BRITISH STANDARD

BS 5499-6:2002

# Graphical symbols and signs —

# Safety signs, including fire safety signs —

## Part 6: Creation and design of graphical symbols for use in safety signs — Requirements



ICS 01.080.99; 13.220.99



BSI British Standards

# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee PH/8, Graphical symbols and signs, to Subcommittee PH/8/1, Safety signs (including fire safety signs), upon which the following bodies were represented:

Association of British Theatre Technicians

BRE/LPC Laboratories

British Fire Consortium

British Sign and Graphics Association

Cinema Exhibitors Association

Consumer Policy Committee of BSI

Electricity Association

Guild of Architectural Ironmongers

Health and Safety Sign Association

Home Office

Institute of Fire Safety

Lighting Industry Federation Limited

London Fire and Emergency Planning Authority

Manchester Metropolitan University, Department of Psychology and Speech Pathology

Ministry of Defence — UK Defence Standardization

National Illumination Committee of Great Britain

Photoluminescent Safety Products Association

Railtrack

Royal Institute of British Architects

Royal Life Saving Society UK

Royal Society for the Prevention of Accidents

Sign Design Society Limited

South Yorkshire Fire Prevention Association and Fire Liaison Panel

Theatres Advisory Council

Coopted members

The following body was also represented in the drafting of the standard through a panel:

Health and Safety Executive

This British Standard, having been prepared under the direction of the Health and Environment Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 26 November 2002



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# Contents

# Foreword

This part of BS 5499 has been prepared by Subcommittee PH/8/1.

BS 5499 covers safety signs and fire safety signs since it is considered essential that all safety signs follow the same basic vocabulary of safety colours and geometric shapes.

BS 5499 comprises the following parts:

— *Part 1: Specification for geometric shapes, colours and layout*;

— *Part 2: Specification for self-luminous fire safety signs*;

— *Part 3: Specification for internally illuminated fire safety signs*;

— *Part 4: Code of practice for escape route signing*;

— *Part 5: Signs with specific safety meanings*;

— *Part 6: Creation and design of graphical symbols for use in safety signs — Requirements*;

— *Part 11: Water safety signs.*

This part of BS 5499 specifies requirements for the creation and design of graphical symbols for use in safety signs.

It is intended for use in conjunction with BS 5499-1.

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 does not in itself confer immunity from legal obligations.**

**Summary of pages**

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 29 and a back cover.

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## Introduction

A graphical symbol is defined as a visually perceptible figure used to transmit information independently of language. Graphical symbols are used in safety signs for a wide range of purposes. For such graphical symbols, consistency in the design of graphical symbols for use in a particular situation or in similar situations is important, as is comprehensibility. Thus, there is a need to standardize the principles for creating graphical symbols for safety signs to ensure visual clarity, to maintain consistency and thereby to improve recognition.

## 1 Scope

This part of BS 5499 specifies requirements for the creation and design of graphical symbols for use in safety signs, including fire safety signs. It specifies requirements for the design of graphical symbols suitable for use in safety signs for submission for registration as approved safety signs, including line thickness, the use of determinants and how to indicate negation. It also specifies a series of templates to be used in the design of graphical symbols for different types of safety signs.

This part of BS 5499 is not applicable to graphical symbols for use:

— on drawings and diagrams;

— in technical documentation for products;

— as public information symbols not intended to convey any safety message;

— on road traffic signs.

Examples are given for illustrative purposes only and do not constitute requirements for particular safety signs.

NOTE 1 Existing safety signs, including fire safety signs, are specified in BS 5499-5 and existing water safety signs are specified in BS 5499-11.

NOTE 2 The illustrations in this standard are as accurate as possible within the limitations of the printing process. BSI does not claim that the colours used correspond to any proprietary colour system.

NOTE 3 A checklist for designers is given in Annex A, and recommendations on colour and file format are given in Annex B.

## 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 5499-1:2002, *Graphical symbols and signs — Safety signs, including fire safety signs — Part 1: Specification for geometric shapes, colours and layout.*

BS 5499-5, *Graphical symbols and signs — Safety signs, including fire safety signs — Part 5: Signs with specific safety meanings.*

BS 5499-11, *Graphical symbols and signs — Safety signs, including fire safety signs — Part 11: Water safety signs.*

BS 8501, *Graphical symbols and signs — Public information symbols.*

PD 6578, *Guide to British, European and International graphical symbols, for use on equipment, for safety and fire safety, and for public information in relation to ISO 7000 and IEC 60417.*

BS ISO 9186, *Graphical symbols — Test methods for judged comprehensibility and comprehension.*

## 3 Terms and definitions

For the purposes of this part of BS 5499 the following terms and definitions apply.

**3.1**
**safety sign**
sign that gives a general safety message, by means of a combination of a safety colour and a geometric shape and which, by the addition of a graphical symbol, gives a particular safety meaning

**3.2 types of safety sign**

**3.2.1**
**prohibition sign**
safety sign that indicates that specific behaviour is forbidden

**3.2.2**
**mandatory sign**
safety sign that indicates that a specific course of action is to be taken

**3.2.3**
**hazard sign**
safety sign that indicates a specific source of potential harm

**3.2.4**
**safe condition sign**
safety sign that indicates a safety action, the location of safety equipment or a safety facility, or an escape route

**3.2.5**
**fire equipment sign**
safety sign that indicates the location or identification of fire equipment or how it should be used

**3.2.6**
**water safety sign**
safety sign for use on, in or near water

**3.3**
**safety colour**
specific colour to which a safety meaning is attributed

**3.4**
**contrast colour**
colour that contrasts with the safety colour in order to make the safety colour more conspicuous

**3.5**
**graphical symbol**
visually perceptible figure with a particular meaning used to transmit information independently of language

**3.6**
**graphical symbol element**
part of a graphical symbol with a particular meaning

**3.7**
**determinant**
graphical symbol used as a common element within a series of graphical symbols

NOTE For example, the fire determinant when used with the graphical symbol for a telephone conveys the meaning “fire telephone”; the fire determinant when used with the graphical symbol for a hose reel conveys the meaning “fire hose reel”; the first aid determinant when used with the graphical symbol for a shower conveys the meaning “first aid shower”.

**3.8**
**critical detail**
element of a graphical symbol without which the graphical symbol cannot be understood

**3.9**
**exclusion band**
area of a safety sign in which there is no part of the graphical symbol, to ensure the clarity of the graphical symbol within the safety sign

**3.10**
**function**
written description of the purpose of the information to be conveyed by a graphical symbol

**3.11**
**image content**
written description of the elements of the graphical symbol
NOTE The image content can also include a description of the relevant disposition of the elements of the graphical symbol.

**3.12**
**meaning**
safety message that a safety sign is intended to convey

**3.13**
**sign height**
diameter of a circular geometric shape or the height of a rectangular or triangular geometric shape
NOTE Any border is ignored.

**3.14**
**safety sign original**
finished version of a safety sign in terms of shape, colour, layout and graphical symbol, used for reference, standardization or reproduction purposes

**3.15**
**template**
basic pattern for the design of a graphical symbol for use in a safety sign

## 4 Creation procedure

**4.1** Before design of a new graphical symbol for use in a safety sign is undertaken the following procedure shall be carried out:

a) identification of the required meaning of the safety sign;

b) identification of the need for a new safety sign by determination of whether a safety sign with the required meaning already exists. This shall be determined in accordance with BS 5499-1:2002, Clause **8**, as follows:

1) determination of whether a safety sign incorporating a graphical symbol conveying the required meaning is specified in BS 5499-5 or in BS 5499-11;

2) if a safety sign incorporating a graphical symbol conveying the required meaning is not specified in BS 5499-5 or in BS 5499-11, determination of whether a graphical symbol conveying the required meaning is specified in BS 8501 or PD 6578;

c) identification of the type of safety sign, in accordance with Clause **5**;

d) assignment of a meaning and a function to the safety sign in accordance with Clause **6**.

**4.2** During the design of a new graphical symbol for use in a safety sign the following procedure shall be carried out:

a) consideration of existing graphical symbols with similar meanings which might be adapted or combined to form the graphical symbol for the new safety sign;

NOTE 1 An analysis should also be carried out of the expected characteristics of the target audience of the new safety sign and the context in which it is expected to be used. (Factors to be considered are given in Annex A.)

b) design of the new graphical symbol in accordance with Clause **7** using the relevant template specified in Clause **8**.

**4.3** After design of the new graphical symbol, an evaluation shall be carried out of the comprehensibility of the safety sign original in the context in which it is to be used, in accordance with BS ISO 9186. The safety sign original shall then be modified if necessary.

NOTE The safety sign original may be submitted to BSI Technical Committee PH/8 for registration[1)].

## 5 Types of signs

Each graphical symbol shall be designed for use in one of the following five types of safety sign as specified in BS 5499-1, and shown in Table 1:

a) a prohibition sign;

b) a mandatory sign;

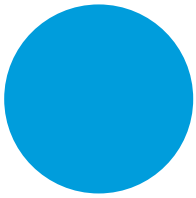
c) a hazard sign;

d) a safe condition sign;

e) a fire equipment sign.

[1)] Details of the registration procedure and an application form, which gives details of required file formats, can be obtained from The Secretary, Technical Committee PH/8, BSI, 389 Chiswick High Road, London W4 4AL.

**Table 1 — Geometric shapes, safety colours and contrast colours of templates for safety signs**

| Geometric shape | Meaning | Safety colour | Contrast colour | Graphical symbol colour | Examples of use |
|---|---|---|---|---|---|
| A circle  | Prohibition | Red | White | Black | No smoking<br>No unauthorized vehicles<br>Do not drink |
| A circle  | Mandatory action | Blue | White | White | Wear safety helmet<br>Keep clear |
| An equilateral triangle with radiused outer corners  | Hazard | Yellow | Black | Black | Hot surface<br>Acid<br>High voltage |
| A square  | Safe condition<br>Escape route<br>Safety equipment | Green | White | White | First aid room<br>Fire exit<br>Evacuation assembly point |
| A square  | Fire equipment | Red | White | White | Fire point<br>Fire alarm<br>Wet riser<br>Fire extinguisher |

## 6 Assignment of meaning, function and image content to the safety sign

Each safety sign shall be used to convey only one safety message in accordance with BS 5499-1:2002, **11.3**.

The new safety sign shall be assigned a meaning and a function. Once the safety sign original is complete the image content shall be identified, including the critical details (see Figure 1).

NOTE The assigned meaning and function should be unambiguous.

**Meaning:** No smoking.

**Function:** To prohibit the smoking of cigarettes, pipes, cigars etc.

**Image content:** Cigarette shown in profile with smoke. Critical details are cigarette and smoke plume.

**Figure 1 — Example of assignment of meaning, function and image content to a safety sign**

## 7 Design of the graphical symbol

### 7.1 General

The graphical symbol shall be designed in accordance with **7.2** to **7.8**.

NOTE 1 The design of a graphical symbol should:

a) be simple in order to facilitate comprehension and reproduction;

b) be readily associated with its intended meaning;

c) be based on objects which are reliably identifiable by the target audience;

d) be easily distinguishable from other graphical symbols;

e) contain only those details that contribute to understanding.

NOTE 2 The additional design guidelines given in Annex C, Annex D and Annex E should also be followed, as applicable.

### 7.2 Use of template

The graphical symbol shall be designed within the template specified for the particular type of safety sign in Clause **8**.

For mandatory signs, hazard signs, safe condition signs and fire equipment signs the graphical symbol shall be such that the safety colour covers at least 50 % of the area of the sign excluding any border, as specified in BS 5499-1:2002, Clause **9**.

The graphical symbol shall not extend into the exclusion band of the safety sign as indicated on the template.

NOTE The graphical symbol should make full use of the permitted area within the template.

### 7.3 Line thickness

Any lines used in a graphical symbol shall be a minimum of 1 mm thick (see Figure 2).

NOTE The spacing between lines should take into account visual clarity (see Figure 2).

**Meaning:** Beware of industrial vehicles/Beware of fork lift trucks.

**Function:** To warn of a hazard from fork lift trucks and other industrial vehicles.

**Image content:** Truck shown in solid form with stylised driver. Critical details are front fork lift, cab, wheels and driver.

**Figure 2 — Example of the use of line thickness and line spacing in a graphical symbol**

### 7.4 Critical detail

Any critical detail in the graphical symbol shall have minimum dimensions of 2.5 mm × 1 mm (see Figure 3).

**Meaning:** Not drinking water.

**Function:** To prohibit the drinking of unsuitable water.

**Image content:** Tap above glass with downward flowing droplets of water. Critical details are glass, tap and representation of droplets of water.

**Figure 3 — Example of critical detail**

### 7.5 Combination of graphical symbols or graphical symbol elements

If two or more graphical symbols or graphical symbol elements are combined to form a new graphical symbol, the meaning assigned to the new graphical symbol shall be consistent with the meanings of the individual graphical symbols or graphical symbol elements used (see Figure 4).

NOTE The new graphical symbol should consist of as few components as possible and the meaning should be unambiguous.

Safety signs in which two or more graphical symbols or graphical symbol elements have been combined to produce a new graphical symbol shall be considered as new safety signs.

**Meaning:** No eating or drinking.

**Function:** To indicate areas where both eating and drinking are prohibited.

**Image content:** Cup and saucer, and knife and fork. Critical details are cup, and knife and fork.

**Figure 4 — Example of a combination of graphical symbols to form a new graphical symbol**

### 7.6 Determinants

Any existing determinant shall be used without modification of its meaning.

NOTE 1 BS 5499-5 specifies standardized determinants.

NOTE 2 See Figure 5 for examples of the use of a determinant, in this case use of the "flames" determinant meaning "Fire safety provision" (see BS 5499-5, sign 12.A.0107) for fire equipment signs.

**Meaning:** Location of fire extinguisher.

**Function:** To show the location of a fire extinguisher.

**Image content:** Fire extinguisher with "flames" determinant at the right hand side. Critical details are flames determinant, fire extinguisher and label.

**Meaning:** Location of fire alarm call point.

**Function:** To show the location of a fire alarm call point.

**Image content:** Hand with projecting finger on push button of call point with "flames" determinant at the right hand side. Critical details are flames determinant, finger and button with surround.

**Figure 5 — Examples of the use of a determinant**

### 7.7 Syntax

Letters, numbers, punctuation marks and mathematical symbols shall not be used as part of a graphical symbol.

NOTE Supplementary text signs are specified in BS 5499-1.

### 7.8 Negation and prohibition

No form of negation shall be used other than a prohibition sign incorporating a negation bar, as specified in BS 5499-1:2002, **9.2**.

NOTE If only one graphical symbol element is to be negated, consideration should be given to creating a mandatory sign.

The graphical symbol shall be designed such that when placed in the template specified in **8.2** the negation bar does not obscure critical detail.

The negation bar shall be uninterrupted from top left to bottom right.

# 8 Layout of templates

## 8.1 General

Templates used for design of graphical symbols for use in safety signs shall be as specified in **8.2** to **8.5** and shown in Figure 6 to Figure 9.

NOTE 1 Registration corner markings are included to enable the correct location of the components of the safety sign, including the graphical symbol.

NOTE 2 Examples of safety signs incorporating graphical symbols created in accordance with Clause **7** and Clause **8** are given in Figure 10.

## 8.2 Prohibition signs

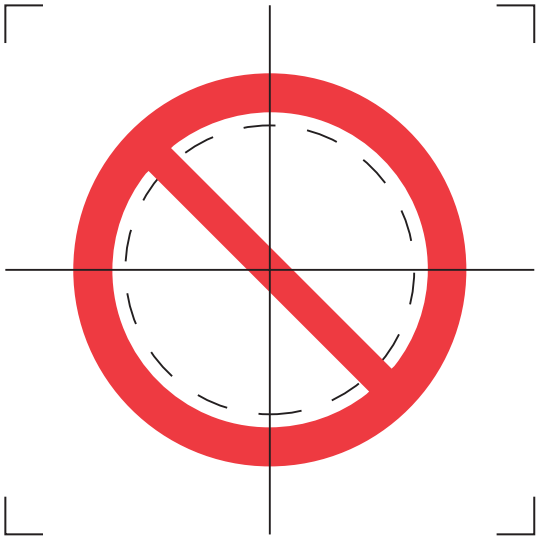


**Figure 6 — Prohibition sign template**

| | |
|---|---|
| Geometric shape: | A circle. |
| Size: | 52 mm diameter. |
| Description: | A circular band and a negation bar at 45° descending diagonally from left to right through the centre of the circle, thickness of circular band 0.1 of the sign diameter (5.2 mm), thickness of cross bar 0.08 of the sign diameter (4.2 mm). |
| Exclusion band: | A circular band of thickness 0.033 of the sign diameter (1.7 mm) set within the inner outline of the circular band. Boundary of the exclusion band is shown by a broken black line. |
| Guidelines: | Horizontal and vertical centre lines shown as thin lines. |
| Registration corner markings: | Markings delineating a 70 mm square centred on the circle. |

### 8.3 Mandatory signs

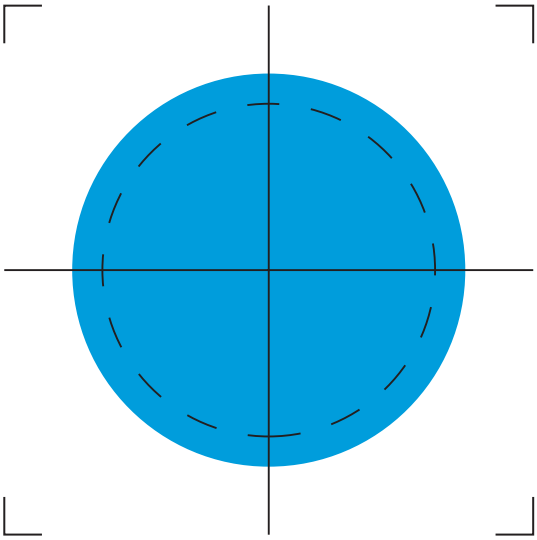


**Figure 7 — Mandatory sign template**

| | |
|---|---|
| Geometric shape: | A circle. |
| Size: | 52 mm diameter. |
| Exclusion band: | A circular band of thickness 0.077 of the circle diameter (4 mm) set within the circle. Boundary of the exclusion band is shown by a broken black line |
| Guidelines: | Horizontal and vertical centre lines shown as thin lines. |
| Registration corner markings: | Markings delineating a 70 mm square centred on the circle. |

### 8.4 Hazard signs

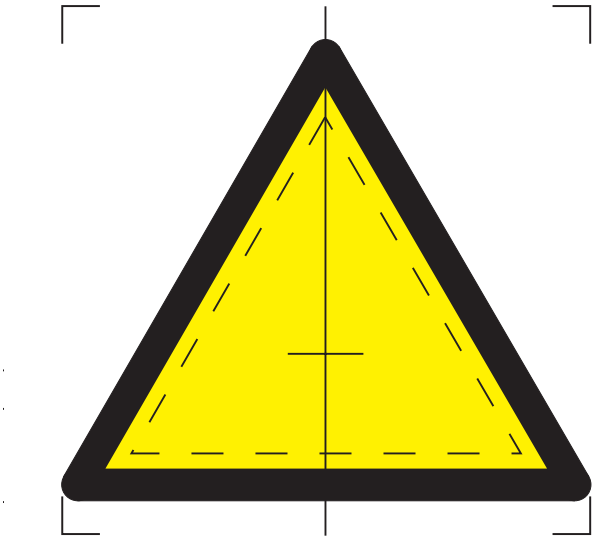
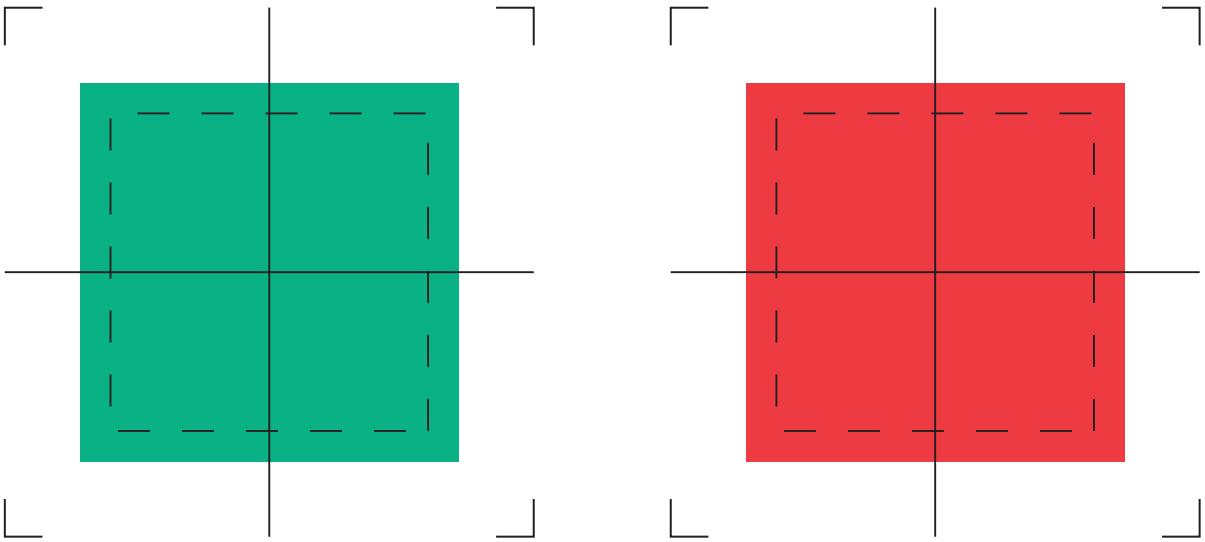


**Figure 8 — Hazard sign template**

| | |
|---|---|
| Geometric shape: | An equilateral triangle with radiused outer corners. |
| Size: | 70 mm width, 61 mm height. |
| Description: | An equilateral triangular band, width of band 0.07 of the sign height (4.3 mm). |
| Exclusion band: | A triangular band of thickness 0.033 of the sign height (2 mm) set within the inner outline of the triangular band. Boundary of the exclusion band is shown by a broken black line. |
| Guidelines: | Horizontal dash and vertical centre line shown as thin lines. |
| Registration corner markings: | Markings delineating a 70 mm square centred on the triangle. |

### 8.5 Safe condition signs and fire equipment signs

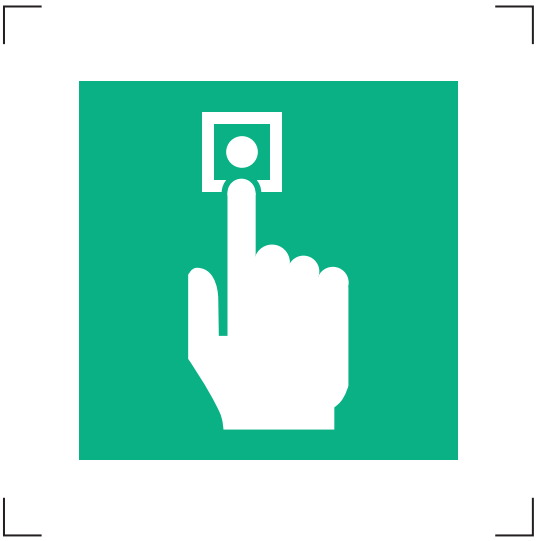


a) Safe condition sign template

b) Fire equipment sign template

**Figure 9 — Safe condition sign and fire equipment sign templates**

| | |
|---|---|
| Geometric shape: | A square. |
| Size: | 50 mm side. |
| Exclusion band: | A square band of thickness 0.08 of the square height (4 mm) set within the outline of the square. Boundary of the exclusion band is shown by a broken black line |
| Guidelines: | Horizontal and vertical centre lines shown as thin lines. |
| Registration corner markings: | Markings delineating a 70 mm square centred on the square. |



**Meaning:** Emergency call point.

**Function**: To show the location of an emergency call point.

**Image content:** Hand with projecting finger on push button of call point. Critical details are finger and button with surround.

**Meaning:** Wear hand protection.

**Function:** To draw attention to the need to wear hand protection.

**Image content:** One filled image and one outline image of a glove. Critical details are gloves with fingers and thumb.

**Meaning:** Beware slippery surface.

**Function**: To warn of a hazard from a slippery surface.

**Image content:** Human figure falling backwards with heel in contact with a solid horizontal surface and leg at acute angle to surface. Critical details are human figure, surface and angular relationship between the two.

**Meaning:** No industrial vehicles/No fork lift trucks.

**Function:** To prohibit access by fork lift trucks and other industrial vehicles.

**Image content:** Truck shown in solid form with stylised driver. Critical details are front fork lift, cab, wheels and driver.

**Figure 10 — Examples of safety signs incorporating graphical symbols created in accordance with Clause 7 and Clause 8**

## Annex A (informative)
## Checklist for designers

It is recommended that the designer addresses the following issues during the creation and design of a graphical symbol for use in a safety sign to address an identified safety problem.

1) *Meaning*

Develop a specific meaning which indicates the safety message to be conveyed and by which the safety sign can be identified in an index. The meaning should be as concise as possible. See BS 5499-5 for examples of meanings.

2) *Accepted alternative meaning(s)*

Determine any closely related meaning(s) which are considered acceptable variations of the actual intended meaning.

EXAMPLE

No use of cameras/No photography.

3) *Excluded meaning(s)*

Consider any closely related but excluded meaning(s) which are not intended to be conveyed.

EXAMPLE

Meaning: Push to open.

Excluded meaning: Pull to open.

4) *Function*

Develop a precise description of the purpose of the safety message to be conveyed (see Figure 1 to Figure 5, Figure 10, Figure C.1 to Figure C.3, Figure D.3, Figure D.4, and Figure E.1 to Figure E.3).

5) *Need*

Consider the need for a new safety sign.

6) *Type of sign*

Is the sign a prohibition, mandatory, hazard, safe condition or fire equipment sign? (See Table 1.)

7) *Existing safety signs*

Check that no existing safety sign conveys the intended safety message (see **4.1**b).

8) *Existing graphical symbols and graphical symbol elements*

Review whether existing graphical symbols or graphical symbol elements can be used in the new safety sign (see **7.5**).

9) *Field of application*

Consider whether the safety sign is intended to be located in public places and places of work, workplaces only, specific workplaces, or public places only.

10) *Intended target audience*

Consider whether the target audience is the general public (untrained) or a specialist audience (who can be trained).

11) *Other specific audience details*

Consider factors such as special needs, educational level, occupation, sex, age, cultural background or any other relevant factors.

12) *Context of use*

Consider the context in which the safety sign is to be used, including any specific items (such as a fire alarm call point) that will always be associated with the safety sign that may influence the degree of understanding.

13) *Risk*

Consider the risk that is intended to be reduced or prevented by the use of the safety sign.

14) *Expected behaviour*

Consider the behaviour that is intended to result from correct understanding of the meaning of the safety sign.

15) *Related meanings*

Consider whether the sign is intended to be part of a set of meanings, either as an addition to a set of existing standardized signs for purposes of completeness or a complete new set.

16) *Alternative safety messages*

Consider whether the graphical symbol could be used in other types of sign and any design implications that this might have e.g. the effect of a negation bar on a graphical symbol originally designed for use in a mandatory sign.

17) *Design review*

Seek observations on the new safety sign from representatives of the target audience during the design phase to confirm that the safety sign is likely to be understood.

18) *Existing test data*

Take account of any known test data from comprehensibility judgement and/or comprehension tests, such as tests in accordance with BS ISO 9186.

# Annex B (informative)
# Colour and file format

## B.1 Colour

It is recommended that, in the design of any new safety sign original intended to be submitted for registration, the colours used should be from one of the colour reference systems listed in Table B.1.

**Table B.1 — Recommended colour reference systems and colour values for use in the design of safety sign originals**

| Colour | Pantone® reference[a] | CMYK reference | | | | *RGB* reference | | |
|---|---|---|---|---|---|---|---|---|
| | | Cyan | Magenta | Yellow | Black | *R* | *G* | *B* |
| Green | 3405 coated | 85 % | 0 % | 65 % | 0 % | 40 % | 161 % | 103 % |
| Red | 185 coated | 0 % | 91 % | 76 % | 0 % | 252 % | 25 % | 33 % |
| Blue | 299 coated | 85 % | 19 % | 0 % | 0 % | 42 % | 142 % | 191 % |
| Yellow | Process Yellow coated | 0 % | 0 % | 100 % | 0 % | 255 % | 255 % | 0 % |
| Black | Process Black coated | 60 % | 0 % | 0 % | 100 % | 100 % | 100 % | 100 % |

[a] Pantone®, is a trademark owned by Pantone Inc. 590 Commerce Blvd., Carlstadt, NJ 07072-3098 USA. This information is given for the convenience of users of this standard and does not constitute an endorsement by BSI of the product named.

NOTE 1 Coated colours are the most suitable for documents that are to be printed onto substrate papers that are gloss/semi-gloss in appearance. Therefore, use of coated colours is recommended in order to provide safety sign originals that are suitable for printing in future British Standards.

NOTE 2 Process black is a dense, opaque ink which can soak the substrate paper to which it is applied, which can result in:

a) stretching of the substrate paper;

b) a "ghosting effect" when viewed from the reverse side of the page.

By addition of 60 % cyan to the process black, the printing process is split into two application layers, which prevents these effects from occurring. Therefore, addition of 60 % cyan to process black is also recommended so that the safety sign originals are suitable for printing in future British Standards.

NOTE 3 The colours recommended here are for design purposes only. Colours for sign production are specified in BS 5499-1.

## B.2 File format

A vectorized file format should be used.

# Annex C (informative)
# Additional design guidelines

## C.1 Filled areas

Filled areas should be used in preference to outlining as they greatly improve the legibility of the graphical symbol (see Figure C.1).

**Meaning:** Beware of guard dog/Beware of dog.

**Function:** To warn of a hazard from a guard dog, or other dog.

**Image content:** Dog head shown as profile. Critical details are head, mouth and ears.

**Figure C.1 — Example of filled area**

### C.2 Symmetry

Graphical symbols should be symmetrical wherever possible (see Figure C.2).

**Meaning:** Keep locked.

**Function:** To signify that an object must be kept locked.

**Image content:** Padlock hanging from chain. Critical details are keyhole, hasp and chain.

**Figure C.2 — Example of a symmetrical graphical symbol**

### C.3 Orientation

A graphical symbol should be designed so as to avoid ambiguity in the event of the sign being orientated incorrectly.

### C.4 Abstract symbols

Abstract symbols should be avoided.

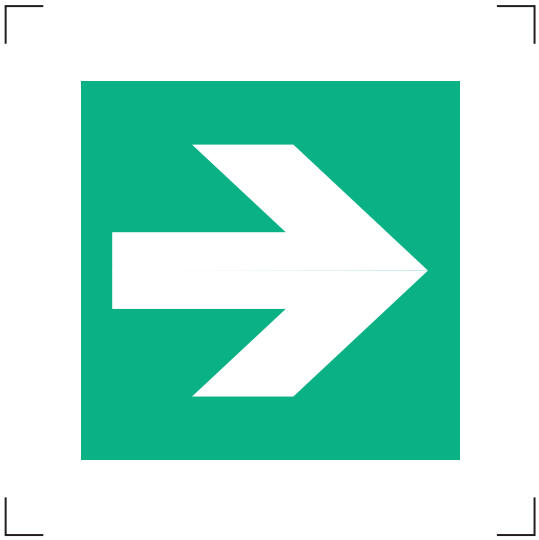
### C.5 Arrows

The use of arrows as part of graphical symbols should be avoided.

The arrow illustrated in Figure C.3 is used as a supplementary sign with an escape route sign, to indicate direction of travel. It is essential that this form of arrow is not used for any other purpose, as any other use of these arrows might cause confusion, which could lead to danger.

NOTE The design of arrow illustrated in Figure C.3 is also used to indicate direction of travel in public information symbols (see BS 8501).

Safety sign arrows are specified in BS 5499-1. Other arrow forms are specified in BS EN 80416-2.



**Meaning:** Direction.

**Function:** To indicate direction of travel to the right.

**Image content:** Arrow with Belgian head with angle of apex between 84° and 86°.

**Figure C.3 — Example of arrow with Belgian head**

## Annex D (informative)
## Representation of the human figure

The human figure is frequently the main element of a graphical symbol. The anterior (front) and posterior (back) views of the human figure should be depicted as shown in Figure D.1. The lateral (side) view of the human figure should be depicted as shown in Figure D.2.

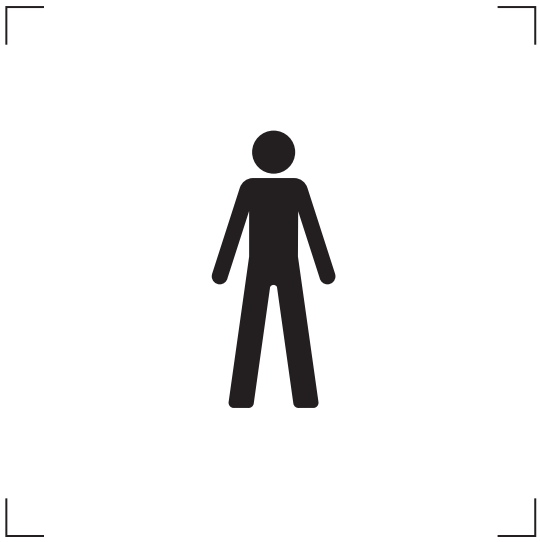


**Figure D.1 — Anterior and posterior view of human figure**

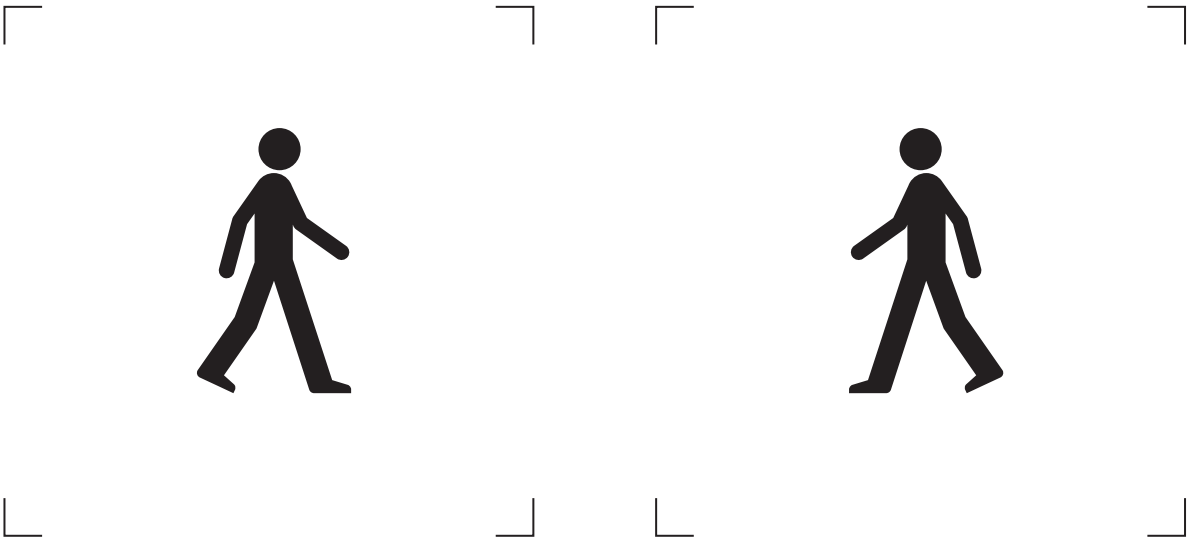


**Figure D.2 — Lateral views of human figure**

In order to ensure comprehension of the safety sign the following principles should be applied.

a) Use a filled (solid) graphical representation of human body elements or the full human figure. An outline representation may be used when depicting a person or part of a person whose presence is necessary to complete the safety message (see Figure D.3).

b) When faces, or the full body, are shown, use the view (generally front or side) that is most easily recognised.

c) Be specific in depicting hazards, especially when the nature or location of the hazard is not readily apparent.

d) Use dynamic depictions of hazards and hazardous situations, (see Figure D.4).

e) Do not represent blood.

f) Consider the position the human figure needs to assume in the graphical symbol in relation to the following:

— the nature of the hazard;

— the direction from which the hazard comes or the orientation of the hazard;

— movements or positions resulting from involvement with the hazard;

— the type of injury caused by the hazard;

— movements or positions involved in an action or in the operation of a product.

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**Meaning:** Wear head protection.

**Function:** To signify that head protection must be worn.

**Image content:** Anterior view of head wearing filled hard hat. Critical details are outline of face and filled hard hat.

**Figure D.3 — Example of an outline figure**

**Meaning:** Beware trip hazard/Beware uneven surface.

**Function:** To warn of trip hazard or uneven surface.

**Image content:** Human figure falling forward with foot against an obstruction. Critical details are human figure, foot and obstruction.

**Figure D.4 — Example of dynamic depiction of a hazard**

## Annex E (informative)
## Representation of water in water safety signs

NOTE Water safety signs are specified in BS 5499-11.

Water is one of the main elements of many graphical symbols used in water safety signs.

Where depicting views of activities or equipment on or above the surface of the water, the water should be represented by two wavy lines as shown in Figure E.1.

Where depicting views of activities or equipment below the surface of the water, the water should be represented by a single wavy line as shown in Figure E.2.

Where depicting views intended to convey the depth of the water rather than activities or equipment, an appropriate number of wavy lines between one and eight should be used as shown in Figure E.3.

**Meaning:** No swimming.

**Function**: To prohibit swimming.

**Image content:** Human figure swimming and water (two wavy lines). Critical details are human figure and two wavy lines.

**Meaning:** Beware — diving area.

**Function:** To warn of a hazard from divers.

**Image content:** Human figure diving and water (two wavy lines). Critical details are human figure diving at acute angle to water surface and two wavy lines.

**Meaning:** No rowing.

**Function**: To prohibit rowing.

**Image content:** Human figure in a rowing boat using oars, and water (two wavy lines). Critical details are human figure, boat, oars and two wavy lines.

**Meaning:** Beware — sailing area.

**Function:** To warn of a hazard from sailing boats.

**Image content:** Sailing boat on water (two wavy lines). Critical details are sails, hull and two wavy lines.

**Figure E.1 — Examples of water safety signs involving activities on the water surface or above it**

**Meaning:** No snorkelling equipment.

**Function:** To prohibit snorkelling.

**Image content:** Human figure beneath the surface of the water (single wavy line), with snorkel and face mask. Critical details are human figure, snorkel and single wavy line.

**Figure E.2 — Example of water safety sign involving an activity beneath the water surface**

**Meaning:** Beware — deep water.

**Function**: To warn of the dangers of deep water.

**Image content:** Human figure standing at the edge of a land mass viewing the deep water below. Critical details are human figure, land mass and deep water (indicated by eight wavy lines).

**Meaning:** Beware — shallow water.

**Function:** To warn of the dangers of shallow water.

**Image content:** Human figure standing at the edge of a land mass viewing the shallow water below. Critical details are human figure, land mass and shallow water (indicated by a single wavy line).

**Meaning:** Beware — sudden drop.

**Function**: To warn of the dangers of a sudden drop under the water.

**Image content:** Human figure falling at drop under the water. Critical details are human figure, drop and water (indicated by two wavy lines above the drop and three below).

**Figure E.3 — Examples of water safety signs involving varying depths of water (and not activities)**

## Bibliography

### Standards publications

BS EN 80416-2:2001, *Basic principles for graphical symbols for use on equipment — Part 2: Form and use of arrows.*

# Index

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