SLOVENSKI STANDARD
kSIST FprEN 15269-3:2012

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

Extended application of test results for fire resistance and/or smoke control for 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

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

Ta slovenski standard je istoveten z: **FprEN 15269-3**

ICS:

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

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EUROPEAN STANDARD

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FINAL DRAFT
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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

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (FprEN 15269-3:2011) has been prepared by Technical Committee CEN/TC 127 “Fire safety in buildings”, the secretariat of which is held by BSI.

This document is currently submitted to the Unique Acceptance Procedure.

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:

— *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.*

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.

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 referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

EN 844 (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*

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, *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 13943:2008)*

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. It 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. 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, 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. 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 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

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 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 in order 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 then 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 also record 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 variation.

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, 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

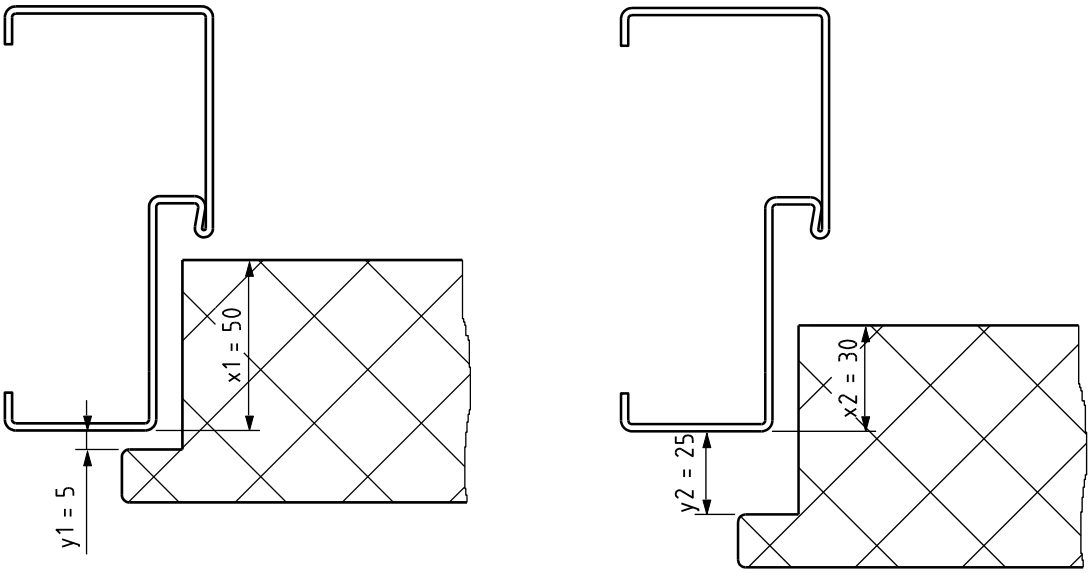

Figure 1 — Effective rebate depth

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 from 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 on integrity, I for effects on insulation (whether I_1 or I_2) and 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

Definitions 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 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)			(4)	(5)
		E	I	W		
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.