SLOVENSKI STANDARD
oSIST prEN 15269-5:2024

01-julij-2024

Razširjena uporaba rezultatov preskusov požarne odpornosti in/ali dimotesnosti za vrata, zaporne elemente in okna, ki se odpirajo, vključno z njihovim okovjem - 5. del: Požarna odpornost zastekljenih vrat v kovinskih okvirjih in oken, ki se odpirajo

Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware - Part 5: Fire resistance of hinged and pivoted metal framed glazed doorsets and openable windows

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

Application étendue des résultats d'essais en matière de résistance au feu et/ou d'étanchéité à la fumée des blocs portes, blocs fermetures et ouvrants de fenêtre, y compris leurs éléments de quincaillerie intégrés - Partie 5 : Résistance au feu des blocs portes vitrés battants et pivotants, à ossature métallique, et des fenêtres vitrées à ossature métallique

Ta slovenski standard je istoveten z: **prEN 15269-5**

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
91.190	Stavbna oprema	Building accessories

oSIST prEN 15269-5:2024 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 15269-5

May 2024

ICS 13.220.50; 91.060.50

Will supersede EN 15269-5:2014+A1:2016

English Version

Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware - Part 5: Fire resistance of hinged and pivoted metal framed glazed doorsets and openable windows

Application étendue des résultats d'essais en matière de résistance au feu et/ou d'étanchéité à la fumée des blocs-portes, blocs-fermetures et ouvrants de fenêtre, y compris leurs éléments de quincaillerie intégrés - Partie 5: Résistance au feu des blocs-

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

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

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Ref. No. prEN 15269-5:2024 E

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European foreword

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

This document is currently submitted to the CEN Enquiry.

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

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

This document is part of the EN 15269 series, *Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware*.

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

1 Scope

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

Subject to the completion of the appropriate test or tests selected from those identified in Clause 4, the extended application can cover all or some of the following examples:

— integrity (E), integrity & radiation (EW) or integrity & insulation (EI_1 or EI_2) classification,

— glazed elements including vision panels and framed glazed doorsets,

— air transfer grilles (louvres and/or vents),

— side, transom or over panels,

— items of building hardware,

— decorative and protective finishes,

— intumescent seals and non-intumescent (smoke, draught or acoustic) seals,

— alternative supporting construction(s).

This document does not cover horizontal doorsets.

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

2 Normative references

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

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

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

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

EN 1634-1, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 1: Fire resistance test for door and shutter assemblies and openable windows*

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

EN 1748-2-2, *Glass in building - Special basic products - Glass ceramics - Part 2-2: Evaluation of conformity/Product standard*

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

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

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

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

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

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

3 Terms and definitions

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

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

— ISO Online browsing platform: available at https://www.iso.org/obp/

— IEC Electropedia: available at http://www.electropedia.org/

3.1
full scale test
test of a full scale doorset

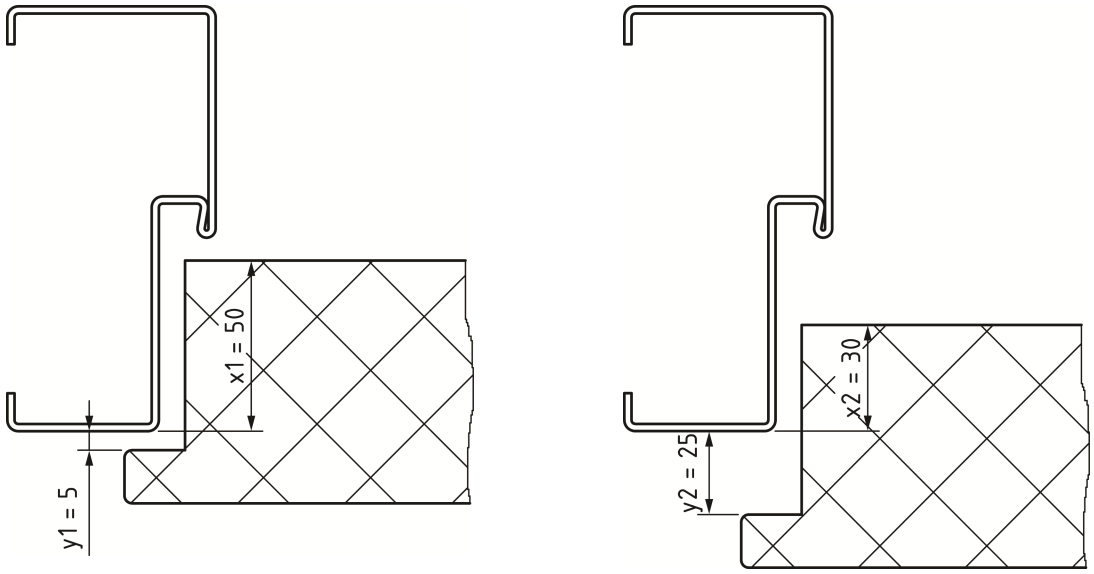
Note 1 to entry: The method of reference for determining the fire resistance of the products in the scope of this standard shall be EN 1634-1.

3.2
small scale test
test on elements of building hardware

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

3.3
effective rebate depth
dimension of the door leaf thickness of overlapping adjacent edges of door leaf relative to the door frame, transom or side panel or flush overpanel

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



Key

x1 example of effective rebate depth in doorset to be tested

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

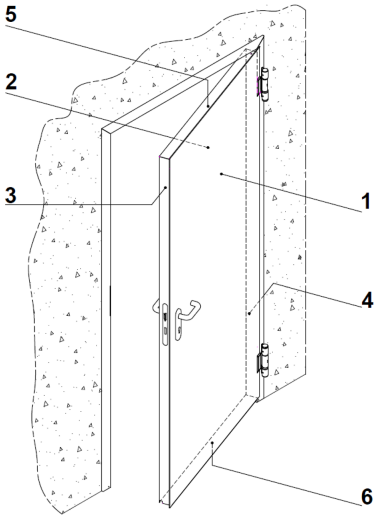
y1 example of over rebate to frame face clearance in doorset to be tested

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

Figure 1 — Effective rebate depth

3.4
opening outwards
means opening the door leaf away from the fireside

3.5
faces and sides of a hinged door leaf
the faces and sides of a hinged door leaf are shown in Figure 2



Key

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

Figure 2 — Faces and sides of a hinged door leaf

3.6
representative
similar
door leaf design having 'fundamentally the same' or 'similar' construction as another door leaf design for the purpose of evaluating parameter variations, providing the relevant aspects of tested performance are considered

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

4 Determination of the field of extended application

4.1 General

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

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

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

4.2 How to use extended application rules in Annex A

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

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

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

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

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

The most onerous configuration shall be the one with the lowest relevant performance in terms of mode of failure and/or highest distortion but shall also be evaluated taking the intended construction parameter variation(s) into account. For example, if the construction parameter variation involves a change to glazing or side panel and over panel configurations then the previous result where these have been tested would need to be used to make the evaluation of most onerous. The result for a single unglazed doorset would not be suitable and can therefore be discounted when making the evaluation.

4.3 Procedure for maximum field of extended application

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

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

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

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

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

4.3.6 Record this for the extended application report together with any restrictions and rules given in column (3) in Table A.1.

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

4.3.8 Determine if the product range is to include only single leaf doorsets or if the range is to also include double leaf configurations. Where only single doorsets are to be part of the product range, the outstanding construction parameter variations shall only be incorporated into specimens for the single leaf doorset. Where single leaf and double leaf doorsets are to be included in the product range, the outstanding construction parameter variations for the extended application of single leaf doorsets may be incorporated into either repeated single leaf doorset resistance to fire tests or in the weakest option, as defined in column (4) of Table A.1, double leaf doorset configurations.

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

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

4.4 Analysis of resistance to fire test results

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

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

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

5 Extended application report

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

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

6 Classification report

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

Annex A
(normative)

Construction parameter variations

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

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

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

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

— Low: < 40 % of effective rebate depth;

— Medium: ≥ 40 % and ≤ 85 % of effective rebate depth;

— High: > 85 % of effective rebate depth.

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

Where additional tests are deemed to be necessary, the type of specimen approved for incorporation of the changed parameter is defined in column (4). Where it is possible to use information from tests performed on one configuration for evidence on a different configuration, this allowance has been made in order to reduce the overall number of tests required for extended application evaluation e.g. single action doorsets to double action doorsets.

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

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

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

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

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

Table A.1 — Construction parameter variations

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A Door leaf In certain cases, the rules given in Section A are also appropriate to side, transom and over panels or the door frame; where this is the case it is clearly indicated in column (1). For double leaf doorsets, both leaves shall be of the same basic construction.			
A.1 General			
A.1.1 Number of leaves — See Figure A.1	Single leaf from double leaf test	Not possible without an additional test	Additional test single leaf doorset with glazing bead in fire side
A.1.2 Number of leaves -— See Figure A.1	Double leaf from single leaf test	Not possible without an additional test	Additional test (s) double leaf doorset open outwards and inwards for doorsets with insulated profiles with glazing bead in fire side Open outwards for doorsets with un-insulated profiles with glazing bead in fire side
A.1.3 Intumescent seals between frame and door leaf / leaves- See Figure A.2a	Location towards the frame rebate	Not possible without an additional test	Additional test single leaf or double leaf doorset (open outwards)
A.1.4 Intumescent seals between frame and door leaf / leaves – See Figure A.2b	Location away from the frame rebate	Not possible without an additional test	Additional test single leaf or double leaf doorset (open outwards)
A.1.5 Intumescent seals between frame and door leaf / leaves	Add	Not possible without an additional test	Additional test single or double leaf doorset

Construction parameter	Variation	Possibility of extension	Additional evidence required
(1)	(2)	(3)	(4)
A.1.6 Intumescent seals between frame and door leaf / leaves	Remove	Not possible without an additional test	Additional test single or double leaf doorset
A.1.7 Intumescent seals between meeting edges of the door leaves - See Figure A.3 a)	Location	Not possible without additional test (s)	Additional test (s) double leaf doorset open outwards for E and EW doors For EI aluminium doors: test both directions For EI-steel doors: one test, with fire on opposite side of the operated direction. See Figure A.3 b)
A.1.8 Non-intumescent seals between frame and door leaf / leaves (draught / smoke / acoustic etc.) - (Reaction to fire class A1) e.g. ceramic products (fitted in leaf or frame). See Figure A.4	Location	Any movement possible providing no modifications of the construction are required otherwise not possible without an additional test	Additional test single or double leaf doorset if the seal is positioned between the meeting edges of the door leaves the additional test shall be a double leaf doorset