SLOVENSKI STANDARD
SIST EN 15269-2:2024

01-december-2024

Nadomešča:
SIST EN 15269-2:2013

Razširjena uporaba rezultatov preskusov požarne odpornosti in/ali dimotesnosti za vrata, zaporne elemente in okna, ki se odpirajo, vključno z njihovim okovjem - 2. del: Požarna odpornost jeklenih vrat z vrtljivim krilom

Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware - Part 2: Fire resistance of hinged and pivoted steel doorsets

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

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

Ta slovenski standard je istoveten z: **EN 15269-2:2024**

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

SIST EN 15269-2:2024 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15269-2

October 2024

ICS 13.220.50; 91.060.50

Supersedes EN 15269-2:2012

English Version

Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware - Part 2: Fire resistance of hinged and pivoted steel doorsets

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

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

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European foreword

This document (EN 15269-2:2024) has been prepared by Technical Committee CEN/TC 127 “Fire safety in buildings”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2025, and conflicting national standards shall be withdrawn at the latest by April 2025.

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

This document supersedes EN 15269-2:2012.

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

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

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

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

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

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

— door leaf;

— side panels, transom panels, flush overpanels;

— air transfer grilles (e.g. ventilation grilles/louvres);

— components (e.g. frame/suspension system) fixed to the supporting construction (e.g. wall/ceiling);

— glazing within the doorset (e.g. for door leaf, side, transom and flush overpanels);

— items of building hardware;

— decorative and protective finishes;

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

— alternative supporting construction(s).

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

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

2 Normative references

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

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

EN 1125, *Building hardware — Panic exit devices operated by a horizontal bar, for use on escape routes — Requirements and test methods*

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

EN 1158, *Building hardware — Door coordinator devices — Requirements and test methods*

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

EN 1363-2, *Fire resistance tests — Part 2: Alternative and additional procedures*

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

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

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

EN 12519, *Windows and pedestrian doors — Terminology*

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

EN 15254-4:2018, *Extended application of results from fire resistance tests — Non-loadbearing walls — Part 4. Glazed constructions*

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

EN 15725, *Extended application on the fire performance of construction products and building elements: Principle of EXAP standards and EXAP reports*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1363-1, EN 1363-2, EN 1634-1, EN 1634-2, EN 12519, EN 15269-1, EN 15725 and EN ISO 13943 and the following apply.

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

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

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

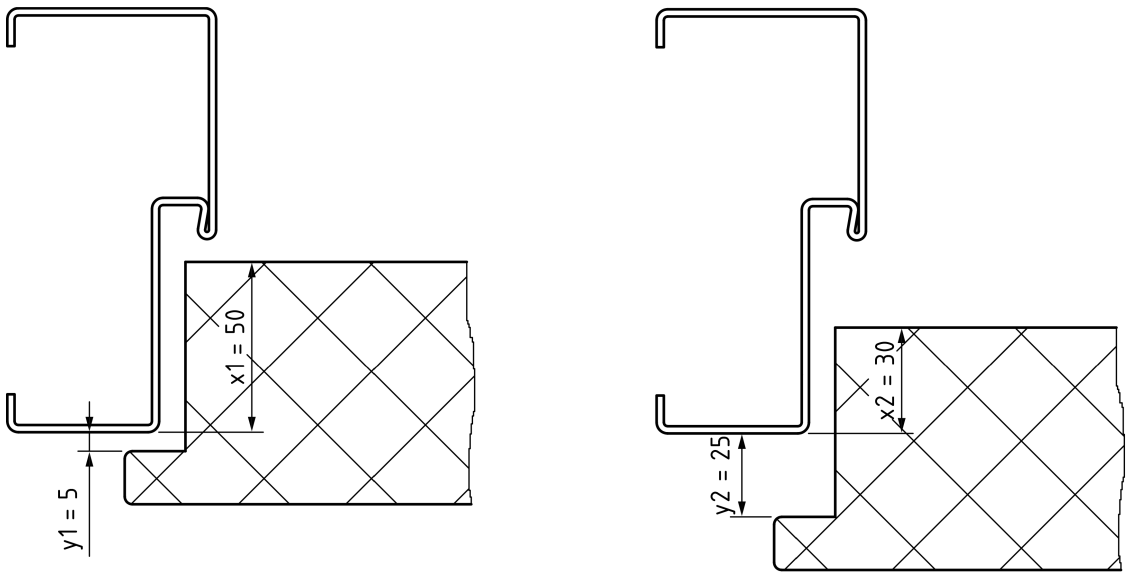
3.1
full scale test
test of a doorset in accordance with EN 1634-1

3.2
small scale test
test on items of building hardware in accordance with EN 1634-2

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

Note 1 to entry: See Figure 1.

Dimensions in millimetres



a) **b)**

Key

x1 Example of effective rebate depth in doorset to be tested – 50mm

x2 Example of resulting effective rebate depth during testing after movement of 20mm – 30mm

y1 Example of distance between over rebate and frame face in doorset to be tested – 5mm

y2 Example of distance between over rebate and frame face in doorset after movement of 20mm – 25mm

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

Level of distortion according to Annex A: medium

Figure 1 — Effective rebate depth

3.4
panel
component of a door leaf separated from other elements by joints which break through the total door leaf thickness

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

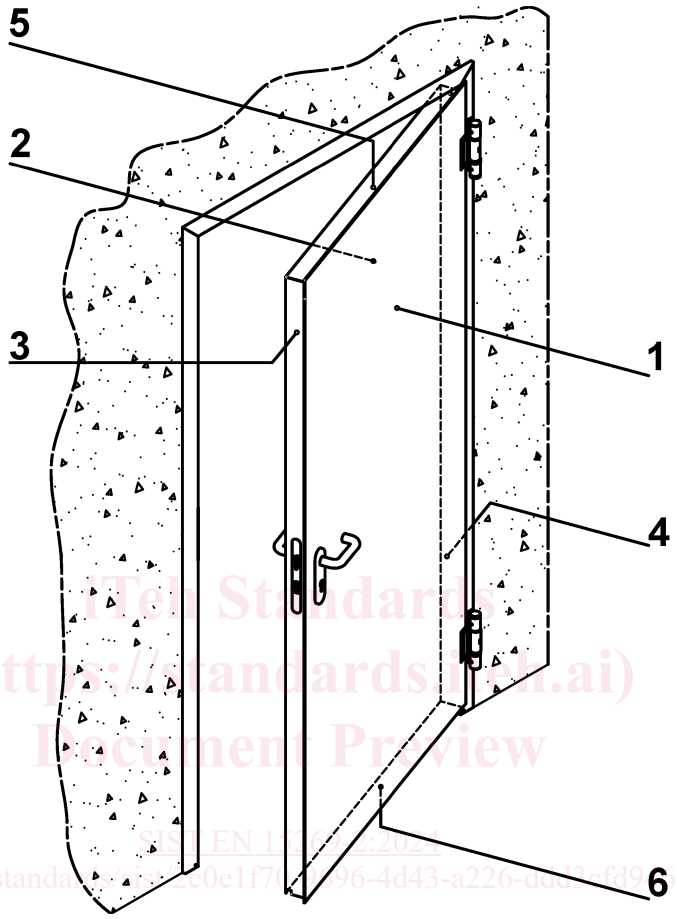
3.5
decorative finishes
outer layer of material on the leaf or panel only used for decorative, not for structural purposes

3.6
protective finishes
outer layer of material on the leaf or panel only used for protective, not for structural purposes

3.7
representative specimen
doorset design that has ‘fundamentally the same’ or ‘similar’ construction as another doorset design for the purpose of evaluating construction parameter variations providing the relevant aspects of tested performance are considered

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

3.8
faces and sides of a door leaf
faces and sides of a door leaf are shown in Figure 2



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

Figure 2 — Faces and sides of a door leaf

3.9
dog bolt / movement restrictor
additional part (e.g. a bolt) on the hinge side of the doorset which can bear forces such as those caused by levering for burglary or by deflection in case of fire

4 Determination of the field of extended application

4.1 General

4.1.1 Before there can be any consideration for extended application, the doorset shall have been tested in accordance with EN 1634-1 to achieve a test result which could generate a fire resistance classification in accordance with EN 13501-2 at least equal to the fire resistance classification required from extended application considerations. These tests are referred to in this document as basic tests.

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

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

4.1.3 If, when following the extended application procedure, any component of the classified product cannot be covered by the extended application rules, a representative specimen incorporating the particular construction parameter variation shall be tested on both sides or on one side, if the required classification is from one side only. Otherwise, that part shall be omitted from the subsequent extended application report and classification report.

4.1.4 A hardware performance sheet (HPS), according to EN 16035 may be part of the documentation for the assessment and determination of the extended application.

4.2 How to use extended application rules in Annex A

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

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

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

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

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

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

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

4.3 Procedure for maximum field of extended application

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

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

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

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

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

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

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

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

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

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

4.4 Analysis of test results

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

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

4.4.3 Where it has been possible to identify specific parameter failures, the extended application for all other construction parameter variations can be based on the performance achieved after isolating the premature failure(s), provided the requirements of subclause 4.1.1 are met. Where the specific construction parameter variation requires category B performance (see EN 1634-1 for the corresponding overrun times) and where failures can be identified as having no relevance to this aspect of the construction, they can be disregarded and the failure time and associated category revised accordingly.

5 Extended application report

Prepare an extended application report in line with EN 15725 and in accordance with the requirements of EN 15269-1, based on the results of evaluations in accordance with the above.

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

If the results of the extended application procedure lead to a classification that only covers one side (e.g. either opening or closing face) of the doorset, this shall be unambiguously stated in the report.

6 Classification report

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

Annex A
(normative)

Construction parameter variations

A.1 General

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

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

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

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

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

— low < 40 % of effective rebate depth;

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

— high > 85 % of effective rebate depth.

Evaluations of the influence of a construction parameter variation on the fire resistance performance characteristics (E/EW/EI) lead to the judgement of the possibility of extending the field of application, the results of which are given in column (3) of the following tables. In certain cases in column (3), it is a requirement to achieve category B.

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

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

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

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

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

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

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

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

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

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

In order to maximize the possible field of application from a minimum number of fire resistance tests, the construction parameter variations have been spread over a series of test specimens. The recommended tests for each parameter are dependent on the classification required and the preferred options.

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

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

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