



**SLOVENSKI STANDARD**  
**oSIST prEN 15080-11:2008**  
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**Razširjena uporaba rezultatov preskusov požarne odpornosti - 11. del: Požarne lopute**

Extended application of results from fire resistance tests - Part 11: Dampers

Erweiterter Anwendungsbereich der Ergebnisse aus Feuerwiderstandsprüfungen - Teil 11: Brandschutzklappen

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Application étendue des résultats des essais de résistance au feu - Partie 11 : Clapets coupe-feu

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**Ta slovenski standard je istoveten z: prEN 15080-11**

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**ICS:**

13.220.50	Požarna odpornost gradbenih materialov in elementov	Fire-resistance of building materials and elements
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**DRAFT**  
**prEN 15080-11**

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English Version

## Extended application of results from fire resistance tests - Part 11: Dampers

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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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## Foreword

This document (prEN 15080-11:2008) 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 EC.

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**prEN 15080-11:2008 (E)****1 Scope**

This standard provides guidance and rules to experts competent in the understanding of the fire response of the relevant materials and structures in the making of expert judgement related to changing specific aspects of the design of a construction.

This standard identifies the parameters that affect the fire resistance of dampers. It also identifies the factors that need to be considered when deciding whether, or by how much, the parameter can be extended when contemplating the fire resistance performance of an untested, or untestable variation in the construction. It does not cover the effect of the fire damper assembly on the performance of the wall or floor into which it is installed.

The standard gives the principles behind how a conclusion on the influence of specific parameters/constructional details relating to the relevant criteria (E,I,S) can be achieved.

The standard does not cover dampers used for smoke control.

It should be noted that fire-resisting dampers are special products that are exposed to different conditions to other elements of construction; in particular they are subjected to significantly different pressure regimes. Also integrity is evaluated by leakage measurements. Consequently, this European standard may adopt a different approach to other extended field of application standards, with more emphasis on testing.

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This document only applies to tests undertaken to EN 1366-1. It cannot be applied to tests carried out to other standards other than ISO 10294-1 which is technically identical to EN 1366-2 (Furnace controlled to ISO 834-1, same heating and temperature measurement)

It will be necessary to refer to other extended field of application documents to reach a decision on some aspects covered in this document.

By sensible application of this standard, it should be possible to identify what specifications should be tested to maximise the field of application. Some information on test programmes is given for guidance purposes.

**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 (including amendments).

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

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

EN 1366-1, *Fire resistance tests for service installations — Part 1: Ducts*

EN 1366-2, *Fire resistance tests for service installations — Part 2: Dampers*

EN 13501-3, *Fire classification of construction products and building elements — Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers*

EN ISO 13943, *Fire safety — Vocabulary*

ISO 10294, *Fire resistance tests — Fire dampers:*

*Part 1: Fire resistance tests — Fire dampers for air distribution systems — Part 1: Method of test*

*Part 4: Fire resistance tests — Fire dampers for air distribution systems — Part 4: Method of test for thermal release mechanism*

### 3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply together with the definitions given in EN 1363-1 and EN 1366-2:

#### 3.1

##### **length of leakage gap**

total length of gaps around damper perimeter and blade(s)

#### 3.2

##### **multiple section assemblies**

assemblies of individual damper units of sizes up to and including the maximum individual unit size tested to EN 1366-2

#### 3.3

##### **orientation of damper**

for the purposes of this standard, vertical will be taken to indicate a damper mounted within a duct passing through a wall and horizontal will be taken to indicate a damper mounted in a duct passing through a floor. It should not be taken to imply the direction of operation, neither the axis for blade dampers

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#### 3.4

##### **supporting construction**

A construction used as part of the test assembly to support the test specimen and to fill in the furnace aperture when the specimen is smaller than the furnace

#### 3.5

##### **standard supporting construction**

A construction similar to above, but which has known fire behaviour and for which a Direct Field of Application has been established

#### 3.6

##### **associated construction**

A form of supporting construction that reproduces the critical characteristics of the construction into which the test specimen is to be installed in practice, and, to which the fire performance of the tested element is irrevocably linked

### 4 Installation rules

The following have been identified as being applicable to installation rules:

#### 4.1 Spacing between dampers

Dampers shall not be installed less than 200 mm apart unless tested closer together.

**prEN 15080-11:2008 (E)****4.2 Influence of fixing damper to supporting construction**

- a) Centres between fixings shall not be reduced
- b) Size of fixing shall not be decreased
- c) Alternative fixings may be used if supporting data is available.

NOTE The location of fixings needs also consideration

**4.3 Multiple damper assemblies**

- a) Units may be joined as multi-section on a multiple of up to 4 units using materials of the same thickness as used in their construction. (2X2 or 1X4). Any through gaps to be filled with steel or insulation materials.
- b) Multi-section units above 4 individual sections, must be installed with supporting rolled steel sections of a minimum 6 mm thick.
- c) Some calculations may be possible to ensure the strength of the supports.

**4.4 Operating motors**

Operating motors can be changed without requiring additional fire tests providing operating time is the same or less. In addition, the following points should be considered.

- torque (torque profile)
- angle of rotation
- feedback signalling (position, how to adjust)
- rating of the feedback contacts (in case of replacement business and low current)
- connection to the damper form-fit (shaft / blade)
- safety function during the fire (keeping the damper in the closed position)
- life-time (numbers of cycles)
- materials used
- power consumption (dimension of wiring in case of replacement business)

If the above lead to physical changes in the basic damper to incorporate a different motor, an additional test to REN 1366-2 shall be undertaken if such a change could effect the fire resistance performance of the damper.

**4.5 Alternative penetration seals**

Alternative penetration seals may be used if supporting fire resistance data to either EN 1366-2 or EN 1366-3 is available.



## 5 Influence of parameters and factors on damper performance

This standard has taken into account the parameters and factors that may effect the fire resistance performance of fire resisting dampers when tested to the method of test defined in EN 1366-2. As far as possible, all relevant parameters and factors have been identified.

The influence on integrity, insulation and where appropriate smoke leakage, have been considered separately.

Examples of the anticipated influence on damper performance are given in Tables 5.1 to 5.4

Where a worse result is identified, or the influence on fire resistance performance is unknown, shown as (?) in the tables, further testing shall be required.

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Table 1 — Factors connected with pressure and size of damper

Parameter	Factors	Integrity (E)	Insulation (I)	Smoke Leakage (S)	Rule Reference	Rules
Change in under pressure	Increase pressure	Worse [-E]	Worse [I]	Worse [-S]	5.1.1	Need to test a) -300 up to +300 b) -500 up to +500 c) -1000 up to 500
	Decreased pressure	OK [=/+E]	OK [=/+I]	OK [=/+S]	5.1.2	Assume that classification will be maintained.
Change in pressure (positive) (supply air)	Above 300 Pa (test to -300 Pa covers up to +300 Pa)	?	?	?	5.1.3	Not covered in EN 1366-2, but if flow reversed, test can be used to obtain data for positive pressure conditions.
Width/diameter	Increased width/diameter	Worse [-E]	?	Worse [-S]	5.1.4	Requirement of standard that maximum dimension tested. No extended rules possible.
	Decreased width/diameter	OK [=/+E]	OK [=/+I]	OK [=/+S]	5.1.5	Assume that classification will be maintained.
Height	Increased height	Worse [-E]	?	Worse [-S]	5.1.6	Requirement of standard that maximum dimension tested. No extended rules possible.
	Decreased height	OK [=/+E]	OK [=/+I]	OK [=/+S]	5.1.7	Assume that classification will be maintained.

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