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Extended application of results from fire resistance tests - Part 15: Linear joint seals

Erweiterter Anwendungsbereich der Ergebnisse aus Feuerwiderstandsprüfungen - Teil 15: Abdichtungssysteme für Bauteilfugen

Application étendue des résultats des essais de résistance au feu - Partie 15: Calfeutrements de joints linéaires

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Extended application of results from fire resistance tests - Part 15: Linear joint seals

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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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (prEN 15080-15:2007) 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.

EN 15080 "Extended application of results from fire resistance tests — Part 15: Linear joint seals" consists of the following Parts:

— Part ?: Non-loadbearing walls

— Part ?: Non-loadbearing sandwich panels – ceilings

— Part 8: Beams (in course of preparation)

— Part 10: F R ducts

— Part 11: Dampers

— Part 12: Loadbearing masonry walls

— Part 13: Load bearing Columns

— Part 14: Penetration seals (in course of preparation)

— Part 15: Linear Joint Seals

1 Scope

The purpose of this document is to provide the principles and guidance for the preparation of extended application documents for linear joint sealing systems tested in accordance with EN 1366-4. The field of the extended application document is additional to the direct field of application given within EN 1366-4 and may be applied to or based on a single test, or a number of tests, which provide the relevant information for the formulation of an extended application.

It should be noted that this standard provides general guidance on the likely effects of a change. It gives no guidance as to the magnitude, nor how this magnitude is evaluated.

It should be noted that at present there is considered to be insufficient test evidence and experience to determine extended application rules for mechanical metal seals. All designs and configurations must, therefore, be the subject of a suitable test program.

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 1366-3, *Fire resistance tests for service installations — Part 3: Penetration seals*

EN 1366-4, *Fire resistance tests for service installations — Part 4: Linear joint seals*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*

EN 13501-2, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, (excluding products for use in ventilation systems)*

EN ISO 13943, *Fire safety — Vocabulary*

3 Definitions

For the purposes of this document the definitions given in EN 1363-1, EN 1363-2, EN 1366-3, EN 1366-4, EN 13501-1, EN 13501-2 and EN ISO 13943, together with the following, apply:

3.1
fabric seal
a seal comprising a woven fabric, usually glass cloth or similar, which may be used in a combination with other material, such as metal facings etc. to provide a composite seal

3.2
foam seal
a seal made from a one, two or three component expanding foam (expands during application), applied in-situ

3.3
joint depth
the overall distance between the exposed and unexposed faces across the thickness of the separating element – see Figure 1

3.4
joint face framing
additional substrate incorporated between the supporting construction and the joint seal

3.5
joint width
the distance between the two adjacent faces of the building element(s) – see Figure 1

3.6
mineral wool based seal
a seal comprised in the majority, or entirety of glass, stone or ceramic wool, which do not rely on a mastic component for their primary fire resistance performance

3.7
mortar based seal
a seal comprising a cementitious or gypsum based compound, together with other filler materials, usually mixed on site with water to achieve the required workability

3.8
movement joint
a joint between adjacent building elements or within a building element designed to accommodate a degree of movement of greater than ± 7.5 % (such as deflection, thermal movement or seismic)

3.9
non-movement joint
a joint between adjacent building elements or within a building element not designed to accommodate movement greater than ± 7.5 % (such as those designed to accommodate construction tolerances or irregularities of fit)

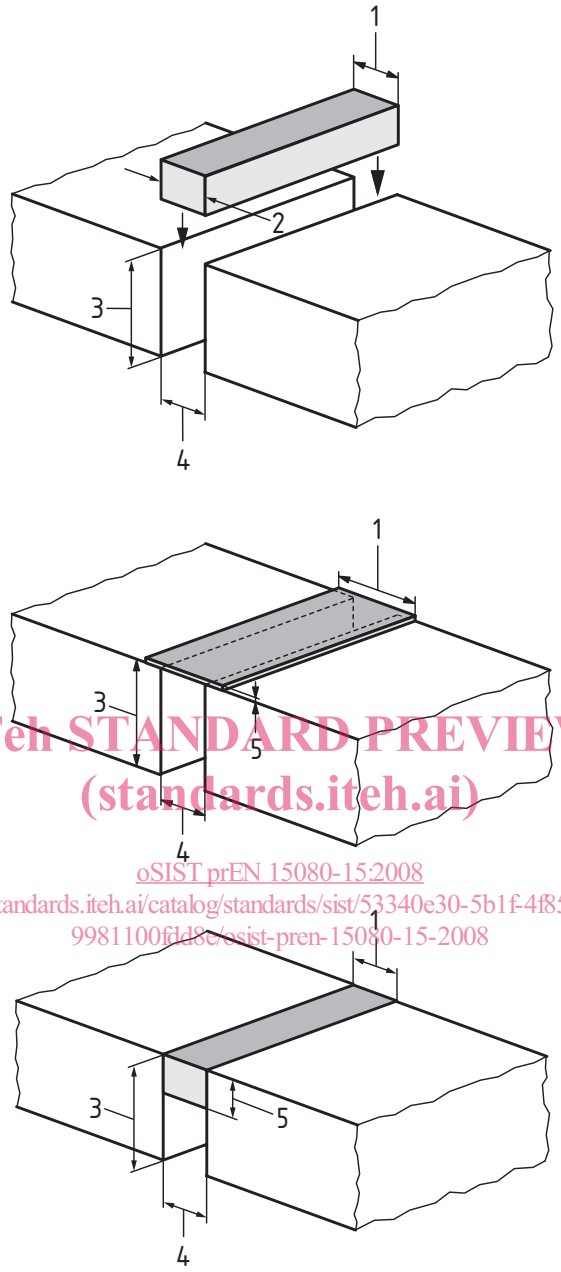
3.10
seal depth
the shortest distance between the exposed and unexposed surfaces of the seal – see Figure 1

3.11
seal width
the width of the seal in the non-installed condition (e.g. uncompressed solid seals, see Figure 1A) or the width of the installed seal where it is equal to or different from the joint width (e.g. overlap) – see Figure 1B and C

3.12
sealant/mastic/putty based seal
a seal comprising a sealant/mastic/putty material, generally in conjunction with a backing material, inserted into the joint

3.13
strip based seal
a preformed seal normally inserted into the joint and held in place by friction or by means of an adhesive. These may also include impregnated or multi component (composite, laminated) seals such as a combination of foam tape with strips of intumescent material

3.14
surface mounted strip
a surface mounted seal applied over the joint to completely cover and overlap the joint. Usually mechanically fixed to the surface of the building element



Key

■	Linear joint seal	3	Joint depth
1	Seal Width	4	Joint width
2	Direction of compression	5	Seal depth

Figure 1 — Definition of seal depth, joint depth and joint width for different types of seals

Key

Joint face framing

Figure 2 — Examples for a joint face framing

4 Extended application principles

4.1 General

Due to the diverse nature of materials and constructions used to seal linear joints or construction joints in fire resistant separating elements it has been necessary to separate the extended application principles into generic seal types. Permitted variations may be used alone or in combination, unless stated otherwise. Principles common to all generic seal types are given in Section 4.1. Principles and guidance relating to each specific generic joint type are given in Annex A to this document.

Variables for each seal type, which require consideration, are included in this report. These are as follows:

- separating element;
- joint width/seal width;
- joint depth/seal depth;
- seal position in relation to the exposed face;
- orientation (see EN 1366-4);
- whether movement or non movement joint.

Each sub-clause gives the possible variation and the rule relating to the variation.

The following rules are considered applicable to joint assemblies tested either with or without induced movement.