SLOVENSKI STANDARD
SIST EN 50172:2006

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Sistemi za nujnostno razsvetljavo evakuacijskih poti

Emergency escape lighting systems

Sicherheitsbeleuchtungsanlagen

Systèmes d'éclairage de sécurité

Ta slovenski standard je istoveten z: **EN 50172:2004**

ICS:

91.160.10 Notranja razsvetljava Interior lighting

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English version

Emergency escape lighting systems

Systèmes d'éclairage de sécurité Sicherheitsbeleuchtungsanlagen

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CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard was prepared by the former CENELEC BTTF 62-8, Emergency lighting systems.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50172 on 2004-03-01.

For emergency lighting systems, it should be read in conjunction with EN 50171 and EN 1838.

Attention is drawn to the Council Directive 92/58/EEC of 24 June 1992 on the minimum requirements for provision of safety and/or health signs at work.

The following dates were fixed:

–	latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2005-03-01
–	latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-03-01

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1 Scope

This European Standard specifies the provision of illumination of escape routes and safety signs in the event of failure of the normal supply, and specifies the minimum provision of such emergency lighting based on the size, type and usage of the premises. This standard relates to the provision of electric emergency escape lighting in all work places and premises open to the public.

This European Standard does not cover private domestic premises but its provisions are applicable to common access routes within multi-storey dwellings.

This European Standard is also applicable to standby lighting used as emergency escape lighting.

There are emerging way guidance techniques that, when applied to escape routes in addition to conventional emergency lighting luminaires, can enhance its effectiveness in an emergency.

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 81-1	Safety rules for the construction and installation of lifts and service lifts - Part 1: Electric lifts
EN 1838:1999	Lighting applications - Emergency lighting
EN 13032 (series)	Light and lighting - Measurement and presentation of photometric data of lamps and luminaires
EN 50171	Central power supply systems
EN 50272-2	Safety requirements for secondary batteries and battery installations Part 2: Stationary batteries
EN 60529	Degrees of protection provided by enclosures (IP Code) (IEC 60529)
EN 60598-2-22:1998	Luminaires - Part 2-22: Particular requirements - Luminaires for emergency lighting (IEC 60598-2-22:1997, modified)
EN 62034 [1)]	Automatic test system for battery powered emergency escape lighting
HD 384/HD 60364 series	Electrical installations of buildings (IEC 60364 series, modified)
ISO 8528-12	Reciprocating internal combustion engine driven alternating current generating sets - Part 12: Emergency power supply to safety devices

3 Definitions

For the purposes of this standard the following definitions apply:

3.1
premises
the whole or part of a building treated as a single unit for the purposes of applying this standard

[1)] At draft stage.

3.2
escape route
a route designated for escape to a place of safety in the event of an emergency

3.3
emergency escape route lighting
that part of emergency escape lighting provided to ensure that the means of escape can be effectively identified and safely used at all times when the premises are occupied

3.4
open area (anti-panic)
areas of undefined escape routes in halls or premises larger than 60 m^2 floor area or smaller areas if there is additional hazard such as use by a large number of people

3.5
place of safety
a place in which persons are in no danger

3.6
mounting height
the vertical distance between a luminaire and the floor

3.7
combined emergency luminaire
a luminaire containing two or more lamps, at least one of which is energized from the emergency lighting supply and the other(s) from the normal lighting supply. A combined emergency luminaire is either maintained or non-maintained

3.8
emergency exit
a way out that is used during an emergency

3.9
final exit
the terminal point of an escape route

3.10
luminaire
apparatus which distributes, filters or transforms the light transmitted from one or more lamps and which includes all the parts necessary for supporting, fixing and protecting the lamps, but not the lamps themselves, and which includes where necessary circuit auxiliaries together with the means for connecting them to the supply

3.11
maintained emergency luminaire
luminaire in which the emergency lighting lamps are energized at all times when normal or emergency lighting is required
[EN 60598-2-22:1998, 22.3.5]

3.12
non-maintained emergency luminaire
luminaire in which the emergency lighting lamps are in operation only when the supply to the normal lighting fails
[EN 60598-2-22:1998, 22.3.6]

3.13
internally illuminated safety sign
a sign that is illuminated, when required, by an internal source
[EN 1838:1999, 3.11]

3.14
externally illuminated safety sign
a sign that is illuminated, when required, by an external source
[EN 1838:1999, 3.10]

3.15
required battery duration
duration of emergency operation of the battery required for the function

3.16
rated duration of emergency operation
time, as claimed by the manufacturer, that the rated emergency lumen output is provided
[EN 60598-2-22:1998, 22.3.15]

4 Emergency escape lighting

4.1 General

The purpose of emergency escape lighting is to ensure the lighting is provided promptly, automatically and for a suitable time in a specified area when the normal power supply to the normal lighting fails. The installation shall ensure that emergency escape lighting fulfils the following functions:

a) to illuminate escape route signs;

b) to provide illumination onto and along such routes as to allow safe movement towards and through the exits provided to a place of safety;

c) to ensure that fire alarm call points and fire equipment provided along escape routes can be readily located and used;

d) to permit operations concerned with safety measures.

Emergency escape lighting shall be activated not only on complete failure of the supply to the normal lighting but also on a localized failure such as a final circuit failure.

Emergency escape lighting is not designed to enable normal operations to be continued on the premises in the event of failure of normal or standby lighting.

Full details of levels and measurement of illuminance and adaptation are specified in EN 1838 and EN 13032.

The wiring rules of HD 384 / HD 60364 shall be complied with.

4.2 Identification and luminance of emergency exit signs

Where direct sight of an exit is not possible and doubt may exist as to its location, a directional sign (or series of signs) shall be provided, placed such that a person moving towards it will be directed towards an emergency exit.

An exit or directional sign shall be in view at all points along the escape route.

All signs marking exits and escape routes shall be uniform in colour and format, and their luminance shall comply with EN 1838.

NOTE Maintained exit signs should be considered for applications where occupants may be unfamiliar with the building.

4.3 Escape route lighting

The objective of escape route lighting is to enable safe exit for occupants by providing appropriate visual conditions and direction finding on escape routes and to ensure that fire fighting and safety equipment can be readily located and used.

4.4 Open area (anti-panic) lighting

The objective of open area (anti-panic) lighting is to reduce the likelihood of panic and to enable safe movement of occupants towards escape routes by providing appropriate visual conditions and direction finding. It is used in areas of undefined escape routes in halls or premises larger than 60 m^2 floor area or smaller areas if there is additional hazard such as use by a large number of people.

NOTE Condition BD3 or BD4 of HD 384 also defines areas that require emergency lighting.

4.5 Emergency lighting for high risk task area lighting

The objective of high-risk task area lighting is to ensure the safety of people involved in a potentially dangerous process or situation and to enable proper shut down procedures for the safety of other occupants of the premises.

4.6 Standby lighting

If standby lighting is used to provide emergency escape lighting, the installation shall comply with the provisions of this standard and the appropriate product and wiring standards.

5 Emergency escape lighting system design

5.1 Plan of premises

In order to ensure that the emergency lighting system is engineered in accordance with EN 1838 plans showing the layout of the building and of all existing or proposed escape routes, fire alarm call points and fire fighting equipment and indicating the positions of all structural items which may offer obstruction to escape shall be provided before commencing system design.

5.2 Failure of normal supply to part of premises

Emergency escape lighting shall operate, in the event of failure of any part of the normal lighting supply. Non-maintained and combined non-maintained emergency luminaires have to operate in the event of failure of a normal lighting final circuit. In all cases, arrangements shall be made to ensure that local emergency escape lighting will operate in the event of failure of normal supply to the corresponding local area.

5.3 System integrity

The provision of highly reliable emergency escape lighting is essential. The illumination by the emergency escape lighting system of a compartment of the escape route shall be from two or more luminaires so that the failure of one luminaire does not plunge the route into total darkness or make the directional finding effect of the system ineffective. For the same reason, two or more luminaires shall be used in each open area (anti-panic).

NOTE It is not normally possible to cater for an interruption of the normal lighting due solely to the failure of an individual lamp, consideration should therefore be given to methods of eliminating any probable hazard which might arise due to the failure of this lamp.