



SLOVENSKI STANDARD
SIST EN 1914:2000
01-december-2000

Inland navigation vessels - Ship's boats

Inland navigation vessels - Ship's boats

Fahrzeuge der Binnenschifffahrt - Beiboote

Bateaux de navigation intérieure - Bachots

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SIST EN 1914:2000

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ICS:

- 47.060 R^: ^i• \ aš Á^ } aš [[çæ Inland navigation vessels
- 47.080 []} ã Small craft

SIST EN 1914:2000

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EUROPEAN STANDARD

EN 1914

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 1997

ICS 47.060; 47.080

Descriptors: inland navigation, boats, definitions, safety, accident prevention, specifications, dimensions, stability, tests, designation, marking

English version

Inland navigation vessels - Ship's boats

Bateaux de navigation intérieure - Bachots Fahrzeuge der Binnenschifffahrt - Beiboote

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 15 "Inland navigation vessels", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 1997, and conflicting national standards shall be withdrawn at the latest by October 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

ISO 4143 was taken into account but was not able to be used as a basis as it did not adequately cover the multi-purpose use of the ship's boat particularly with smaller vessels and no reference is given to inflatable boats.

1 Scope

This standard applies to ship's boats that are used on inland navigation vessels for multi-purpose applications such as transporting a limited number of people or light cargo in small quantities over short distances.

This standard does not apply to recreational craft according to Directive 94/25/EEC.

The ship's boat may also be used as a lifesaving vessel as long as no special lifesaving equipment is specified for the area of use and - if used as lifesaving appliances on passenger vessels - as long as the relevant traffic rules are observed.

Ship's boats are also used for the recovery of people and equipment.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate place in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 485-1

Wrought aluminium and aluminium alloy sheets, strips and plates - Part 1: Technical conditions for inspection and delivery

EN 10025

Hot rolled products of non-alloy structural steels - Technical delivery conditions

EN 22768-1

General tolerances - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1:1989)

ISO 4143

Shipbuilding - Inland vessels - Open rowing lifeboats

ISO/CD 6185-1¹⁾

Small craft - Inflatable boats - Part 1: Boats less than 8 m overall length with a minimum buoyancy of 1800 N and a motor maximum power rating of 4,5 kW

ISO/CD 6185-2¹⁾

Small craft - Inflatable boats - Part 2: Boats less than 8 m overall length with a minimum buoyancy of 1800 N and a motor power rating of 4,5 kW to 15 kW

ISO/CD 6185-3¹⁾

Small craft - Inflatable boats - Part 3: Boats less than 8 m overall length with a minimum buoyancy of 1800 N and a motor power rating of 15 kW and greater

3 Definitions

For the purposes of this standard, the following definitions apply:

- 3.1 ship's boat:** Boat used for transportation, lifesaving, recovery and working purposes.
- 3.2 lifesaving:** Saving crew and passengers and saving and recovery of third parties.
- 3.3 working:** Transportation of people and loads and operational working tasks.
- 3.4 boat volume:** Water displacement to the lowest point at which water can enter the vessel.
- 3.5 permissible number of persons carried:** Maximum number of persons allowed in the ship's boat.
- 3.6 reserve buoyancy:** Buoyancy of an unmanned ships' boat flooded with water.
- 3.7 carrying capacity:** Permissible mass that can be carried by the ship's boat comprising persons, equipment, motor and pay load.
- 3.8 freeboard:** Distance between the water surface and the lowest opening or gunwale of the hull at the carrying capacity.

¹⁾ revision of ISO 6185

4 Safety requirements

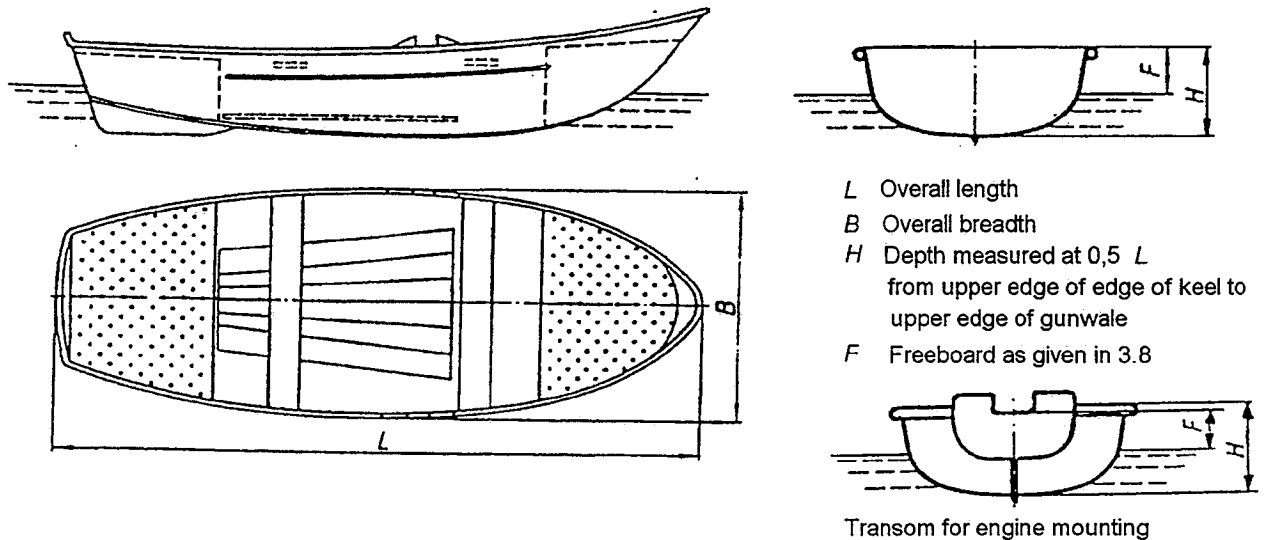
4.1 Dimensions

Dimensions in millimetres

General tolerances: ISO 2768-c

Dimensions shall comply with figure 1.

NOTE: Ship's boats are not expected to conform to the design illustrated in figure 1.



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Figure 1: Main dimensions

The main dimensions of L , B , H and the carrying capacity (TF) shall conform to the following ratios:

- 1) $L \quad 3000 \text{ mm} \leq L \leq 6000 \text{ mm}$
- 2) $\frac{L}{B} = \left[2,3 + 0,6 \frac{L - 3500 \text{ mm}}{2000 \text{ mm}} \right] \pm 0,2$
- 3) $B/H = 2,5 \pm 0,4$
- 4) $TF \geq \frac{L - 2000 \text{ mm}}{5 \text{ mm/kg}}$

Preferred dimensions for ship's boats with rigid hulls corresponding to these ratios are given in table A.1 in Annex A.

4.2 Freeboard

The freeboard of the fully equipped ship's boat loaded to its carrying capacity shall be at least 250 mm.

4.3 Boat volume

A boat volume V shall be determined by Simpson's rule or by another equivalent method, in m^3 and shall be at least $1,5 \text{ m}^3$ or the product of $L \times B \times H$ shall be not less than $2,7 \text{ m}^3$.

4.4 Reserve buoyancy

The buoyancy of the boat filled with water shall be ensured by buoyancy units.

The reserve buoyancy A_R with nobody aboard but entirely full of water shall be at least

$$A_R \geq 0,3 \text{ kN/m}^3 \times L \times B \times H$$

where:

- A_R is reserve buoyancy in kN;
- L is length in m;
- B is breadth in m;
- H is depth in m.

The reserve buoyancy shall be distributed throughout the boat.

4.5 Stability

The stability is regarded as adequate if a reserve freeboard of 100 mm on a fully equipped ship's boat remains under the test conditions in accordance with 7.4.

4.6 Permissible number of persons

The permissible number of persons depends on the carrying capacity, boat volume and number of seats. Ship's boats shall be provided with seats for at least 3 persons.

At least 0,4 m³ of boat volume, 450 mm seat width and 100 kg carrying capacity shall be provided for each person.

The depth of the seat on sidebenches, seats or buoyancy units shall be at least 450 mm, on thwarts at least 250 mm.

The permissible number of persons shall be dimensioned so that a secure operating of the ship's boat is ensured and all manoeuvres can be run safely and in a proper manner.

4.7 Drainage device

The sole of non-inflatable ship's boats shall be fitted with a drainage device made of corrosion-resistant material that can be quickly and securely closed at any time. The plug shall be attached to the boat permanently by a non-aging lanyard, a chain, or other suitable means.

The drainage device shall be constructed in such a way that any unintentional operation will be avoided.

4.8 Buoyancy units

4.8.1 Hermetically sealed buoyancy units

Buoyancy units shall be designed as parts of the boat construction enclosed on all sides. It shall not be possible to use as them as storage compartments. Longitudinal buoyancy units shall have transverse bulkheads or cells every 600 mm at least.

Buoyancy units shall have closed watertight apertures which cannot be opened manually.

Inflatable ship's boats shall have as many buoyancy units as it is necessary to meet the requirements as described in 4.4 and 4.5 even if any of the buoyancy units fails.

4.8.2 Buoyancy units filled with expanded materials

The expanded materials shall be of the "closed-cell" type, blocked or contained in chambers, false bottoms or other volumes of the boat.

Spilled fuel (e.g. fuel tank of outboard motor) shall not be able to come into contact with the expanded materials, or else they shall be protected.

4.9 Non-slip surfaces

The surfaces of the sole and deck, foot holds and other areas where persons may step, shall be of non-slip design. The sole of the boat or the covering on it shall enable persons to stand and walk on it safely and securely without slipping.

4.10 Handholds

The ship's boat shall be provided with hand holds and lifelines all round if the top of the gunwale is not rounded, cannot be gripped or freeboard in the unloaded conditions exceeds 300 mm.

4.11 Rowing and sculling

The ship's boat shall be easy to row and manoeuvre. It shall keep a steady course and it shall not be deflected far from it by current, wind or waves.

The equipment and accessories required for rowing and sculling shall be securely attached to the boat. Suitable secure standing or sitting areas with the required footrests shall be provided.

4.12 Motor installation

Unless otherwise specified in this standard, the motor installation shall meet the requirements of inflatable ship's boats as specified in ISO/CD 6185-1 to ISO/CD 6185-3.

4.13 Mooring systems

If mooring systems are provided, they shall be indicated with colour.

5 Materials

Materials shall be resistant to sea water and mineral oil or they shall be permanently protected and weather-proofed.

Materials shall be resistant to UV light and resistant to temperatures from -20°C up to $+70^{\circ}\text{C}$.

Materials for the hull shall be flame-retardant.

6 Equipment

6.1 Basic equipment

A ship's boat shall have the minimum equipment indicated below:

- 2 rowlocks for rowing;
- 1 rowlock for sculling;
- 2 oars;
- 1 towing ring;
- a minimum of 3 lifting eyes;
- 1 bailer;
- 1 floatable painter of at least 5 m length and at least 12 mm diameter.

6.2 Additional equipment if fitted with motor

The motor installation shall be approved by the motor manufacturer. There shall be available at least:

- Transom plate/bed plate;
- Fuel tank and means of securing;
- Propeller with protective nozzle against risk of injury.

6.3 Additional equipment and additional requirements for inflatable ship's boats

6.3.1 Additional equipment

Inflatable ship's boats shall have at least the following equipment:

- Mechanical inflation system, e.g. compressed air-bottles, compressed-air gas cartridges;
- Bellows of adequate size;
- Repair materials;
- Instructions for use indicating at least stowage, readiness for use, maintenance and regular tests.

6.3.2 Readiness for use

One person shall be able to make the inflatable ship's boat ready for use quickly. If these boats are used as lifeboats, it shall be possible to make them ready for use within 1 min.

7 Testing

7.1 General

The testing to ensure that the ship's boats meet the safety requirements specified in this standard is carried out by visual examination, measurement and practical testing by accredited testing and certification bodies.

Where requirements for inflatable ships boats from other standard(s) are specified in this standard the tests given in the other standard(s) shall be carried out.

7.2 Testing for compliance with design data

Verification of permissible number of persons in accordance with the main dimensions, carrying capacity and seating. Proof that the material properties comply with the requirements shall be provided by certification.

Verification of the weight data, buoyancy, dimensions, design and equipment shall be by visual examination and measurement in fresh water.

7.3 Testing of reserve buoyancy

Verification of reserve buoyancy shall be by calculation or practical test.

7.4 Testing of stability

Stability shall be tested as follows:

a) The test load P is applied at midlength on the shell plating / gunwale:

$$P = n \times 10 \text{ kg/person} + 70$$

where

n is the permissible number of persons,

P is the test load in kg,

b) Two persons each weighing approximately 75 kg sitting close to the gunwale on one side of the boat.

c) Half the permissible number of persons sitting in their seats on one side of the boat as far as possible at the gunwale. The persons may be simulated by loads.

7.5 Practical test

The tests shall be carried out in accordance with 7.5 to 7.6.6 by one person with a fully equipped ship's boat and with a simulated load up to the carrying capacity (e.g. sand bags).

Motorized boats shall be tested in accordance with 7.5 and 7.6.

The conditions apply to both - rigid and inflatable ship's boats.

NOTE: During testing, approved life jackets should be worn.

7.6 Trial without motor fitted

7.6.1 Trial in still water

The ship's boat shall be manoeuvred and propelled forward over 25 m in a maximum of 2 min by rowing or sculling. During this time, an assessment shall be made as to whether the arrangement of the equipment permits safe and easy operation over a lengthy period.

7.6.2 Trial in flowing water

The ship's boat shall be manoeuvred in flowing water (minimum velocity 1,5 m/s) and shall be propelled forward at right angles to the current over 25 m in a maximum of 3 min by rowing or sculling.

7.7 Trial with motor

The test in accordance with 7.7.1 to 7.7.4 shall be carried out in flowing water at a minimum velocity of 1,5 m/s once with and once against the current at maximum boat's speed.

7.7.1 Minimum speed

The minimum speed through the water against the current shall be at least 7 km/h.

7.7.2 Turning test

In a turning test anti-clockwise and clockwise at full speed the turning circle shall not exceed 3 L. Stability of the boat shall not be affected in any situation. When performing this test, the upper edge of the gunwale shall not immerse.

7.7.3 Z-maneuvre

A Z-maneuvre shall be carried out over 200 m using full steering lock to each side. The boat shall remain stable during the test.

7.7.4 Stopping

A stopping test shall be carried out by cutting the ignition. No water shall come into the boat.

7.7.5 Reversing

During reversing in still water at approximately 2 km/h, the transom shall not dip under the surface. The boat shall remain steady on course.

7.7.6 Towing test

A towing test shall be carried out with the towing device being loaded by towing at 11 km/h or by means of "full astern" in a static bollard pull. The towing rings and their fastenings shall not show any signs of damage.