SLOVENSKI STANDARD
oSIST prEN 13633:2009

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Stavbno okovje - Električno krmiljeni sistemi izhodov za evakuacijske poti ob paniki - Zahteve in preskusne metode

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

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

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

Quincaillerie pour le bâtiment - Systèmes de fermetures anti-panique 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.

This draft European Standard was established by CEN 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 CEN Management Centre has the same status as the official versions.

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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 13633:2009) 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 second 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 panic 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 panic 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 a panic situation, be fitted with panic exit devices.

Increasingly, such panic 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 panic 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 **one single operation** by hand and/or body pressure to release the electrically controlled panic exit system, with minimum effort and without prior knowledge of the panic exit system, and of the door situation.

In this standard priority is given to the panic operation rather than pressure and resistance to the door opening from seals, weather-stripping, multiple bolt heads etc. Precedence is given to the importance of ease of opening by the young, elderly and infirm.

In a panic situation, a group of people will react differently from an individual. When two or more people are rushing to an exit door located on an escape route, 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 or system, 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. See Figure 1 of EN 1125.

This standard introduces the concept of central management control.

NOTE 1 This standard does not refer to the concept of time delayed egress and denied egress mode, as covered in prEN 13637. 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 one single operation from the electrically locked state to the release of the door.

Where panic situations are foreseen, but where there is no need for additional electrical control, reference could be made to EN 1125, covering panic exit devices operated by a horizontal bar. See definitions.

NOTE 2 An electrically controlled panic exit system to prEN 13633 can replace an existing mechanical panic exit device to EN 1125.

Where exit devices are required for situations in which people are familiar with the use of the door hardware in their surroundings, where exit doors are required to be inwardly-opening, and/or where a panic situation is unlikely to develop, reference can be made to EN 179, covering emergency exit devices, or to prEN 13637 covering electrically controlled escape exit systems.

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 panic exit systems throughout CEN Member States.

Due to the wide range of electrically controlled panic 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 panic exit systems designed to be used in panic situations, where people are not familiar with the exit and its hardware and therefore a panic situation is likely to develop;

— electrically controlled panic exit systems for use on hinged or pivoted door leaves only;

— a range of electrically controlled panic exit systems including those for use on double doorsets;

— specific configurations of electrically controlled panic exit systems (see Annex G);

— two categories of electrically controlled panic 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;

— double doorset of which the first opening leaf is equipped with an electrically controlled panic exit system conforming to prEN 13633 and the second opening leaf is equipped with a panic exit device conforming to EN 1125 or 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 panic 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 panic 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;
- specific electrically controlled exit systems intended for use on inwardly opening doors (see prEN 13637);
- specific electrically controlled panic 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 exit systems (see prEN 13637), 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 panic exit systems, specifically designed for use in a panic situation on escape routes.

These systems consist of at least the following elements:

- **Requesting element integrated in a horizontal bar** for requesting the release of electrical locking element~~s~~ in **one single operation** in order to exit;
- **Electrical locking element** for securing an exit door;
- **Electrical controlling element** for supplying, connecting and controlling electrical locking element and requesting element.

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

NOTE 1 Panic exit systems should give immediate release at all times, therefore a time delay and/or egress mode are not suitable.

NOTE 2 The suitability of an electrically controlled panic 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 panic 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.

3.4
panic exit system
electrically controlled exit system according to prEN 13633 operated by a horizontal bar by one single hand or body operation for use where panic situations are foreseen, and intended to give safe and effective escape through a doorway with one single operation to release the panic exit system, with minimum effort and without prior knowledge of the panic exit system 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

3.5
escape exit system
electrically controlled escape exit system according to prEN 13637 standard for use where panic situations are not foreseen, which enables the electrical control of exit doors by means of electrical locking elements, a requesting element and electrical controlling elements. These separate elements may be inter-connected or may be combined in various assemblies, to provide the required system functions

3.6
electrical locking element
electrically operated element of an exit system that maintains the door in secured condition

3.7
controlling element
the element in an exit system which monitors, supplies, connects and controls the electrical locking element and requesting element

3.8
requesting element
manually operated element for requesting the release of electrical locking elements in order to exit and which can be integrated into an operating element, such as a “break glass” or push button with or without breakable plastic cover

3.9
operating element
manually operated element of an exit system that mechanically releases the door

3.10
electrically lockable operating element
operating element which, when energized, prevents the release of the door

3.11
to reset
to manually or automatically set the exit system to its ready to be released position (or locked position), in case of an emergency or a panic situation

3.12
rated supply voltage
nominal voltage for which the system is intended

3.13
to release
to disengage the locking element(s) such as disconnecting an electromagnet, withdrawing the bolt of a lock, etc. such that a door may be opened

3.14
fail safe
ability of an exit system, to release during a power interruption or the failure of any one electrical component or of the connexion between controlling, locking and requesting elements of the system. Also: fail unlock, fail released, fail open