



SLOVENSKI STANDARD

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Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods

Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods

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Schlösser und Baubeschläge - Paniktürverschlüsse mit horizontaler Betätigungsstange, für Türen in Fluchtwegen - Anforderungen und Prüfverfahren

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Quincaillerie pour le bâtiment - Fermetures antipanique manoeuvrées par une barre horizontale, pour portes situées sur les voies d'évacuation - Prescriptions et méthodes d'essais

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Building accessories

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English Version

Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods

Quincaillerie pour le bâtiment - Fermetures anti-panique manoeuvrées par une barre horizontale, destinées à être utilisées sur des voies d'évacuation - Exigences et méthodes d'essai

Schlösser und Baubeschläge - Paniktürverschlüsse mit horizontaler Betätigungsstange, für Türen in Fluchtwegen - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 30 November 2007.

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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 CEN Management Centre has the same status as the official versions.

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Foreword

This document (EN 1125:2008) 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 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of an identical text or by endorsement, at the latest by July 2008, and conflicting national standards shall be withdrawn at the latest by July 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1125:1997.

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 EU Directive(s).

For relationship with EU Directive 89/106/EEC, see informative Annex ZA which is an integral part of this document.

It has been revised to incorporate clarification of the definitions, safety requirements and test procedures, in particular for panic exit devices intended for use on double leaf doorsets, in order to allow for more reproducible test methods.

It incorporates extension of the classification to avoid misuse of the products, extension of the limits of door mass and dimensions as well as extension of the field of door application to cover products already available on the market which were not covered by the 1997 edition of this European Standard.

A full contribution to the preparation of this European Standard has been made by 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.

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).

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

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

Introduction

Experience relating to escape from buildings, fire and/or smoke hazards and general safety has made it desirable that doors, in public areas, public buildings, places of public entertainment, shops etc, or those that have to be operated in a panic situation, be fitted with panic exit devices operated by a horizontal bar to common European Standard specifications.

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 panic exit device, with minimum effort and without prior knowledge of the panic exit device.

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, 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.

Whilst reasonable external security will be provided by the panic exit devices covered in this standard to avoid potential misuse of the device (chains, bolts, etc.), the main objective is to enable a door to be opened at all times by hand or body pressure along its inside face on the panic exit device and not requiring the use of a key or any other object.

The performance tests incorporated in this European Standard are considered to be reproducible and, as such, will provide a consistent and objective assessment of the performance of these panic exit devices.

Where emergency 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. See definition **3.19**.

Where additional security is required for exit doors, reference should be made to prEN 13633 covering electrically controlled panic exit systems, or to prEN 13637 covering electrically controlled exit systems, for use on escape routes. See Bibliography.

Due to the wide range of panic exit devices, 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 now deals with:

- panic exit devices designed to be used in panic situations;
- panic exit devices for use on hinged or pivoted door leaves only;
- range of panic exit devices including those for use on double doorsets (see **7.10**);
- two specific types of horizontal bar operation: panic exit devices with "push-bar", type A (see **3.17** and Figure 2) and panic exit devices with "touch-bar", type B (see **3.19** and Figure 3);
- two categories of panic exit device 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 (see **4.1.11**);
- two specific designs of panic exit devices: those designed for use on single leaf doors only, and those specifically designed for use on single leaf doors and/or double doorsets.

This European Standard does not cover the following:

- any particular design of panic exit devices, and only such dimensions as are required for safety reasons are specified;
- specific panic exit devices intended for use by the severely disabled (due to the wide range of disabilities, such panic exit devices and their performances should be agreed between specifier and producer);
- emergency exit devices operated by a lever handle or push-pad (see EN 179) or electrically controlled panic exit systems or electrically controlled exit systems (see prEN 13633 and prEN 13637).



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Figure 1 — A panic situation

1 Scope

This European Standard specifies requirements for the manufacture, performance and testing of panic exit devices mechanically operated by either a horizontal push-bar or a horizontal touch-bar, specifically designed for use in a panic situation on escape routes.

The suitability of a panic exit device 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.

This European Standard covers panic exit devices which are either manufactured and placed on the market in their entirety by one producer or produced by more than one producer and subsequently placed on the market as a kit in a single transaction.

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, *Building hardware - Emergency exit devices operated by a lever handle or push pad - Requirements and test methods* (standards.iteh.ai)

EN 1634-1, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 1: Fire resistance test for doors and shutter assemblies and openable windows* <https://standards.iteh.ai/catalog/standards/sist/6a01fa68-fc90-4906-abd0-058dcb7038ee/sist-en-1125-2008>

EN 1634-3, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 3: Smoke control test for door and shutter assemblies*

EN 1670:2007, *Building hardware - Corrosion resistance - Requirements and test methods*

EN ISO 9001:2000, *Quality management systems - Requirements (ISO 9001:2000)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

active leaf

first opening and last closing leaf of a rebated single swing double doorset

3.2

automatic relatching device

part of a panic exit device to enable the automatic securing of a door in the closed position, after it has been operated

NOTE For example, a spring loaded latch bolt or an automatically thrown bolt head.

3.3

bolt head

portion of a panic exit device that engages with the keeper to secure the door in the closed position

3.4

dogging mechanism

part of a panic exit device for holding the bolt head(s) in the withdrawn position until manually reset

3.5

doorset

assembly consisting of a single leaf exit door being hinged or pivoted vertically in a frame

3.6

inactive leaf

last opening and first closing leaf of a rebated single swing double doorset

3.7

inside

face of the door on which the bar is situated for operating a panic exit device in order to exit

3.8

keeper

part of a panic exit device such as a strike, a socket or other fitting with which the bolt head(s) engages

3.9

push-bar

activating horizontal bar of a panic exit device (type A), designed to be fixed between pivoted support brackets that operates in the direction of exit and/or in an arc downwards (See Figure 2)

3.10

producer

manufacturer, entity or organization that has legal responsibility for placing the product on the market

3.11

outside

face of the door opposite to the face on which the bar for operating the panic exit device is situated

3.12

outside access device

optional part of a panic exit device for opening an exit device from the outside

NOTE An outside access device can be supplied with optional re-entry function.

3.13

bar

horizontal part of a panic exit device which, when pushed, will operate the mechanism

3.14

double doorset

assembly consisting of two hinged or pivoted leaves within a single frame

NOTE 1 The meeting stiles can be either plain or rebated.

NOTE 2 A double doorset where only one leaf is equipped with a panic exit device is considered to be a single panic exit doorset.

NOTE 3 A double doorset where the first opening leaf is equipped with a panic exit device conforming to EN 1125 and the second opening leaf is equipped with an emergency exit device conforming to EN 179 is considered to be a double emergency exit doorset, or a single panic exit door.

3.15**touch-bar**

activating horizontal bar of a panic exit device (type B), designed to be part of a chassis or other mounting assembly, that operates in the direction of exit (see Figure 3)

3.16**release force**

force applied to the bar in a direction perpendicular to the door face, which is necessary to withdraw or release all the bolt head(s) from the keeper(s), such that the door can be opened

3.17**vertical rod**

extension of the bolt head of a panic exit device that links it to the horizontal bar via the operating mechanism

3.18**panic exit device**

exit device conforming to EN 1125 intended to give safe and effective escape through a doorway 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 and/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.

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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.

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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.

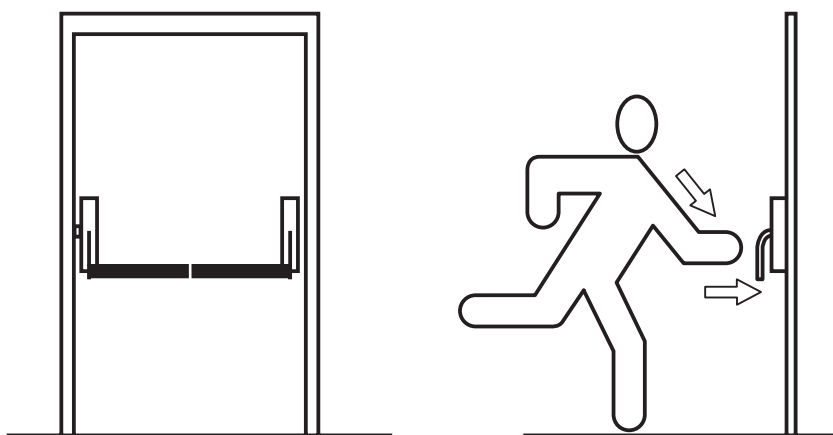


Figure 2 — Panic exit device with type A bar operation (push-bar)

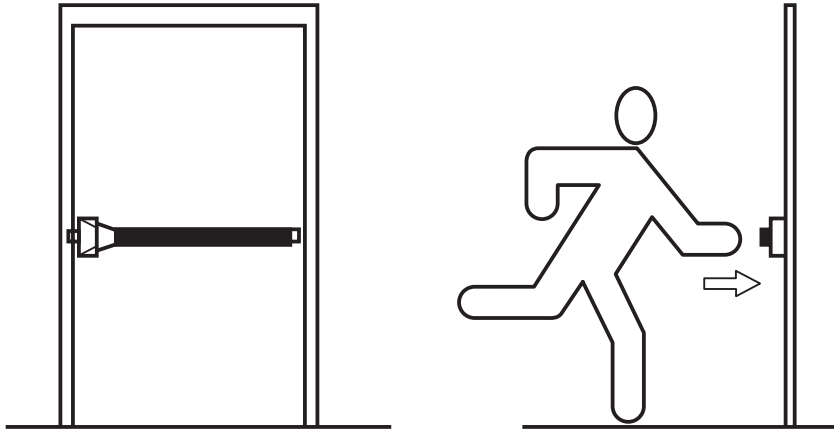


Figure 3— Panic exit device with type B bar operation (touch-bar)

3.19

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

NOTE 1 An emergency exit device contains bolt head(s) that engage(s) with a keeper(s) in the surrounding door frame and/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.

3.20

double doorset panic exit device

panic exit device designed for use on the leaves of double doorsets, such that the operation of either horizontal bar will release at least the door leaf to which it is fitted

3.21

deadbolt

part of a panic exit device that can be deadlocked manually by key or automatically and which is released when the exit device is operated

NOTE A panic exit device can be designed to incorporate additional deadbolt(s) thrown by a key or thumbturn, used only at certain periods of time for additional security.

3.22

exit door

door on an escape route equipped with an exit device conforming to EN 179 and/or EN 1125

3.23

effective length of bar

length of the bar (dimension X) including any member to which the bar is fixed and which will itself yield to hand or body pressure thereby causing the panic exit device mechanism to operate (See Figure 4)

3.24**re-entry function**

optional function that allows, for safety reasons, an individual to re-enter a room from outside without a key once the inside operating element has been actuated. After having released the device from the inside, any handle (or other means) to operate the exit device from outside remains unlocked until manually reset by key

3.25**field of door application**

door configurations for which the panic exit devices are designed and claimed by the producer

3.26**limits of door mass and dimensions**

dimensional and mass limits of the doors for which the panic exit devices are designed

3.27**sub-assemblies**

pre-assembled set of components that form one part of the panic exit device, for example: pullman catches, operating boxes and lock cases

3.28**effective width of door opening**

unobstructed width of the inside face of the door leaf (dimension Y) when the door is in the secured position (See Figure 4)

3.29**visual inspection**

assessment made with the naked eye, adjusted for normal vision and use of the appropriate measurement equipment

3.30**functional test**

assessment made by operating the test door (opening or closing) and/or operating any element of the exit device

3.31**measurement**

assessment made by using a measuring tool

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4 Requirements

4.1 Design requirements

4.1.1 General

Compliance with the design requirements shall be as Table 1.

4.1.2 Release function

A panic exit device shall be designed to release a door at all times from the inside in less than 1 s, when the horizontal bar positioned horizontally across the inside of the door is operated by hand or body pressure in one continuous movement in the direction of exit and/or in an arc downwards, anywhere along its effective length and not requiring the use of a key or other similar object. It shall be designed to release the door without any delay from the time the horizontal bar is operated to the released position of the mechanism.

The operation of the horizontal bar shall enable immediate exit from the inside at all times regardless of any auxiliary locking and/or unlocking means being incorporated, such as a deadbolt or outside access device.

Compliance shall be verified by visual inspection, functional tests and/or measurements.

4.1.3 Panic exit device mounting

A panic exit device, with the exception of the horizontal bar, shall be designed to be mounted either on the inside face of, or within, a door.

Compliance shall be verified by visual inspection.

4.1.4 Corrosion resistance

The corrosion resistance shall comply with 4.2.9 or be at least grade 3 in accordance with EN 1670:2007, 5.6.

4.1.5 Exposed edges and corners

A panic exit device shall have all edges and exposed corners, that are likely to cause injury to persons using the exit, rounded to a radius of not less than 0,5 mm.

Compliance shall be verified by visual inspection and measurements.

4.1.6 Temperature range

Materials selected in the design of a panic exit device shall be suitable for the operation of the panic exit device between temperatures of -10 °C and +60 °C. This requirement shall be verified by the test specified in 6.2.2. The maximum operating force at -10 °C and at +60 °C shall not exceed 50 % in excess of the operating forces measured at 20 °C.

4.1.7 Double doorset

The design of a panic exit device intended for use on double doorset leaves shall allow both leaves to be opened simultaneously and to swing freely in the direction of exit once the door has been released.

NOTE 1 The construction and installation of a specific doorset assembly, including choice of hinges, leaf thickness and leaf width, can have a significant effect on the ability of both leaves to open simultaneously. These issues are beyond the scope of this European Standard. Additional guidance is given in **A.5**.

NOTE 2 For example, on rebated double doors, operating the panic exit device on the inactive leaf will release both the inactive and the active leaf.

Compliance shall be verified by visual inspection and functional tests carried before and also after durability test.

4.1.8 Suitability of panic exit devices for use on smoke/fire resisting doorsets

Panic exit devices that are suitable for use on smoke/fire resisting doorsets shall conform to the requirements of **4.2.3**, **4.2.4**, **Annex B** and be classified according to **7.4**.

4.1.9 Bar installation

Panic exit devices shall be designed such that the effective bar can be installed at 150 mm (dimension Z) or less from the door stop at the leading edge of the door when the door is in the closed position. See Figure 4.

Compliance shall be verified by visual inspection and measurements.

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