

**Extended application of results from fire resistance tests for service installations - Part 1: Ducts**

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ICS 13.220.50, 91.140.30

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ICS 13.220.50; 91.140.30

English Version

## Extended application of results from fire resistance tests for service installations - Part 1: Ducts

Application étendue des résultats des essais de résistance  
au feu - Partie 1: Conduits résistants au feu

Erweiterter Anwendungsbereich der Ergebnisse aus  
Feuerwiderstandsprüfungen für Installationen - Teil 1:  
Leitungen

This European Standard was approved by CEN on 22 October 2011.

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## Foreword

This document (EN 15882-1:2011) 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of an identical text or by endorsement, at the latest by June 2012, and conflicting national standards shall be withdrawn at the latest by June 2012.

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.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This European Standard has the general title *Extended application of results from fire resistance tests for service installations* and consists of the following parts:

- *Part 1: Ducts;*
- *Part 2: Dampers;*
- *Part 3: Penetration seals;*
- *Part 4: Linear joint seals.*

The Enquiry phase of this project (00127162) took place under the reference prEN 15080-10.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

There are a number of practical limitations on the size and design of elements that can be tested by the standard methods of fire resistance test. When these elements are larger, or are of a modified design, there is a necessity to be able to confirm their performance, i.e. whether the classification(s) is (are) given in the classification report in relation to the relevant criteria identified in the Interpretative Document are maintained, without the ability of being able to test them. To achieve this, extended application documents for the various elements are under development.

It is not allowed to change any detail of the duct construction. If this is done outside the DiAP<sup>1)</sup> and EXAP<sup>2)</sup>, the duct has another design and cannot be classified in accordance with EN 13501-3 without further appropriate testing.

Before there can be any consideration for extended application the duct shall be tested in accordance with EN 1366-1 to achieve a test result which could generate a classification in accordance with EN 13501-3 at least equal to the classification subsequently required from extended application considerations.

The extended application report should be based on the evaluation of one or more fire resistance test reports on the same proprietary construction of duct.

A review of the duct construction parameters may indicate that one or more criteria (integrity, insulation, leakage) may be improved by a particular parameter variation. In the case of ducts, this should never lead to an increased classification period for any specific parameter beyond that achieved during any one test.

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1) DiAP = Direct field of application.

2) EXAP = Extended field of application.

## 1 Scope

This European Standard identifies parameters that affect the fire resistance of ducts for ventilation purposes. It also identifies the factors that need to be considered when deciding whether, or by how much a parameter can be extended either positively or negatively when contemplating the fire resistance on an untested variation in the construction.

This European Standard, where applicable, gives guidance on additional tests that are needed to extend the field of application.

The European 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.

This European Standard only applies to ducts tested to EN 1366-1. Duct sections for use other than in fire resisting heating, ventilation and air conditioning (HVAC) systems are not covered by this European Standard. It does not cover ducts used for smoke control which are tested in accordance with EN 1366-8 or EN 1366-9.

## 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, *Fire resistance tests — Part 1: General requirements*

EN 1366-1:1999, *Fire resistance tests for service installations — Part 1: Ducts*

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 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs with specific property classes — Coarse thread and fine pitch thread* (ISO 898-1:2009)

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1363-1 and EN 1366-1 and the following apply.

### 3.1

#### **self-supporting duct**

duct constructed from fire protective boards to provide fire resistance without using a conventional steel duct

### 3.2

#### **fire protected steel duct**

steel duct with or without external insulation or coating to provide integrity or integrity and insulation in case of fire

### 3.3

#### **duct system**

complete system, consisting of the duct sections, duct joints, suspensions and penetration seals