SLOVENSKI STANDARD
oSIST prEN 15269-2:2009

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Razġirjena uporaba rezultatov preskusov poġarne odpornosti in/ali dimotesnosti za vrata, zapore in okna, ki se odpirajo, vkljuļ no z njihovim okovjem - 2. del: Poġarna odpornost jeklenih vrat s teļ aji

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 von Feuerschutzabschlüssen - Teil 2: Drehflügeltüreinheiten aus Stahl

Application élargie des résultats d'essais en matière de résistance au feu et/ou d'étanchéité à la fumée des blocs-portes, fermetures et fenêtre, 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: **prEN 15269-2**

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

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (prEN 15269-2:2009) 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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of 89/106/EEC.

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 prEN 15269 series of standards currently consists of:

prEN 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 fabric curtains*

Part 20: *Smoke control for hinged and pivoted timber and steel doorsets*

Before there can be any consideration for extended application the doorset should 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.

A review of the doorset construction parameters can indicate that one or more characteristics may be improved by a particular parameter variation. All evaluations should 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 should never lead to an increased classification for any specific fire 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, steel based doorsets.

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;

— door leaf;

— wall/ceiling fixed elements (frame/suspension system;

— glazing for door leaf;

— items of building hardware;

— decorative finishes;

— intumescent, smoke, draught or acoustic seals;

— alternative supporting construction(s).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

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

3 Terms and definitions

For the purposes of this Part or EN 15269, the terms and definitions given in EN1363-1, EN ISO 13943, EN 1634-1, prEN 1634-2 and prEN 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 prEN 1634-2 and where the decision process, given in prEN 1634-2, permits its use. This is abbreviated as SS in annex C

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. At the meeting edges and for rebated leaves the dimension shall be the depth of the largest rebate or the rebate where the intumescent seal is fitted

3.4 panel
component of a door leaf separated from other elements by joints which break through the total door thickness. A door leaf can consist of one or more panels.

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 must have been tested and classified in accordance with EN1634-1 and EN 13501-2 respectively in order to establish a classification for the doorset.

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 EN1634-1, 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 EN1634-1.

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 Annex A.

4.2.3 Review the type of classification to be retained from column (3) and establish from the contents of column (4) 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 this can be recorded in the extended application report together with any appropriate restrictions and the stated rules from column (4).

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 extended of application from the results of a single test. However, where a manufacturer intends to produce a range of doors incorporating single doors and also double doors, with or without glazing, with alternative elements 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 Select specimen(s) for the first test(s) in the series to ensure that those required 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 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).

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 Annex A and observe from column (5) which are the most appropriate weakest specimen options for further testing.

4.3.10 If the complete selection of required parameter variations have 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 variations.

4.4.3 Where it has been possible, to identify specific parameter failures, the extended application for all other construction parameter variations can be based on the performance achieved after isolating the premature failure(s).

5 Extended application report

Prepare an extended application report in accordance with the requirements of Clause 6 of prEN 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 shall be presented in accordance with Annex A of EN 13501-2.

Annex A
(normative)

Construction Parameter Variations

Table A.1 is designed to provide rules for the creation of extended application reports by experts in the field of fire resistance testing of hinged and pivoted steel doorsets.

Table A.1 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.

The first two columns of Table A.1 identify possible variations to the construction details of the specimen tested.

The type of classification achieved from the test can be identified from the 'Performance characteristic' section of Table A.1 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 shall be used to provide high, medium and low distortion doorsets:

— 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 an I_1 or I_2) 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;

e) ≥ - forecast is a better or equal performance;

f) >=< - forecast unknown

These evaluations lead to the judgement of the possibility of extending the field of application, the results of which are given in column 4 of Table A.1. In certain cases in Column 4 it is a requirement to achieve Category B, the requirements for which 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 maximise the possible field of application from a minimum number of tests, the parameter changes can be spread over a series of test specimens. The recommended test for each parameter is dependant upon the classification required and the preferred direction of testing as indicated 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.

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
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 **- See Figure C.1**	Single leaf from double leaf test	≤	≥	≥	Not possible without an additional test	Additional test single leaf doorset (open outwards)
A.1.2 Number of leaves	Double leaf from single leaf test	≥ ≤	≥	≥	Not possible without an additional test	Additional test (s) double leaf doorset (open outwards and inwards for EI doors, open outwards for E or W doors)
A.1.3 Number of panels per leaf (primary or secondary)- **See Figure C.2**	Add (one panel per leaf – on any leaf)	=	=	=	Possible if tested at least one leaf (single, primary or secondary) with the minimum of two panels, panel size not increased and the intended jointing technique centrally located in the door leaf otherwise not possible without an additional test	Additional test single leaf or double leaf doorset (open outwards)
A.1.4 Number of panels per leaf **- See Figure C.3**	Reduce (one panel)	=	=	=	Possible providing the tested width of the panel is not increased otherwise 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**- See Figure C.4**	Location towards the frame rebate	>/=/<	>/=/<	>/=/<	Not possible without an additional test	Additional test single leaf or double leaf doorset (open outwards)
A.1.6 Intumescent seals between frame and door leaf / leaves **– See Figure C.5**	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)			(4)	(5)
		E	I	W		
A.1.7 Intumescent seals between meeting edges of the door leaves	Location	>/=/<	>/=/<	>/=/<	Not possible without additional test (s)	Additional test (s) double leaf doorset (open outwards and inwards for EI doors, open outwards for E or W doors)
A.1.8 Nnon 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 C.6**	Location	=	=	=	Any movement possible providing no modifications of the construction are required	
A.1.9 Non intumescent seals between meeting edges of the door leaves (draught / smoke / acoustic etc.) - (Euroclass A1)	Location	>/=/<	>/=/<	>/=/<	No movement possible without an additional test	Additional test double leaf doorset
A.1.10 Non intumescent seals between door leaves and / or frames (draught /smoke / acoustic etc.) – < Euroclass A1 (fitted in leaf or frame).**- See Figure C.7**	Location	>/=/<	>/=/<	>/=/<	No movement 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
A.1.11 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 C.8**	Add	=	=	=	Possible for doors without intumescent seals 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 has to be a double leaf doorset
A.1.11 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 C.9**	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

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
A.1.12 Non intumescent seals between door leaves and / or frames (draught / smoke / acoustic etc.) – < Euroclass A1 (fitted in leaf or frame)**- See Figure C.10**	Add	≤	≤	≤	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
A.1.13 Non intumescent seals between door leaves and / or frames (draught / smoke / acoustic etc. – < Euroclass A1 (fitted in leaf or frame) **- See Figure C.11**	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
A.1.14 Ventilation grilles (louvres) in door leaf tested without ventilation grille **- See Figure C.12a**	Add	≤	≤	≤	Not possible without an additional test	Additional test single or double leaf doorset
A.1.15 Ventilation grilles (louvres) in door leaf **- See Figure C.12b**	Remove	>/=/<	≥	≥	Possible providing the cut out is less than 25 % of the door leaf area otherwise not possible without an additional test	Additional test single or double leaf doorset
A.1.16 Ventilation grilles (louvres) in door leaf tested with ventilation grille	Location in vertical direction	≤	≤	≤	Not possible without an additional test	Additional test single or double leaf doorset
A.1.17 Ventilation grilles (louvres) in door leaf tested with ventilation grille **- See Figure C.13**	Location in horizontal direction	=	=	=	Possible providing the distance between the edge of the louvre and the perimeter of the door leaf is not decreased and providing any internal stiffening elements are not affected otherwise not possible without an additional test	Additional test single or double leaf doorset

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
A.1.18 Ventilation grilles (louvres) in door leaf tested with ventilation grille **- See Figure C.14a**	Smaller size	≥	≥	≥	Possible for one or more louvres smaller than that tested specimen providing the location is inside the perimeter of the tested louvre and minimum spacing between cut outs is not less than 100 mm otherwise not possible without an additional test	Additional test single or double leaf doorset
- See Figure C.14b	Larger size	≤	≤	≤	Not possible without an additional test	Additional test single or double leaf doorset
A.1.19 Rebate (door leaves to frames) **- See Figure C.15a**	Add	≥	≤	≥	**EI** Not possible without an additional test unless the original test had additional thermocouples positioned 100mm and / or 25mm from the edge of the notional rebate (i.e. 100-x) where x means the width of the added rebate and dimension y shall not be reduced	Additional test single or double leaf doorset (open outwards)
					E, EW Possible providing no reduction of frame rebate or leaf edge thickness otherwise not possible without an additional test	Additional test single or double leaf doorset (open outwards)
A.1.20 Rebate (meeting edges) **- See Figure C.15b**	Add (one rebate)	≥	≥	≥	Possible if the doorset included one rebate and the added rebate is of the same design / material as that tested otherwise not possible without an additional test	Additional test double leaf doorset (added rebate away from the fire)
A.1.21 Rebate (door leaves to frames) **- See Figure C.16**	Remove	≤	≤	≤	Not possible without an additional test	Additional test single or double leaf doorset (open inwards)