

SLOVENSKI STANDARD oSIST prEN 15269-5:2012

01-julij-2012

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 z zapiranjem s kovinskim ogrodjem in odpiranje oken

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

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

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 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 Fire-resistance of building

gradbenih materialov in materials and elements

elementov

91.060.50 Vrata in okna Doors and windows

oSIST prEN 15269-5:2012 en,fr,de

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EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

DRAFT prEN 15269-5

April 2012

ICS 13.220.50; 91.060.50

English Version

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

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

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Foreword

This document (prEN 15269-5:2012) 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.

Introduction

This document is one of a series of standards listed below and intended to be used for the purpose of producing an extended application report based on the evaluation of one or more fire resistance and/or smoke control tests. These standards may also be used to identify the best selection of test specimens required to cover a wide range of product variations.

The (pr)EN 15269 series currently consists of:

(pr)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

- 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 shutters
- Part 11: Fire resistance of operable fabric curtains
- Part 20: Smoke control for hinged and pivoted steel, timber and metal framed glazed doorsets

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 classification in accordance with EN 13501-2+A1:2009 at least equal to the classification subsequently required from extended application considerations.

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 fire resistance 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 fire or

smoke performance parameter beyond that achieved during any one test unless specifically identified in the relevant Construction Parameter Variation tables within this series of standards.

The effect on the durability of self closing of the doorsets following an extended application process is not addressed in this series of standards.

1 Scope

This Part of prEN 15269, which should be read in conjunction with prEN 15269-1, covers single and double leaf, hinged and pivoted metal framed, glazed doorsets or openable windows.

This document prescribes the methodology for extending the application of test results obtained from 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 may cover all or some of the following non-exhaustive list:

| Integrity only (E), radiation (EW) or insulated (EI ₁ or EI ₂) classifications; |
|--|
| Doorsets and openable windows |
| Door / window leaf; |
| wall/ceiling fixed elements (frame/suspension system); |
| glazing and non-glazed panels in doorset and openable window |
| items of building hardware; |
| decorative finishes; //standards.iteh.ai) |
| intumescent, smoke, draught or acoustic seals; |
| alternative supporting construction(s). |

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

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

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 doors and shutter assemblies and openable windows

EN 1634-2, Fire resistance tests for door and shutter assemblies - Part 2: Fire door hardware - Building hardware for fire resisting doorsets and openable windows

EN 13501-2+A1:2009, Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services

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

3 Terms and definitions

For the purposes of this Part or EN 15269, the terms and definitions given in EN 1363-1, EN ISO 13943, EN 1634-1, EN 1634-2 and EN 15269-1 together with the following apply:

3.1 full scale test

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

3.2 small scale test

test on elements of building hardware in accordance with EN 1634-2 and where the decision process, given in EN 1634-2, permits its use. This is abbreviated as SS in annex A

3.3 effective rebate depth-2

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 the dimension shall be the depth of the largest rebate. See figure 1 .

3.4 Opening outwards: Means opening the doorleaf away from the fireside

3.5. Hinged and pivoted metal framed glazed doorset (From 15269-1)

Doorset with a leaf (ves) constructed from proprietary steel or aluminium designed to incorporate large areas of glass and where the hinges or pivots are attached directly to the metal profile section. See annex C for further clarification.

4 Determination of the field of extended application

4.1an **General** ai/catalog/standards/sist/4e788db3-7f0e-4e63-a094-377ea166aef7/sist-en-15269-5-2014

- **4.1.1** Before there can be any consideration for extended application the doorset shall have been tested and classified in accordance with EN 1634-1 and EN 13501-2+A1:2009 respectively in order to establish a classification for the doorset.
- **4.1.2** A review of the 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** All evaluations shall be made on the basis of retaining the classification obtained from testing to EN 1634-1.
- **4.1.4** 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 Procedure for evaluation

- **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 Table A.1.
- **4.2.3** Review the type of classification to be retained from column (3) of Table A.1 and establish from the contents of column (4) of Table A.1 whether any extended application is available 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 (4) in Table A.1.
- **4.2.5** Where the variations required can only be achieved from additional testing according to column (5), the additional test can be made on a similar specimen type to the original test against which the extended application is sought. Alternatively, column (5) 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 a limited field of extended application from the results of a single test. However, where a manufacturer intends to produce a range of doorsets it is recommended that careful consideration is given to the complete range of 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** Select specimen(s) for the first test(s) in the series to ensure that the most important parameter variations for the manufactured products are covered.
- **4.3.4** Complete the first test or a series of tests and prepare a field of direct application and possibly a classification report from the results of the test(s).
- **4.3.5** Establish which of the original desired parameter variations have not been covered by the direct application and classification report.
- **4.3.6** Identify these parameter variations in Annex A and establish if any extended application is possible without further testing.
- **4.3.7** Record this for the extended application report together with any restrictions and rules given in column (5) in Table A.1.
- **4.3.8** 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 4.3.7. above.
- **4.3.9** Select the required outstanding parameter variations from column (1) and column (2) of Table A.1 and observe from column (5) 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 4.3.9 above, then an appropriate test or tests may be repeated with the additional product variations incorporated.

4.4 Interpretation 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 integrity and/or insulation failures throughout the test duration.

- **4.4.2** Where a series of tests have been conducted, 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 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 Annex A of EN 13501-2+A1:2009.

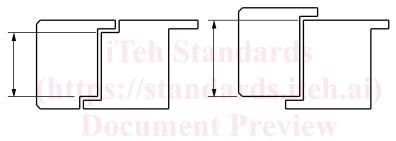


Figure 1 - effective rebate depth-2

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Annex A (normative) Construction Parameter Variations

This table is designed to be used by competent experts in the field of fire resistance testing of hinged steel 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+A1:2009.

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

The type of classification achieved from the test can be identified as the 'Performance characteristic' section of column 3 as insulation, radiation control or integrity only. 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 should be used to provide high, medium and low distortion doorsets: measuring of the maximum relative movement: at any position between the edge of the door leaf and the profile nearest to the doorleaf or between the meeting edges of door leaves.

The measurements shall be taken from the start of the test at any time during the complete required classification period (suggested measuring positions are given in EN 1634-1):

- Low distortion doorsets: maximum relative movement is < 40 % of effective rebate depth-2</p>
- Medium distortion doorsets: maximum relative movement is between 40 and 60% effective rebate depth-2
- High distortion doorsets: maximum relative movement is >60 % of effective rebate depth-2

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 an I_1 or I_2 class) and W for the effects on radiation.

Where symbols are used these relate to the following definitions:

- a) < forecast is a worse performance;
- b) > forecast is a better performance;
- c) = forecast is no significant difference
- d) ≤ forecast is a worse or equal performance;
 -) ≥ forecast is a better or equal performance;
- f) >=< forecast unknown

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.

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 maximise 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 dependants on the classification required and the preferred options are shown under the appropriate classification in column 5.

If after consideration of a specific variation, additional changes are required to be made to the specimen, these may be made providing the implications on other variations are also taken into account.

All the rules in this exaps, 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.

For all rules in this exap which have influence on the glassdimension, the rules for chaning the dimensions of the glass(as mentioned in this annex part F apply.

| Construction Parameter | Variation | Influence of variation on performance characteristic | | | Possibility of extension | Additional Evidence Required | | | |
|--|-------------------------------------|--|----------------|--------------------|---|---|--|--|--|
| (1) | (2) | (3) | | | (4) | (5) | | | |
| | | Е | I | W | | | | | |
| A Door leaf | | | | | | | | | |
| 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 (open outwards) with glazing bead in fire side | | | |
| | | -iTe | h S | tand | hrda | | | | |
| A.1.2 Number of leaves | Double leaf from single leaf test |)S:// | stai | ndar | Not possible without an additional test | Additional test (s) double leaf doorset (open outwards and inwards for El doors, open | | | |
| | I | ocu | ıme | nt Pi | eview | outwards for E or W doors 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 | >/=/< <u>S</u> | >/=/< ST EN | >/=/< 15269-5:2 | Not possible without an additional test | Additional test single leaf or double leaf doorset (open | | | |
| https://standards.itc | h.ai/catalog/stanc | lards/sis | t/4e788 | db3-7f0e- | le63-a094-377ea166aef7/sist-en-15269-5- | 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) | | | |

| Construction Parameter | Variation | Influence of variation on performance characteristic | | | Possibility of extension | Additional Evidence Required |
|---|---------------------|--|----------------------|--------------------|---|---|
| (1) | (2) | (3) E I W | | W | (4) | (5) |
| A.1.5 Intumescent seals between meeting edges of the door lleaves | Location | >/=/< | • | >/=/< | | Additional test (s) double leaf doorset open outwards for E and EW doors; For El aluminium doors: test both directions For El-steeldoors: one test, with fire on opposite side of the moved direction. See figure A.3 |
| | (http | DS: // | stai | ndaro | ls.iteh.ai) | |
| A.1.6 Non intumescent seals between frame and door leaf / leaves (draught / smoke / acoustic etc.) - (Euroclass A1) e.g. ceramic products(fitted in leaf or frame).— See Figure A.4 | Location |) O-C I | IMA C ST EN | nt-Pr 15269-5:2 | Any movement possible providing no modifications of the construction are required | |
| A.1.7 Non intumescent seals between meeting edges of the door leaves (draught / smoke / acoustic etc.) - (Euroclass A1) | h.ai/Location/stand | a>/=/< is | / <i>>/=</i> /< 8 | db >/=/<)e- | 6 No movement possible without an additional test 5- | Additional test double leaf doorset opening outwards |

| Construction Parameter | Variation | Influence of variation on performance characteristic | | | Possibility of extension | Additional Evidence Required |
|--|-----------|--|-----------------|------------------------|--|--|
| (1) | (2) | E | (3) I W | | (4) | (5) |
| A.1.8 Non intumescent seals between door leaves and / or frames (draught /smoke / acoustic etc.) — < Euroclass A1 (fitted in leaf or frame) | Location | >/=/< iTe | h S stal | >/=/< | No movement possible without an additional test | Additional test (s) double leaf doorset open outwards for E and W doors; For El aluminium doors: test both directions For El-steeldoors: one test, with fire on opposite side of the moved direction. See drawing E8 |
| A.1.9 Non intumescent seals between door leaves and / or frames (draught / smoke / acoustic etc.) - (Euroclass A1), e.g. ceramic products (fitted in leaf or frame) See Figure A.5 https://standards.itel | Add | OCU Sards/sis | ST EN /4e788 | 15269-5:2 db3-7f0e- | Possible for doors without intumescent seals otherwise not possible without an additional test 014 e63-a094-377ea166aef7/sist-en-15269-5- | Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test has to be a double leaf doorset opening outwards |

| Construction Parameter | Variation | Influence of variation on performance characteristic | | | Possibility of extension | Additional Evidence Required |
|--|-----------|--|-------------|-------|---|--|
| (1) | (2) | Е | (3) I | W | (4) | (5) |
| A.1.10 Non intumescent seals between door leaves and / or framwes (draught / smoke / acoustic etc.) - (Euroclass A1), e.g. ceramic products (fitted in leaf or frame) See Figure A.6 | Remove | ≤ | ≤ | ≤ | Notpossible 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 has to be a double leaf doorset opening outwards |
| A.1.11 Non intumescent seals between door leaves and / or frames (draught / smoke / acoustic etc.) – < Euroclass A1 (fitted in leaf or frame)- See figure A.5 https://standards.ite | I | ocu <u>s</u> | stai ime | nt Pr | ls.iteh.ai) review | Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test has to be a double leaf doorset. Fireside opposite the position where the seal is added. See figure E8 |
| A.1.12 Non intumescent seals between door leaves and / or frames (draught / smoke / acoustic etc. – < Euroclass A1 (fitted in leaf or frame) – See figure A.6 | Remove | >/=/< | >/=/< | = | Not possible without an additional test | Additional test single or double leaf doorset, if the seal is positioned between the meeting edges of the door leaves the additional test has to be a double leaf doorset |