



SLOVENSKI STANDARD

SIST EN 1365-5:2005

01-maj-2005

Preskusi požarne odpornosti nosilnih elementov – 5. del: Balkoni in hodniki vzdolž fasade

Fire resistance tests for loadbearing elements - Part 5: Balconies and walkways

Feuerwiderstandsprüfungen für tragende Bauteile - Teil 5: Balkone und Laubengänge

Essais de résistance au feu des éléments porteurs - Partie 5: Balcons et passerelles

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Ta slovenski standard je istoveten z: **EN 1365-5:2004**

ICS:

13.220.50	Požarna odpornost gradbenih materialov in elementov	Fire-resistance of building materials and elements
91.060.99	Drugi stavbni elementi	Other elements of buildings

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EUROPEAN STANDARD

EN 1365-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2004

ICS 13.220.50

English version

Fire resistance tests for loadbearing elements - Part 5: Balconies and walkways

Essais de résistance au feu des éléments porteurs - Partie
5: Balcons et passerelles

Feuerwiderstandsprüfungen für tragende Bauteile - Teil 5:
Balkone und Laubengänge

This European Standard was approved by CEN on 9 July 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.

CEN members are the national standards bodies of 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.

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Contents

	page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Test equipment	7
5 Test conditions	7
5.1 Furnace	7
5.2 Loading conditions.....	7
6 Test specimen	7
6.1 General.....	7
6.2 Size	7
6.3 Number	9
6.4 Design	9
6.4.1 General.....	9
6.4.2 Floor	9
6.5 Exposure.....	9
6.6 Construction.....	9
6.7 Verification	9
7 Installation of test specimen	10
7.1 General.....	10
7.2 Loading and restraint	10
8 Conditioning.....	10
9 Application of instrumentation.....	10
9.1 Furnace thermocouples (plate thermometers)	10
9.2 Pressure.....	10
9.3 Deflection.....	10
10 Test procedure	10
11 Performance criteria.....	11
12 Test report	11
13 Field of direct application of test results	11

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SIST EN 1365-5:2005

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Foreword

This document (EN 1365-5:2004) 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 May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

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 the Construction Products Directive.

EN 1365 'Fire resistance tests for loadbearing elements' consists of the following parts:

Part 1: Walls,

Part 2: Floors and roofs,

Part 3: Beams,

Part 4: Columns,

Part 5: Balconies and walkways, (standards.iteh.ai)

Part 6: Stairs.

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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.

Introduction

The purpose of this test is to measure the ability of a representative specimen of a balcony or walkway or a part of those to maintain its loadbearing capacity when exposed to fire according to EN 1363-1.

Caution

The attention of all persons concerned with managing and carrying out this fire resistance test is drawn to the fact that fire testing can be hazardous and that there is a possibility that toxic and/or harmful smoke and gases can be evolved during the test. Mechanical and operational hazards can 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.

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1 Scope

This Part of EN 1365 specifies a method for determining the fire resistance, in respect with loadbearing capacity and with no separating function, of:

- balconies exposed to the fire from either outside or inside the building; and
- walkways exposed to the fire from either outside or inside the building.

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

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

EN 1365-2, *Fire resistance tests for loadbearing elements — Part 3: Floors and roofs*.

EN 1365-3, *Fire resistance tests for loadbearing elements — Part 3: Beams*.

EN 1365-4, *Fire resistance tests for loadbearing elements — Part 4: Columns*.

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

SIST EN 1365-5:2005

3 Terms and definitions

<https://standards.iteh.ai/catalog/standards/sist/db0fd324-83a2-40f0-a511-edaab3a7c23e/sist-en-1365-5-2005>

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

balcony

platform on the inside or outside of the building, usually balustrated, with access from an upper floor window or door. It may be integrated in the building structure or free standing. It may consist of floor, beams, columns, walls, tension bars and balustrades. It does not serve as a separating building element

3.2

walkway

raised passage or pass for pedestrian access connecting different sections of a building. It may be inside or outside the building and may be integrated in building structure or free standing. It does not serve as a separating building element

3.3

balcony or walkway floor

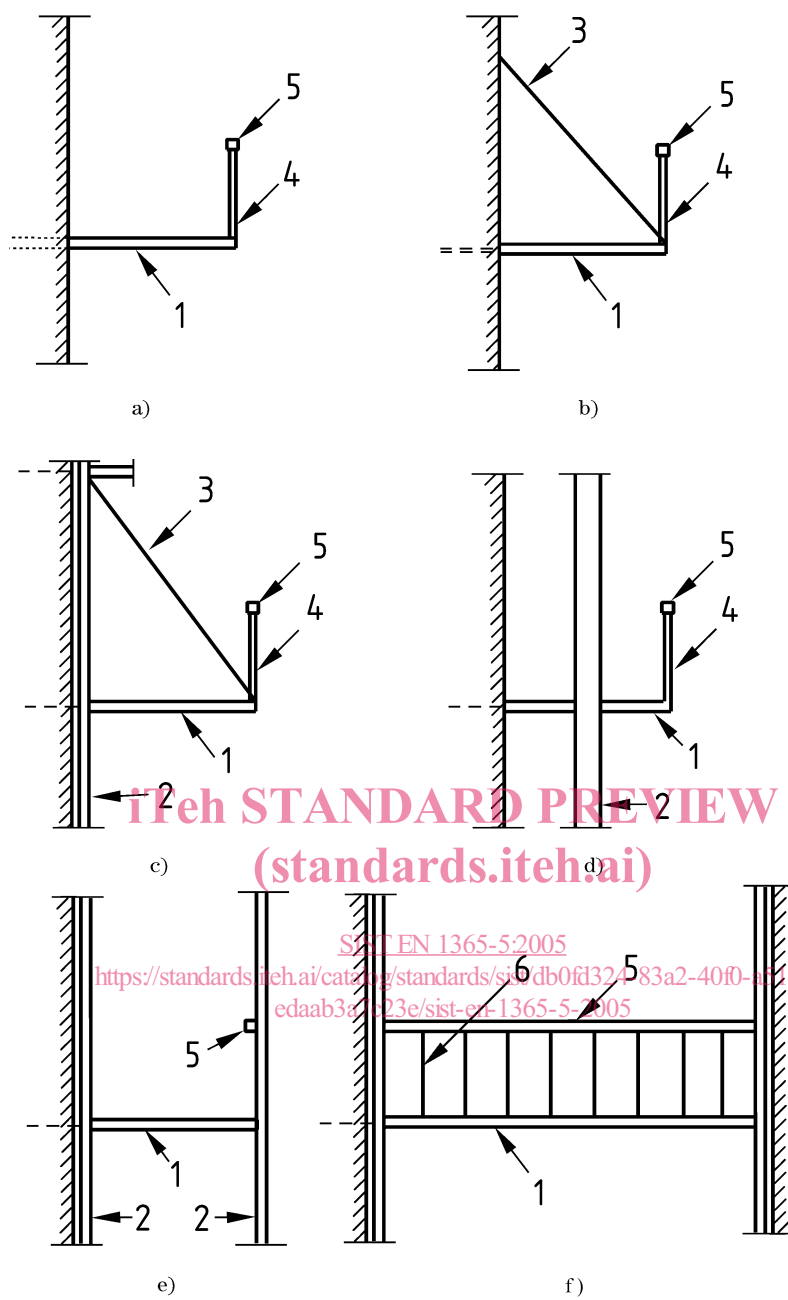
horizontal loadbearing element

3.4

balustrade

railing supported by posts or pillars forming a parapet to a balcony or walkway and designed to prevent the user falling over the side

NOTE Examples of sections of different type of balconies and walkways are given in Figure 1.

**Key**

- 1 Balcony or walkway floor
- 2 Column
- 3 Tension bar
- 4 Balustrade
- 5 Handrail
- 6 Baluster

Figure 1 — Examples of types of balconies and walkways

4 Test equipment

The test equipment shall be as specified in EN 1363-1.

5 Test conditions

5.1 Furnace

The heating conditions, the furnace atmosphere and loading conditions shall conform to those specified in EN 1363-1.

When testing balconies, walkways or their components, a pressure of 20 Pa shall be established at the position 100 mm below the underside of the furnace cover slab.

5.2 Loading conditions

The test specimen shall be subjected to loads determined in accordance with EN 1363-1. The determination of the load shall be clearly indicated in the test report. The magnitude and the distribution of the load shall be such that the maximum stresses produced in the test specimen are representative of those in practice.

6 Test specimen

6.1 General

The test specimen is the complete balcony or walkway, or part of it, chosen to represent the most onerous conditions of failure.

If the fire resistance of a component will not be negatively influenced by the complete system, then the complete balcony or walkway can be represented by a part of the complete system and tests may be carried out on that part according to EN 1365-3 and/or EN 1365-4.

6.2 Size

The test specimen shall be full size unless the actual size is larger than can be accommodated in the furnace.

When the actual size cannot be accommodated in the furnace, the height of the test specimen shall be 3 m and the dimensions (length and width) of a balcony at least 3 m × 3 m and of a walkway at least 4 m × 3 m.

Part of the balcony or walkway shall be tested in a way such that the result is representative for the entire construction.

A floor shall be tested with a size as specified in EN 1365-3.

A column shall be tested with a size as specified in EN 1365-4.

A tension member shall be tested as a column with a size as specified in EN 1365-4.

A beam shall be tested with a size as specified in EN 1365-3.

A balustrade shall be tested with a size as specified in EN 1365-3.

NOTE Examples of testing configurations of a whole balcony or part of it are shown in Figure 2.