

Tulepüsisivuse katsed. Osa 1: Üldnõuded

Fire resistance tests - Part 1: General requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1363-1:2002 sisaldab Euroopa standardi EN 1363-1:1999 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 24.04.2002 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on .

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 1363-1:2002 consists of the English text of the European standard EN 1363-1:1999.

This standard is ratified with the order of Estonian Centre for Standardisation dated 24.04.2002 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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Võtmesõnad: katseprotseduurid, klassifitseerimised, loogikatsed, talad, tarindid, temperatuuri kõverad, temperatuuride tõus, toed, tulekatsed, tulepüsivus

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Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
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English version

Fire resistance tests

Part 1: General requirements

Essais de résistance au feu –
Partie 1: Exigences générales

Feuerwiderstandsprüfungen –
Teil 1: Allgemeine Anforderungen

This European Standard was approved by CEN on 1999-02-18.

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.

The European Standards exist 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.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard 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 February 2000, and conflicting national standards shall be withdrawn at the latest by February 2000.

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

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of the Construction Products Directive.

This European Standard is technically related to ISO 834-1 prepared by ISO/TC92/SC2 'Fire resistance tests'.

EN 1363 'Fire resistance tests' consists of the following

Part 1: General requirements.

Part 2: Alternative and additional procedures.

Part 3: Verification of furnace performance (published as an ENV).

Introduction

The objective of determining fire resistance, is to assess the behaviour of a specimen of an element of building construction when subjected to defined heating and pressure conditions. The method provides a means of quantifying the ability of an element to withstand exposure to high temperatures, by setting criteria by which the loadbearing capacity, the fire containment (integrity) and the thermal transmittance (insulation) functions amongst others can be evaluated.

A representative sample of the element is exposed to a specified regime of heating and the performance of the test specimen is monitored on the basis of criteria described in the standard. Fire resistance of the test element is expressed as the time for which the appropriate criteria have been satisfied. The times so obtained are a measure of the adequacy of the construction in a fire but have no direct relationship with the duration of a real fire.

Caution

The attention of all persons concerned with managing and carrying out this fire resistance test, EN 1363-1 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 shall be made and safety precautions shall be identified and provided. Written safety instructions shall be issued. Appropriate training shall be given to relevant personnel. Laboratory personnel shall ensure that they follow written safety instructions at all times.

Uncertainty of measurement of fire resistance

There are many factors which may affect the result of a fire resistance test. Those concerned with the variability of the specimen including its materials, manufacture and installation are not related to the uncertainty of measurement. Of the remainder, some, such as the different thermal dose provided by different furnaces are much more significant than others such as the accuracy of calibration of the data logging system.

Because of the very labour intensive nature of the test, many of the factors that have a bearing on the result are operator dependent. The training, experience and attitude of the operator is thus crucial to eliminate such variables, significantly affecting the degree of uncertainty of measurement. Unfortunately, it is not possible at present to numerically quantify these factors and therefore, any attempt to determine uncertainty of measurement that does not take into account operator dependent variables is of limited value.

1 Scope

This part of EN1363 establishes the general principles for determining the fire resistance of various elements of construction when subjected to standard fire exposure conditions. Alternative and additional procedures to meet special requirements are given in EN 1363-2.

The principle that has been embodied within all European standards relating to fire resistance testing is that where aspects and procedures of testing are common to all specific test methods e.g. the temperature/time curve, then they are specified in this test method. Where a general principle is common to many specific test methods, but the detail varies according to the element being tested e.g. the measurement of unexposed face temperature, then the principle is given in this document, but the detail is given in the specific test method. Where certain aspects of testing are unique to a particular specific test method e.g. the air leakage test for fire dampers, then no details are included in this document.

The test results obtained may be directly applicable to other similar elements, or variations of the element tested. The extent to which this is permitted is considered under the field of direct application of the test result. This is restricted to the provision of rules which limit the variation from the tested specimen without further evaluation. The rules for determining the permitted variations are given in each specific test method.

Variations outside those permitted by direct application are covered under extended application of test results. This results from an in-depth review of the particular product design and performance in test(s) by a recognised authority. Further consideration on direct and extended application is given in annex A.

The duration for which the tested element, as modified by its direct or extended field of application, satisfies specific criteria will permit subsequent classification to be made.

All values given in this Standard are nominal unless otherwise specified.

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.

prEN 520	Gypsum plasterboards - Specification - Test methods (ISO 6308:1980 modified)
EN 1363-2	Fire resistance tests Part 2: Alternative and additional procedures
ENV 1363-3	Fire resistance tests Part 3: Verification of furnace performance
prEN ISO 13943	Fire safety - Vocabulary (ISO/DIS 13943:1998)
EN 60584-1	Thermocouples - Part 1: Reference tables (IEC 584-1:1995)

3 Definitions, symbols and designations

3.1 Definitions

For the purposes of this Part of EN1363 the definitions given in prEN ISO 13943, together with the following, apply: