
International Standard



4143

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Shipbuilding — Inland vessels — Open rowing lifeboats

Construction navale — Bateaux de navigation intérieure — Canots de sauvetage ouverts à rames

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Descriptors : shipbuilding, inland navigation, lifeboats, classification, dimensions, characteristics, design, accessories, tests, marking, designation.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4143 was developed by Technical Committee ISO/TC 8, *Shipbuilding*, and was circulated to the member bodies in November 1977.

It has been approved by the member bodies of the following countries:

Belgium	India	Poland
Brazil	Ireland	Romania
Bulgaria	Italy	Spain
Chile	Japan	Turkey
Czechoslovakia	Korea, Dem. P. Rep. of	United Kingdom
Finland	Mexico	USSR
France	Netherlands	

The member body of the following country expressed disapproval of the document on technical grounds:

Germany, F. R.

Shipbuilding — Inland vessels — Open rowing lifeboats

1 Scope and field of application

This International Standard specifies the types, main characteristics, design requirements and equipment for open rowing lifeboats carried in vessels which are not covered by the International Convention for the Safety of Life at Sea (1974), owing to their operational conditions.

The provisions of this International Standard are established so as to satisfy the set of requirements which in general apply to ships navigating in all zones of inland navigation.

However, the competent authorities need not require the application of all the provisions of this International Standard to the lifeboats intended for ships navigating only in zones with the wave height not exceeding 1,2 m.

2 Definitions

2.1 standard open rowing lifeboat (hereinafter "boat") : A boat intended for saving the crew and the passengers of a vessel and having the buoyancy, stability, strength and equipment complying with the requirements of this International Standard.

2.2 maximum useful load : The total mass of the admissible (calculated) number of persons to be carried by a boat, and of the equipment and supplies of the boat.

2.3 cubic capacity : The internal capacity of a boat determined by Simpson's rule or by any other method giving the same or a higher degree of accuracy. For the purpose of this calculation a transom stern is to be taken as having zero area.

2.4 base plane : A horizontal plane passing through the line of intersection of the keel with the external surface of the boat shell at the midpoint of the boat's length.

3 Classification, main parameters and dimensions

3.1 Depending on the material of the hull, boats are divided into three types :

- wooden;
- metal;
- plastic.

3.2 The main parameters and dimensions of boats shall comply with those indicated in the figure and table 1.

3.3 The tolerance on *L* and *A* shall not exceed $\pm 1\%$, and on *B* and *H* shall not exceed $\pm 2\%$.

4 Main characteristics

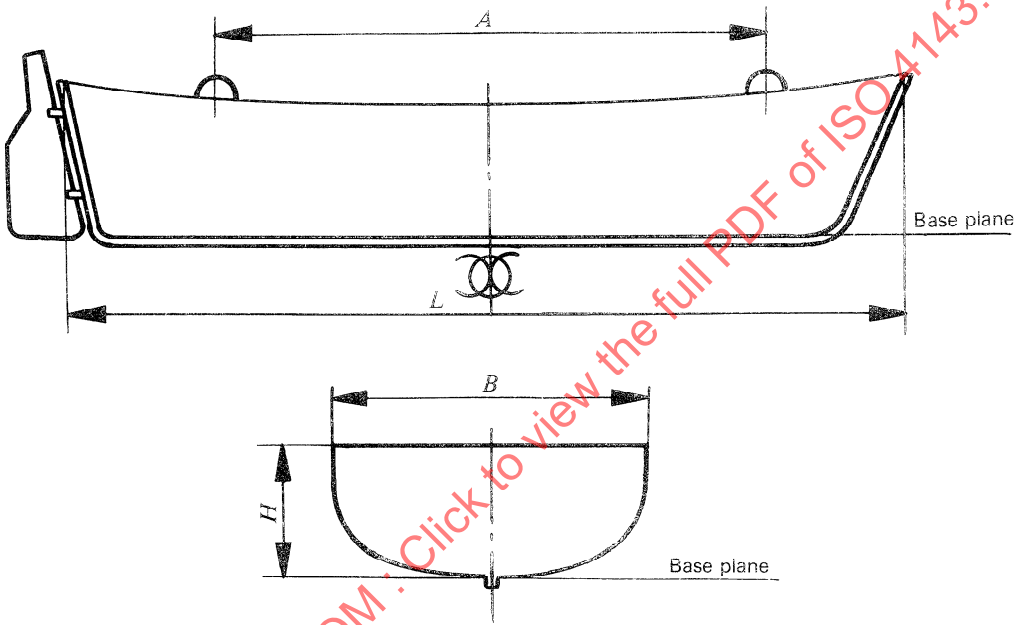
4.1 Reserve buoyancy

a) The reserve buoyancy of a boat in normal conditions

shall be ensured by a freeboard equal to or greater than 0,4 of the boat depth at the maximum useful load.

b) The boat being flooded with water, the reserve buoyancy shall be ensured by watertight air-cases or by a buoyant material proof against corrosion and resistant to oil and oil products.

The reserve buoyancy shall be sufficient to prevent a boat, with its maximum useful load in the designated places, from heeling when flooded to the upper edge of the gunwale, and to keep the freeboard amidships not less than 20 mm.



NOTE — The figure does not determine the design.

L is the distance between projections of the points of intersection of the outside surface of the shell with the stem and with the sternpost (transom) to the base plane.

B is the greatest breadth between the outside surfaces of the shell.

H is the depth measured vertically from the base plane to the lowest point of the gunwale.

A is the distance between the centre lines of the lifting hooks.

Figure — Boat dimensions

Table 1 — Main parameters and dimensions

Carrying capacity (persons)	Dimensions, m				Maximum mass of boat with persons and equipment, t
	<i>L</i>	<i>B</i>	<i>H</i>	<i>A</i>	
7	3,5	1,5	0,57	1,8	0,9
10	3,9	1,6	0,65		1,1
13	4,5	1,8	0,70	3,4	1,4
16	5,5	2,0	0,80	4,5	3,0
25	6,5	2,2	0,85	5,3	3,2

4.2 Stability

The stability of a boat is considered ensured if the value of the static movement required to heel the boat, afloat with its maximum useful load, by 10° from the zero position is not less than that indicated in table 2 and if the freeboard is not less than 20 mm.

Table 2 — Heeling moment

Carrying capacity (persons)	Heeling moment, N·m *
7	245
10	412
13	607
16	720
25	1 127

* 1 kgf·m = 9,8 N·m

4.3 Capacity

The boat's carrying capacity is determined from the cubic capacity in accordance with 2.3, allowing 0,225 m³ per person. The length of the seat shall not be less than 450 mm per person.

The definitive carrying capacity of a boat is determined by a test for the comfortable accommodation of its occupants, who, wearing lifejackets, should not hamper the rowing and steering.

4.4 Strength

The strength of a boat shall be sufficient to allow the boat to be safely lowered onto the water when containing its maximum useful load.

5 Design requirements

5.1 The mean shear of a boat shall be not less than 4,5 % of its length.

5.2 The materials used for building the boat shall be approved by the competent authorities of the shipowner country.

5.3 The air-cases shall be placed along the side whenever possible. Otherwise they may be placed at the bow, the stern and amidships under the thwarts but not close to the bottom.

5.4 When removable air-cases are employed, it is necessary to ensure their easy replacement and protection from possible damage, and to eliminate any possibility of their shifting.

5.5 The length of the air-cases should not normally exceed 600 mm. However, for constructional reasons the length may be increased to 1 200 mm, but the cases shall then be provided with transverse watertight bulkheads and longitudinal stiffeners.

5.6 If cellular plastic is used instead of air-cases, it shall be of a low-absorbing type (up to 5 mg per 100 ml).

5.7 All the thwarts and the side seats shall be fitted as low as possible in the boat.

5.8 Metal boats shall have an anti-corrosion coatings.

5.9 The gunwale surface and a side strip 150 mm in width from the upper edge shall be painted red-orange.

5.10 The boat shall have lifelines with floats at each loop and keel rails on each side.

5.11 The design of the boat shall permit the installation of an outboard motor.

6 Equipment

6.1 The boat shall have the minimum equipment indicated in table 3.

Table 3 — Minimum quota of equipment

No.	Article of boat equipment	Quantity
1	Oars	full complement
2	Spare oars	2
3	Rowlocks with lanyard	one set
4	Spare rowlocks	2
5	Boat-hook of length equal to that of oar	1
6	Baler	1
7	Bucket with handle made of canvas or other similar approved materials	1
8	Painter not less than 15 m long	1
9	White signal oil lamp (with oil)	1
10	Portable accumulator lantern	1
11	Hand flares giving red light	3
12	Boat cover	1
13	Drain plugs with lanyards or approved automatic drains	2
14	Post for signal lamp (oak, $L = 1\ 200$ mm, $d = 30$ mm)	1
15	Rudder with accessories and rudder pendant	1

6.2 Additional equipment and boat supplies are determined by the competent authorities of the shipowner country depending on the navigation area of the ship.

6.3 All the articles of boat equipment except for the boathook shall be secured in their designated places.

7 Tests and survey

7.1 Every type boat¹⁾ and each tenth boat in a series shall undergo the following tests after manufacture :

- a) measurement and weighing;
- b) verification of freeboard;
- c) hull structural test;
- d) watertightness test;
- e) stability test;
- f) insubmersibility test;
- g) verification of the comfort of accommodation and the convenience of rowing;
- h) test of air-cases for watertightness and determination of their volume;
- j) strength test of the lifting and lowering device.

A boat made of plastics shall be additionally tested as follows after the test specified in c) :

- k) side bumping against a wall;
- m) drop into the water;
- n) strength of fastening of the lifting and lowering device.

7.2 Each boat in a series shall be tested for :

- a) watertightness of the hull and of air-cases;
- b) strength of the lifting and lowering device.

7.3 The boat strength is considered sufficient if, after the boat has been suspended on hooks while containing a load 25 % higher than the maximum, the boat hull has no residual strain.

7.4 The stability test shall be carried out in accordance with 4.2.

7.5 The order of testing of newly built boats, their air-cases, lifting hooks and equipment, as well as the presentation of the results of the tests, shall comply with the requirements of the competent authorities of the shipowner country.

7.6 Boats carried by vessels shall undergo periodical surveys, the scope and dates of which are determined by the regulations for ship technical inspection adopted by the competent authorities of the shipowner country.

8 Marking

8.1 A permanent inscription shall be made by the owner on each side of the sheer strake at the stem, indicating :

- the shipowner;
- the name of the vessel;
- the carrying capacity of the boat.

A corrosion-resistant metal plate shall be fixed on the inside of the transom, indicating :

- the manufacturer (firm);
- the designation (see clause 9).

8.2 Each air-case to be installed in the lifeboat shall be marked to indicate its volume. The cases shall be marked after testing, on the sides facing the inside of the boat, so that the marking may be seen after the removal of the flooring over the air-case.

8.3 The test load value and the date of test shall be marked on every lifting hook after the test.

9 Designation

The designation of boats complying with the above-mentioned requirements shall contain the following information in the order given :

- Description : Boat
- Number of this International Standard : ISO 4143
- Material of the boat's hull :

Code letter "W" for wood	} see 3.1
Code letter "M" for metal	
Code letter "P" for plastic	

- Carrying capacity (number of persons) : according to table 1.

Example :

Example for the designation of an open rowing lifeboat for inland vessels according to ISO 4143 made of plastic with a carrying capacity of 13 persons :

Boat ISO 4143-P13

¹⁾ A type boat is the first boat of a one-size batch made by a manufacturer according to one and the same technical documentation and of the same materials.