

**SLOVENSKI STANDARD**  
**oSIST prEN 15269-11:2013**  
**01-julij-2013**

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**Razširjena uporaba rezultatov preskusov požarne odpornosti in/ali dimotesnosti za vrata, zaporne elemente in okna, ki se odpirajo, vključno z njihovim okovjem - 11. del: Požarna odpornost protipožarnih zaves**

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 11: Fire resistance of operable fabric curtains

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Erweiterter Anwendungsbereich von Prüfergebnissen zur Feuerwiderstandsfähigkeit und/oder Rauchdichtigkeit von Türen, Toren und Fenstern einschließlich ihrer Baubeschläge - Teil 11: Feuerwiderstandsfähigkeit von Feuerschutzvorhängen

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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 11: Résistance au feu des rideaux en toile manoeuvrables

**Ta slovenski standard je istoveten z: prEN 15269-11**

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**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  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 15269-11**

May 2013

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  
assemblies, including their elements of building hardware - Part  
11: Fire resistance of operable fabric curtains

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Türen, Toren und Fenstern einschließlich ihrer  
Baubeschläge - Teil 11: Feuerwiderstandsfähigkeit von  
Feuerschutzvorhängen

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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COMITÉ EUROPÉEN DE NORMALISATION  
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## Foreword

This document (prEN 15269-11:2013) 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 EU Directive(s).

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*, consists of the following parts:

- *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 <sup>1)</sup>;*
- *Part 6: Fire resistance of sliding timber doorsets <sup>1)</sup>;*
- *Part 7: Fire resistance of sliding steel doorsets;*
- *Part 10: Fire resistance of steel rolling shutter assemblies;*
- *Part 11: Fire resistance of operable fabric curtains <sup>1)</sup>;*
- *Part 20: Smoke control for hinged and pivoted steel, timber and metal framed glazed doorsets.*

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1) In preparation.

## Introduction

This European Standard is one of a series of standards 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.

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.

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## 1 Scope

This document covers vertically mounted types of manual or powered, operable fabric curtain assemblies with downward closing operation.

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 in exhaustive list of examples:

- uninsulated (E), radiation (EW) or insulated (EI<sub>1</sub> or EI<sub>2</sub>) classifications
- coiling mechanisms
- wall/ceiling fixed elements
- items of building hardware
- decorative finishes
- intumescent, draught or acoustic seals
- alternative supporting construction(s)

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

EN 15254-4, *Extended application of results from fire resistance tests. Non-loadbearing walls. 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*

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

**prEN 15269-11:2013 (E)****3 Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

For definition of parts, see Annex A.

**3.1****full scale test**

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

**4 Determination of the field of extended application****4.1 General**

4.1.1 Before there can be any consideration for extended application the operable fabric curtain 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 operable fabric curtain.

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 maximum field of extended application**

4.2.1 Identify the variations from the original test specimen(s) which are required to be covered by an extended application report - see Figure A.1 for a typical operable curtain.

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 operable fabric curtains, it is recommended that careful consideration is given to the complete range of designs and options in order to minimize the testing required before testing commences.

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

4.3.3 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.

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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 maximize 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).

### 4.5 Additional measurements

To use extended application the following measurements are to be taken.

Fig A.3 S = Shrinking allowance.

Fig A.54 S<sub>t</sub> = Bottom bar deflection.

Fig A.55 U<sub>t</sub> = Maximum curtain deflection.

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## 5 Extended application report

5.1 Prepare an extended application report in accordance with the requirements of Clause 5 of EN 15269-1, based on the results of evaluations in accordance with the above.

## 6 Classification report

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

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## Annex A (normative)

### Construction parameter variations for Fabric Curtain assemblies

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 operable fabric curtains.

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 curtains.

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.

The rules given for size increase (width, height, area) of the curtain assembly are applicable for operable curtains tested in size equal or bigger than the maximum size which can be tested in a standard size furnace (normally 3m x 3m). All size variations based on the results of more than one test with specimens of different sizes can be combined.

Where construction parameter variations result in an increase in the weight of the curtain, the requirements given in Annex B shall be satisfied.

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	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
(1)	(2)	(3)			(4)	(5)
<b>A General</b>						
<b>A1. Size variations / construction</b>						
A1.1 Width between guides	Decrease	>=<	>=<	≥	Possible providing tightness and expansion clearances are not reduced	
A1.2 Width between guides	Increase	>=<	>=<	<	E, EI, EW Possible providing the static requirements for fixings and load-bearing constructions are fulfilled and the requirements of Annex B are satisfied EW Possible providing the radiation criteria given in Annex B of EN 15254-4:2008 are complied with	According to 1) Shrinking of curtain material *see B.7 2) Maximum load bearing capacity in horizontal direction. *see B.12 3) Maximum load bearing capacity in vertical direction. *see B.13 4) Deflection of bottom bar and curtain calculation *see B.8 – B.11 and Annex C The smallest scaling factor is limiting the increasing of the dimension
A1.3 Opening height	Decrease	>=<	>=<	≥	Possible providing tightness and expansion clearances are not reduced	

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Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
		(1)	(2)	(3)		
		E	I	W		
A1.4 Opening height	Increase				<p>If Height &gt; 4.7m P will be &gt;20Pa check <math>\sigma_t</math> in B.10</p> <p>E, EI, EW Possible providing the static requirements for fixings and load-bearing constructions are fulfilled and the requirements of Annex B are satisfied.</p> <p>EW Possible providing the radiation criteria given in Annex B of EN15254-4:2008 are complied with</p>	<p>According to</p> <p>1) Shrinking of curtain material *see B.7</p> <p>2) Maximum load bearing capacity in horizontal direction. *see B.12</p> <p>3) Maximum load bearing capacity in vertical direction. *see B.13</p> <p>4) Deflection of bottom bar and curtain calculation *see B.8 – B.11 and Annex C</p> <p>StressStress The smallest scaling factor is limiting the increasing of the dimension</p>
A1.5 Mounting situation of lintel to casing - See Figure A.2	Decrease	<	<	=	E, EI, EW Not possible	
A1.6 Mounting situation of lintel to casing - See Figure A.2	Increase	>=<	>=<	>=<	Possible	
A1.7 Expansion allowances between side guides and bottom bar - see Figure A.3 (E)	Decrease	≤	≤	≤	Not possible without additional test	
A1.8 Expansion allowances between side guides and bottom bar - see Figure A.3 (E)	Increase	>=<	>=<	>=<	Possible, if the tightness of curtain and guides is not decreased	
A1.9 Mounting situation casing - see Figure A.2	Alternative installation	>=<	>=<	>=<	See Table A.2	
A1.10 Mounting situation side guides - see Figure A.4	Alternative installation	>=<	>=<	>=<	See Table A.3	

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## prEN 15269-11:2013 (E)

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
		(1)	(2)	(3)		
		E	I	W		
<b>A2. Closing directions</b>						
A 2.1 Closing options - see Figure A5	Alternatives	>=<	>=<	>=<	Possible in line with Figure A.5	
<b>B. Curtain</b>						
<b>B1. Fabric (Single /Multi layer) N.B. Figure A.6 for explanation</b>						
B1.1 Fabric	Change material	>=<	>=<	>=<	Not possible	
<b>B 2 Joint technique- see Figure A. 7</b>						
B.2.1 Seam variation	Change	>=<	>=<	>=<	Possible in accordance with Table A.4 otherwise additional evidence required	Test in accordance with small scale test according to Figure A.8 for the vertical seam direction. Figure A.9 for the horizontal seam direction
B.2.2 Seaming material e.g. stitch material, staple material etc	Change	>=<	>=<	>=<	Possible providing the requirements of Annex B are satisfied and providing tensile strength in fire conditions is equal or better	Test in accordance with small scale test according to Figure A 8 for the vertical seam direction. Figure A.9 for the horizontal seam direction
B.2.3 Seam type e.g. stitch to staple etc	Change	>=<	>=<	>=<	Possible providing the requirements of Annex B are satisfied and providing tensile strength in fire conditions is equal or better	Test in accordance with small scale test according to Figure A.8 for the vertical seam direction. Figure A.9 for the horizontal seam direction
B.2.4 Stitch length/distance between staples	Change	>=<	>=<	>=<	Possible providing tensile strength is equal or higher	Test in accordance with small scale test according to Figure A 8 for the vertical seam direction. Figure A.9 for the horizontal seam direction
B.2.5 Distance of seam to effective fabric edge – see Figure A.10 (r)	Decrease	<	<	<	Not Possible	
B.2.6 Distance seam to selvedge Figure A.10 (r)	Increase	=	≥	=	Possible	

Construction Parameter	Variation	Influence of variation on performance characteristic			Possibility of extension	Additional Evidence Required
		E	I	W		
(1)	(2)	(3)			(4)	(5)
B.2.7 Joint orientation	Vertical to horizontal/ Horizontal to vertical	>=<	>=<	>=<	Not possible	
B.2.8 Distance between stitching inside one seam joint	Change	≥	≥	≥	Possible +/-10% otherwise additional test required	Test in accordance with small scale test according to Figure A.8 for the vertical seam direction. Figure A.9 for the horizontal seam direction
B.2.9 Spacing of joints Figure A.10 (t)	Increase/decrease	=	=	=	Possible	
<b>B.3 Curtain retaining system (side guides)</b>						
B.3.1 System Change	Continuous to intermittent and vice versa	>=<	>=<	>=<	Not possible unless full scale or small scale test (as given in B.12) are satisfied	
B.3.2 Intermittent system: Distance of fixings	Increase	≤	≤	≤	Not possible	
B.3.3 Intermittent system: Distance of fixings	Decrease	≥	≥	≥	Possible	
B.3.4 Material	Mild steel to stainless steel	≤	≤	≤	Not possible	
B.3.5 Material	Stainless steel to mild steel	≥	≥	≥	Possible	
B.3.6 Material	Grade of material				Providing material has an equal or higher melting point and the tested and sealed construction provides for any decreased expansion	
B.3.7 Size of curtain restraining element	Increase	≥	≥	≥	Possible	
B.3.8 Size of curtain restraining element	Decrease	>=<	>=<	>=<	Not possible	