SLOVENSKI STANDARD
SIST EN 15269-7:2010

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Razġirjena uporaba rezultatov preskusov poġarne odpornosti in nadzora dima za vrata, zaporne elemente ter okna, ki se odpirajo, vključ no z vgrajenimi elementi gradbenega okovja - 7. del: Poġarna odpornost za jeklena drsna vrata

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 7: Fire resistance for steel sliding doorsets

Erweiterter Anwendungsbereich von Prüfergebnissen zur Feuerwiderstandsfähigkeit und/oder Rauchdichtigkeit von Feuerschutzabschlüssen und Fenstern einschließlich ihrer Baubeschläge - Teil 7: Feuerwiderstandsfähigkeit von Schiebetoren aus Stahl

Application élargie des résultats d'essai en matière de résistance au feu et d'étanchéité à la fumée des blocs-portes, blocs-fermetures et ouvrants de fenêtres, y compris les éléments intégrés de quincaillerie de bâtiment - Partie 7: Résistance au feu des blocs-portes coulissants en acier

Ta slovenski standard je istoveten z: **EN 15269-7:2009**

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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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 7: Fire resistance for steel sliding doorsets

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Erweiterter Anwendungsbereich von Prüfergebnissen zur Feuerwiderstandsfähigkeit und/oder Rauchdichtigkeit von Türen, Toren und Fenstern einschließlich ihrer Baubeschläge - Teil 7: Feuerwiderstandsfähigkeit von Schiebetoren aus Stahl

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 15269-7:2009) 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 May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

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

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Introduction

This European Standard 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 EN 15269 series 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 5: Fire resistance of hinged and pivoted metal framed glazed doorsets and openable windows*

— *Part 6: Fire resistance of sliding timber doorsets*

— *Part 10: Fire resistance of steel rolling shutters*

— *Part 11: Fire resistance of operable fabric curtains*

as well as

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 7: Fire resistance for steel sliding doorsets*

— *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 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 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 European Standard, which should be read in conjunction with prEN 15269-1, covers the following types of steel based doorsets: horizontally sliding doorsets (single and double), telescopic doorsets (single and double) and single vertically sliding 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

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

EN 1363-1:1999, *Fire resistance tests — Part 1: General requirements*

EN 1634-1:2008, *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 1634-2:2008, *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 13501-2:2007, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 15254-4:2008, *Extended application of results from fire resistance tests — Non-loadbearing walls — Part 4: Glazed constructions*

prEN 15269-1:2007, *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*

prEN 15269-2, *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*

EN ISO 13943:2000, *Fire safety — Vocabulary (ISO 13943:2000)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1363-1:1999, EN ISO 13943:2000, EN 1634-1:2008, EN 1634-2:2008 and prEN 15269-1:2007 together with the following apply.

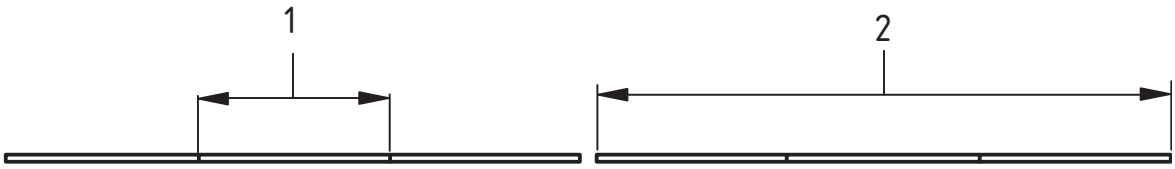
3.1
full scale test
test of a full size doorset in accordance with EN 1634-1

3.2
leaf/element/panel
different parts of a doorset as indicated in Figures 1 and 2 below

Key

1 panel
2 leaf
3 element

Figure 1 — Double leaf telescopic door



Key

1 panel
2 leaf

Figure 2 — Double leaf sliding door

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 and classified in accordance with EN 1634-1 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 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) in Table A.1, 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) in Table A.1 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 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 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 Clause 6 of prEN 15269-1:2007, 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 13501-2:2007.

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 the following sliding steel doorsets: horizontally sliding doors (single and double), horizontally operating telescopic doors (single and double) and single vertically sliding doors.

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 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.

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 control for EW doors.

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 the extension of the field of application the results of which are given in column (4). In certain cases, in column (4), it is a requirement to achieve Category B, the details 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 panel sliding doorsets to telescopic doorsets

The rules given for size increase (width, height, area) of the door leaf are applicable for doors tested in size equal or bigger than the maximum size which can be tested in a standard size furnace (normally 3 m x 3 m). These rules are not applicable to doors tested only with horizontal joints. All size variations based on the results of more than one test with specimens of different sizes can be combined.

Column (5) defines the side of the door leaf which has to be tested. Inwards means a test with the loadbearing components such as the runners/hanging mechanism, etc. on the fire side. Outwards means the opposite side. If a special type (e.g. single, double and telescopic) is not specified, the additional test can be carried out with all types of sliding doors therefore, if more than one additional test is not specified, only one test is required.

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.

Table A.1 — Construction parameter variations

Construction Parameter	Variation	Influence of variation on characteristic performance			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
A Door leaf **A.1 General**						
A.1.1 number of leaves (not applicable for vertically sliding doors)	single leaf from double leaf door test	≥	≥	≥	possible providing the overlap of the single leaf door is similar to the overlap of the double door (meeting edge) and all the constructional details have been tested (in the double door), otherwise not possible without an additional test. Any size variations of door leaf shall be in line with A.2.1 to A.2.4 incl.	additional test single leaf doorset tested with suspension system on the fire side
A.1.2 number of leaves (not applicable for vertically sliding doors)	double leaf from single leaf door test	≤	≤	≤	not possible without an additional test	additional test double leaf doorset or double side telescopic, tested with suspension system on the fire side
A.1.3 number of elements of telescopic doors, single leaf	decrease	≥	≥	≥	possible providing all constructional details have been tested, otherwise not possible without an additional test	additional test with suspension system on the fire side (single or double side telescopic)
A.1.4 number of elements of telescopic doors, single leaf	increase	≤	≤	≤	not possible without an additional test	additional test with suspension system on the fire side (single or double side telescopic)
A.1.5 number of elements of telescopic doors, double leaf - **See Figure A.1**	decrease	≥	≥	≥	possible providing all constructional details have been tested and the reduction of elements is the same for both leaves, otherwise not possible without an additional test	additional test with suspension system on the fire side (double side telescopic)

Construction Parameter	Variation	Influence of variation on characteristic performance			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
A.1.6 number of elements of telescopic doors, double leaf (not applicable for vertically sliding doors)	increase	≤	≤	≤	not possible without an additional test	additional test with suspension system on the fire side (double side telescopic)
A.1.7 number of panels per leaf / element- **See Figure A.2**	add	=	>/=/<	>/=/<	possible by maximum 100 % of the number of panels of the tested specimen and providing the intended jointing technique has been incorporated in the tested door specimen and only with regard to the rules given in section A.2	additional test according to section A.2
A.1.8 number of panels per leaf / element- **See Figure A.3**	reduce	=	>/=/<	>/=/<	possible with regard to the rules given in section A.2	
A.2 Size variations / single or multiple panel construction						
A.2.1 size (area, width, height) of door leaf	decrease	≥	>/=/<	>	E, EW possible in line with direct application EI possible in line with direct application. For category A doors beyond the field of direct application possible down to size of a smaller test specimen	additional test with suspension system on the fire side
A.2.2 width of door leaf - **See Figure A.4 a) and A.4 b)**	increase	≤	>/=/<	<	possible in line with direct application, if tested at least to the maximum possible size in the standard furnace (3 m x 3 m), or if tested in a bigger	additional test(s) with suspension system on the fire side to be performed on a single leaf doorset which includes the required details from column 4

Construction Parameter	Variation	Influence of variation on characteristic performance			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
		E	I	W		
					size. possible up to 100 % for category B doors if for EI doors both sides have been tested and for E doors the suspension system has been tested exposed to fire. For E and EI doors the increase is possible, providing that the following conditions A-E are fulfilled. A) for doors made of modular panels the basic test shall be performed with at least three panels per leaf, with the widest panel in intermediate position when testing with the suspension system not exposed to fire and the widest panel furthest away from the centre when testing with the suspension system exposed to fire. B) the distance between supporting elements (e.g. rollers) and the door leaf edges and the distance between each supporting element shall not increased, and number of panel joints between the supporting elements shall not increased, (i.e. additional supporting element (stiffening finger or roller) is required). C) the distance between fixings of the track and any horizontal interlock profiles to the supporting construction is decreased at least by 25 %. D) the distance between fixings of the supporting elements (e.g. rollers) and	