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Ships and marine technology — Inland navigation vessels — Lifebuoy housings

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

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Foreword

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

Introduction

The lifebuoy housing reduces the recurrence of expensive replacement costs for lifebuoys.

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.

Ships and marine technology — Inland navigation vessels — Lifebuoy housings

1 Scope

This International Standard stipulates 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 12402-7, *Personal flotation devices — Part 7: Materials and components — Safety requirements and test methods*

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

IEC 60068-2-75, *Environmental testing — Part 2: Tests — Test Eh: Hammer tests*

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 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 in water

4 Requirements

4.1 Dimensions

General tolerances: ISO 2768:-1— c

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 750 mm diameter and of 100 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 opening angle of the cover shall be at least 180°. Notwithstanding the aforementioned, if the cover opens to the top it shall be fitted with a stop device of at least 90°.

The cover of the housing shall have an embossed 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 embossed 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 of different diameters or on to walls or railings.

These requirements are met if there are four reinforced bolt holes of 9 mm diameter for the fixing of the housing through which threaded bolts of sufficient length can be inserted.

4.3 Material

— plastics — Pl,

— seawater-resistant aluminium — Al,

— hot-galvanised steel — Hgal or

— stainless steel — Stst.

4.4 Resistance

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

a) rain and spray water;

b) sunlight;

c) resistance against oil and

d) corrosion.

4.5 Fibre behaviour

The materials shall be self-extinguishing and non-dripping in the event of fire.

4.6 Temperature stability

The utilizability of the housing shall remain constant at air temperatures of −30 °C to +65 °C.

4.7 Surface

To prevent scuffing, the surfaces of the housing shall be smooth in places where the lifebuoy rests.

4.8 Colour

The external surface of the housing shall be orange-red according to ISO 12402-7.

4.9 Operational status check and seal ability

The housing shall be fitted with an indicating device at the front, whether a lifebuoy is inside the housing or not. An example of a control device can be found in Annex A, informative.

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

4.10 Impact resistance

The housing shall have sufficient impact resistance and strength.

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 quality of the surface, the colour, the existence and functioning of the indicating device and the feasibility to attach an indicating seal shall be test by visual inspection and function test.

5.3 Resistance and fire behaviour

The manufacturer shall present certificates proving that the relevant requirements in Clause 4 are fulfilled.

5.4 Temperature test

The lifebuoy housing shall be exposed to alternating temperatures of (−30 ± 2) °C and (+65 ± 2) °C in accordance with the following procedure to be carried out 10 times in total. The temperature changes need not follow in short succession.

a) Minimum storage time of 8 h at (+65 ± 2) °C.

b) Minimum storage time of 8 h at (−30 ± 2) °C.

After completion of the tenth cycle, the housing shall be tested by visual inspection, touch test and length measuring for signs of damage such as shrivelling, cracking and disintegration.

5.5 Strength test

The housing shall be fixed to a wall as described by the manufacturer and as intended filled with a lifebuoy and closed. Then the following tests shall be carried out:

a) A textile belt with means for attaching a test weight shall be placed around the housing. With this, a dynamic load test with alternating 750 N and 1 500 N downward tension to the housing shall be carried out, in 10 cycles at 10 s.

b) Impact test in accordance with IEC 60068-2-75, impact energy: Eha, (2 Joule).

The impact points shall be the points that appear to be the weakest on the sides and the cover.

After the test the housing shall be functional and free of damage.

5.6 Manufacturer's certificates

The manufacturer shall present certificates stating that the housing complies with the requirements of this International Standard. If necessary, a mounting instruction or instructions for use shall be provided.

6 Designation

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

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

Lifebuoy housing ISO 18421:— PI

7 Marking

The housing shall be permanently marked with the following details:

a) ISO 18421;

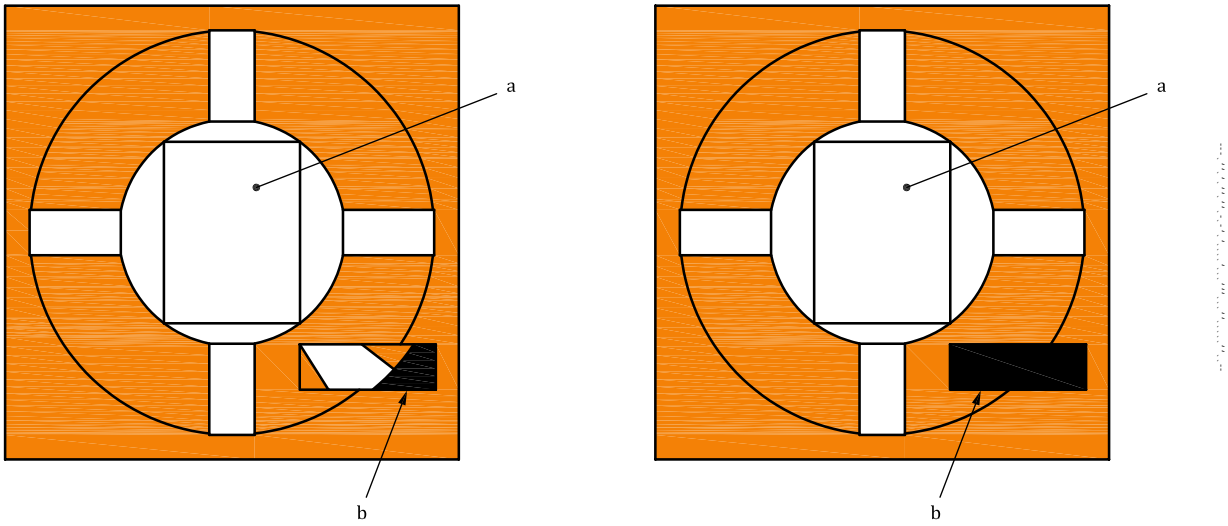
b) manufacturer or supplier;

c) year of manufacture.

Annex A
(informative)

Means of control

Figure A.1 shows an opening of ca. 50 mm to 200 mm as control window in the cover, covered by transparent plastic material. The internal backward surface of the housing behind the control window has a colour in contrast to the lifebuoy, in the shown example black.



a) Housing for lifebuoys with lifebuoy (Control window orange/reflection patch)

b) Empty housing for lifebuoys (Control window black)

Key

a Space for a plate with instructions for rescue, resuscitation and first aid of drowning persons.

b Control window.

Figure A.1 — Lifebuoy housing cover with control window

ICS 47.060
Price based on 5 pages