INTERNATIONAL STANDARD

ISO 18421

Second edition

Ships and marine technology — Inland navigation vessels — Lifebuoy housings

Navires et technologie maritime — Bateaux de navigation intérieure — Coffres à bouée de sauvetage

PROOF/ÉPREUVE

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

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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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information.

The committee responsible for this document is ISO/TC 8, *Ships and marine technology*, Subcommittee SC 7, *Inland navigation vessels*.

This second edition cancels and replaces the first edition (ISO 18421:2013), which has been technically revised with the following changes:

— dimensions have been changed;

— operational status check and seal ability is optional;

— strength test has been changed;

— temperature test has been deleted.

Introduction

The housing protects the lifebuoy against permanent exposure to the elements and acts as a deterrent against theft and vandalism of therein contained life-saving equipment.

Lifebuoy housings reduce the frequency of failure of the lifebuoys.

Ships and marine technology — Inland navigation vessels — Lifebuoy housings

1 Scope

This International Standard specifies the construction and dimensions of housing for lifebuoys.

The housing serves to encase a lifebuoy to protect it against deterioration from the elements and against vandalism.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

ISO 18422, *Ships and marine technology — Inland navigation vessels — Plate with instructions for rescue, resuscitation and first aid for drowning persons*

IEC 60945, *Maritime navigation and radiocommunication equipment and systems — General requirements — Methods of testing and required test results*

3 Terms and definitions

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

3.1
lifebuoy
buoyant ring provided with *grab lines* (3.2) and reflective strips

Note 1 to entry: A lifebuoy enables a person to keep himself above water, marks the location of the emergency, and aids recovery. Lifebuoys can be fitted with lines and light sources in accordance with official regulations.

3.2
grab line
fibre rope for seizing and grabbing the *lifebuoy* (3.1) in water

4 Requirements

4.1 Dimensions

General tolerances: ISO 2768-1

Edges shall be rounded with: min. $R = 0,3$ mm.

NOTE Radius is given to prevent clothing getting caught.

The internal dimensions are to be chosen so that a lifebuoy of 760 mm outer diameter, 440 mm inner diameter and of 103 mm thickness with a grab line at its outer edge and a floatable line with a diameter of 8 mm to 11 mm and 30 m length, with or without throw line, fit into the housing.

4.2 Design

4.2.1 Interior

The interior of the housing shall be designed so that neither the lifebuoy nor the life-line will fall off when the cover is opened and at the same time allows quick and easy access to both.

4.2.2 Cover

The housing shall have a cover with bolting. The cover shall have a captive connection to the housing. The closing latches shall keep the door shut, but allow quick and easy access the lifebuoy.

The design of the cover shall allow an easy access of the life buoy.

The cover of the housing shall have a lifebuoy symbol to the outside and the plate with directions for rescue and resuscitation of drowning persons in accordance with ISO 18422 shall be fastened inside the inner circle of the lifebuoy symbol.

4.2.3 Mounting

The housing for lifebuoys shall be manufactured in such a way that it can be fixed to masts, posts and poles or onto walls or railings.

These requirements are met if there are four bolt holes for the fixing of the housing through which threaded bolts can be inserted.

4.3 Material

The housing shall be of a suitable material, e.g.:

— plastics (Pl);

— seawater-resistant aluminium (Al);

— hot-galvanised steel (Hgal);

— stainless steel (Stst).

4.4 Resistance

The housing shall comply with the requirements in accordance with IEC 60945 regarding the following:

a) rain and spray water;

b) sun radiation;

c) resistance against oil;

d) corrosion.

4.5 Temperature stability

The utilizability of the housing shall remain constant at air temperatures of –25 °C to +65 °C.

4.6 Colour

The external surface of the housing shall be orange or red.

4.7 Operational status check and seal ability

The housing may be fitted with an indicating device at the front, whether a lifebuoy is inside the housing or not.

The housing may allow for an indicating seal to be used.

4.8 Resistance

The housing shall have sufficient strength. Testing shall be according to 5.4.

5 Testing

5.1 Scope and testing

Type approval test on one housing shall be carried out.

The tests shall include the following individual tests as described below. The test is performed by visual inspection, function test and measuring.

5.2 Visual inspection and functional test

The performance, the colour, the functioning of the indicating device, if applicable, and the feasibility to attach an indicating seal if applicable shall be tested by visual inspection and function test.

5.3 Resistance

The manufacturer shall present certificates proving that the relevant requirements in 4.4 and 4.5 are fulfilled.

5.4 Strength test

The test shall be carried out at an ambient temperature of +20 °C ± 5 °C.

Prior to the test the housing shall be fixed according to the manufacturer's instruction. The housing shall be filled with lifebuoy and the line as described in 4.1 and closed.

Then a textile belt of a width of 35 mm ± 5 mm with means for attaching the test weight shall be placed around the housing. With this, the test weight of 100 kg shall be applied to the belt and maintained for 60 s.

During and after the test, the housing shall neither become loosened from the fixation nor show any malfunction nor permanent deformation or damage.

5.5 Mounting instruction

The manufacturer shall provide mounting instructions.

6 Designation

For the designation of material, the material abbreviation in 4.3 shall be used.

Designation of a lifebuoy housing in accordance with this International Standard, material plastic Pl (Pl):

Lifebuoy housing ISO 18421 — Pl