
**Graphical symbols — Safety colours and
safety signs —**

Part 1:

**Design principles for safety signs and
safety markings**

iTeh STANDARD PREVIEW
*Symboles graphiques — Couleurs de sécurité et signaux de sécurité —
Partie 1: Principes de conception pour les signaux de sécurité et les
marquages de sécurité*
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 3864-1 was prepared by Technical Committee ISO/TC 145, *Graphical symbols*, Subcommittee SC 2, *Safety identification, signs, shapes, symbols and colours*.

This part of ISO 3864, together with ISO 3864-4, cancels and replaces ISO 3864-1:2002, which has been technically revised.

ISO 3864 consists of the following parts, under the general title *Graphical symbols — Safety colours and safety signs*:

- Part 1: *Design principles for safety signs and safety markings*
- Part 2: *Design principles for product safety labels*
- Part 3: *Design principles for graphical symbols for use in safety signs*
- Part 4: *Colorimetric and photometric properties of safety sign materials*

Introduction

There is a need to standardize a system of giving safety information that relies as little as possible on the use of words to achieve understanding.

Continued growth in international trade, travel and mobility of labour requires a common method of communicating safety information.

Lack of standardization may lead to confusion and the risk of accidents.

The use of standardized safety signs does not replace proper work methods, instructions and accident prevention training or measures. Education is an essential part of any system that provides safety information.

NOTE Information on procedures, criteria of acceptability, safety sign templates and application of safety signs are given on the website: <http://www.iso.org/tc145/sc2>.

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Graphical symbols — Safety colours and safety signs —

Part 1: Design principles for safety signs and safety markings

IMPORTANT — The colours represented in the electronic file of this part of ISO 3864 can be neither viewed on screen nor printed as true representations. Although the copies of this part of ISO 3864 printed by ISO have been produced to correspond (with an acceptable tolerance as judged by the naked eye) to the colour requirements, it is not intended that these printed copies be used for colour matching. Instead, consult ISO 3864-4 which provides colorimetric and photometric properties together with, as a guideline, references from colour order systems.

1 Scope

This part of ISO 3864 establishes the safety identification colours and design principles for safety signs and safety markings to be used in workplaces and in public areas for the purpose of accident prevention, fire protection, health hazard information and emergency evacuation. It also establishes the basic principles to be applied when developing standards containing safety signs.

This part of ISO 3864 is applicable to all locations where safety issues related to people need to be addressed. However, it is not applicable to the signalling used for guiding rail, road, river, maritime and air traffic and, generally speaking, to those sectors subject to a regulation which may differ.

NOTE Some countries' statutory regulations might differ in some respect from those given in this part of ISO 3864.

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.

ISO 3864-3, *Graphical symbols — Safety colours and safety signs — Part 3: Design principles for graphical symbols for use in safety signs*

ISO 3864-4, *Graphical symbols — Safety colours and safety signs — Part 4: Colorimetric and photometric properties of safety sign materials*

ISO 17724:2003, *Graphical symbols — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17724 and the following apply.

3.1

combination sign

sign that combines a safety sign and one or more associated supplementary signs on the same rectangular carrier

**3.2
factor of distance**

z
relationship between the height (h) of a sign and the observation distance (l), used to determine observation distances of signs

$$z = l/h$$

[ISO 17724:2003, 28]

**3.3
fire equipment sign**

safety sign that indicates the location or identification of fire equipment

**3.4
identifiability**

property of a graphical symbol which enables its elements to be perceived as the objects or shapes depicted

[ISO 9186-2:2008, 3.1]

**3.5
mandatory action sign**

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

**3.6
multiple sign**

sign that combines two or more safety signs and associated supplementary signs on the same rectangular carrier

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**3.7
prohibition sign**

safety sign that indicates that a specific behaviour is forbidden

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**3.8
safe condition sign**

safety sign that indicates an evacuation route, the location of safety equipment or a safety facility, or a safety action

**3.9
safe observation distance**

distance a person can be from a safety sign while still able to identify the safety sign and have the opportunity to follow the message

NOTE Adapted from ISO 3864-2.

**3.10
safety colour**

colour with special properties to which a safety meaning is attributed

**3.11
safety marking**

marking which adopts the use of safety colours and safety contrast colours to convey a safety message or render an object or location conspicuous

**3.12
safety sign**

sign which gives a general safety message, obtained by a combination of a colour and geometric shape and which, by the addition of a graphical symbol, gives a particular safety message

3.13**sign height**

diameter of a circular geometric shape or height of a rectangular or triangular geometric shape

3.14**supplementary sign**

sign that is supportive of a safety sign and the main purpose of which is to provide additional clarification

3.15**visual acuity**

capacity for seeing distinctly fine details that have a very small angular separation

[ISO 17724:2003, 82]

3.16**warning sign**

safety sign that indicates a specific source of potential harm

4 Purpose of safety colours and safety signs






4.1 The purpose of safety colours and safety signs is to draw attention rapidly to objects and situations affecting safety and health and to gain rapid understanding of a specific message.

4.2 Safety signs shall be used only for instructions which are related to the safety and health of people.

5 General meaning of geometric shapes and safety colours


The general meaning assigned to geometric shapes, safety colours and contrast colours is given in Tables 1 and 2.

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

Geometric shape	Meaning	Safety colour	Contrast colour to the safety colour	Graphical symbol colour	Examples of use
 Circle with diagonal bar	Prohibition	Red	White ^a	Black	<ul style="list-style-type: none"> — No smoking — Not drinking water — Do not touch
 Circle	Mandatory action	Blue	White ^a	White ^a	<ul style="list-style-type: none"> — Wear eye protection — Wear protective clothing — Wash your hands
 Equilateral triangle with radiused outer corners	Warning	Yellow	Black	Black	<ul style="list-style-type: none"> — Warning; Hot surface — Warning; Biological hazard — Warning; Electricity
 Square	Safe condition	Green	White ^a	White ^a	<ul style="list-style-type: none"> — First aid — Emergency exit — Evacuation assembly point
 Square	Fire equipment	Red	White ^a	White ^a	<ul style="list-style-type: none"> — Fire alarm call point — Collection of fire fighting equipment — Fire extinguisher

^a The colour white includes the colour for phosphorescent material under daylight conditions with properties as defined in ISO 3864-4.

Table 2 — Geometric shape, background colours and contrast colours for supplementary signs

Geometric shape	Meaning	Background colour	Contrast colour to background colour	Colour of supplementary safety information
 Rectangle	Supplementary information	White	Black	Any
		Safety colour of the safety sign	Black or white	

It is essential to achieve a luminance contrast between the safety sign and its background as well as between the supplementary sign and its background on which they are mounted or displayed.

6 Layout for safety signs

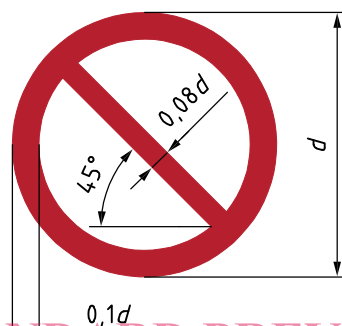
6.1 General

The safety colours, contrast colours and geometric shapes (see Clause 5) shall be used only in the following combinations to obtain the five types of safety signs (see Figures 1 to 5).

NOTE Layout templates for safety signs for ISO 7010 are available from the website of ISO/TC 145/SC 2.

6.2 Prohibition signs

Prohibition signs shall comply with the layout requirements given in Figure 1. The centre line of the diagonal bar shall pass through the centre point of the prohibition sign and shall cover the graphical symbol.



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The colours of the sign shall be as follows:

Background colour: white

Circular band and diagonal bar: red

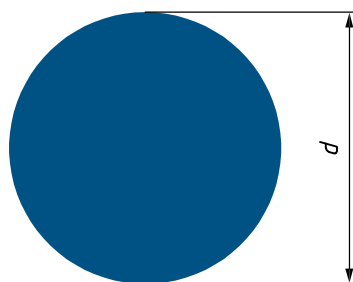
Graphical symbol: black

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Figure 1 — Layout requirements for a prohibition sign

6.3 Mandatory action signs

Mandatory action signs shall comply with the layout requirements given in Figure 2.



The colours of the sign shall be as follows:

Background colour: blue

Graphical symbol: white

The safety colour blue shall cover at least 50 % of the area of the sign.

Figure 2 — Layout requirements for a mandatory action sign