

BRITISH STANDARD

Guide to the design and provision of emergency lighting to reduce the risks from hazards in the event of failure of the normal lighting supply

ICS 13.200

BSi
British Standards

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Foreword

Publishing information

This part of BS 5266 is published by BSI and came into effect on 30 November 2008. It was prepared by Subcommittee CPL/34/9, *Emergency lighting*, under the authority of Technical Committee CPL/34, *Lamps and related equipment*. A list of organizations represented on this committee can be obtained on request to its secretary.

Use of this document

As a guide, this part of BS 5266 takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this part of BS 5266 is expected to be able to justify any course of action that deviates from its recommendations.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Introduction

Current standards BS 5266-1, BS EN 1838/BS 5266-7 and BS EN 50172/BS 5266-8 concentrate on minimum light levels needed to enable occupants to evacuate the premises safely or to shut down processes. While reference is made to some specific hazards it is in general terms. This new standard has been developed to address and provide guidance on “specific” hazards that can arise in a building as a result of the type or number of occupants, the design of the premises and activities carried out within it, and the actions occupants have a responsibility to perform in the event of a normal lighting supply failure.

1 Scope

This standard gives recommendations on the factors that need to be considered in the design and provision of emergency lighting systems to meet identified hazards for buildings. It identifies the ability for correctly installed emergency lighting to help reduce risk in the event of a failure of the normal lighting supply and offers advice on appropriate emergency lighting levels, initiation times and working planes.

NOTE 1 This will also be considered as part of the fire risk assessment for the building.

The standard also provides advice for inspecting engineers on the suitability of the emergency lighting design and installation for new and existing systems.

NOTE 2 Annex A to Annex D contain extra useful information relating to this part of BS 5266 and also BS 5266-1. This part of BS 5266 is to be used in conjunction with BS 5266-1.

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.

BS 5266-1:2005, *Emergency lighting – Part 1: Code of practice for the emergency lighting of premises*

BS EN 1838, BS 5266-7, *Lighting applications – Emergency lighting*

BS EN 13032-3, *Measurement and presentation of photometric data of lamps and luminaires – Part 3: Presentation of data for emergency lighting of work places*

BS EN 50171, *Central power supply systems*

BS EN 50172, BS 5266-8, *Emergency escape lighting systems*

BS EN 60598-2-22:1999+A1:2003, *Luminaires – Part 2-22: Particular requirements – Luminaires for emergency lighting*

BS EN 62034, *Automatic test systems for battery powered emergency escape lighting*

3 Terms and definitions

For the purposes of this part of BS 5266, the terms and definitions given in BS 5266-1, BS EN 1838/BS 5266-7, BS EN 50171, BS EN 50172/BS 5266-8 and BS EN 60598-2-22 apply.

4 Need for emergency lighting

All people in premises need to be able to find their way to a place of safety by using escape routes that have adequate lighting. Where any escape routes are internal and without windows, or in premises used in darkness, the risk assessment is likely to identify that emergency escape lighting is necessary.

Some occupants may be in areas that contain hazards that need to be seen to be operated safely, and their emergency illumination should be taken into account.

In addition, the responsible person may have appointed staff to perform specific duties in the event of a supply failure and they need adequate levels of illumination to be able to fulfill these duties. The reference plane is not necessarily the floor, as for the emergency lighting of escape routes covered by BS EN 1838/BS 5266-7, instead it could be a horizontal working plane or vertical plane associated with controls or devices that need to be visible and legible for carrying out specific tasks.

5 Emergency lighting to be considered for specific locations

5.1 General

The following subclauses 5.2 to 5.9 cover hazard areas that should be considered. This is not an exhaustive list, but examples are given of the methodology that can be applied. These areas could also have risks during a sudden failure of normal lighting and will probably need a higher level of illumination than that needed just for escape.

5.2 Kitchens

Sudden failure of the normal lighting in areas where staff are preparing or transporting hot food is potentially dangerous.

Consideration should be given to the illumination needed to be able to leave equipment in a safe condition, for example:

- a) gas powered equipment should be turned off to ensure that a fully safe condition exists whilst the area is evacuated;
- b) electric appliances should be isolated to ensure that they do not turn on once the supply is reinstated and cause a possible unsafe condition.

The recommended lighting design values are given in Table 1.

5.3 First aid rooms

Consideration should be given to the illumination needed to complete simple medical procedures e.g. applying a bandage.

On failure of the normal lighting, the appropriate emergency lighting level will depend on the task but should be as the minimum recommended in Table 1.

5.4 Examination and treatment rooms

Consideration should be given to the illumination needed to complete complex procedures, e.g. minor operations.

NOTE Operating theatres are outside the scope of this standard.

On sudden failure of the normal lighting, the appropriate emergency lighting level will depend on the task but should be as the minimum recommended in Table 1.

5.5 Refuge areas for the mobility impaired

Fire wardens have a responsibility to check and collect the mobility impaired from designated refuge areas. At the refuge call point and in the area for transfer of people from wheelchairs to evacuation sleds as applicable, a higher level of illumination than for escape route lighting is recommended (see Table 1).

Any communication devices and relevant instruction signs within the designated area should be illuminated as recommended in Table 1.

5.6 Plant rooms, switch rooms and emergency winding facilities for lifts

In the event of a power supply failure, maintenance or duty engineers are likely to be required to enter plant rooms, switch rooms and emergency winding facilities for lifts.

On failure of the normal lighting, the appropriate emergency lighting level will depend on the task but should be as the minimum recommended in Table 1.

NOTE In certain circumstances it may be more appropriate to use a portable self-contained emergency lighting unit.

5.7 Inspection of the condition of fire control and indicating equipment

To carry out inspection of the condition of fire alarm panels and repeaters, and fire alarm plans and instructions, the light should be sufficient to:

- a) enable displays to be read accurately;
- b) enable staff to locate the source of the fire;
- c) operate controls.

On failure of the normal lighting, the emergency lighting level should be as the minimum recommended in Table 1. This also applies to any repeater panels or building plans that might be used.

5.8 Reception area

The reception area used to contact the fire brigade should have sufficient illumination for the telephone number to be dialled correctly. This location should be of a low risk and preferably close to an exit as the staff here might need to stay by the phone to relay further information to the fire authority.

On failure of the normal lighting, the emergency lighting level should be as the minimum recommended in Table 1.

5.9 Crash bars or security devices at exit doors

Crash bars or security devices at exit doors should be sufficiently illuminated to enable them to be easily seen and operated. Exit signs above them should have downward light panels or a normal emergency luminaire should provide additional illumination. Any operational instructions should also be readily visible.

On failure of the normal lighting, the emergency lighting level should be as the minimum recommended in Table 1.

Table 1 Illuminance recommendations for specific locations

Location	Response time s	Minimum illuminance lx	Minimum duration min	Reference plane
Kitchens	0.5 ^{A)}	15	30 min	Horizontal on working plane, switches readily visible
First aid rooms	5 ^{B)}	15	30 min	Horizontal on working plane
Treatment rooms	0.5 ^{A)}	50	30 min	Horizontal on working plane
Refuges	5 ^{B)}	5	Full rated	Horizontal on floor, vertical at wall mounted communication devices and sign
Plant rooms	5 ^{B)}	15	Full rated	In plane of visual task
Fire control and indicating equipment	5 ^{B)}	15	Full rated	In plane of visual task
Reception areas	5 ^{B)}	15	Full rated	In plane of visual task
Crash bars or security devices	5 ^{B)}	5	Full rated	Horizontal on plane of crash bar; vertical at vertically/wall mounted security devices

^{A)} Full illuminance should be achieved in this time.

^{B)} See BS EN 1838/BS 5266-7 for open areas and escape routes (5 s for 50% of rated illuminance, full output to be available from 60 s to end of rated duty).

NOTE The term “full rated” shows that the minimum duration at these special locations should be at least that of the normal emergency lighting in the building.

6 Portable emergency luminaires

In some small locations a number of properly maintained torches may provide a suitable emergency lighting system, but because torches might be missing when needed, their batteries might be flat and they are difficult to find in the dark, it is recommended that a self-contained portable emergency luminaire conforming to BS EN 60598-2-22 is used. These can be used on small sites (replacing primary battery torches) and on larger sites as a personal luminaire to enable the responsible person to check that everyone has evacuated the premises.