	>=<	>=<	>=<	Possible if the protective material does not cover more than 55 % of the leaf area and providing the exclusion does not expose any areas of potential weakness beneath the plates, otherwise a further test shall be conducted. For double doorsets, the rule may be applied to each leaf separately.	Additional test shall be conducted on the leaf with no plates fitted.
A.5.23 Protective metal edge protectors.	Remove.	>=<	>=<	>=<	Metal corner protectors may be removed from the tested doorset providing there is test evidence available for a similar proposed construction detail (in single or double leaf doorsets), otherwise an additional test is required.	

A.5.24 Protective metal edge protectors.	Add.	>=<	>=<	>=<	Metal corner protectors may be added to the tested doorset providing there is test evidence available for a similar proposed construction detail (in single or double leaf doorsets), otherwise an additional test is required.	
A.5.25 Protective composites and plastic elements, face fixed on leaf or panel.	Add.	>=<	≥	=	Possible providing the plates are fitted within the clear opening width and for class EI Doors only, otherwise an additional test is required. For double doorsets, the rule may be applied to each leaf separately.	
A5.26 Protective composites and plastic elements, face fixed on leaf or panel.	Remove.	>=<	>=<	>=<	Possible if the protective material does not cover more than 55 % of the leaf area and providing the exclusion does not expose any areas of potential weakness beneath the plates, otherwise a further test shall be conducted. For double doorsets, the rule may be applied to each leaf separately.	Additional test shall be conducted on the leaf with no plates fitted.
A.5.27 Attachment technique of protective plates on leaf or panel.	Alternative (adhesive / screw).	>=<	>=<	>=<	Possible to change if the protective material does not cover more than 40 % of the leaf area and providing the plates do not cover any areas of potential weakness beneath the plates, otherwise a further test shall be conducted. For double doorsets, the rule may be applied to each leaf separately.	
A.5.28 Mouldings (on the face of the leaf or panel).	Add.	>=<	>=<	>=<	Possible to add timber-based mouldings and providing one surface is covered by not more than 25 % or by more than 25 % if both faces are provided with mouldings and the mass of the leaf is not increased by more than 25 %, otherwise not possible without a further test. For double doorsets, the rule may be applied to each leaf separately.	Additional test should include the required maximum number of mouldings.

A.5.29 Mouldings (on the face of the leaf or panel).	Remove.	>=<	>=<	>=<	Possible if the mouldings do not cover more than 25 % of the leaf area and providing the removal does not expose any areas of potential weakness beneath the mouldings and that the mouldings do not add significantly to the stiffness of the leaf, otherwise a further test shall be conducted on the leaf with no mouldings fitted. For double doorsets, the rule may be applied to each leaf separately.	Additional test should be on a door leaf without mouldings.
A.6. Joinery type framed doorsets and openable windows *NOTE This section refers to non-flush doorsets and openable windows which are made using a perimeter, and, where applicable, internal framing, made of solid or laminated timber based materials, and which include one or more panels. The panels/apertures are normally formed using the perimeter and internal framing sections. This section covers specific rules for these type of doorsets and openable windows only. Where the required parameter is not addressed in this Section, the Section above for flush doorsets should be used. For variations on glazed panels, refer to Section E.*						
A6.1 Cross-section dimension of perimeter/intermediate framing or glazing bar elements in leaf or panel. **See Figure A.11.**	Increase.	>=<	>=<	>=<	Possible to increase the thickness of the elements in line with an increase in leaf thickness as given in direct application and to increase the height of the bottom rail to 300 mm and by up to 100 % for other framing elements. The increases may be applied to all elements within the door leaf/panel separately. The positions of the elements shall be respected and the leaf size limitations given in A.3 above shall also be respected, otherwise not possible without additional test.	Additional test to EN 1634-1.
A.6.2 Intermediate framing or glazing bars in leaf or panel.	Remove.	>=<	>=<	>=<	In line with direct application only, otherwise not possible without additional test.	Test to EN 1634-1.
A.6.3 Intermediate framing or glazing bars in leaf or panel.	Add.	>=<	>=<	>=<	Possible to add intermediate framing members or glazing bars providing at least one has been tested, otherwise not possible. The direction (vertical / horizontal) cannot be changed, otherwise not possible without additional test.	Test to EN 1634-1 or to EN 1364-1 for low distortion products.

A.6.4 Panel size.	Increase.	>=<	>=<	>=<	Possible to increase the size of the panels, other than glazed panels, in line with a pro rata increase of leaf size as given in A.3, otherwise the maximum required panel size shall be tested. For glazed panels with low distortion of the doorset and Category B overrun, an increase in width and/or height of 15 %, area 20 % is permitted providing the glass has been tested to a larger size in either EN 1634-1 or EN 1364-1 using the same glazing technique.	
A.6.5 Panel size.	Decrease.	>=<	>=<	>=<	The panel size may be reduced, by adding intermediate framing elements, to a minimum size of 100mm high and wide, otherwise not possible without additional test.	
A.6.6 Panel thickness.	Increase.	>=<	>=<	>=<	Possible to make panels, other than glazed panels, thicker providing the retention of the panels is not affected, i.e. increase in section thickness but not possible to decrease the thickness, otherwise not possible to vary the construction without additional test.	
A.6.7 Panel thickness.	Decrease.	<	<	<	Not possible without additional test evidence.	
A.6.8 Panel material.	Change.	>=<	>=<	>=<	Not possible unless material has evidence of testing to EN 1634-1, or, for low distortion products, only EN 1364-1 using the same retention technique.	

B. Door Frame						
B.1. General						
B.1.1 Threshold to bottom of door frame.	Add.	>=<	>=<	>=<	Possible for hardwood thresholds (minimum density 600 kg/m^3) up to 30 min classifications of the doorset providing threshold is rebated and base of the leaf remains un-rebated and the gap at the base of the leaf does not increase. Also possible for metallic thresholds for 30 min classifications only, providing the gap at the base of the leaf does not increase and providing the threshold does not extend by more than 20 mm beyond the door leaf thickness. In all cases, the rebate on the threshold shall overlap the door leaf by at least 9 mm, otherwise not possible.	Additional test to include the required threshold and for the required classification period.
B.1.2 Threshold to bottom of door frame.	Remove.	≤	≤	≤	Thresholds may be removed as long as the gap between a non-rebated door leaf and the non-combustible (to Reaction to Fire class A2,fl,s1) flooring or metal threshold strip of at least the width of the door leaf do not exceed 6 mm. Possible for non-rebated thresholds providing the gap tested between the leaf and the threshold is replicated between the leaf and the floor and that the floor material is as the tested threshold or is non-combustible, otherwise not possible for rebated thresholds without additional test evidence.	
B.1.3 Height of the head of an access door or hatch above floor level.	Variation.	>=<	>=<	>=<	May be increased providing the overpressure at the head and/or base of the tested assembly was equal to or greater than would be anticipated from such a change.	
B.1.4 Position of door frame within the supporting construction.	Variation.	>=<	=	=	Possible providing the door frame does not project beyond the supporting construction more than tested, otherwise required projection/reduction is to be tested.	

B.1.5 Frame 'scalloping'. **See Figure A.12.**	Variation.	>=<	>=<	>=<	Possible to add a radius into the door frame providing not more than 10 % of the frame thickness is removed without increasing the leaf to frame gap, otherwise not possible to amend the tested door frame profile without further testing	
B.2. Materials and constructions						
B.2.1 Cross-section dimensions.	Increase.	>=<	>=<	>=<	For timber based door frames, it is possible to increase the door frame dimensions in line with direct application. Possible for metal based door frames providing that the cross section detail at the overlap/rebate position remains unchanged, otherwise not possible without an additional test.	
B.2.2 Cross-section dimensions.	Decrease.	>=<	>=<	>=<	Not possible to decrease timber-based frame sections and not possible to decrease metal door frame sections for EI classifications; otherwise possible to reduce the cross sectional area of metallic frames providing restraint and fixity is maintained, providing that the overlap/rebate detail is maintained.	Additional evidence to include door frame at minimum dimensions.
B.2.3 Type of frame material (solid timber).	Change timber.	>=<	>=<	>=<	Possible to change species for other solid timber and possible to change from finger joint timber to solid timber and vice versa within the same or higher group as described in Table A.1 for the same or higher density timber only, otherwise not possible without additional test.	
B.2.4 Type of frame material (composite timber).	Change density.	>=<	>=<	>=<	Possible to increase density for composite timber based materials but not to decrease otherwise not possible without additional test.	Additional test to include frame with the lower density material.
B.2.5 Type of frame material (steel)	Mild to stainless	>=<	>=<	>=<	Possible for frames fixed into rigid supporting constructions providing that the material thickness shall not be increased but may be decreased by up to 20 %. Not possible for frames fixed within flexible supporting constructions.	

B.2.6 Type of frame material (steel).	Stainless to mild.	>=<	>=<	>=<	Possible providing no reduction in thickness and no increase by more than 25 %, otherwise not possible without an additional test.	
B.2.7 Type of frame material.	Interchange material (timber and steel).	>=<	>=<	>=<	It is not possible to interchange types of frame materials. Each type of material shall be tested with each required configuration using the protocol given in Annex B.	Additional test shall provide evidence of each required configuration using the protocol given in Annex B.
B.2.8 Thickness of steel.	Increase.	≥	=	=	**E** possible **EI, EW** possible in line with direct application or possible by up to a maximum of 50 % providing original test satisfied B overrun above 50 % needs an additional test.	Additional test can be single or double leaf doorset.
B.2.9 Thickness of steel.	Decrease.	≤	=	=	Not possible without an additional test.	Additional test can be single or double leaf doorset.
B.2.10 Type of infill material (in steel frame).	Alternative material.	>=<	>=<	>=<	Possible providing the infill material is Reaction to fire class A1 (unless stated below) and is in accordance with the table B.2.9, otherwise not possible without an additional test.	Additional test can be single or double leaf doorset.

Table B.2.9 Possible frame infill materials (in steel frames)

Test with	**Allows this material**							
	No infill	Timber infill	Mineral wool	Gypsum board	Gypsum plaster	Mortar	Concrete	PU Foam
No infill		No	No	Yes	Yes	Yes	Yes	No
Timber infill	No		No	No	Yes	Yes	Yes	No
Mineral wool	No	No		Yes	Yes	Yes	Yes	No
Gypsum board	No	No	No		Yes	Yes	Yes	No
Gypsum plaster	No	No	No	No		Yes	Yes	No
Mortar	No	No	No	No	Yes		Yes	No
Concrete	No	No	No	No	No	No		No
PU Foam	No	No	No	Yes	Yes	Yes	Yes	
NOTE Mineral wool = glass, ceramic or stone wool of same or better reaction to fire classification.								

B.2.11 Jointing technique for timber based frame members.	Alternative.	>=<	>=<	>=<	For timber based frames, it is possible to change from nails to screw fixings, or from butt joint (including mitred joint) to mortice and tenon joint. Also possible to change from staples to nails or screws, otherwise additional test is required.	Additional test to include the required jointing method & detail.
B.2.12 Assembling technique for metallic frame members.	Alternative (welding / riveting / screwing / tenoned).	=	=	=	Possible to interchange between techniques providing retention methods does not use low melting alloys, otherwise additional test is required.	Additional test to include the required assembly method & detail.
B.2.13 Fixing of frame.	Change in fixing position.	>=<	=	=	Possible to change between fixings through the rebate and the 'stop' positions providing the minimum distance from the face of the frame to the nearest fixing position on the tested fire exposed face is not reduced, otherwise additional test is required.	Additional test to include the required fixing position.
B.3. Protection						
B.3.1 Protection of frame members **– See Figure A.13.**	Add.	>=<	>=<	=	Possible for timber based door frames providing the protection does not extend into the leaf to frame gap (drawing shows example) with no restriction on thickness or height, otherwise not possible without an additional test.	Test to include the required protection detail.
B.3.2 Protection of frame members.	Remove.	>=<	>=<	=	Possible to remove protection if it has been tested with a height of ≤ 1 000 mm above floor level providing leaf to frame gap is maintained, otherwise not possible.	

C. Building hardware						
C.1. General 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. It is a requirement of this document that all items of building hardware are in accordance with the relevant product standard and that the door assembly onto which the building hardware will be fitted is appropriate to the intended durability of self-closing class (C Classification). Building hardware shall be suitable for use on fire doorsets and the suitability shall be demonstrated as specified in the component product standard. For the purpose of this standard, when the suitability for use on fire doorsets is demonstrated by a successful full size 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.						
C1.1 Latches/locks and strike plates.	Alternative.	>=<	>=<	=	Possible providing that the alternative lock is of the same type (internally mounted/morticed or surface mounted), complies with the relevant product standard, is suitable for use on the original doorset and has passed a full size fire test to EN 1634-1 or a small scale fire test to EN 1634-2. Each of the linear dimensions shall be no larger than tested successfully in the original doorset, and the latch bolt shall have a similar or greater engagement. Additionally, for internal locks, the amount of material removed from the door leaf shall be as tested in the original doorset or less. Any additional component should be metal and the distance between the intumescent protection, if fitted, and the lock forend or the strike plate shall remain as tested, otherwise further test is required.	Further test to include the maximum required size of lock/strike plate 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.

C1.2 Latches/locks and strike plates.	Add.	>=<	>=<	>=<	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, then see C.1.1. 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.
C.1.3 Strike plates for metallic frames.	Add.	≥	≥	=	Possible to add a strike plate, providing that the intumescent protection, if fitted, is not fitted in the frame and remains as tested in the original door.	Further test to include the required strike plate detail 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.
C.1.4 Strike plates for metallic frames.	Remove.	≤	≤	=	Not possible. Additional test required.	Further test to include no strike plate. Additional test can be in accordance with EN 1634-1 or EN 1634-2.
C.1.5 Number of latches/locks and strike plates.	Increase.	>=<	>=<	=	Possible in line with direct application but the additional lock assembly(ies) may only be fitted at a height lower than tested. Lock assembly type/size is to remain as tested or shall meet the requirements of C.1.1. For other modifications, further testing is required.	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 to be in accordance with EN 1634-1 or EN 1634-2.

C.1.6 Number of latches/locks and strike plates.	Decrease/Remove.	≤	>=	>=	Not possible without an additional full size door test unless originally tested with the latch bolt(s) withdrawn.	Test to include the minimum number of latches/locks and, if this can be identified, in the most onerous exposure condition. Additional test to be in accordance with EN 1634-1 or EN 1634-2.
C.1.7 Position of lock assembly – single element **- See Figure A14.**	Alternative.	>=<	>=<	=	Possible + 300 mm variation from the centre line of the lock assembly for Category B doors with the leaf height increased for doors tested with a latch/lock engaged. For doors tested with a latch/lock fitted but unlatched, possible ± 300 mm variation from the centre line of the lock assembly for Category B doors. Also possible to vary by ± 200 mm (for Category A or B doors) without a leaf height increase for low distortion doors, otherwise not possible without further test.	Further test to include the required lock assembly position and, if this can be identified, in the most onerous exposure condition. Additional test to be in accordance with EN 1634-1 or EN 1634-2.
C.1.8 Position of latches/locks and strike plates – multi-point locks.	Alternative.	>=<	>=<	>=<	Possible 300 mm variation from the centre line of the operating lock assembly for Category B doors with the leaf height increased. Also possible to vary by 200 mm (for Category A or B doors) without a leaf height increase for low distortion doors, otherwise not possible without further test.	Additional test to include the specific parameter variation. Additional test to be in accordance with EN 1634-1 or EN 1634-2.

C.1.9 Strike plates.	Type/material.	>=<	=	=	Possible to change from box type to flat type providing that the dimensions are not increased, the fixing technique and the distance between the intumescent protection, if fitted in the frame, and the strike plate, remain the same as tested. When a mortar guard is used this shall not be changed. Possible to interchange between mild steel and stainless steel.	Additional test to be in accordance with EN 1634-1 or EN 1634-2.
C.1.10 Latches/locks – **See Figure A15**.	Exchange internally mounted for surface mounted.	≤	≤	≤	Not possible without a specific test.	Test to include the required internal lock assembly and, if this can be identified, in the most onerous exposure condition. Additional test to be in accordance with EN 1634-1 or EN 1634-2.
C.1.11 Latches/locks.	Exchange surface mounted for internally mounted.	≤	≤	≤	Not possible without a specific test.	Test to include the required surface lock assembly.
C.1.12 Bolts (flush, internal and surface mounted). **See Figure A15.**	Add.	>=<	>=<	=	Possible to add surface mounted bolts without limit for low distortion doors. For multipoint locking systems, possible for internal bolts if the cases of these bolts are not higher than previously tested and the dimensions of the cases of the internal bolts are smaller than those of the multipoint locks tested.	Test to include the required internal lock assembly(ies) and, if this can be identified, in the most onerous exposure condition. Additional test to be in accordance with EN 1634-1 or EN 1634-2.
C.1.13 Bolts (flush, internal and surface mounted).	Remove.	>=<	>=<	=	Possible if test is conducted with the bolt withdrawn otherwise not possible.	

C.1.14 Bolts (flush, morticed, internal and surface mounted).	Alternative.	>=<	>=<	=	Not possible to change between types unless tested to EN 1634-1 or evaluated against EN 1634-2.	
C.1.15 Leaf cut-out for through items.	Size.	>=<	>=<	>=<	Possible to decrease the size (area, height or width) but not increase the size otherwise test is required.	Test to include the largest size of the hole cut through the leaf.
C.1.16 Function of latches/locks (e.g. from normal use to emergency/panic use or *vice versa*).	Alternatives.	>=<	>=<	>=<	Possible if the item is covered by the conditions given in C.1.1.	Additional test can be single or double leaf doorset.
C.1.17 Door handles and push pads (i.e. emergency device to EN 179).	Alternative handles or push pads.	>=<	>=<	>=<	Possible to change handles or push pads providing they are surface mounted, otherwise not possible without additional test.	Test to include the required handles/push pads and, if this can be identified, in the most onerous exposure condition. Additional test to be in accordance with EN 1634-1 or EN 1634-2.
C.1.18 Door handles and push pads (i.e. emergency device to EN 179).	Remove.	>=<	>=<	>=<	Possible but the lock assembly shall remain as tested and providing the removal does not expose any areas of potential weakness beneath the element. The removal of the building hardware shall not result in less restraint on the door leaves.	Further test is to include the required elements.
C.1.19 Panic devices (to EN 1125).	Add device.	≤	≤	≤	Possible if the device is fully surface mounted and the door leaf is suitable for an unlatched condition, otherwise not possible without additional test.	Further test is to include the required device if tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction and with the device fitted on the fire exposed face of the doorset with the door leaves opening away from the fire.

C.1.20 Panic devices (to EN 1125).	Alternative.	>=<	>=<	>=<	Possible providing all critical components have a melting point of at least 800 ºC (see C.1 note above) and the restraint mechanism has a similar or greater engagement. Additionally, the amount of material removed from the door leaf should be as tested or less. The intumescent protection, if fitted, is to remain as tested, otherwise further test is required Possible providing that the alternative device is of the same type (internally mounted/morticed or surface mounted), complies with the relevant product standard, is suitable for use on the original doorset and has passed a full size fire test to EN 1634-1 or a small scale fire test to EN 1634-2 and the latch bolt shall have a similar or greater engagement. Additionally, for internal locks, each of the linear dimensions shall be no larger than tested successfully in the original doorset and the amount of material removed from the door leaf shall be as tested in the original doorset or less. The distance between the intumescent protection, if fitted, and the lock forend or the strike plate shall remain as tested, otherwise further test is required.	Further test is to include the required device if tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction and with the device fitted on the fire exposed face of the doorset with the door leaves opening away from the fire.
C.1.21 Panic devices (to EN 1125).	Remove.	>=<	>=<	>=<	Possible but the lock assembly has to remain as tested and providing the removal does not expose any areas of potential weakness beneath the element. For double leaves, the removal of the building hardware shall not result in less retaining points on the door leaves.	Further test is to include the required elements.

C.1.22 Dimension of hinges.	Increase.	>=<	>=<	>=<	Possible to increase the height of the hinge leaves and knuckle and diameter of drill-in hinge spindles by up to 25 %. The width and thickness of the hinge leaves remain as tested. The position of the fixings in relation to the width of the hinge leaves and type of fixings shall also remain as tested. Decorative finials may be added to the knuckles of the hinge. The diameter of the knuckle may increase up to 25 % as long as the thickness of the hinge leaves remains unchanged, otherwise an additional test is required.	Further test is to include the required hinges and tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions.
C.1.23 Dimension of hinges.	Decrease.	>=<	>=<	>=<	Possible providing the hinge has been tested in accordance with EN 1634-1 or EN 1634-2 and all fixing components are replicated from the test, otherwise the hinge shall be tested.	Further test is to include the required hinges and tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions.
C.1.24 Hinge fixing type e.g. screws.	Alternative.	<	<	=	Not possible to change types of fixings.	Test is to include the required hinges and fixing type and tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions Additional test to include the required type of hinge fixings.
C.1.25 Dimension of dog bolts.	Increase.	≤	≤	≤	Possible to increase the cross sectional area by 25 % with a restriction on the increase of any dimension to 25 %.	Test is to include the required sized dog bolts and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions Additional test can be single or double leaf doorset;

C.1.26 Dimension of dog bolts.	Decrease.	≤	≤	≤	Not possible (in line with direct application).	Test is to include the required sized dog bolts and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.
C.1.27 Number of hinges/dog bolts.	Increase.	>=<	>=<	>=<	Possible in line with direct application, otherwise an additional test is required with the required distance between the hinges/dog bolts being tested.	Additional test to EN 1634-1 can be single or double leaf doorset.
C.1.28 Number of hinges/dog bolts.	Decrease.	≤	≤	≤	Possible in line with direct application, otherwise an additional test is required with the required distance between the hinges/dog bolts being tested.	Additional test to EN 1634-1 can be single or double leaf doorset.
C.1.29 Hinges/dog bolts of the same type.	Change of manufacturer.	>=<	>=<	>=<	Possible providing that the alternative item complies with the relevant product standard (if applicable), is suitable for use on the doorset, has the same type and position of fixing and is of the same size, otherwise additional test is required.	Test is to include the required units and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.
C.1.30 Type of hinges.	Alternative material.	>=<	>=<	>=<	To be evaluated in line with the note in C.1.	
C.1.31 Type of hinges.	Alternative type.			=	Possible providing that the alternative item complies with EN 1935, is suitable for use on the doorset, has the same type and position of fixing and the same size.	Test is to include the required hinges and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.

C.1.32 Single axis spring hinges.	Change from single axis spring hinge to single axis hinge.			=	Possible providing that the alternative hinge complies with EN 1935, is suitable for use on the doorset, has the same type and position of fixing and is of the same size otherwise additional test is required.	Test is to include the required hinges and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.
C.1.33 Single axis hinges.	Change of type from a single axis hinge to a single axis spring hinge.	>=<	>=<	>=<	Possible providing that the alternative hinge complies with EN 15887, is suitable for use on the doorset, has the same type and position of fixing and is of the same size otherwise additional test is required.	Test is to include the required hinges and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.
C.1.34 Single axis spring hinges.	Addition or exchange of single axis spring hinge of identical design from an alternative manufacturer.	>=<	>=<	>=<	Possible providing that the alternative hinge complies with EN 15887, is suitable for use on the doorset, has the same type and position of fixing and is of the same size, otherwise additional test is required.	Test is to include the required hinges and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.
C.1.35 Distance from top of upper hinge to top of door leaf.	Increase.	≤	≤	≤	Not possible without an additional full size test.	Test is to include the required hinge position and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.

C.1.36 Distance from top hinge to top of door leaf.	Decrease.	>=<	>=<	>=<	Possible providing the eventual hinge position is at least 100mm from the top of the hinge to the top of the door leaf or possible in line with direct application, otherwise not possible without an additional test.	Test is to include the required hinge position and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.
C.1.37 Distance from bottom of lower hinge to bottom of door leaf.	Increase.	≤	≤	≤	Not possible without an additional test.	Test is to include the required hinge position and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.
C.1.38 Distance from bottom hinge to bottom of door leaf.	Decrease.	>=<	>=<	>=<	Possible providing the eventual hinge position is at least 100 mm from the bottom of the hinge to the bottom of the door leaf.	Test is to include the required hinge position and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction in both exposed face conditions. Additional test can be single or double leaf doorset.

C.1.39 Position of intermediate movement restrictors (i.e. hinges or dog bolts) **– See Figure A.16.**	Variation.	>=<	>=<	>=<	For Category A doors, possible providing the maximum tested dimension between the top or bottom hinge and the intermediate hinge is not increased. Where this is not the case, a further intermediate movement restrictor shall be added so that the maximum distance between two existing movement restrictors is not increased. For Category B doors, it is possible to move the intermediate by up to 300 mm, for dimensions in excess of this, a further intermediate movement restrictor shall be added equidistant between two existing movement restrictors.	
C.1.40 Door closer positioning.	Alternative face of doorset.	>=<	>=<	>=<	Possible on either side except where areas of integrity only glass exist when the door closer must be tested on the unexposed side (this may be a disconnected closer). For unlatched doors, the door closer shall be tested on fire exposed face of the doorset to allow unrestricted use (on either face).	
C.1.41 Concealed door closer positioning in the head/frame of doorset.	Change position or product.	>=<	>=<	>=<	Not possible.	Additional test to include the specific closer required.
C.1.42 Door closer (leaf or frame mounted).	Test with concealed, change for face mounted.	>=<	>=<	>=<	Possible providing alternative unit complies with relevant EN standard for that particular type of door closer and is suitable for the respective doorset and no voids remain in the doorset, otherwise not possible without an additional test.	Test is to include the required door closer and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction. Additional test can be single or double leaf doorset.
C.1.43 Door closer (leaf or frame mounted).	Test with face mounted, change to concealed.	≤	≤	≤	Not possible.	To be tested and including the required door closer and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction. Additional test can be single or double leaf doorset

C.1.44 Door closer of the same type.	Change of manufacturer/alternative.	>=<	>=<	>=<	Possible providing that the alternative closer is of the same type (internally mounted/morticed or surface mounted), complies with the relevant product standard for that particular type of door closer, is suitable for use on the original doorset and has passed a full size fire test to EN 1634-1 or a small scale fire test to EN 1634-2 and is suitable for use on the original doorset. For concealed items, the size of the alternative item cannot be greater than tested in the original doorset and the material removed from the door shall be as tested or less. The intumescent protection, if fitted, shall be the same as tested.	
C.1.45 Floor/transom mounted closing devices/pivots with single action accessories.	Exchange from hinges.	≤	≤	≤	Not possible.	Additional test to include the specific closer and accessories and shall be in accordance with EN 1634-1.
C.1.46 Floor/transom mounted closing devices/pivots with single action accessories.	Exchange to hinges;	>=<	>=<	>=<	Possible providing the hinges, including fixing technique and hinge positions, have been successfully tested on a doorset of the same or more onerous configuration where the leaf construction is fundamentally the same as tested and providing a previously proven closing device is added.	Additional test to include the specific closer and accessories and shall be in accordance with EN 1634-1.
C.1.47 Power cable and protective conduits for electric locks (door or frame) **– See Figure A17.**	Add.	>=<	>=<	>=<	Possible for fully face fixed components, otherwise not possible without specific test evidence.	Additional test to include the specific parameter variation and shall be in accordance with EN 1634-1.

C.1.48 Door viewer.	Add.	>=<	>=<	>=<	Possible for door viewers with glass lenses up to 15mm diameter leaf cut out for classification up to 30 min if they are manufactured from any metal or for periods above 30 min if they are manufactured from metals with a melting point >800°C. Viewer shall be a tight fit and within a solid cored leaf, otherwise not possible without specific test evidence.	Additional test to include the specific door viewer for the required classification period and shall be in accordance with EN 1634-1.
C.1.49 Key tubes (access port within door leaf for key retrieval).	Add.	≤	≤	≤	Not possible without specific test evidence.	Additional test to include the specific key tube required and shall be in accordance with EN 1634-1.
C.1.50 Alarm contacts and proximity switches.	Additional/alternative.	>=<	>=<	>=<	Possible for fully face fixed components or for smaller components than tested, otherwise not possible without specific test evidence.	Additional test to include the specific parameter variation and shall be in accordance with EN 1634-1.
C.1.51 Door signs.	Add.	>=<	>=<	>=<	See rules given in A.5.15 and A.5.16.	
C.1.52 Threshold ‘drop’ seal.	Add.	≤	≤	=	Not possible without additional test.	Test is to include the required seal type and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction. Additional test can be single or double leaf doorset.
C.1.53 Threshold ‘drop’ seal.	Remove.	≤	≤	=	Not possible without additional test.	Test is to include the required threshold condition and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset. Additional test can be single or double leaf doorset.

C.1.54 Threshold seal.	Alternative type.	≤	≤	=	Possible to exchange a tested threshold seal for another one tested in a doorset of the same or more onerous configuration where the leaf construction is fundamentally the same as tested, otherwise additional test required.	Further test to EN 1634-1 to include the required threshold seal.
C.1.55 Letter plates.	Alternative type.	≤	=	=	Possible providing alternative type is tested in a doorset where the leaf construction is fundamentally the same as tested, otherwise additional test required.	Further test to include the required letter plate type. May be to EN 1634-1 or EN 1634-2.
C.1.56 Letter plates.	Alternative size.	≤	=	=	Possible to reduce the size of the letter plate and/or to make the letter plate deeper if the leaf is made thicker but not possible to increase the size without additional test evidence of the letter plate on a similarly constructed door leaf and of the same or thinner leaf thickness.	Further test to include the required letter plate size. May be to EN 1634-1 or EN 1634-2.
C.1.57 Letter plates.	Add.	≤	=	=	Not possible without additional test evidence of the letter plate on a similarly constructed door leaf and of the same or thinner leaf thickness.	Further test to include the required letter plate size. May be to EN 1634-1 or EN 1634-2.
C.1.58 Letter plates.	Remove.	>	>	>	Possible.	
C.1.59Letter plates.	Fitting higher or lower in the leaf.	<	=	=	Possible to reposition between the tested maximum and minimum fitting heights, otherwise not possible without additional test.	Further test to include the required letter plate position. May be to EN 1634-1 or EN 1634-2.
C.1.60 Letter plates.	Fitting to the side of the tested position.	>=<	=	=	Possible, providing the minimum distance between the edge of the leaf and the aperture and between apertures is not reduced otherwise specific test required.	
C.1.61 Door co-ordinator.	Exchange concealed for face mounted.	>=<	>=<	>=<	Possible providing alternative unit complies with relevant EN standard and is suitable for the respective doorset and no voids remain in the doorset.	

C.1.62 Door co-ordinator.	Exchange face mounted for concealed.	≤	≤	≤	Not possible.	Additional test to include the specific co-ordinator required.
C.1.63 Door co-ordinator.	Change of manufacturer.	>=<	>=<	=	Possible providing the alternative and the original door coordinators are of the same type, internal or surface mounted, the alternative door coordinator complies with EN 1158 and is suitable for use on the original doorset. For concealed items, the size of the alternative item cannot be greater than tested in the original doorset and the material removed from the door shall be as tested or less. The intumescent protection, if fitted, shall be the same as tested. Otherwise not possible without additional test.	Test is to include the required coordinator and shall be in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction. Additional test can be single or double leaf doorset.
C.1.64 Exchange the profile cylinder of an internal lock.	Alternative manufacturer/profile.	>=<	>=<	>=<	Possible providing that the alternative cylinder has the same or smaller dimensions as the original cylinder and has been successfully tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction. If the cylinder is a knob cylinder, the dimensions and shape of the alternative cylinder knob shall not prevent the correct operation of the lock-operating element: lever handle, push pad or bar.	Further test is to include the required cylinder tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction.
C.1.65 Exchange cylinder configurations.	Alternative.	>=<	>=<	>=<	Possible to exchange double cylinder for single cylinder or cylinder and thumb-turn/knob or omit cylinders completely (for doors without cylinder preparation).	Further test is to include the required cylinder/preparation tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction.

C.1.66 Electrically powered hold open device.	Exchange original concealed for alternative face mounted.	>=<	>=<	=	Possible providing the alternative unit complies with the EN 1155, is suitable for use on the original doorset and no voids remain in the doorset. The cable shall be external or, if it is internal, it shall require the same preparation in the door and in the frame as tested in the original doorset. The intumescent protection, if fitted, shall remain the same as tested.	Further test is to include the required item tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction.
C.1.67 Electrically powered hold open device.	Exchange original face mounted for alternative concealed.	<	<	<	Not possible without further tests.	
C1.68 Electrically powered hold open device.	Change of manufacturer/alternative.	>=<	>=<	=	Possible providing the alternative and the original door devices are of the same type, internal or surface mounted, the alternative device complies with EN 1155 and is suitable for use on the original doorset. For concealed items, the size of the alternative item cannot be greater than tested in the original doorset and the material removed from the door shall be as tested or less. The cable shall be external or, if it is internal, it shall require the same preparation in the door and in the frame as tested in the original doorset. The intumescent protection, if fitted, shall remain the same as tested, otherwise not possible without additional test.	Further test is to include the required item tested in accordance with EN 1634-1 or EN 1634-2 on a representative doorset construction.

D. Side/transom panels and flush over panels						
D.1. Panel arrangements The test arrangements and possible arrangements following a successful test are appropriate for timber frame sections and metallic frame sections. However, the results from a series of tests on timber frames is not applicable to metallic frames and *vice versa*. In these cases, the suggested arrangement should be tested for each type of frame material.						
D.1.1 Side/overpanel/transom panel arrangement.	Variation of tested arrangement.	>=<	>=<	>=<	A successful test on a construction indicated by a figure in Annex B would allow the variations indicated in subsequent figures in Annex B. Also Figures B.7 and B.8 will be permitted in double leaf configuration following a test to B1 and/or B2 configuration. The above assumes the fixing/retention method of the panelling system is retained, otherwise a specific test is required.	Additional test to EN 1634-1.
E. Glazing for door leaf or side/over panels						
E. 1 General Glass panels on their own do not have a classification. The fire resistance classification is derived from testing in specific edge framing techniques. Where the fire performance classification is referred to in this section, this may be determined by alternative testing of glass panels of the same or larger height and/or width to those tested by the particular door test(s). Where “similar edge fixing technique” is referred to, this means that the technique used in the original door test should be replicated exactly in terms of the retention detail or that the technique may be modified to accommodate a technique proven in an alternative test to determine fire performance characteristics. For double leaf doorsets, both leaves shall be similarly glazed unless tested to show maximum and minimum amounts of leaf cut out in opposing leaves of the same double leaf doorset, after which time any sizes of leaf cut out in between those tested are acceptable.						
E.1.1 Glazed panel.	Add.	≤	≤	≤	Not possible without an additional test.	Additional test to include the required glass.
E.1.2 Glazed panel.	Remove.	>=<	>=<	>=<	Possible where glazed panel ≤ 25 % of leaf area or ≤ 30 % of leaf area for low distortion doors, or ≤ 35 % of leaf area for low distortion doors that achieve Category B, otherwise not possible without additional test.	Additional test to include a solid (unglazed) leaf.

E.1.3 Thickness of glass.	Increase.	>=<	>=<	>=<	Possible providing the alternative thickness has no lower fire resistance performance than required and that a similar edge fixing technique is used and that the alternative thickness does not add more than 25 % to the weight of the door leaf, otherwise not possible without additional test.	Additional test to include the specific parameter variation.
E.1.4 Thickness of glass.	Decrease.	>=<	>=<	>=<	Possible providing the alternative glass has no lower fire resistance performance than required and has a similar edge fixing technique, otherwise not possible without additional test.	Additional test to include the specific parameter variation.
E.1.5 Dimensions of each pane **- See Figure A18.**	Increase.	>=<	=	>=<	Possible up to a maximum 15 % increase in height and/or width subject to a maximum increase of 20 % in area for glazing tested in a door which achieved Category B overrun time and providing the distance between the edge of glazing and the perimeter of the door leaf/panel is not decreased, otherwise not possible without an additional test.	Additional test to include the maximum pane size. Test can be single or double-leaf doorset.
E.1.6 Dimensions of each pane **- See Figure A19.**	Decrease.	>=<	>=<	>=<	Possible to reduce the size of the leaf cut out by 50 % and minimum distance between the edge of the leaf and the cut out is not reduced. Otherwise separate test required and then sizes between the two tested cut out sizes are acceptable.	Test to include required size of panel.

E.1.7 Type of glass.	Change of glass type.	>=<	>=<	>=<	Possible to exchange one type of fire-resistant glass for another with the same (or better) fire resistance classification provided that it can be demonstrated that both glasses are within the same glass product family (same manufacturer) and have at least the same or increased nominal thickness. For glass covered by the product standards EN 572-9, EN 1748-2 and EN 13024-2 it is possible to exchange one type of fire-resistant glass for another with the same (or better) fire resistance classification provided that it can be demonstrated that the new glass is within the same glass Product Standard and has a similar edge fixing technique, otherwise not possible without an additional test.	Additional test to include the required type of glass and to EN 1634-1 or for low distortion doors only to EN 1364-1
E.1.8 Materials and geometry of edge fixing technique (with the same glass type).	Alternative.	>=<	>=<	>=<	Not possible without additional test.	Additional test to EN 1634-1 or for low distortion doors only to EN 1364-1.
E.1.9 Type of glazing bead fixings.	Alternative.	>=<	>=<	>=<	Possible to change from pins/nails to screws but not *vice versa*; the length of the fixing shall remain as tested. The fixing details shall otherwise remain unchanged.	
E.1.10 Shape of glazing **- See Figure A20.**	Alternative.	>=<	>=<	>=<	Possible providing the proposed aperture can fit within the tested aperture. It is also required that there is no change to edge fixing technique and providing there is test evidence on the glass to support the shape selected and subject to the extended application rules in EN 15254-4 otherwise additional test is required.	Additional test to include the specific parameter variation to EN 1634-1 or for low distortion doors only to EN 1364-1.
E.1.11 Number of glazed apertures **– See Figure A21**	Increase	>=<	>=<	>=<	Possible providing the distance between panes has been tested in the door leaf and providing this distance is not reduced and providing the tested area is not to be exceeded (i.e. the minimum distance between edge of panes and perimeter of door leaf/panel is not decreased), otherwise additional test is required.	Additional test to include the specific parameter variation.

E.1.12 Number of glazed apertures.	Decrease.	>=<	>=<	>=<	Possible providing the glass area to be removed is not more than 50 % of that tested.	
E.1.13 Distance between the edge of glazing and the perimeter of the door leaf/panel.	Increase.	>=<	>=<	>=<	Possible subject to aperture size reduction limits.	
E.1.14 Minimum distance between the edge of glazing and the perimeter of the door leaf/panel.	Decrease.	≤	≤	≤	Not possible without an additional test.	Additional test can be single or double leaf doorset with or without panel.
E.1.15 Distance between glazed apertures.	Increase.	>=<	>=<	>=<	Possible.	
E.1.16 Minimum distance between glazed apertures **- See Figure A22.**	Decrease.	≤	≤	≤	Not possible without an additional test.	Additional test can be single or double leaf doorset with or without panel.
F Supporting construction and attachment (technique) of door frame or side / over panels **F.1 General**						
F.1.1.Supporting construction.	Flexible to rigid.	>=<	>=<	>=<	Possible in line with direct application only.	
F.1.2 Supporting construction.	Rigid to flexible.	>=<	>=<	>=<	For doorsets with timber frames in accordance with direct application only for all other types of door frame, it is not possible without an additional test.	Additional test can be single or double leaf doorset fitted into a flexible wall.
F.1.3 Type of fixings.	Alternative type and/or manufacturer.	>=<	>=<	>=<	Possible providing the fixings have the same melting point as the fixings tested or greater. Also possible providing the fixings are appropriate to the construction and the fixing technique is not changed and has previously been successfully tested in similar supporting construction.	

F.1.4 Number and size of fixings.	Increase.	>=<	>=<	>=<	Possible in line with direct application.	Additional test can be single or double leaf doorset.
F.1.5 Number and size of fixings.	Decrease.	≤	≤	≤	Not possible without an additional test in similar supporting construction.	Additional test can be single or double leaf doorset with or without a panel.
F.1.6 Distance between fixings.	Increase.	>=<	>=<	>=<	Possible for up to 15% increase in fixing centres, otherwise not possible without an additional test.	Additional test can be single or double leaf doorset with or without a panel.
F.1.7 Distance between fixings.	Decrease.	>=<	>=<	>=<	Possible in line with direct application.	
F.1.8 Fixing to floor.	Cleated to sunk.	>=	>=	>=	Possible.	
F.1.9 Fixing to floor.	Sunk to cleated.	≤	≤	≤	Not possible without an additional test.	Additional test can be single or double leaf doorset with or without a panel.
F.1.10 Gap between door leaf and sill.	Increase.	>=<	>=<	>=<	Possible up to a 50 % increase in the tested gap size but limited to a maximum of 12 mm total gap size. For gaps over 12mm additional test is required.	Additional test to include the maximum required gap size.
F.1.11 Gap between door leaf and sill.	Decrease.	>=	>=	>=	Possible.	
F.1.12 Gap between door frame and wall.	Increase.	≤	≤	=	Not possible.	
F.1.13 Gap between door frame and wall.	Decrease.	≤	≤	=	Possible to reduce the size of the gap providing the gap is sealed using a previously tested solution.	Test can include maximum gap size on one edge and minimum gap on the opposing side.
F.1.14 Sealing of the gap between door frame and wall.	Alternative seal.	>=<	>=<	>=<	Alternative type is possible only if the material has been successfully tested in the same condition. The seal cannot be removed.	

Figures referred to in Annex A:

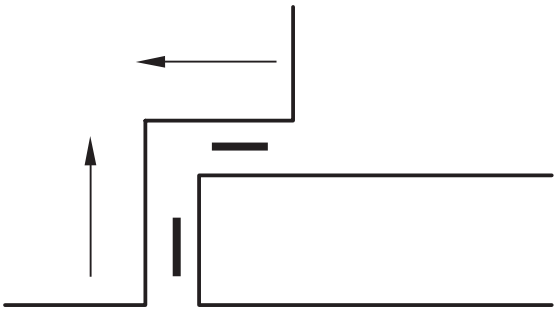


Figure A.1 — Intumescent seals (fitted at leaf to frame interface)

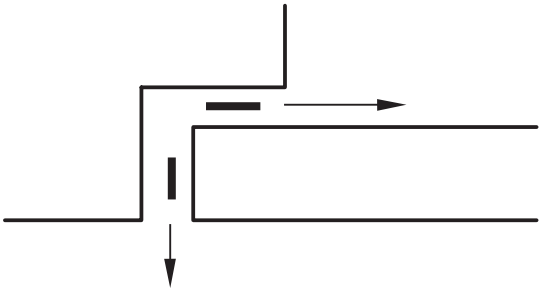


Figure A.2 — Intumescent seals (fitted at leaf to frame interface)

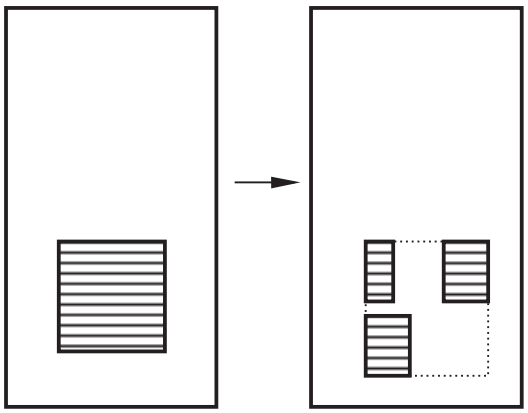


Figure A.3 — Louvres in door leaf or panel tested with louvre

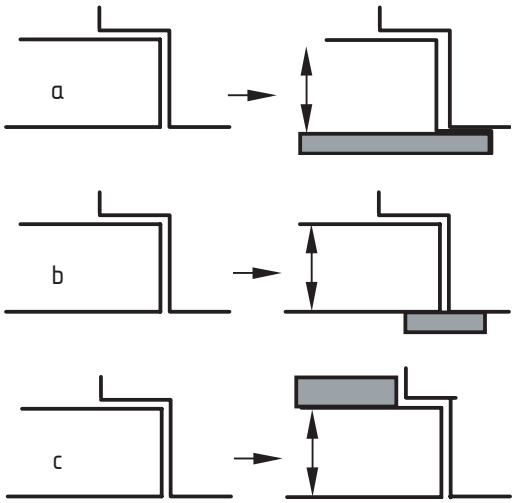
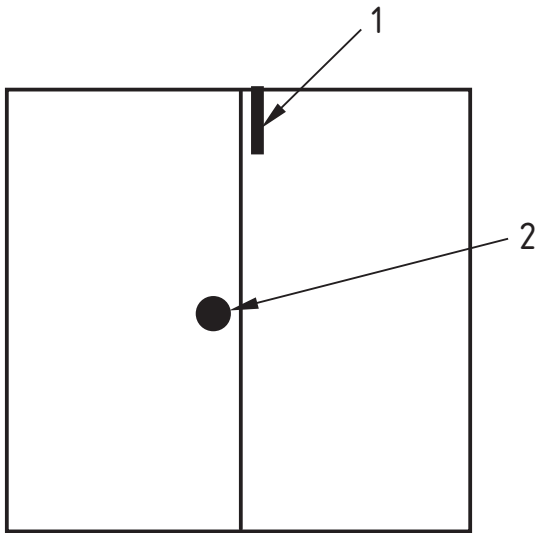


Figure A.4 a to 4c — Leaf edge rebate (to door leaf or panel – not at the meeting edges



Key

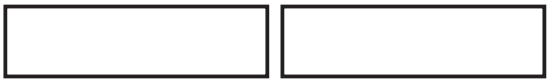
1 bolt (top bolt shown; may also include bolt at the base of the leaf)

2 latch

Figure A.5 — Latched condition for double leaf doorsets

a) rebated equal

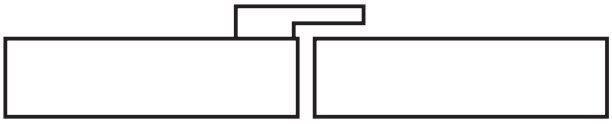
b) rebated unequal



c) unrebated (plain or square edges)

d) unrebated (rounded edges)

e) unrebated (slanted)



f) closing strip (applied astragal)

g) double rebated

Figure A.6 — Meeting edge details

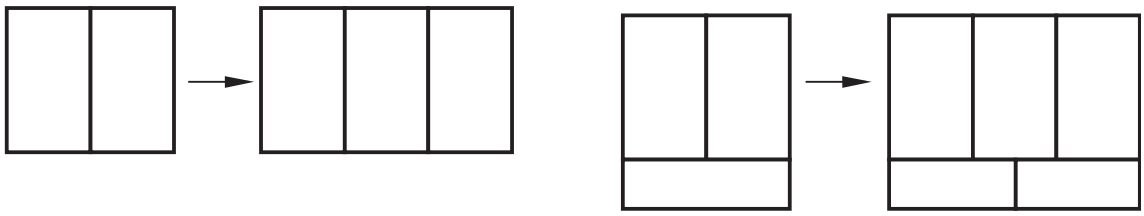


Figure A.7 — Pattern of core material of leaf or panel (two examples shown)

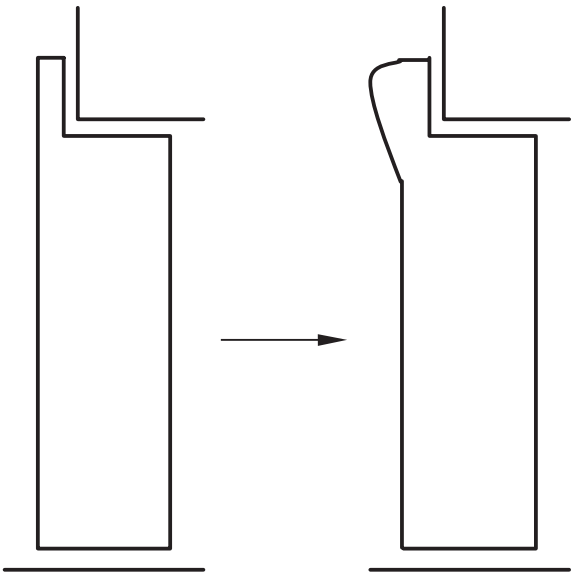


Figure A.8 — Decorative leaf or panel edge details (example only)

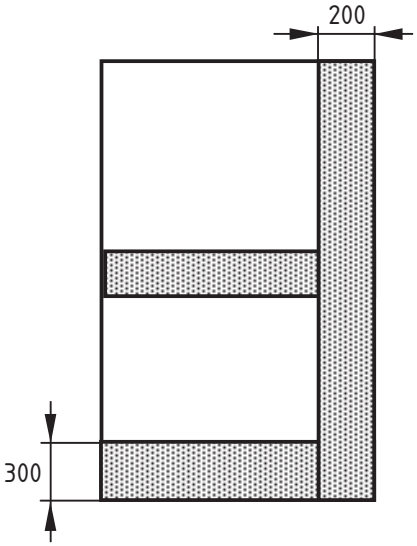
Key

1 lipping

2 door leaf

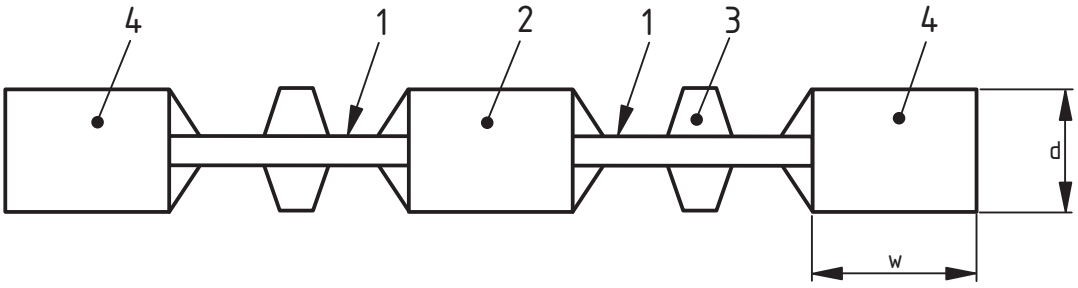
Figure A.9 — View of lippings attached to door leaf

Dimensions in millimetres



NOTE Dimensions for bottom kick plates may also be 500mm if mid horizontal plate is omitted.

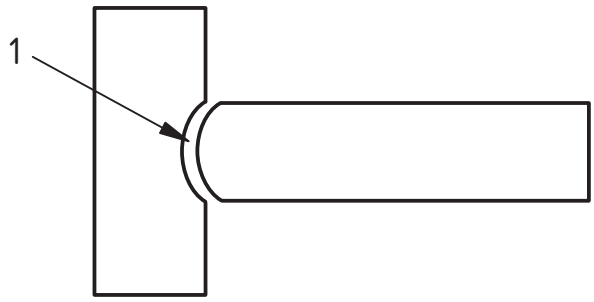
Figure A.10 — Protective metal plates



Key

1 glass/panel infill
2 intermediate framing
3 glazing bar
4 perimeter framing
d depth
w width

Figure A.11 — Cross-section view of Joinery type framed doorsets and openable windows



Key

1 scalloped section of frame

Figure A.12 — Scalloped frame detail

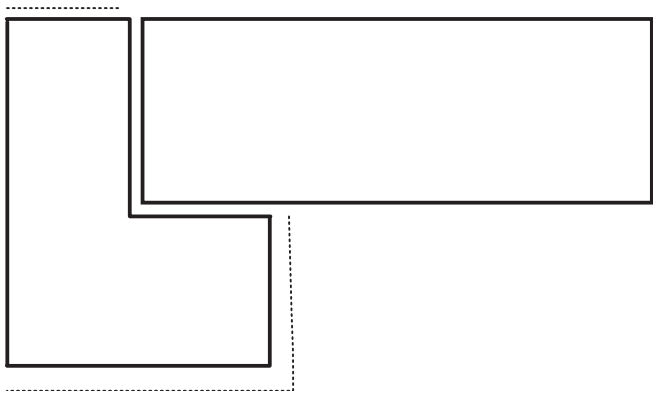


Figure A.13 — Protection of frame members

Dimensions in millimetres

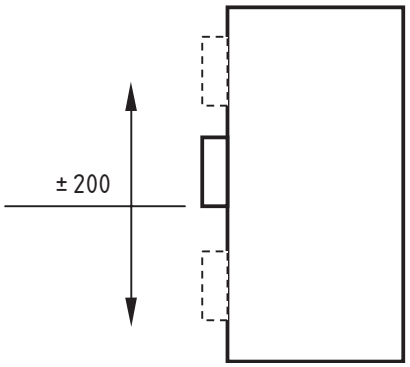
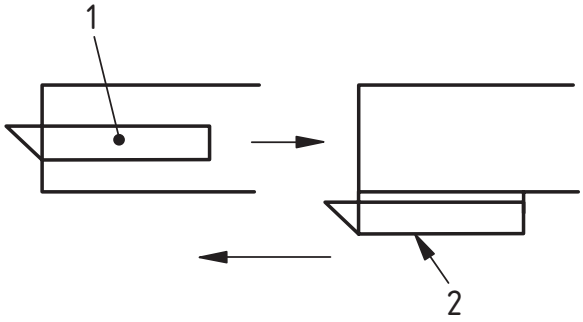


Figure A.14 — Position of lock assembly



Key

1 internal mounted

2 surface mounted

Figure A.15 — Latches/locks/bolts

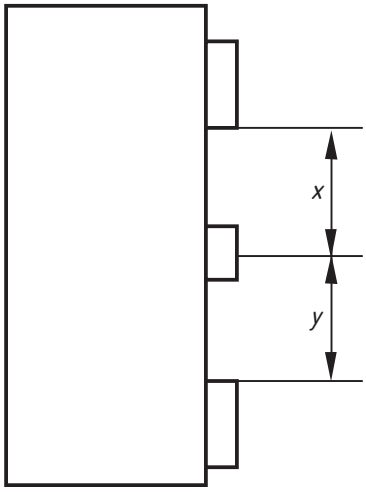


Figure A.16 — Position of intermediate movement restrictors (i.e. hinges or dog bolts)

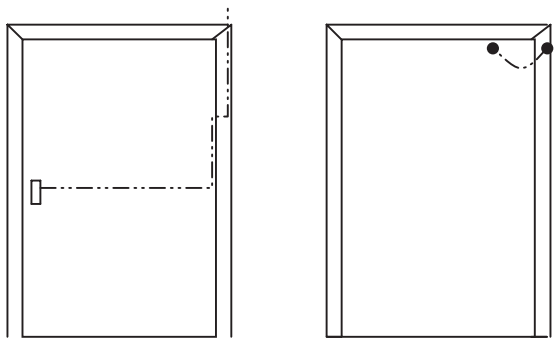


Figure A.17 — Power cable and protective conduits for electric locks (door or frame)

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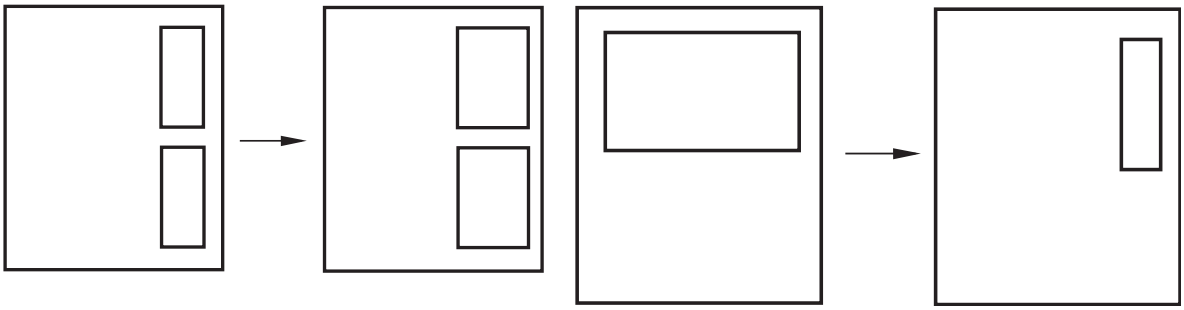
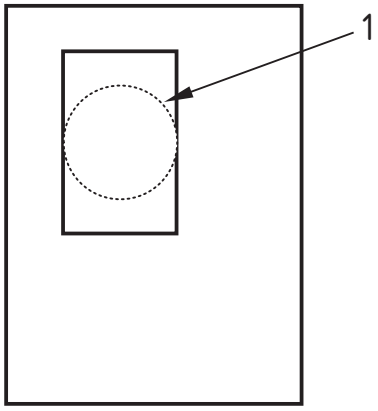


Figure A.18 — Dimensions of each pane

Figure A.19 — Dimensions of each pane



Key

1 example of acceptable area

Figure A.20 — Shape of glazing

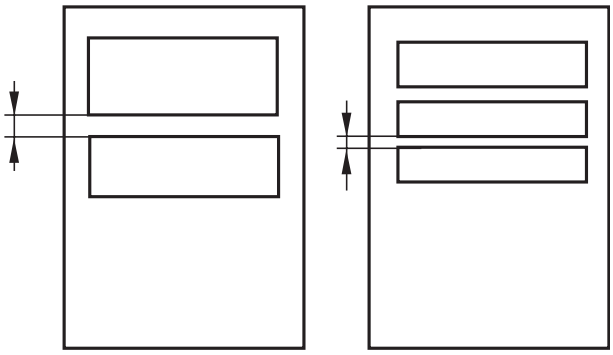


Figure A.21 — Number of glazed apertures

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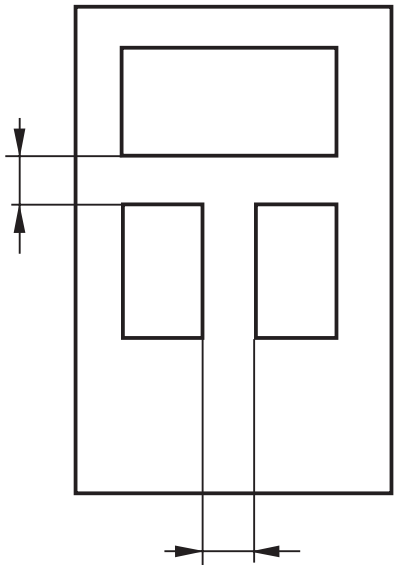

Figure A.22 — Distance between glazed apertures

Annex B
(normative)

Arrangements for doorsets incorporating side and/or overpanels

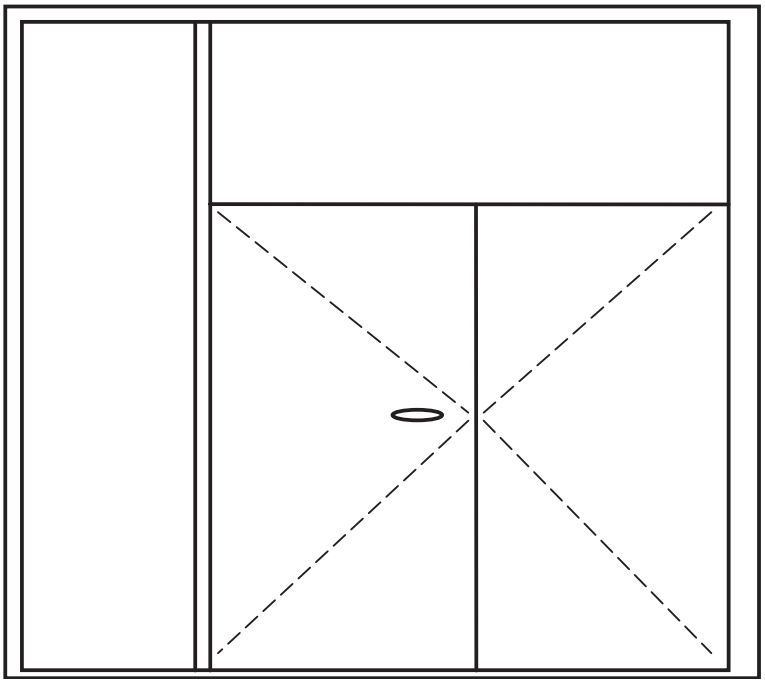

Figure B.1 — Arrangement to test for double leaf configurations without a transom member

A successful test on the configuration shown in Figure B.1 will cover the variations shown in Figures B.2 to B.8 by reference to Section D in Annex A.

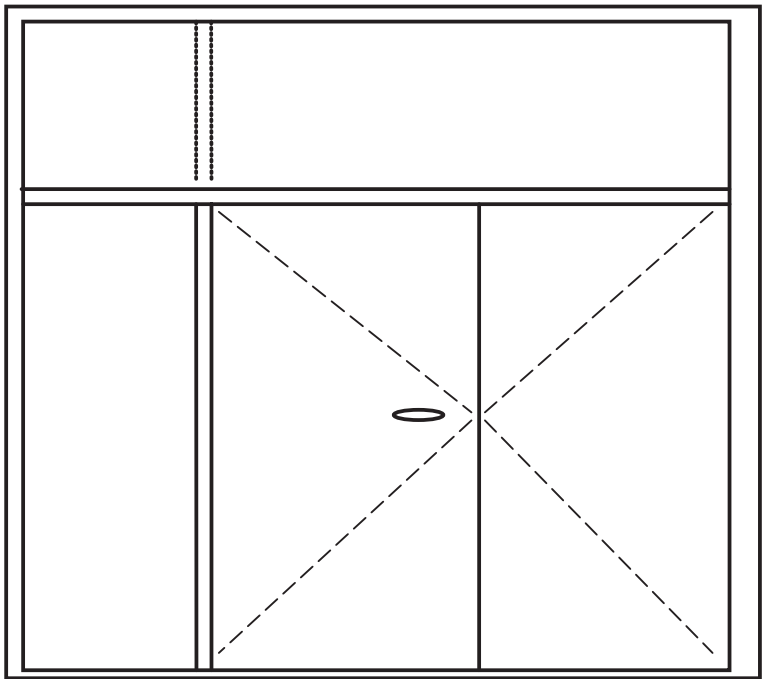

Figure B.2 — Arrangement to test for double leaf configurations with a transom member

A successful test on the configuration shown in Figure B.2 will cover the variations shown in Figures B.3 to B.8 by reference to Section D in Annex A.

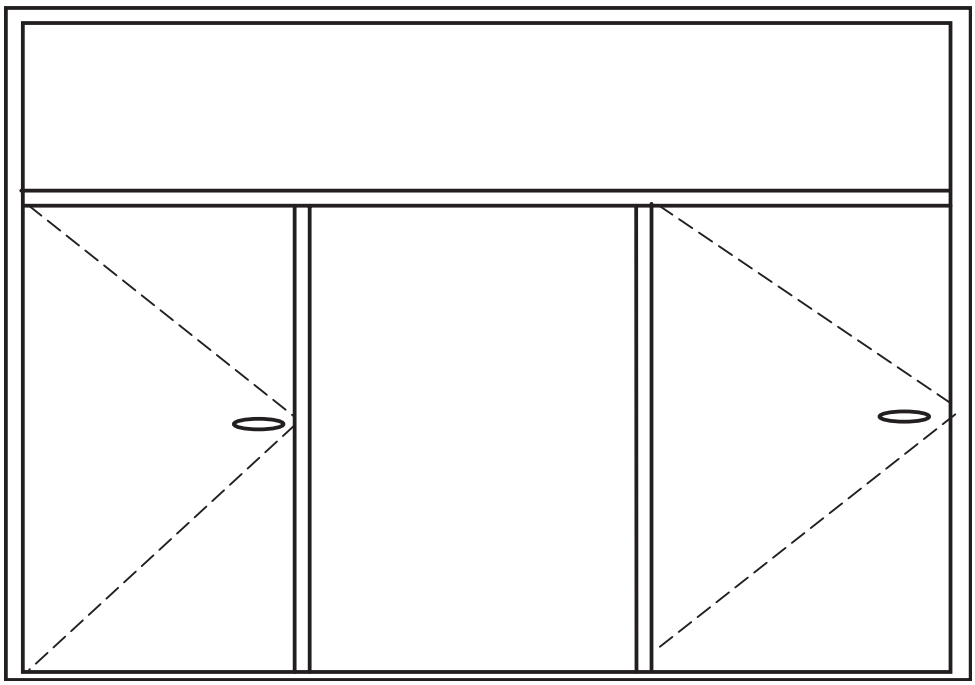

Figure B.3 — Arrangement to test for single leaf configurations with a transom member

A successful test on the configuration shown in Figure B.3 will cover the variations shown in Figures B.4 to B.8 by reference to Section D in Annex A.

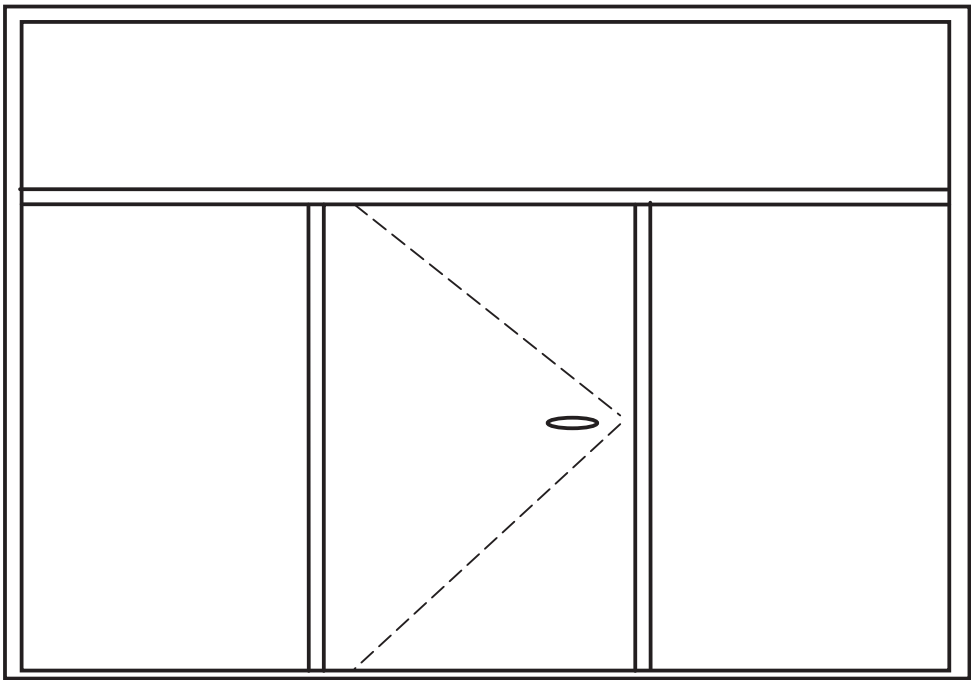

Figure B.1 — Arrangement to test for single leaf configurations with a transom member

A successful test on the configuration shown in Figure B.4 will cover the variations shown in Figures B.5 to B.8 by reference to Section D in Annex A.

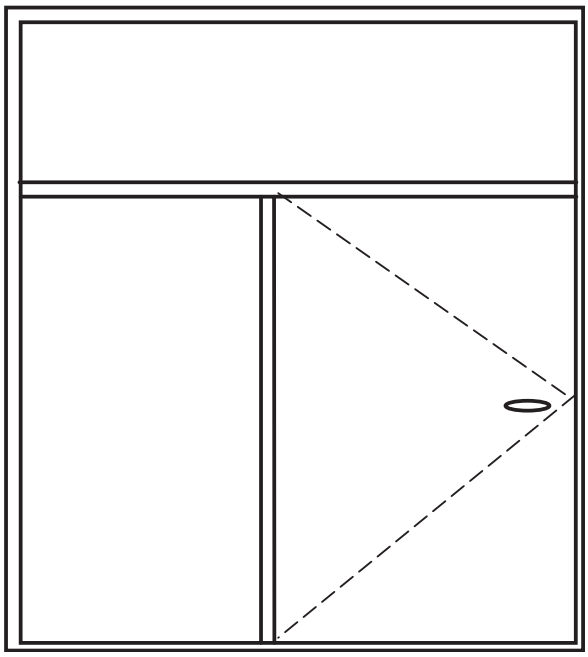

Figure B.5 — Arrangement B5

A successful test on the configuration shown in Figure B.5 will cover the variations shown in Figures B.6 to B.8 by reference to Section D in Annex A.

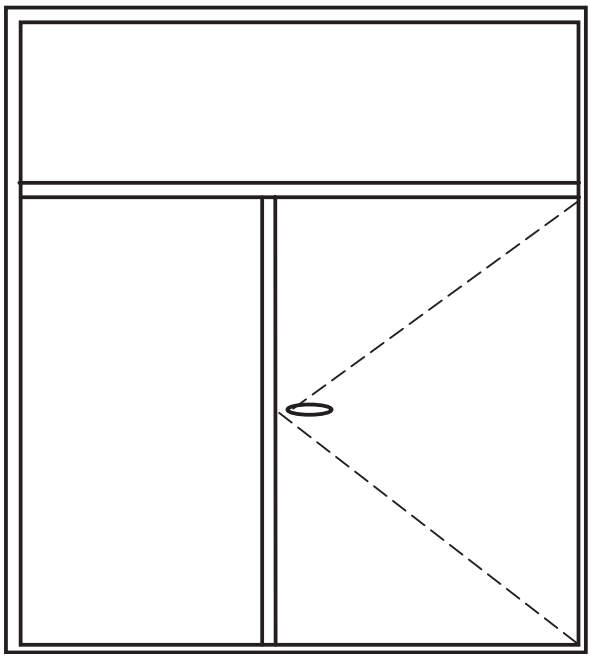

Figure B.6 — Arrangement B6

A successful test on the configuration shown in Figure B.6 will cover the variations shown in Figures B.7 to B.8 by reference to Section D in Annex A.

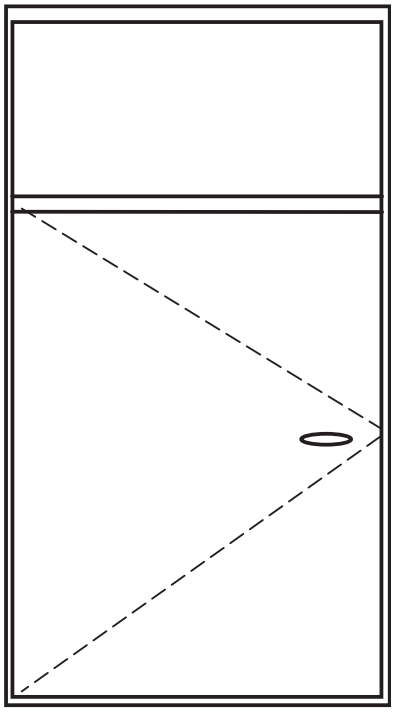

Figure B.7 — Arrangement B7

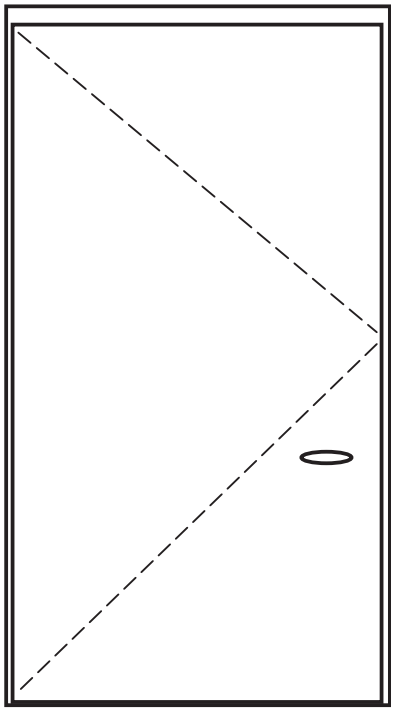

Figure B.8 — Arrangement B8

A successful test on the configuration shown below in Figure B.7 will cover the variations shown in Figure B.8 by reference to Section D in Annex A.

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