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Ships and marine technology — Design, location and use of shipboard safety signs, fire control plan signs, safety notices and safety markings — ~~Part 4: Escape plan signs used for general emergency information~~

Part 4:
Escape plan signs used for general emergency information

Navires et technologie maritime — Conception, emplacement et utilisation des signaux de sécurité, signaux relatifs à la sécurité incendie, notices de sécurité et marquages de sécurité à bord des navires —

Partie 4: Signaux de plans d'évacuation pour information générale en cas d'urgence

FDIS stage

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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).

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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 8, *Ships and marine technology*, Subcommittee SC 1, *Maritime safety*.

A list of all parts in the ISO 24409 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.

Introduction

The growth of international travel by ship has created a need to provide people travelling and working on board ships with signs and associated systems that communicate consistent and effective safety information. This document specifies a system of safety and fire control plan signs on ships and other marine installations that is generally consistent with standardized signs, with which many have gained familiarity in other applications.

As such, this document clarifies and supplements existing requirements set out in SOLAS regulation II-2, 13.7.2.2 and III,8.4, ~~10~~¹¹, IMO resolution A.752 (18), ~~4.6~~^{8.4.6} and MSC /Circ.699, ~~17~~¹¹. However, it is directly applicable to shipboard safety signs only, and does not deal with graphical symbols to be used on shipboard plans or documentation used for professionals.

This document spells out general design principles applicable to shipboard escape plan signs for escape and embarkation of people on board survival crafts, other than the ones who are involved to special safety actions. The signs are catalogued in ISO 24409-~~2~~³:2017, and their application on ships is specified in ~~the~~ ISO 24409-~~3~~²:2014.

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Ships and marine technology — Design, location and use of shipboard safety signs, fire control plan signs, safety notices and safety markings

Part 4:

Escape plan signs used for general emergency information

IMPORTANT — The electronic file of this document contains colours which are considered to be useful for the correct understanding of the document. Users should therefore consider printing this document using a colour printer.

1. Scope

This document establishes design principles shipboard escape plan signs that contain information relevant to escape, embarkation, and fire safety, to be used for general information on board ships.

These plans are intended to be displayed as signs in cabins and public areas, such as required by regulations.

This document is not intended to cover the plans to be used by crew. The plans for crew are described in ISO 17631.

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

ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*

ISO 15370, *Ships and marine technology — Low-location lighting (LLL) on passenger ships — Arrangement*

ISO 17398, *Safety colours and safety signs — Classification, performance and durability of safety signs*

ISO 24409-1, *Ships and marine technology — Design, location and use of shipboard safety signs, fire control plan signs, safety notices and safety markings — Part 1: Design principles*

ISO 24409-2, *Ships and marine technology — Design, location and use of shipboard safety signs, safety-related signs, safety notices and safety markings — Part 2: Catalogue*

3. Terms and definitions

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

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

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

—IEC Electropedia: available at <https://www.electropedia.org/>

3.1

escape plan sign

plan for passengers and crew illustrating the basic escape arrangements, indicating the “you are here” position, containing a safety notice with essential actions to be taken in an emergency and may display information required for embarkation on survival crafts and a first aid intervention

Note 1 to entry: “Escape plan sign” has the same meaning as “simple mimic plan” referred to in SOLAS regulation II-2,13.7.2.2, the “illustration and instructions” in SOLAS III,8.4, the “emergency instruction notices for passengers” referred in MSC/Circ.699, and the cabin placard referred to in IMO Resolution A.752(18).

3.2

escape plan sign detail

detailed representation of the area and deck marked in the overview and side view plan

3.3

phosphorescent sign

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

3.4

3.5

primary escape route

escape route which provides continuous fire shelter from the level of its origin to the appropriate embarkation deck, including the designated assembly station

3.6

safety instructions

general text header for escape plan signs, as referred to with the terms from regulations such as mimic signs and/or emergency instructions or emergency notices

3.6

secondary escape route

escape route which may be used as an alternative when the primary escape route is not available

4. Application and use

1. General

Escape plan signs shall be used in cabins and in public spaces. Escape plan signs used in cabins shall indicate from the “you are here” position the primary and the secondary escape routes to the designated assembly station. Escape plan signs used in public spaces shall give an overview of the ship’s assembly station and embarkation stations.

Escape plan signs shall be used as general safety information.

2. Preparation

Before applying the design principles, the essential elements to be shown on escape plan signs shall be determined based on the safety management procedures and ships facilities. The plans shall reflect the study of the following information verified by site visit:

1. a) — “as built” drawing(s) of the ship with key features as provided by the fire control plan, means of escape plan and lifesaving appliances plan (see ISO 17631 and/or the ship’s evacuation analyses, according to SOLAS regulation II-2, 13.23.2.7);
2. b) — evacuation planning documentation, any instructions given and how it is provided;
3. c) — fire safety manuals and procedures;

2

2

4. ~~d)~~ — identification of all escape routes and means of escape;
5. ~~e)~~ — location of emergency equipment, evacuation and embarkation aids;
6. ~~f)~~ — required actions to be taken in case of emergency and alarm signals;
7. ~~g)~~ — location of assembly stations, life jackets, life boats and life rafts;
8. ~~h)~~ — instructions of use of lifejackets.

The purpose of escape plan signs is to help people orient themselves in relation to the planned escape route to assembly stations and embarkation stations. -Design requirements

1. Content of the escape plan sign

An escape plan sign in a cabin shall display the ship's sideview and a plan view of the section where the cabin is located and the ship's assembly stations. The sideview shall indicate the primary and secondary escape route from the cabin where the sign is posted to the designated assembly station. The location of the cabin shall be indicated by the "you are here" marking. The plan view relevant to the section where the cabin is located shall indicate the primary and the secondary escape route to get to the designated assembly station or to the stairway to get to it.

In public spaces and in assembly stations, the escape plan signs shall show the ship's sideview and overall plan views. The ship's sideview shall show the position of all assembly stations with their identification letters. All decks where assembly stations are located are to be shown on the sign, as well as the position of survival crafts and relevant embarkation stations. Escape plan signs shall describe how the alarm signals are provided and the most appropriate actions to be taken in an emergency.

Escape plan signs shall include instructions on the purpose and use of the low-location lighting system ~~(as specified in ISO 15370)~~. (standards.iteh.ai)

Moreover, the signs shall also explain the meaning of means of escape symbols and safety symbols such as lifejackets, embarkation station or liferafts.

The escape plan sign shall be designed in accordance with the evacuation analyses of the ship or facility and shall address the specific needs of the occupants of the premises or part thereof (see [Figures A.1](#) ~~Figures A.1~~ to [A.5](#) ~~A.5~~ for examples).

The exact location of the user shall be shown with a "you are here" indication. The "you are here" position shall be specified by deck and position on the deck.

2. Scale

The scale of the escape plan sign is dependent on the size of the ship in relation to the format of the plan, the level of detail to be illustrated and the intended location of the escape plan sign. Escape plan signs do not have to be in a real scale. The elements in the drawing should be sufficient to improve comprehension of the displayed information.-

Detailed elements such as stairs or corridors may be drawn to a larger scale to increase conspicuity or to accommodate the placement of safety signs on the escape plan sign. For a series of escape plan signs for the same ship, other than the ones to be posted in cabins, the same scale should be used. At an escape plan sign to be used in a public space, the plan view shall have the same scale as the side view. For specific areas of the ship, e.g. car decks or technical spaces, other scales may be used to recognize the extent of whole space.

3. Illumination

In order to achieve sufficient visibility and legibility, the vertical illumination on escape plan signs shall be not less than 50 lx provided by the normal lighting. Where emergency lighting is provided in case of failure of the normal lighting, the vertical illumination on escape plan signs comprising ordinary materials or phosphorescent materials shall be no less than 5 lx. Where emergency lighting is not

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provided in case of failure of the normal lighting, escape plan signs comprising phosphorescent materials may be used. In all cases, the phosphorescent material shall be no less than classification C in accordance with ISO 17398.

In order to identify safety colours on the plans, the minimum value for the colour-rendering index, R_a , from a lamp shall be ≥ 40 . The luminaire shall not substantially subtract from this.

4. Design requirements

The following design requirements shall be met:

1. ~~a)~~ — The minimum size of an escape plan sign shall be 297 mm x 420 mm (A3). A tolerance of 5 % is acceptable.
 2. ~~b)~~ — Escape plan signs shall be up to date, i.e. they shall reflect the general arrangement of the ship and of relevant safety equipment.
 3. ~~c)~~ — The escape plan signs shall be properly oriented for each posted location in order to reflect the ship's arrangement, i.e. the orientation shall be related to the viewer so that locations on the left of the plan are to the viewer's left, and locations on the right of the plan are to the viewer's right. In transverse corridors or cabin walls, the front of the ship is always displayed to the right.
 4. ~~d)~~ — Safe condition, lifesaving equipment and fire-fighting equipment indicated on the escape plan sign shall use safety signs that are the same as in their installed location on board and both shall conform to ISO 24409--2.
 5. ~~e)~~ — Escape plan signs shall have a legend.
 6. ~~f)~~ — Escape plan signs shall have a standardized header, including the words "safety instructions" in English and the intended language(s) in which the plan is used.
 7. ~~g)~~ — Escape routes at the escape plan signs in cabins shall be marked by arrows according to ~~Figures 1 and 2~~. <https://standards.sist/a4af5214-7c9f-45c0-8cd0-c46c9a42473a/iso-fdis-24409-4>
 8. ~~h)~~ — Escape plan signs can include a section showing and/or describing the method of donning lifejackets.
1. ~~i)~~ — Escape plan signs shall use colours in accordance with 6.2 per section 6.8 of this document.

2. Size of plan elements

The following requirements shall be met.

1. ~~a)~~ — Information presented on escape plan signs shall be legible at the intended viewing distance. The minimum lettering height shall be 2 mm. Fonts should be chosen that maximize the legibility at the intended viewing distance.
2. ~~b)~~ — The minimum height of the header shall be at least 7 % of the smallest dimension of the escape plan sign and the height of its characters shall be at least 60 % of the height of the header. Examples are given in ~~Table 1~~.
3. ~~c)~~ — Safety signs shown on the plan shall have a minimum height of 7 mm.
4. ~~d)~~ — The line width for the graphical representation of the ship's structural bulkheads shall be at least 1,6 mm. Interior partition walls shall be represented by lines of a minimum width of 0,6 mm. If detailed elements are shown on the plan (e.g. stairs, shelves, windows), they shall be shown by lines of a minimum width of 0,15 mm.

4

4

In the representation of long escape corridors, architectural features or equipment should be a schematic that gives the user a sense of scale/distance.

Table 1 — Examples of the minimum height of header and characters

Size of escape plan sign mm x mm	Height of escape plan sign mm	Height of header mm	Height of capital letter mm
420 × 287 (A3) (portrait)	420	30	18
594 × 420 (A2) portrait	594	42	26
287 × 420 (A3) (landscape)	297	21	13
420 × 594 (A2) (landscape)	420	30	18

5. Representation

1. Header

Every escape plan sign shall have a header with the text: safety instructions. For the header, upper- and lower-case letters may be used.

2. Escape plan detail

Escape plan signs in a cabin shall contain an escape plan detail of the relevant part or fire zone where the cabin is located. The escape plan detail shall incorporate:

1. **a)** — the floor plan of the relevant part of the ship and facility so that:
 - non-essential details are eliminated;
 - important elements are highlighted;
 - legibility and ease of comprehension are increased;
 - if possible, the plan is oriented to the position of the viewer, i.e. what is shown on the plan should reflect what is viewed by the viewer with reference to its position.
2. **b)** — primary and secondary escape routes, horizontal and vertical. Directional instructions shall be given from the specific “you are here” point, by the use of arrows as illustrated in [Figures 1](#) and [2](#);

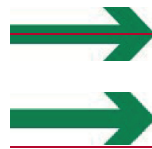


Figure 1 — Arrow indicating the direction of movement of people for displaying the primary escape route

