SLOVENSKI STANDARD
oSIST prEN 179:2015

01-januar-2015

Stavbno okovje - Naprave za zasilne izhode z vzvodno ročico ali pritisnim pedalom za evakuacijske poti - Zahteve in preskusne metode

Building hardware - Emergency exit devices operated by a lever handle or push pad, for use on escape routes - Requirements and test methods

Schlösser und Baubeschläge - Notausgangsverschlüsse mit Drücker oder Stoßplatte, für Türen in Fluchtwegen - Anforderungen und Prüverfahren

Quincaillerie pour le bâtiment - Fermetures d'urgences manoeuvrées par une béquille ou une plaque de poussée, pour issues de secours situées sur les voies d'évacuation - Prescriptions et méthodes d'essai

Ta slovenski standard je istoveten z: **prEN 179**

ICS:

13.200	Preprečevanje nesreč in katastrof	Accident and disaster control
91.190	Stavbna oprema	Building accessories

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Building hardware - Emergency exit devices operated by a lever handle or push pad, for use on escape routes - Requirements and test methods

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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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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (prEN 179:2014) 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 will supersede EN 179:2008.

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(s), see informative Annex ZA, which is an integral part of this document.

Introduction

Experience relating to escape from buildings, fire and/or smoke hazards and general safety has made it desirable those doors in circulation areas, or those that have to be operated in an emergency situation, be fitted with emergency exit devices 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 to release the emergency exit device, although this might require prior knowledge of the door situation (e.g. inwardly opening).

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 emergency exit devices.

Where panic situations are foreseen, reference should be made to EN 1125, covering panic exit devices operated by a horizontal bar. See definition 3.18.

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

Due to the wide range of emergency 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 deals with:

- Emergency exit devices 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;
- Emergency exit devices for use on hinged or pivoted door leaves only;

- Range of emergency exit devices including those for use on double doorsets (see 7.10);
- Three specific types of operation:
  - emergency exit devices with “lever handle” operation, type A (see 3.9 and figure 1);
  - emergency exit devices with “push pad” operation, type B (see 3.15 and figure 2);
  - emergency exit devices with “touch pad” operation type C (see 3.33 and figure 3);
- Two categories of emergency 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 4.2.1.6);
- Exceptional case of emergency exit devices intended for use on single leaf inwardly opening exit doors. It is assumed throughout this European Standard that emergency 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 emergency exit devices of which 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. It is essential that this combination undergoes an additional test for approval (see 4.6).

This European Standard does not cover the following:

— Any particular design of emergency exit devices and only such dimensions as are required for safety reasons are specified;

— Specific emergency exit devices intended for use on inwardly opening double doorsets;

— Specific emergency exit devices intended for use by the severely disabled (due to the wide range of disabilities, such emergency exit devices and their performances should be agreed between user and manufacturer);

— Panic exit devices operated by a horizontal bar (see EN 1125) or electrically controlled exit systems (EN 13637).

The major changes in this revision are as follows:

— Different sealing forces have been introduced for classification of the durability (2nd digit);

— Different static closing forces have been introduced for classification of Door mass (3rd digit);

— An additional grade has been introduced for release force, in relation with safety classification (5th digit);

— Definition of field of door application has been modified (10th digit);

— Safety requirements about Outside Access Device have been added;

— Temperature tests have been removed;

— Durability tests have been clarified;

— Closing test has been changed from dynamic to static.

List of different forces considered in the standard:

— F3: Sealing Force;

— F9: Static Closing Force;

— F10: Dynamic Closing Force;

— F11: Release Force under influence of F3;

— F13: Security Force;

— F14: Abuse Force.

1 Scope

This European Standard specifies requirements, performance and testing of emergency exit devices mechanically operated by either a lever handle or a push pad for the purpose of achieving a safe exit under an emergency situation on escape routes.

This European Standard covers emergency exit devices, 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.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1125, *Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods*

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*

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, *Quality management systems - Requirements (ISO 9001)*

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

Note 1 to entry: For example, a spring loaded latch bolt or an automatically thrown bolt head.

3.3
bolt head
portion of an emergency exit device that engages with the keeper to secure the door in the closed position

3.4
dogging mechanism
part of an emergency 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 , including an emergency function

3.7
inside
face of the door on which the lever handle or push pad is situated for operating an emergency exit device in order to exit

3.8
keeper
part of an emergency exit device such as a strike, socket or other fitting with which the bolt head(s) engages

3.9
lever handle
rotatable operating element as part of an emergency exit device whose axis of rotation is perpendicular to the face of the door and which operates the emergency exit device mechanism in order to release the bolt head(s)

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 lever handle or push pad for operating the emergency exit device is situated

3.12
outside access device
optional part of an emergency exit device for opening an exit device from the outside

Note 1 to entry: An outside access device can be supplied with optional re-entry function.

3.13
operating element
abbreviation for lever handle, push pad, or touch pad.

3.14
double doorset
assembly consisting of two hinged or pivoted exit doors within a single frame

Note 1 to entry: The meeting stiles can be either plain or rebated.

Note 2 to entry: A double doorset where only one leaf is equipped with an emergency exit device is considered to be a single emergency exit doorset.

Note 3 to entry: 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
push pad
operating element of an emergency exit device that operates the emergency exit device mechanism in an arch in the direction of the exit , in order to release the bolt head(s).

Note 1 to entry: The term “pull pad” is sometimes used instead of “push pad” for use on inwardly opening exit doors.

3.16
release force
force applied to the operating element, which is necessary to withdraw or release all the bolt head(s) from the keeper(s), such that a door can be opened

3.17
vertical rod
extension of the bolt head of an emergency exit device that links it to the operating element 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 to entry: 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.

Note 2 to entry: 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 to entry: 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.

3.19
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 (see Figures 1, 2 and 3)

Note 1 to entry: 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 to entry: 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 to entry: Emergency exit devices are suitable also for inwardly opening single leaf exit doors, where local building regulations allow.

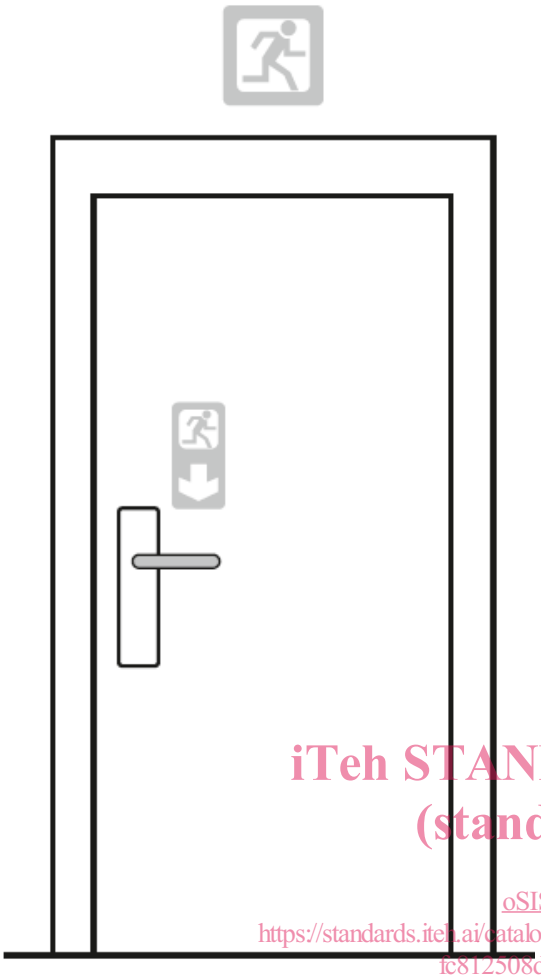

Figure 1 — Example of type A emergency exit device

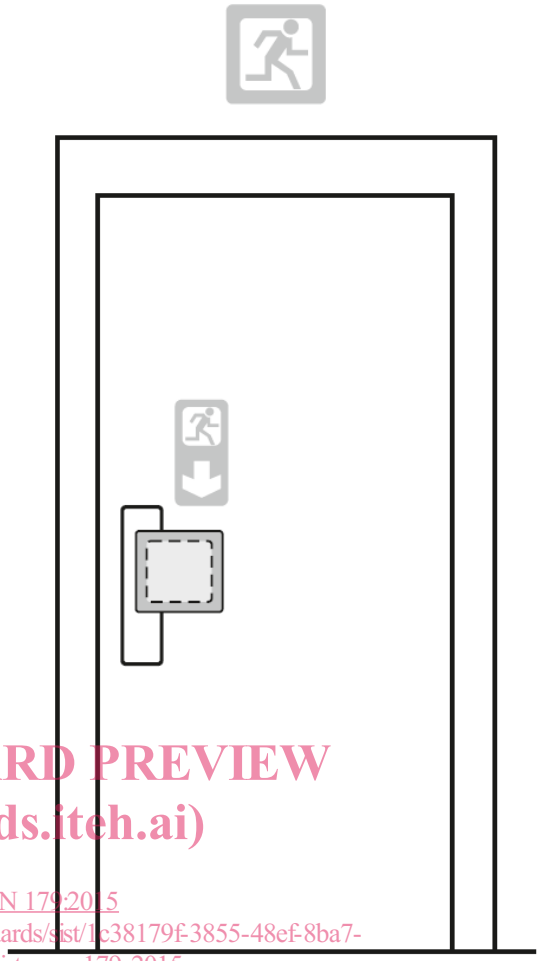

Figure 2 — Example of type B emergency exit device

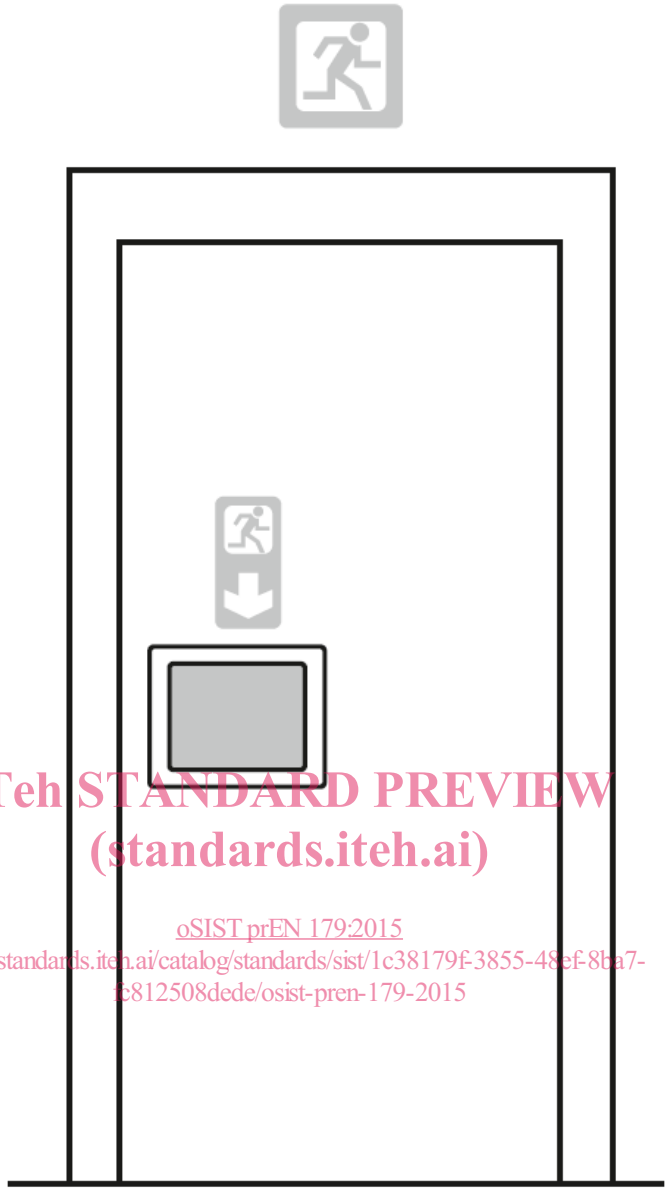

Figure 3 — Example of type C emergency exit device

3.20
double doorset emergency exit device
emergency exit device designed for use on the leaves of double doorsets, such that the operation of either operating element will release at least the door leaf to which it is fitted

3.21
deadbolt
part of an emergency exit device that can be deadlocked manually by key or automatically and which is released when the exit device is operated

Note 1 to entry: An emergency 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
free end
furthest point away from the axis or the bearing point of the lever handle or push pad

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 or other means

3.25
field of door application
door configurations for which the emergency 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 emergency exit devices are designed

3.27
sub-assemblies
pre-assembled set of components that form one part of the emergency exit device, for example: pullman catches, operating boxes and lock cases

3.28
visual inspection
assessment made with the naked eye, adjusted for normal vision and use of the appropriate measurement equipment

3.29
functional test
assessment made by operating the test door (opening or closing) and/or operating any element of the exit device

3.30
measurement
assessment made by using a measuring tool

3.31
latch bolt
spring-loaded movable part of a lock that usually engages a component fixed to a frame, and withdraws into a lockcase that automatically engages a locking plate to keep the door leaf in its closed position

3.32
passive leaf
Lockable leaf equipped with locking devices (e.g. barrel bolts, flushed bolts,…), only opened in case of need, without any emergency or panic function.

3.33
touch pad
operating element of an emergency exit device that operates linear in the direction of exit.

4 Product characteristics

4.1 General

The characteristics below are listed according to the essential characteristics of the emergency exit device.

The numbering of relevant clause of testing each characteristic in 5 corresponds to the one in 4.

4.2 Ability to release

4.2.1 Design characteristics

4.2.1.1 Lever handle design (Type A)

Lever handle operated emergency exit devices shall be designed to release the door following a movement of the lever handle in a downward rotational direction.

Lever handles shall be designed to have a minimum length (dimension X) of 120 mm, measured from the axis of rotation to the free end.

Compliance shall be verified by visual inspection and functional tests

4.2.1.2 Push pad design (Type B)

Push pad operated emergency exit devices shall be designed to release the door following a movement in the direction of the door opening in an arc downwards or to the side. This requirement shall also apply to emergency exit devices intended for use on inwardly opening single leaf exit doors.

NOTE The term “pull pad” is sometimes used instead of “push pad” for use on inwardly opening single leaf exit doors.

Compliance shall be verified by visual inspection and functional tests.

4.2.1.3 Touch pad design (Type C)

Touch pad operated emergency exit devices shall be designed to release the door following a movement in the direction of the door perpendicular to the face door.

Note: this type won’t be usable for inward opening doors.

4.2.1.4 Exposed edges and corners

An emergency 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.

4.2.1.5 Double doorset

The design of an emergency 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 emergency 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.