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Inland navigation vessels - Safety requirements for walkways and working places

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Fahrzeuge der Binnenschifffahrt - Sicherheitsanforderungen an Verkehrswege und Arbeitsplätze

Bateaux de navigation intérieure - Prescriptions de sécurité relatives aux passages et lieux de travail

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relatives aux passages et lieux de travail

Fahrzeuge der Binnenschifffahrt - Sicherheitsanforderungen
an Verkehrswege und Arbeitsplätze

This European Standard was approved by CEN on 18 February 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. 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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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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of an identical text or by endorsement, at the latest by December 2000, and conflicting national standards shall be withdrawn at the latest by December 2000.

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

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this standard.

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1 Scope

This European Standard specifies the safety requirements for walkways and working places on inland navigation vessels in the areas used for work.

Walkways in the passenger area are governed by requirements which are outside the scope of this standard.

Requirements related to the marking of safety and health protection are not covered by this standard.

2 Normative references

This European Standard incorporates by dated or undated references provisions from other publications. These normative references are cited at the appropriate places 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 European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

EN 526, *Inland navigation vessels – Gangways with a length not exceeding 8 m – Requirements, types*

EN 711, *Inland navigation vessels – Railings for decks – Requirements, types*

EN 790, *Inland navigation vessels – Stairs with inclination angles of 45° to 60° – Requirements, types.*

EN 1255, *Inland navigation vessels – Swing derrick*

EN 1502, *Inland navigation vessels – Boarding ladders*

EN 1864, *Inland navigation vessels – Wheelhouse and control position – Types, safety requirements*

EN 1914, *Inland navigation vessels – Ship's boats*

prEN 12437-2:1996, *Safety of machinery – Permanent means of access to machines and industrial plants - Part 2: Working platforms and gangways*

EN 13056, *Inland navigation vessels – Stairs with inclination angles of 30° to < 45° – Requirements, types*

prEN 13574:1999¹⁾, *Inland navigation vessels – Permanently installed climbing devices with a length not exceeding 5 m*

EN 29519, *Shipbuilding and marine structures – Rungs for dog step ladders (ISO 9519:1990)*

3 Terms and definitions

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

3.1

walkway

area in which people move around or in which objects are transported. Walkways are also gangboards and decks as well as entryways, aisles and passageways to working places

3.2

working place

area in which an activity is carried out

3.3

walkway clearance

distance between two perpendiculars through the points on components which project furthest into the walkway

3.4

gangboard

a walkway along the side of the vessel between fore and aft

4 Safety requirements for walkways

4.1 General

Walkways shall be available in sufficient number and constructed and dimensioned in such a way that they can be walked along safely as specified herein.

¹⁾ Standard in preparation

4.2 Dimensions

4.2.1 General

Walkways shall have a clear width of at least 0,60 m up to a height of 2,0 m.

Passageway access shall be at least 1,90 m high, whereas coamings up to a height of 0,40 m are not deducted from the clearance height.

4.2.2 Special requirements for gangboards

For hatch coaming heights up to 0,90 m, the clearance width of the gangboard may be reduced to 0,54 m, if there is a clearance between the outer edge of the ship's wall and the inner edge of the cargo hold of at least 0,65 m above.

The gangboard clearance may be reduced locally near to fittings which are required for the vessel operation :

- to 0,50 m near to cocks for deck washing hoses, posts for swing derricks etc;
- to 0,40 m around bollards and cleats at deck level.

4.3 Surface condition

Walkways shall

- have a slip-resistant surface R10 in accordance with prEN 12437-2:1996;
- be constructed in such a way that water cannot accumulate on them;
- be firm, fair and free from hollows;
- be free from tripping hazards.

On deck walkways, the maximum permissible rise shall be 1:10 and the maximum permissible hollow shall be 1:20.

4.4 Steps in walkways

4.4.1 General

Where there is a difference in height between continuing walkways of more than 0,50 m, stairs or climbing devices shall be fitted.

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4.4.2 Stairs

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4.4.2.1 Stairs shall be built into all the areas which are regularly accessed, such as accommodation, wheelhouse, engine rooms and working spaces.

4.4.2.2 Stairs shall be constructed in accordance with EN 13056. Stairs for machine rooms and working rooms may also be constructed conforming to EN 790. In addition, they shall have the same width as the passageways or the adjoining walkways to which they lead.

4.4.2.3 External stairs shall be built longitudinally along the vessel.

4.4.3 Climbing devices

4.4.3.1 Spaces which are not mentioned in 4.4.2.1, may be equipped with a climbing device, preferably ladder, instead of stairs.

4.4.3.2 Cargo holds shall have at least two climbing devices positioned fore and aft, these shall be designed and constructed in such a way that they are protected against mechanical damage, e.g. in recesses.

4.4.3.3 Climbing devices shall be designed conforming to EN 13574.

4.4.3.4 Dog-step ladders shall be designed conforming to EN 29519.

4.4.3.5 Climbing devices shall be identifiable from above.

4.5 Exits, emergency exits

4.5.1 There shall be fixed railings in accordance with EN 711 along the sides of the deck near to the exits of deck structures and stairs.

4.5.2 Exits shall not be located near to dangerous equipment, such as operating machinery, winches, towing apparatus and loading equipment.

4.5.3 Machine rooms, living spaces and the wheelhouse shall have two exits, one of which may be constructed as an emergency exit.

4.5.4 Emergency exits shall be accessible on both sides and be capable of being opened in the direction of escape at all times without using tools or keys. They shall have a minimum cross section of $0,36 \text{ m}^2$, with the smallest dimension not less than 0,50 m. Emergency exits with a rectangular section shall be arranged so that the longer side is located in the direction of escape.

Emergency exits shall be marked on both sides.

Hold back restraints shall be provided

4.6 Boarding ladders

Structural devices shall be provided at suitable points on board for the safe securing of boarding ladders in accordance with EN 1502.

4.7 Gangways

Structural devices shall be provided at suitable points on board for the safe positioning of gangways in accordance with EN 526.

4.8 Swing derricks

If there are swing derricks present on board, they shall be constructed according to EN 1255 and shall be fitted with a device to secure against unintentional swinging.

4.9 Ship's boats

Equipment or devices shall be provided at suitable points on board for the safe mounting of ship's boats according to EN 1914 and their launching in accordance with the rules even in the case of failure of power drive.

5 Safety requirements for working places

5.1 General requirements for working places

Working places shall be positioned and equipped to provide clear space for working, as specified herein.

The requirements in 4.3 shall be met.

The equipment shall be positioned and equipped to be used and maintained safely. Moving and hot parts shall be provided with protective devices.

5.2 Hatches and hatchway covers

5.2.1 Hatchway coamings shall be constructed at the hold side so that crane gear cannot snag on them.

5.2.2 Hatchway covers shall be designed

- to resist to structural flexing of the vessels;
- to be secure against lifting by wind;
- to avoid the risks presented by squeezing and shearing;
- to resist a loading of $1,5 \text{ kN/m}^2$, or they shall be marked that they cannot be walked on;
- be marked if they may be loaded by stowed cargo according to load and load positioning;
- and to be hinged, sliding or power-operated if the moving parts have a mass of more than 40 kg.

5.2.3 Mechanical hatchway covers and lift trucks shall be fitted with blocks which automatically prevent unintentional longitudinal movement of more than 0,40 m and lock in the end position.

5.2.4 It shall be possible to secure stacked parts of the hatchway cover.

5.2.5 In the case of power-operated hatchway covers, the operating elements shall be self-resetting. The power supply shall be cut off in a null position of the operating elements.

5.3 Working places on deck and inside the vessel

5.3.1 Working places inside the vessel shall conform to the relevant health and safety as well as ergonomics requirements. They shall be capable of being lit, ventilated and temperature controlled.

Where possible, working places inside the vessels shall be lit by natural light.

5.3.2 Openings in decks and floor shall be fenced off or structurally screened against the possibility of falling through.

5.3.3 Windows and skylights shall be constructed and arranged in such a way that they can be operated and cleaned.

5.4 Protection against noise and vibration

Working places shall be so located, constructed and installed that risks resulting from the emission of airborne noise and vibration are reduced to the lowest possible level.

5.5 Wheelhouse

Wheelhouses and control positions, in particular

- safety and ergonomic requirements and
- visibility from the control position

shall be designed in accordance with EN 1864.

5.6 Doors and covers

5.6.1 Doors and covers shall be capable of being opened and closed from both sides, this does not apply to covers which can be bolted.

5.6.2 Doors and covers shall be secured by:

- latches in the closed position ;
- hold backs in the open position.

Hold backs are not necessary for covers capable of being completely turned down.

6 Lighting

Working places, living spaces and walkways shall be equipped with lighting.

An emergency lighting shall be provided which shall switch on automatically and be active for at least 30 min.

7 Protection against falling through

7.1 Railings, bulwarks

7.1.1 Walkways and working places shall have

- railings in accordance with EN 711 or
- bulwarks at least 0,70 m high

on the water sides.

7.1.2 When there are height differences of more than 1,0 m, walkways and working places shall have

- railings in accordance with EN 711 or
- hatchway coamings at least 0,70 m high.