Irish Standard
I.S. EN 1366-12:2014+A1:2019

Fire resistance tests for service installations - Part 12: Non-mechanical fire barrier for ventilation ductwork

I.S. EN 1366-12:2014+A1:2019

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 1366-12:2014+A1:2019 is the adopted Irish version of the European Document EN 1366-12:2014+A1:2019, Fire resistance tests for service installations - Part 12: Non-mechanical fire barrier for ventilation ductwork

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1366-12:2014+A1

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English Version

Fire resistance tests for service installations - Part 12: Non-mechanical fire barrier for ventilation ductwork

Essais de résistance au feu des installations techniques - Partie 12 : Barrière résistante au feu non mécanique pour les conduits de ventilation

Feuerwiderstandsprüfungen für Installationen - Teil 12: Nichtmechanische Brandschutzverschlüsse für Lüftungsleitungen

This European Standard was approved by CEN on 13 June 2014 and includes Amendment 1 approved by CEN on 2 September 2019.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 1366-12:2014+A1:2019) 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of an identical text or by endorsement, at the latest by May 2020 and conflicting national standards shall be withdrawn at the latest by May 2020.

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

[A1] This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. [A1]

This document includes Amendment 1 approved by CEN on 2 September 2019.

This document supersedes [A1] EN 1366-12:2014 [A1].

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] [A1].

EN 1366, *Fire resistance tests for service installations,* consists of the following parts:

— *Part 1: Ventilation ducts*;

— *Part 2: Fire dampers*;

— *Part 3: Penetration seals*;

— *Part 4: Linear joint seals*;

— *Part 5: Service ducts and shafts*;

— *Part 6: Raised access and hollow core floors*;

— *Part 7: Conveyor systems and their closures*;

— *Part 8: Smoke extraction ducts*;

— *Part 9: Single compartment smoke extraction ducts*;

— *Part 10: Smoke control dampers*;

— *Part 11: Fire protective systems for cable systems and associated components* [A1] *text deleted* [A1];

— *Part 12: Non-mechanical fire barrier for ventilation ductwork (this document)*;

— *Part 13:* [A1] *Chimneys* [A1].

[A1] *text deleted* [A1]

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The purpose of the test is to evaluate the ability of a non-mechanical (no moving parts) fire barrier (see Annex A) to prevent fire and smoke spreading from one fire compartment to another through the air ductwork system which may penetrate fire separating walls and floors.

Non-mechanical fire barriers are unable to achieve an “S” classification, which requires a known limited ambient leakage, as they are unable to be closed except under fire conditions.

The non-mechanical fire barrier is attached (directly or remotely via a section of ducting), to a fire separating element in a manner representative of practice.

Tests are performed starting with the non-mechanical fire barrier in its cold standard state to expose it to furnace conditions.

Temperature and integrity measurements are carried out in various parts of the test construction during the test. The leakage of the non-mechanical fire barrier system is measured (continuously during the test) by direct flow measurements while maintaining a constant pressure differential across the closed non-mechanical fire barrier of 300 Pa.

Caution:

The attention of all persons concerned with managing and carrying out this fire resistance test is drawn to the fact that fire testing may be hazardous and that there is a possibility that toxic and/or harmful smoke and gases may be evolved during the test. Mechanical and operational hazards may also arise during the construction of the test elements or structures, their testing and disposal of test residues.

An assessment of all potential hazards and risks to health should be made and safety precautions should be identified and provided. Written safety instructions should be issued. Appropriate training should be given to relevant personnel. Laboratory personnel should ensure that they follow written safety instructions at all times.

1 Scope

This part of EN 1366 specifies a method for determining the fire resistance of non-mechanical fire barriers installed in fire separating elements designed to withstand heat and the passage of smoke and gases at high temperature. This European Standard is used in conjunction with EN 1363-1 and EN 1366-2.

This European Standard is not suitable for testing non-mechanical fire barriers in suspended ceilings without modification.

This European Standard is not suitable for testing fire dampers, see EN 1366-2.

This European Standard is not suitable for testing such products as air transfer grilles, as the pressures and flows involved are different and may cause differing behaviour.

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

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

EN ISO 5167-1, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 1: General principles and requirements (ISO 5167-1)*

EN ISO 5167-2, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 2: Orifice plates (ISO 5167-2)*

EN ISO 5167-3, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 3: Nozzles and Venturi nozzles (ISO 5167-3)*

EN ISO 13943, *Fire safety - Vocabulary (ISO 13943)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1363-1, EN 1366-2 and EN ISO 13943, together with the following, apply.

3.1
non-mechanical fire barrier
open device with no moving parts for use in HVAC ventilation systems at fire boundaries that only closes to maintain compartmentation in the event of a fire

3.2
test specimen
non-mechanical fire barrier, connecting frame and (if applicable) the perimeter penetration sealing system