SLOVENSKI STANDARD
oSIST prEN 13637:2009

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Stavbno okovje - Električ no krmiljeni sistemi izhodov za evakuacijske poti - Zahteve in preskusne metode

Building hardware - Electrically controlled exit systems for use on escape routes - Requirements and test methods

Quincaillerie pour le bâtiment - Systèmes de fermeture contrôlés électriquement destinés à être utilisés sur des voies d'évacuation - Exigences et méthodes d'essai

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Building hardware - Electrically controlled exit systems for use on escape routes - Requirements and test methods

Quincaillerie pour le bâtiment - Systèmes de fermeture contrôlés électriquement destinés à être utilisés sur des voies d'évacuation - Exigences et méthodes d'essai

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 33.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Foreword

This document (prEN 13637:2009) has been prepared by Technical Committee CEN/TC 33 “Doors, windows, shutters, building hardware and curtain walling”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

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 EC Directive(s).

For relationship with EC Directive(s), see informative Annex ZA, B, C and D, which is an integral part of this document.

A full contribution to the preparation of this European Standard has been made by the The European Federation of Associations of Lock and Builders Hardware Manufacturers (ARGE).

This European Standard is part of a group of Standards dedicated to building hardware products. It is one of a group of standards for exit devices and exit systems developed by Technical Committee CEN/TC 33.

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 EU Directive 89/106/EEC.

For the relationship with this EU Directive, see normative Annex ZA which is an integral part of this European Standard.

Wherever reference is made to classes, they are considered to be technical classes and not classes according to Article 3(2) of the Construction Products Directive (89/106/EEC).

Normative and informative annexes to this European Standard are indicated in the contents:

— Annex A (Normative) Information supplied with the product: Product information, Installation and fixing instructions, Installation compliance report, Maintenance instructions and Routine site inspection report

— Annex B (Normative) Additional requirements for electrically controlled escape exit systems intended for use on fire/smoke door assemblies

— Annex C (Normative) Flow chart of test procedures

— Annex D (Informative) Guidance for choosing relevant product standards for particular exit door applications

— Annex E (Informative) Additional recommendations for escape exit system for use by children, elderly and mobility impaired people

— Annex F (Informative) Functional diagrams

— Annex G (Normative) System configurations

— Annex ZA (Informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Construction Product Directive

— Annex ZB (Informative) Relationship between this European Standard and the provisions of EU Directive 2004/118/EC (EMC)

— Annex ZC (Informative) Relationship between this European Standard and the provisions of EU Directive 73/23/EEC (Low Voltage)

— Annex ZD (Informative) Relationship between this European Standard and the provisions of EU Directive 2002/96/EEC (WEEE) and 2002/95/EEC (ROHS)

Verification or tests performed by mechanical/electromechanical test laboratory and fire test laboratory are listed in Table 1 summarizing performance characteristics and compliance criteria.

Introduction

Experience relating to fire and/or smoke hazards and general safety has made it desirable that doors in circulation areas, or those that have to be operated in an emergency situation, be fitted with emergency exit devices.

Increasingly, such emergency exit devices may form a part of the security system of a building and involve the use of electrical locking and controlling elements. This standard provides common European Standard specifications for such electrically controlled escape exit systems.

The main purpose of the performance requirements contained in this European Standard is to give safe and effective escape through a doorway with a **maximum of two operations** to release the electrically controlled escape exit system, although this might require prior knowledge of the number of operations (e.g. break glass and/or operating element), and of the door situation (e.g. inwardly opening).

This standard introduces the concept of time delayed egress and denied egress mode, as a means of increasing the security of the building against unauthorised egress, and the concept of central management control. It is the responsibility of the regulatory authorities in each member country to decide whether or not such control methods can be allowed, and if so, to what extent within the limits stated in the standard.

It is intended that the requirements of this standard should apply at all times, regardless of whether or not the building is occupied. For safety reasons, any additional features of the system, such as access control, are required to maintain the principle of fail-safe release at all times. In terms of the Construction Products Directive (89/106/EEC) (CPD) the essential requirements of this standard are to give safe and effective escape through a doorway with not more than two single operations from the electrically locked state to the release of the door, although this may require prior knowledge.

For exit devices intended for use where panic situations are unlikely to develop and where electrical control is not applicable reference may be made to standard covering emergency devices operated by a lever handle or a push pad (see EN 179).

Where panic situations are foreseen, reference should be made to EN 1125, covering panic exit devices operated by a horizontal bar, or to prEN 13633, covering electrically controlled panic exit systems operated by a horizontal bar. See definitions.

The performance tests incorporated in this standard are considered to be reproducible and, as such, will provide a consistent and objective assessment of the performance of these electrically controlled escape exit systems throughout CEN Member States.

Due to the wide range of electrically controlled escape exit systems, the reader is advised to refer to the scope and the detailed contents of this European Standard for coverage but, for information and general guide, this revised European Standard deals with:

- electrically controlled escape exit systems designed to be used in emergency situations, where people are familiar with the exit and its hardware and therefore a panic situation is most unlikely to develop;
- electrically controlled escape exit systems for use on hinged or pivoted door leaves only;
- a range of electrically controlled escape exit systems including those for use on double doorsets;

- specific configurations of electrically controlled escape exit systems (see Annex G);

- two categories of electrically controlled escape exit systems projection in order to maximize the width of the escape route, and minimize the projection from the door face where either or both of these criteria are of importance;

- the exceptional case of electrically controlled escape exit systems intended for use on single leaf inwardly opening exit doors. It is assumed throughout this European Standard that exit doors generally open towards the outside in order to assure safe escape. However, there are cases such as hospital or hotel bedroom doors, classroom doors, etc. where local building regulations allow, by way of exception, the exit door to open against the direction of exit;

- double doorset electrically controlled escape exit systems of which the first opening leaf is equipped with a electrically controlled escape exit systems conforming to prEN 13637 and the second opening leaf is equipped with an emergency exit device conforming to EN 179. It is essential that this combination undergoes an additional test for approval.

This European Standard does not cover the following:

- any particular design of electrically controlled escape exit systems and only such dimensions as are required for safety reasons are specified;

- any other element of a security system, other than those directly involved in the control of an exit door;

- mechanically operated exit devices containing electrical functions that are not related to the exit release function, for example, access control or monitoring functions. Such devices are generally within the scope of EN 1125 or EN 179;

- specific electrically controlled escape exit systems intended for use on inwardly opening double doorsets;

- specific electrically controlled escape exit systems intended for use by the severely disabled; due to the wide range of disabilities, such exit devices and their performances should be agreed between specifier and producer;

- mechanical exit devices operated by a horizontal bar (see EN 1125) or electrically controlled panic exit systems (see prEN 13633), or mechanical emergency exit devices operated by a lever handle or a push pad (see EN 179).

1 Scope

This European standard specifies requirements for the manufacture, performance and testing of electrically controlled escape exit systems, specifically designed for use in an emergency situation on escape routes.

These systems consist of at least the following elements:

— **Requesting element** for requesting the release of electrical locking element in order to exit;

— **Electrical locking element** for securing an emergency exit door;

— **Electrical controlling element** for supplying, connecting and controlling electrical locking element and requesting element.

— In addition, these electrically controlled escape exit systems can include **time delay and/or denied egress mode.**

This European Standard covers escape exit systems placed on the market as a complete unit (e.g. mortise lock, lever handle, cylinder, keeper, requesting element, electrical locking element, electrical controlling element, etc.). The components are tested as a single product.

NOTE 1 The suitability of a time delay and/or egress mode should be defined according to local regulations.

NOTE 2 The suitability of an electrically controlled escape exit system for use on fire/smoke resisting door assemblies is determined by fire performance tests conducted in addition to the performance tests required by this European Standard. Annex B indicates additional requirements for these products.

NOTE 3 This European Standard covers electrically controlled escape exit systems which are either manufactured and placed on the market in their entirety by one producer or assembled from sub-assemblies produced by more than one producer and subsequently placed on the market as a kit in a single transaction. This doesn't preclude components being delivered separately. The manufacturer is responsible for making it clear in a 'list of components' as part of the manufacturer's compulsory installations which combination of components is covered by the ITT.

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 179: 2008, *Building hardware — Emergency exit devices operated by a lever handle or a push pad — Requirements ant test methods*

EN 1125:2008, *Building hardware — Panic exit devices operated by a horizontal bar — Requirements ant test methods*

EN 1670, *Building hardware — Corrosion Resistance — Requirement and tests methods*

EN 61000-4-2:1995, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 2: Electrostatic discharge immunity test — Basic EMC publication*

EN 60068-2-30:1999, *Basic environmental testing procedures — Test methods — Test Db and guidance: Damp heat, cyclic (12 + 12 – hour cycle)*

EN 54-18:2005, *Fire detection and fire alarm systems — Part 18: Input/output devices*

EN 1634-1, *Fire resistance tests for door and shutter assemblies — Fire doors and shutters*

EN 1634-3, *Fire resistance tests for door and shutter assemblies — Smoke control doors and shutters*

EN ISO 9001:2000, *Quality management systems — Requirements*

CEI 60050-845, *International Electrotechnical Vocabulary — Lighting*

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply:

3.1
exit device
mechanically operated device intended for panic exit function (panic exit device) or emergency exit function (emergency exit device) for use on escape routes

3.2
panic exit device
exit device conforming to EN 1125 intended to give safe and effective escape through a doorway with one single operation to release the panic exit device, with minimum effort and without prior knowledge of the panic exit device allowing safe escape even in the event of the door being under pressure such as by people being pushed against the door in the direction of escape

NOTE 1 A panic exit device contains bolt head(s) that engage(s) with a keeper(s) in the surrounding door frame or floor for securing a door when closed. The bolt head(s) can be released by the bar positioned horizontally across the inside face of the door when it is moved anywhere along its effective length in the direction of travel and/or in an arc downwards.

NOTE 2 Panic exit devices are intended for use where panic situations can arise. In a panic situation, a group of people will react differently from an individual. When two or more people are rushing to an escape door, probably in darkness and/or smoke, it is possible that the first one to reach the door will not necessarily operate the panic exit device, but can push the surface of the door (door under pressure) while other people will be trying to operate the horizontal bar by hand or body pressure.

NOTE 3 When a door opens in the direction of exit, a panic exit device can be used instead of an emergency exit device subject to local regulations.

3.3
emergency exit device
exit device conforming to EN 179 intended for emergency purposes where panic situations are not likely to arise, to give safe and effective escape through a doorway with one single operation to release the emergency exit device, although this can require prior knowledge of its operation (see Figure 1 and Figure 2 of EN 179)

NOTE 1 An emergency exit device contains bolt head(s) that engage(s) with a keeper(s) in the surrounding door frame or floor for securing a door when closed. The bolt head(s) can be released by the lever handle or the push pad positioned on the inside face of the door.

NOTE 2 Exit devices conforming to EN 179 are intended for emergency purposes where panic situations are not likely to arise. Where a pressure against the door caused by people in a panic is foreseen, then a panic exit device conforming to EN 1125 should be used.

NOTE 3 Emergency exit devices are suitable also for inwardly opening single leaf exit doors, where local building regulations allow.