BS ISO 20712-3:2020

BSI Standards Publication

# Water safety signs and beach safety flags

Part 3: Guidance for use

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# National foreword

This British Standard is the UK implementation of ISO 20712-3:2020. It supersedes BS ISO 20712-3:2014, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PH/8/1, Graphical Symbols - Safety Signs.

A list of organizations represented on this committee can be obtained on request to its committee manager.

The UK committee draws users' attention to National Annex NA, which provides further guidance to assist users in the application of this standard.

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

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INTERNATIONAL STANDARD

# ISO 20712-3

Third edition
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# Water safety signs and beach safety flags —

## Part 3: Guidance for use

*Signaux de sécurité relatifs à l'eau et drapeaux de sécurité pour les plages —*

*Partie 3: Lignes directrices pour l'utilisation*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

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

This third edition cancels and replaces the second edition (ISO 20712-3:2014), of which it constitutes a minor revision. The changes to the previous edition are as follows:

— references to ISO 20712-1 replaced with ISO 7010 as water safety signs with new registration numbers have been incorporated in ISO 7010;

— all four references in Clause 2 moved to the Bibliography as these are informative;

— 3.3, 'distance factor' added as an admitted term;

— NOTEs in 5.2, 6.5, Annex D and Annex E changed to body text;

— minor editorial changes.

A list of all parts in the ISO 20712 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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# Introduction

This document reflects good practice in the use of water safety signs and beach safety flags. The illustrations show examples of the selection and location of water safety signs and beach safety flags designed to provide information about aquatic hazards and the action necessary to avoid those hazards.

A standardized method of signing with the use of appropriate supplementary text throughout the working and public environment assists the process of education and instruction on the meaning of water safety signs and beach safety flags, and the appropriate actions to take. The intention of this document is to ensure a uniformity of application of water safety signs and beach safety flags which leads to increased familiarity, and therefore improved safety, for the users including visitors and for the general public.

The illustrations within this document are based on assumptions that some of the people may be unfamiliar with the features of indoor or outdoor swimming pools or of the beach. The illustrations are not intended to cover every potentially hazardous situation and they should be interpreted as recommendations and not as minimum requirements.

The use of water safety signs and beach safety flags does not replace the need for proper working methods and safety instruction or for training in accident prevention and the actions to be taken in the event of an emergency, or for the provision of lifeguards.

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

NOTE 1 Some countries' statutory regulations might differ in some respect from those given in this document.

NOTE 2 Some countries might differ in some respect from the requirements given in this document where they use the diamond geometric shape for warning signs.


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# Water safety signs and beach safety flags —

# Part 3:
# Guidance for use

**IMPORTANT — The colours represented in the electronic file of this document can be neither viewed on screen nor printed as true representations. For the purposes of colour matching see ISO 3864-4, which provides colorimetric and photometric properties together with, as a guideline, references from colour order systems.**

## 1 Scope

This document gives guidance for the selection and use of water safety signs as specified in ISO 7010 and beach safety flags as specified in ISO 20712-2 in aquatic environments. It provides guidance on their location, mounting positions, lighting and maintenance. It also provides guidance on the design and location of multiple signs.

This document does not apply to traffic signs for use on the public highway or maritime signalling. It is not applicable to flags for use on firing ranges or to flags used to indicate water quality. It does not cover means of escape signs and their illumination which may be present.

NOTE 1 The illustrations in this document are as accurate as possible within the limitations of the printing process.

NOTE 2 This document refers to water safety signs which were originally specified in ISO 20712-1[1)]. These water safety signs have been integrated in ISO 7010, but are not specifically identified as water safety signs.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

**3.1**
**beach**
area forming a shoreline or sloping bank at the edge of the sea or a river estuary or lake

[SOURCE: ISO 20712-2:2007, 3.1]

1) This document has been withdrawn and replaced by ISO 7010.

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**3.2**
**beach safety flag**
material that gives a particular safety message by means of a combination of one or more colours and a geometric shape, and is attached by one end to a pole or rope

Note 1 to entry: A flag can also have additional support, e.g. a horizontal support.

[SOURCE: ISO 20712-2:2007, 3.2]

**3.3**
**factor of distance**
distance factor
*z*
relationship between the height ($h$) of a sign and the observation distance ($l$), used to determine observation distances of signs

$$z = l/h$$

[SOURCE: ISO 3864-1:2011, 3.2, modified — 'distance factor' added as an admitted term.]

**3.4**
**multiple sign**
two or more safety signs and/or associated supplementary information on the same carrier

**3.5**
**pool basin**
water tank where water-related activities can take place

**3.6**
**pool surround**
area around a pool basin for entry and exit to the pool basin and general circulation space

**3.7**
**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

[SOURCE: ISO 3864-1:2011, 3.12]

**3.8**
**sign height**
diameter of a circular geometric shape or height of a rectangular or triangular geometric shape of the type of safety sign

Note 1 to entry: Any outer border to the safety sign is excluded. See ISO 3864-1.

# 4 Guidance for selection and siting of signs and flags

## 4.1 Guidance for risk assessment

Selection and use are determined following the results of a risk assessment. The risk assessment should take into account the following specific issues:

a) hazards and associated risks of the aquatic environment;

b) regulations or legislation;

c) operation and management of the aquatic environment;

d) users and their foreseeable behaviour.


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In specific situations, other issues may have to be considered in a risk assessment.

NOTE The users can be in unfamiliar environments, not wearing their normal sight-correction lenses or in bare feet.

As the result of the risk assessment, a comprehensive statement of requirements should be prepared and used as the basis for the detailed design and specification for the selection and use of signs and flags.

## 4.2 Siting

### 4.2.1 Water safety signs and multiple signs

The siting of water safety signs and multiple signs should allow users to recognize hazards and take appropriate action to avoid them.

The following matters (issues, factors) should be considered:

a) location of hazards and their signage;

b) location of entrances/access to facilities;

c) location of any other signs;

d) location of architectural features, décor, structures, vegetation or people that could conceal or divert attention from signs;

e) lighting level and characteristics under both normal and mains-failure conditions;

f) appropriate supplementary text to water safety signs;

g) appropriate information on multiple signs.

### 4.2.2 Beach safety flags

The siting of beach safety flags should allow users to recognize hazards and take appropriate action to avoid them.

The following matters (issues, factors) should be considered:

a) nature and location of hazards and their relevant signage;

b) zoning or boundaries of aquatic activities;

c) location of structures, beach furniture or vegetation that could conceal or divert attention from flags;

d) location of flagpoles;

e) appropriate information on multiple signs, such as an explanation of the meaning of flags and the presence or otherwise of a lifeguard service.

# 5 Water safety signs

## 5.1 General requirements for aquatic environments

### 5.1.1 General

The system designer should identify the locations of the hazards.

Safety signs should conform to ISO 7010. Safety signs should conform with the colorimetric and photometric requirements given in ISO 3864-4.

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The required sign height of the safety sign should be determined from the maximum viewing distance under different external illumination conditions and the relevant distance factor *z* according to Annex A, Table A.1.

The following principles should be taken into account when planning water safety signage; signs should:

a) be sited conspicuously within the normal field of vision;

b) contrast with their surroundings;

NOTE The contrast and conspicuousness may be increased by the provision of an outer border or by mounting on a sign board with a colour contrasting with the surroundings.

c) be visible from any place within the vicinity of the hazard;

d) be sited at the same height throughout the aquatic facility, as far as is reasonable;

e) take precedence over all other signs with the exception of escape route signing, if applicable;

f) be placed so that they are not a hazard;

g) be placed at sharp changes in depth, if applicable;

h) be illuminated, if applicable, to ensure that they are visible and legible.

Care should be taken to avoid over-provision of safety signs at one location as this can confuse viewers and result in individual safety messages not being noticed or understood.

### 5.1.2 Mounting height

The following principles should be applied to assist users of the facilities to predict the location of successive signs, whether they are mounted on walls, posts or overhead.

a) Signs should be mounted as close as practicable to the observer's line of sight in the vertical plane. For a standing adult, this will be approximately 5° up or down from a point 1500 mm above ground level in front of the observer.

b) Signs that are freestanding or mounted overhead should be placed so that they are not a hazard.

c) Where practical, the space in front of the sign should be clear so that people without sight-correction lenses or with visual impairments are able to approach the sign to reduce their viewing distance.

### 5.1.3 Lighting

If artificial lighting is provided, effective illumination is required both in normal and in mains-failure conditions, if applicable.

There are various ways of ensuring the satisfactory illumination of signs.

Some types of lighting, for example low-pressure sodium, do not enable effective colour recognition and are therefore unlikely to be suitable for the illumination of water safety signs.

Where a sign is illuminated by an external artificial light source, the vertical illumination should be a minimum of 100 lx under normal lighting conditions.

### 5.1.4 Sign height and maximum viewing distance

A sign should be both visible and legible at the maximum viewing distance.

NOTE 1 The sign height necessary to achieve these criteria will depend upon the viewing distance and the illumination of the sign. Measurement of sign height is given in Table 1.


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