

Safety signs, including fire safety signs —

Part 4: Code of practice for escape route signing

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Foreword

This Code of Practice has been prepared to improve public safety by providing guidance on the application and siting of escape route signs together with advice on the use of arrows to provide directional information.

It has been assumed in the drafting of the Code that its execution will be entrusted to a competent person for whose guidance this document has been prepared.

This Code is part of a series containing 3 other parts:

- *Part 1: Specification for fire safety signs;*
- *Part 2: Specification for self-luminous fire safety signs;*
- *Part 3: Specification for internally-illuminated fire safety signs.*

As a Code of Practice, this British Standard 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.

Annex A, Annex B and Annex C are informative.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 37 and a back cover.

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Introduction

This Code reflects best practice; the illustrations show a system designed to provide the optimum amount of information to identify clearly the location and direction of the means of escape from the built environment to a place of safety.

A standardized method of signing with the use of appropriate supplementary text throughout the working environment assists the process of education and instruction on the meaning of safety signs, and the appropriate actions to be taken.

The supplementary text component of the signs shown in the illustrations demonstrates how escape route signing can have a role to play in the management of a building. The use of supplementary text helps building occupants to differentiate normal egress routes from those intended for emergency use only.

The illustrations within this Code of Practice are based on the assumption that some of the occupants may be unfamiliar with the premises. The illustrations should be interpreted as recommendations and not as minimum requirements.

This Code of Practice recommends the use of the internationally agreed graphical symbol for “emergency exit”. This symbol differs from that illustrated in the European Council Directive 92/58/EEC but fully meets the requirements of the Health and Safety (Safety Signs and Signals) Regulations 1996 (SI No. 341).

The Safety Signs Regulations 1980 (SI No. 1471) did not include a graphical symbol for “emergency exit”. Since then there has been much activity concerning the sign for emergency exit. This activity included the testing of the comprehensibility of a large number of emergency exit signs in many countries and the reactions of people to the signs in varying conditions. The consequence of this was substantial international agreement on one sign for “emergency exit” as depicted in ISO 6309 and ISO 3864. This sign was published in the UK in BS 5499-1:1990, see also Table 1 of this Code. Its use is recommended in this Code as the internationally recognized symbol for use for escape route signing.

The signing of escape routes may form part of the management of means of escape. Many other considerations have to be taken into account, including the requirements of people with special needs, in order to establish a safe procedure. Advice may be found in the BS 5588 series of standards.

1 Scope

This part of BS 5499 provides guidance on the selection and use of escape route signs conforming to BS 5499-1 provided as fire safety signs within buildings. It satisfies the requirements of the Health and Safety (Safety Signs and Signals) Regulations 1996 (SI No. 341) and existing fire safety legislation. It gives advice on the use of the appropriate graphical symbol, the use of supplementary text to assist in the interpretation of signs and the use of arrows to provide additional directional information. This part of BS 5499 does not stipulate if and when escape route signs will be required.

The Code applies to premises where the formal risk assessment carried out under management of health and safety, and in particular The Fire Precautions (Workplace) Regulations as amended, has indicated a need for escape route signs to form an integral part of normal working procedures. This need exists where the premises are complex or may be unfamiliar to any of the occupants.

The determination of the need for escape route signing is outside the scope of this Code. This Code assumes that the risk assessment or the requirement of an enforcing authority has established a need for escape route signing. However, signs can be used with advantage in most premises, other than domestic premises.

The Code is intended to cover the use of all escape route signing systems within premises.

Recommendations are given for the selection of the appropriate type of sign, the location of signs, mounting positions, lighting and maintenance. The recommendations within this Code cover high-mounted signs as specified by BS 5499-1. Low-mounted way guidance systems are not covered but should conform to the recommendations of BS 5266-2 for electrically-powered systems or BS 5266-6 for non-electrical systems.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this Code of Practice. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 5266-1:1999, *Emergency lighting — Part 1: Code of practice for the emergency lighting of premises other than cinemas and certain other specified premises used for entertainment*.

BS 5266-6, *Emergency lighting — Part 6: Code of practice for non-electrical low mounted way guidance systems for emergency use — Photoluminescent systems*.

BS 5499-1, *Fire safety signs, notices and graphic symbols — Part 1: Specification for fire safety signs*.

BS 5499-2, *Fire safety signs, notices and graphic symbols — Part 2: Specification for self-luminous fire safety signs*.

BS EN 1838/BS 5266-7 (dual numbered), *Lighting applications — Emergency lighting*.

BS EN 60598-1, *Luminaires — Part 1: General requirements and tests*.

BS EN 6059-2-22, *Luminaires — Part 2: Particular requirements — Subsection 22: Luminaires for emergency lighting*.

3 Terms and definitions

For the purposes of BS 5499-4, the following terms and definitions apply.

3.1

escape route

route forming part of the **means of escape (3.9)** from any place in a premises to a **final exit (3.4)**

3.2

escape route sign

sign directing people along **escape routes (3.1)** towards **exits (3.3)**

3.3

exit

doorway or other suitable opening leading to a **place of safety (3.11)**

3.4

final exit

transient point between an **escape route (3.1)** and a **place of safety (3.11)**

3.5

gaseous tritium light device

instrument, piece of equipment, article or sub-assembly containing one or more gaseous tritium light sources

3.6

graphical symbol

visually perceptible figure with a particular meaning used to transmit information independently of language

3.7

internally illuminated sign

sign made of transparent or translucent materials which are illuminated from the inside or the rear so as to give the appearance of a luminous surface

3.8

management

manager

persons or person in overall control of the premises while people are present, exercising this responsibility either in their own right or by delegation

3.9**means of escape**

structural means whereby safe routes are provided for persons to travel from any place within a premises to a **place of safety** (3.11)

3.10**photoluminescent sign**

non-electrical sign incorporating phosphors that, if excited by UV or visible radiation, store energy, which is emitted as light over a period of time

3.11**place of safety**

predetermined place in which persons are in no immediate danger from the effects of a fire

3.12**storey exit**

doorway or **final exit** (3.4) giving direct access into a protected space, protected stairway, fire fighting lobby or external **escape route** (3.1)

3.13**travel distance**

actual distance that a person needs to travel within a building to the nearest **exit** (3.3), allowing for the layout of walls, partitions and fittings

4 System design**4.1 General**

NOTE 1 It is assumed that an assessment of the means of escape provision and the need for escape route signing in the premises has been made.

It is recommended that all signing systems should conform to the recommendations of this Code, so as to minimize the risk of confusion for the public. Escape route signs used outdoors should conform to the recommendations of this Code as far as is appropriate.

The designer or specifier of the escape route signing should follow the principles set out within this Code.

NOTE 2 This will ensure a uniformity of application of escape route signs which will lead to increased familiarity, and therefore improved safety, for the building's occupants, visitors and for the general public.

A system of escape route signing provided within a building should address several needs including:

- a) the results of the risk assessment determining the adequacy of the means of escape provision;
- b) the requirements (if any) of enforcing authorities;
- c) the operational needs of the building's managers;
- d) the convenience of the users of the building, both workers and the public.

Following consideration of the factors listed in 4.2 and 4.3, a comprehensive statement of requirements should be prepared and agreed by all interested parties.

This should be used as the basis for the detailed design and specification for the escape route signing system.

The objective of the escape route signing system is to ensure that from any place within a building, where direct sight of an exit is not possible and doubt may exist as to its position, a directional sign (or series of signs) is provided, placed so that a person moving within the means of escape is progressed towards a final exit.

4.2 Analysis of the problem

The following factors should be considered before designing the escape route signing systems:

- a) the use of the premises;
- b) the legislation applicable to the building and the requirements, if any, of the enforcing authorities;

NOTE 1 These include requirements made in England and Wales under the Building Regulations, in Scotland under the Building Standards (Scotland) Regulations, in Northern Ireland under the Building Regulations (Northern Ireland) and under the Fire Precautions (Workplace) Regulations as amended and may include particular requirements made under other local or national legislation, e.g. by liquor or other licensing authorities.

- c) the management system controlling the use of the premises e.g. public access, security provisions;

NOTE 2 Security considerations may dictate preferred exits for normal use. Some regularly used exits may not be available at all times that a building is occupied and therefore will not form part of the escape route.

- d) the fire detection and warning systems provided;

- e) the evacuation strategy for the premises;

NOTE 3 Some strategies rely on the occupants responding to an evacuation alarm, whilst others employ trained staff to initiate and control evacuation.

- f) the degree of familiarity of the occupants with the premises.

4.3 Planning

An escape route signing system should provide simple identification of the means of escape to allow people to escape without assistance, possibly under conditions of stress. To be effective it is essential that the signing be complete and possible points of confusion should be avoided. People escaping should be provided with clear, unambiguous directions from any place in the building throughout the escape route until a place of safety is reached.

The following matters should be considered:

- a) the siting and nature of all designated escape routes, noting particularly the location of stairs and other changes in level and any changes of direction;
- b) the relative conspicuity or otherwise of escape routes;
- c) any areas of high fire risk;
- d) the position of all doors and other exits sited on escape routes including storey exits and final exits;
- e) any escape routes which cross open areas;
- f) the provision, if any, of any other systems (such as low-mounted guidance systems or audible devices) to assist people in finding their way in the event of an emergency evacuation;
- g) the lighting levels within the building under both normal and mains-failure conditions;

NOTE 1 Some buildings such as entertainment premises may have low lighting levels as part of normal operation.

- h) the location and lighting of any other signs, architectural features, decor or barriers that could conceal or divert attention from a fire safety sign;

NOTE 2 A department store, for instance, may have many signs which compete for the viewer's attention.

- i) the type, location and lighting of any other fire safety signs.

4.4 Design of signs

Signs should consist of a graphical symbol and should normally incorporate, or be accompanied by, a supplementary text sign and an arrow (see clauses 4.7 and 4.8 respectively).

The graphical symbol used for escape route signs should conform to BS 5499-1. The size of the graphical symbol element will determine the maximum viewing distance for escape route signs (see Table 2, Table 3 and Table 4).



To avoid confusion, all signs within a system of escape route signing should be of similar style, design, size and format.

4.5 Location of signs

The system designer should identify the primary escape route from each place within the premises.

NOTE 1 This is normally the shortest travel distance to a place of safety.

If there is a choice of escape routes, the escape route signing system should indicate the shortest travel distance. If at any place there is a choice of two escape routes of equal travel distance, both routes should be indicated by a separate series of signs. (See Figure A.19.)

The following principles should be applied:

- a) at least one escape route or doorway leading to an escape route should be visible from any place within every room or enclosure. Where this route is not conspicuous or confusion could occur, the route should be indicated by a sign;
 - b) where direct sight of the escape route or of the sign indicating the escape route is obstructed, one or more intermediate signs should be provided;
 - c) doors or passageways which might be confused as leading to a designated escape route should be marked clearly;
 - d) escape route signs should take precedence over all other signs. Signs with a potentially conflicting message (e.g. “no thoroughfare” and “fire exit”) should not be used in the same location. Where this conflict is unavoidable a supplementary text sign (e.g. except in an emergency) should be provided to override the prohibition message;
 - e) all changes of direction in corridors, stairways and open spaces forming part of an escape route should be marked with intermediate signs. Each intermediate door or junction should be similarly signed;
- NOTE 2 Thus, persons escaping along any designated escape route will always have an escape route sign in sight whenever a choice of direction or door has to be made.
- f) so far as is reasonably practicable, signs should be evenly spaced and consistently located so that the evacuee can effectively and quickly predict the location of the next sign within the escape route;
 - g) additional signs should be provided where the line of sight to the next sign would otherwise exceed the recommended maximum viewing distance for the chosen size of sign;
 - h) a sign should be provided wherever confusion may otherwise occur;
 - i) every designated escape route should lead to a place of safety. A place of safety should not be provided with escape route signs but may be provided with a sign indicating “assembly point” (see Figure A.18);
 - j) signs should not be fixed to doors or sited where they may be obscured by opening doors;
 - k) where commercial or artistic considerations require signs or objects which, because of their size, brightness, design or proximity, might be confused with or prevent recognition of an escape route sign, the location of the escape route sign may be slightly displaced provided safety is not compromised thereby. Otherwise the confusing signs or objects should be removed;
 - l) the effectiveness of any escape route sign should not be adversely affected by the presence of other signs conveying directional information in a similar format or by other internally illuminated signs or by competing or distracting light sources.

4.6 Mounting height

Escape route signs should be sited conspicuously within the normal field of vision.

The following principles, which will assist the evacuee to predict the location of successive signs, should be applied:

a) signs above doors or open spaces should be mounted between 2 m and 2.5 m from floor level, measured to the base of the sign and be sited as close to the centre line of the escape route as practicable;

NOTE 1 This mounting height is intended to ensure that signs can be readily seen, e.g. over the heads of people.

b) signs sited on walls should be mounted between 1.7 m and 2.0 m, from floor level measured to the base of the sign;

NOTE 2 This mounting height is intended to ensure the signs are within the immediate field of vision.

c) mounting heights greater than 2.5 m may be used, e.g. in large open spaces or for operational reasons, but care should be taken to ensure that such signs are both conspicuous and legible;

NOTE 3 Larger signs may therefore be necessary.

d) signs should be sited at the same height throughout the escape route, so far as is reasonably practicable.

4.7 Use of supplementary text

Every escape route sign should incorporate, or be accompanied by, a supplementary text sign conforming to BS 5499-1. The supplementary text will help to ensure that the meaning of the graphical symbol is fully understood and may convey additional information.

Care should be taken that the supplementary text does not overpower the graphical symbol. The supplementary text height should not be used to determine the maximum viewing distance (see clause 6). The supplementary text should not be used on its own, and may need to be in more than one language.



Exit

A supplementary text sign reading “Exit” should be used with an escape route sign to indicate a doorway or other suitable opening that leads to a place of safety.



Fire exit



A supplementary text sign reading “Fire exit” should be used with an escape route sign to indicate a doorway or other opening that leads to a place of safety, which has been provided specifically as an alternative exit to be used in the event of the evacuation of the premises. A door marked “Fire exit” may also be used during the day-to-day occupation of the premises.

Signs reading “Fire exit” and “Exit for emergency use only” should not be used in close proximity as this could cause confusion (see Figure A.22).

4.8 Use of arrows

Every escape route sign should normally incorporate or be accompanied by a directional arrow in accordance with BS 5499-1. The arrow should indicate the direction of travel leading to the place of safety.

The use of an appropriate arrow will assist understanding of the direction of egress and also make the sign more conspicuous (see Annex B).



The following principles should be applied:

- a) an arrow should not be used on its own;
- b) arrows should be correctly orientated;
- c) arrows should be used to indicate each change of direction or change of level;
- d) arrows should be used wherever additional signs are provided in accordance with 4.5g), i.e. where the line of sight to the next sign would otherwise exceed the recommended maximum viewing distance for the chosen size of sign;
- e) an arrow should be provided wherever confusion might otherwise occur;
- f) the graphical symbol should normally be accompanied by an arrow except where this could cause confusion, e.g. vomitory exits within sports stadia or storey exits opening directly onto a half landing (see Figure A.20);
- g) within a cinema, theatre or similar auditorium where the escape route signs are internally illuminated, the arrow element of escape route signs may be omitted when the signs are sited immediately above the exits (see Figure A.21).

Table 1 illustrates the recommended combination of graphical symbol with supplementary text and the arrow. Annex B and Annex C illustrate the recommended use of arrows to indicate the direction of travel.

Table 1 — Escape route signs (meaning and use of graphical symbol with directional arrow)

Sign	Meaning as viewed from in front of the sign	Examples of locations
	1. Progress down to the right (indicating change of level). See Figure A.3.	1. On wall or suspended at head of stairs or ramp. 2. On half landing wall or stairs. 3. Suspended at change of level.
	1. Progress up to the right (indicating change of level). See Figure A.9. 2. Progress forward and across to the right from here when suspended within an open area. See Figure A.17.	1. On wall or suspended at foot of stairs or ramp. 2. On half landing wall or stairs. 3. Suspended at change of level. 4. Suspended in open areas.
	1. Progress down to the left. (indicating change of level). See Figure A.6.	1. On wall or suspended at head of stairs or ramp. 2. On half landing wall or stairs. 3. Suspended at change of level.
	1. Progress up to the left (indicating change of level). See Figure A.8. 2. Progress forward and across to the left from here when suspended within an open area.	1. On wall or suspended at foot of stairs or ramp. 2. On half landing wall or stairs. 3. Suspended at change of level. 4. Suspended in open areas.
	1. Progress forward from here (indicating direction of travel). 2. Progress forward and through from here; when sign is sited above a door (indicating direction of travel). See Figure A.1. 3. Progress forward and up from here (indicating change of level). See Figure A.16.	1. Suspended in corridor leading to door. 2. Suspended in open areas. 3. Suspended in front of door. 4. Positioned above door. 5. Suspended at foot of stairs or ramp.
	1. Progress to the right from here (indicating direction of travel). See Figure A.13.	1. On corridor walls. 2. Suspended adjacent and left of the exit. 3. Suspended at change of direction.

Table 1 — Escape route signs (meaning and use of graphical symbol with directional arrow) (continued)

Sign	Meaning as viewed from in front of the sign	Examples of locations
	1. Progress to the left from here (indicating direction of travel). See Figure A.12.	1. On corridor walls. 2. Suspended adjacent and right of exit. 3. Suspended at change of direction.
	1. Progress down from here (indicating change of level). See Figure A.3.	1. Suspended at head of stairs or ramp. 2. Suspended at change of level.

5 Sign type

5.1 Lighting

Illumination is required to ensure signs are legible and conspicuous. Effective illumination is required both in normal and in mains-failure conditions. It is not normally considered satisfactory to rely on daylight alone for satisfactory illumination. There are various ways of ensuring the satisfactory illumination of signs. In some premises legislation dictates the method of illumination.

Some types of lighting, e.g. low pressure sodium, do not enable effective colour recognition and are therefore unlikely to be suitable for the illumination of escape route signs.

Where emergency lighting is the source of illumination of the sign in the mains-failure condition, the response time of the emergency lighting should conform to BS 5266-1, which also provides a minimum duration requirement for the emergency lighting.

5.2 Externally illuminated signs

Where a sign is illuminated by an external source, the vertical illumination should be a minimum of 100 lux under normal lighting conditions and provide a minimum of 5 lux with a uniformity of 0.7 under mains-failure conditions.

5.3 Photoluminescent signs

Where a photoluminescent sign is used, the vertical illumination should be a minimum of 100 lux under normal lighting conditions and the in situ luminance should meet the minimum performance requirement specified in BS 5266-6.

In premises with emergency lighting, the vertical illumination should provide a minimum of 5 lux with a uniformity of 0.7 under mains-failure conditions.

5.4 Internally illuminated signs

The light source of an internally illuminated sign should provide a luminous contrast appropriate to its environment without producing glare.

The minimum luminance of any area of the sign should not be less than 2 cd/m² and under mains-failure conditions it should conform to BS 5266-7.

NOTE Non-maintained internally illuminated signs will require external illumination under normal, non-mains-failure conditions.

5.5 Self-luminous signs powered by gaseous tritium light devices

Where a self-luminous sign is used, the minimum vertical illumination should be 100 lux under normal lighting conditions.