EESTI STANDARD EVS-EN 1366-3:2004

Fire resistance tests for service installations - Part 3: Penetration seals

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EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 1366-3:2004 sisaldab Euroopa standardi EN 1366-3:2004 ingliskeelset teksti. Käesolev dokument on jõustatud 23.11.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1366-3:2004 consists of the English text of the European standard EN 1366-3:2004. This document is endorsed on 23.11.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This document specifies a method of test and criteria for the evaluation of the ability of a penetration sealing system to maintain the fire resistance of a separating element at the position at which it has been penetrated by a service. Excluded are chimneys, air ventilation systems, fire rated ventilation ducts, fire rated service ducts, shafts and smoke extraction ducts.	**Scope:** This document specifies a method of test and criteria for the evaluation of the ability of a penetration sealing system to maintain the fire resistance of a separating element at the position at which it has been penetrated by a service. Excluded are chimneys, air ventilation systems, fire rated ventilation ducts, fire rated service ducts, shafts and smoke extraction ducts.

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Essais de résistance au feu des installations techniques - Partie 3: Calfeutrements

Feuerwiderstandsprüfungen für Installationen - Teil 3: Abschottungen

This European Standard was approved by CEN on 3 March 2004.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Contents

Foreword

This document (EN 1366-3:2004) 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 March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

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

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

EN 1366 *‘Fire resistance tests for service installations’* consists of the following:

Part 1: Ducts

Part 2: Fire dampers

Part 3: Penetration seals

Part 4: Linear joint seals (in course of preparation)

Part 5: Service ducts and shafts

Part 6: Raised access floors and hollow floors (in course of preparation)

Part 7: Closures for conveyors and trackbound transportation systems (in course of preparation)

Part 8: Smoke extraction ducts

Part 9: Single compartment smoke extraction ducts (in course of preparation)

Part 10: Smoke control dampers (in course of preparation)

Introduction

This document has been prepared to provide a method of test for assessing the contribution of a penetration sealing system to the fire resistance of separating elements when they have been penetrated by a service or services.

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 document specifies a method of test and criteria for the evaluation of the ability of a penetration sealing system to maintain the fire resistance of a separating element at the position at which it has been penetrated by a service. Excluded are chimneys, air ventilation systems, fire rated ventilation ducts, fire rated service ducts, shafts and smoke extraction ducts.

Supporting constructions are used in this document to represent separating elements such as walls or floors. These simulate the interaction between the test specimen and the separating element into which the sealing system is to be installed in practice.

This document is used in conjunction with EN 1363-1.

The purpose of this test described in this document is to assess:

a) the effect of such penetrations on the integrity and insulation performance of the separating element concerned;

b) the integrity and insulation performance of the penetration sealing system;

c) the insulation performance of the penetrating service or services, and where necessary, the integrity failure of a service.

No information can be implied by the test concerning the influence of the inclusion of such penetrations and sealing systems on the loadbearing capacity of the separating element.

It is not the intention of this test to provide quantitative information on the rate of leakage of smoke and/or hot gases or on the transmission or generation of fumes. Such phenomena should only be noted in describing the general behaviour of test specimens during the test.

This test does not supply any information on the ability of the penetration sealing system to withstand stress caused by movements or displacements of the penetrating services.

Explanatory notes to this test method are given in Annex A.

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.

prEN 520, *Gypsum plasterboards – Definitions, requirements and test methods.*

EN 1363-1:1999, *Fire resistance tests — Part 1: General requirements.*

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

EN 10025, *Hot rolled products of non-alloy structural steels - Technical delivery conditions.*

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

HD 21.3 S3: 1995, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V — Part 3: Non-sheathed cables for fixed wiring (IEC 60227-3:1993, modified).*

HD 22.4 S3: 1995, *Rubber insulated cables of rated voltages up to and including 450/750V — Part 4: Cords and flexible cables (IEC 60245-4:1994, modified).*

HD 22.7 S2: 1995, *Rubber insulated cables of rated voltages up to and including 450/750V — Part 7: Cables with increased heat resistance for internal wiring for a conductor temperature of 110 °C.*

HD 22.9 S2: 1995, *Rubber insulated cables of rated voltages up to and including 450/750V — Part 9: Single core non-sheathed cables for fixed wiring having low emission of smoke and corrosive gases.*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1363-1:1999 and EN ISO 13943:2000 and the following apply.

3.1
penetration
aperture in a separating element for the passage of one or more services

3.2
service
system such as a cable, conduit, pipe (with or without insulation), or trunking

3.3
penetration seal
system used to maintain the fire resistance of a separating element at the position where there is provision for services to pass through the separating element

3.4
penetration sealing system
assembly for test consisting of the penetrating service or services and the penetration seal, materials or devices, together with any service supporting construction, designed to maintain the integrity and insulation performance of the separating element for the duration of the fire test

3.5
service support construction
mechanical support provided in the form of clips, ties, hangers, ladder racks or trays, or any device designed to carry the load of the penetrating services

3.6
standard supporting construction
form of construction of known fire resistance used to close off the furnace and support the penetration sealing system being evaluated

3.7
blank penetration seal
aperture of specified size in the separating element which is sealed or closed by the specified seal without incorporation of penetrating services

3.8
flexible construction
horizontal or vertical supporting construction consisting of studs or joists, including linings and optional insulation