BRITISH STANDARD

BS EN
1502 : 1996

Inland navigation vessels — Boarding ladders

The European Standard EN 1502 : 1995 has the status of a British Standard

ICS 47.020.10; 47.060

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee SME/32, Steering committee on shipbuilding and marine standards, upon which the following bodies were represented:

Association of Master Lightermen and Barge Owners
British Marine Equipment Council
British Marine Industries' Federation
British Maritime Technology
British Waterways Board
Chamber of Shipping
Lloyd's Register of Shipping
Marine Safety Agency
Ministry of Defence
Shipbuilders' and Shiprepairers' Association

This British Standard, having been prepared under the direction of the Engineering Sector Board, was published under the authority of the Standards Board and comes into effect on
15 December 1996

Amendments issued since publication

Amd. No.	Date	Text affected

The following BSI references relate to the work on this standard:
Committee reference SME/32
Draft for comment 94/712099 DC

ISBN 0 580 26458 0

Contents

National foreword

This British Standard has been prepared by Technical Committee SME/32 and is the English language version of EN 1502 : 1995 *Inland navigation vessels — Boarding ladders*, published by the European Committee for Standardization (CEN).

EN 1502 : 1995 was produced as a result of international discussions in which the United Kingdom took an active part.

Cross-references

Publication referred to	Corresponding British Standard
EN 485-1	BS EN 485 *Aluminium and aluminium alloys. Sheet, strip and plate* Part 1 : 1994 *Technical conditions for inspection and delivery*
EN 790 : 1994	BS EN 790 : 1995 *Inland navigation vessels. Stairs with inclination angles of 45° to 60°. Requirements, types*
ISO 2768-1 : 1989	BS EN 22768 *General tolerances* Part 1 : 1993 *Tolerances for linear and angular dimensions without individual tolerance indications*

Compliance with a British Standard does not of itself confer immunity from legal obligations.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1502

November 1995

ICS 47.020.10; 47.060

Descriptors: Inland navigation, ships, planking, ladders, definitions, safety, dimensions, stability, tests, testing conditions, designation, marking

English version

Inland navigation vessels — Boarding ladders

Bateaux de navigation intérieure — Echelles de bordaille

Fahrzeuge der Binnenschiffahrt — Außenbordtreppen

This European Standard was approved by CEN on 1995-04-13. 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.

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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

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 15, Inland navigation vessels, of which the secretariat 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 May 1996, and conflicting national standards shall be withdrawn at the latest by May 1996.

In accordance with the CEN/CENELEC Internal Regulations, 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 United Kingdom.

Contents

1 Scope

This standard specifies the design, dimensions, strength requirements and test conditions which shall be complied with for reasons of safety.

Boarding ladders are used on inland navigation vessels for climbing into ship's boats, disembarking or crossing over onto vessels with lower decks.

They are not intended for use by passengers.

Boarding ladders are generally required for vessels having a boarding height greater than 1,5 m above the light water-line. They may be used up to a height of around 3,0 m above the light water-line.

2 Normative references

This European Standard incorporates by dated or undated reference, 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.

EN 485-1	*Aluminium and aluminium alloys — Sheet, strip and plate — Part 1 : Technical conditions for inspection and delivery*
prEN 754-1	*Aluminium and aluminium alloys — Wrought products — Cold drawn rod/bar and tube — Part 1 : Technical conditions for inspection and delivery*
EN 790 : 1994	*Inland navigation vessels — Stairs with inclination angles of 45° to 60°— Requirements, types*
ISO 2768-1 : 1989	*General tolerances — Part 1 : Tolerances for linear and angular dimensions without individual tolerance indications*

3 Definitions

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

3.1 boarding ladder

Movable ladder to be attached to the shipside for boarding and disembarking.

3.2 string

According to **3.8** of EN 790 : 1994.

3.3 step

According to **3.5** of EN 790 : 1994.

3.4 angle of inclination

According to **3.2** of EN 790 : 1994.

3.5 handrail

According to **3.11.1** of EN 790 : 1994.

3.6 spacer

Component which holds the boarding ladder at the specified angle to the shipside.

3.7 hook

Component for hanging the boarding ladder from the shipside.

4 Safety requirements

4.1 Design

Boarding ladders are not expected to conform to the designs illustrated here; compliance is only required in the case of the dimensions and specifications given.

4.1.1 *Steps*

The steps shall be slip-resistant.

4.1.2 *Handrail*

4.1.2.1 The handrail shall be made from tubular section.

4.1.2.2 The handrail shall only be fitted on one side, the right hand side as one ascends.

4.1.2.3 The handrail shall be run parallel to the string from the third step from the bottom and attached to the string between the second and third step from the bottom.

4.1.2.4 It shall be possible to grip the handrail horizontally at its upper end.

4.1.2.5 The handrail shall be connected at its upper end to the hook.

4.1.3 *Spacer*

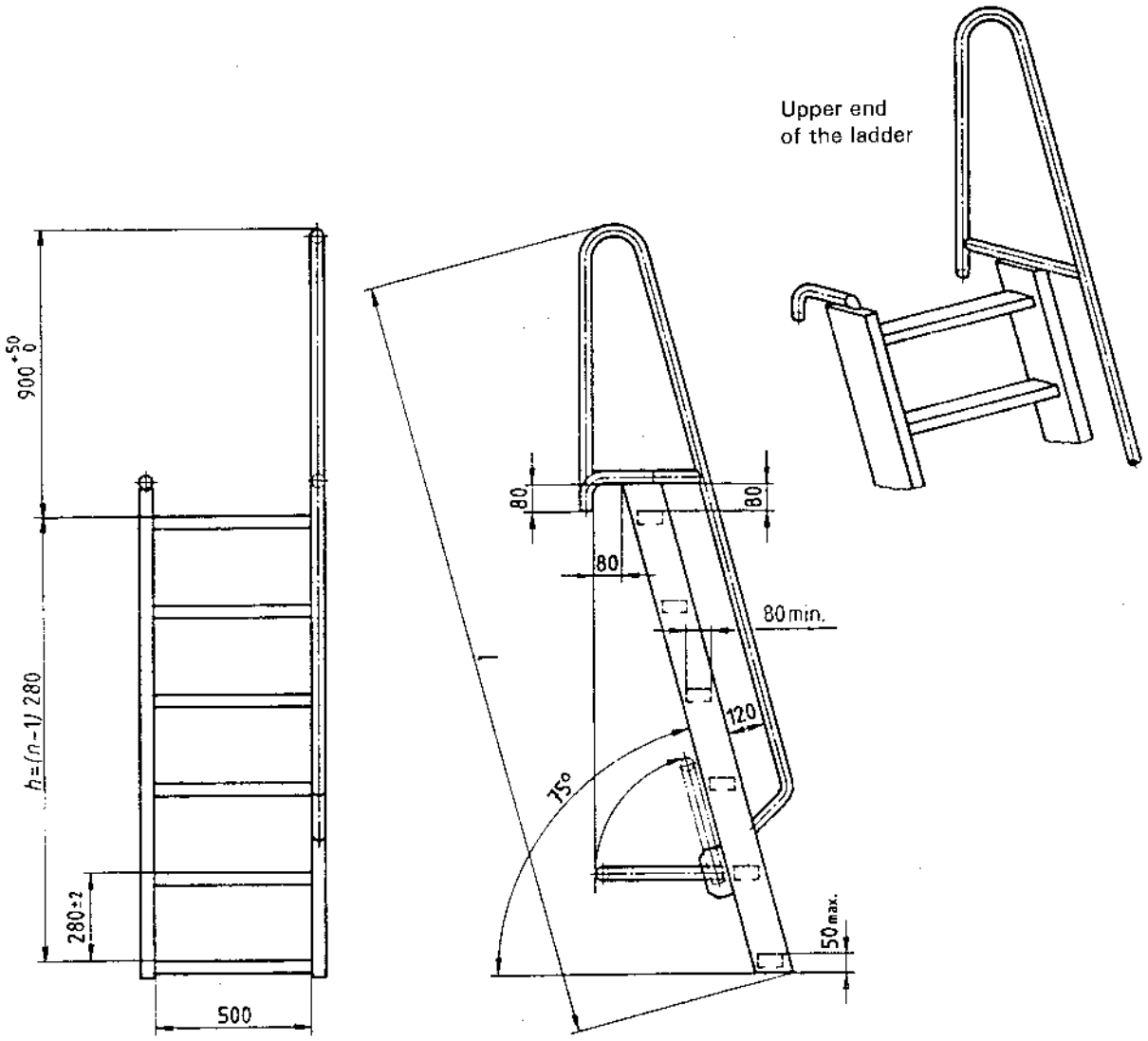
4.1.3.1 Where the spacer comes into contact with the shipside, it shall be designed so that the contact surface is not less than 500 mm wide or the contact points are at least 500 mm apart.

4.1.3.2 The spacer shall be attached to the two strings. If it is of the folding type, it shall be capable of being locked in its operating position.

4.2 Dimensions

See figure 1 and table 1.

Edges shall be rounded to min. *R* 1,5.



Dimensions in mm

General tolerance: ISO 2768-c
Data which have not been specified shall be selected as appropriate.

Figure 1. Boarding ladder having 6 steps

Table 1. Main dimensions and permissible maximum mass of boarding ladders

No. of steps n	$h \pm 4$ mm	$l \approx$ mm	**Permissible mass max.** kg
6	1400	2430	11
7	1680	2720	12,5
8	1960	3010	14
9	2240	3300	15,5
10	2520	3590	17

4.3 Strength

4.3.1 The boarding ladder steps shall be designed for a rated load of 1,5 kN.

4.3.2 A boarding ladder shall be designed for two rated loads of 1,5 kN each, applied simultaneously to the top and bottom steps.

4.3.3 The handrail shall be able to withstand a force of 300 N applied in any direction.

4.4 Construction

4.4.1 Boarding ladders shall be buoyant.

4.4.2 The hollow sections shall be watertight.

4.4.3 Boarding ladders shall not have burrs or other sharp edges that will lead to injuries.

4.4.4 The mass of a boarding ladder shall not exceed the values mentioned in table 1.

4.5 Materials

Boarding ladders may be made of aluminium or other appropriate materials. The surface shall be durably protected against inclement weather. Semi-finished aluminium products shall be selected in accordance with EN 485-1 or prEN 754-1.

5 Testing

According to the specifications of this standard, compliance with the safety requirements for boarding ladders shall be verified by visual inspection and measurements taken by accredited institutions.

5.1 Materials testing

Materials testing shall be by presentation of materials certificates.

5.2 Strength tests

A boarding ladder shall be supported by the hooks and held by the spacer so that there is a 75° angle of inclination.

5.2.1 Each step shall be loaded in turn with a 2,5 kN test load. After removing the load, there shall be no permanent deformation.

5.2.2 The top and bottom step shall be loaded simultaneously with 2,5 kN test loads. After removing the loads, there shall be no permanent deformation.

5.2.3 The boarding ladder is to be fixed before carrying out the test in order to prevent movement. The railing shall be loaded with a 500 N test load, effective in any direction, successively at the upper end and at the mid point between attachment points. After removing the load, there shall be no permanent deformation.

5.3 Buoyancy test

Buoyancy shall be demonstrated by submerging the boarding ladder in freshwater.

If air is used to provide buoyancy there shall be no leakage of air from the sealed sections.

5.4 Visual and functional inspection

All requirements not mentioned under **5.1** to **5.3**, shall be verified by visual inspection and practical tests.

6 Designation

The designation of a boarding ladder as specified in this standard, having 6 steps shall be:

Boarding ladder EN 1502-6

7 Marking

Boarding ladders shall be marked by means of a manufacturer's plate.

The manufacturer's plate shall be weather resistant and permanently attached to the inner side of a string. It shall contain at least the following information.

a) Designation: boarding ladder EN 1502 — Number of steps.

b) Load: permissible deadweight: 2 persons or 150 kg single load.

c) Origin: manufacturer or supplier (name, town and country).

d) Manufacturing data: serial number and year of manufacture.

e) Proof of testing: test mark.

Annex A (informative)

A-Deviations

A-Deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

This European Standard does not fall under any Directive of the EC. In the relevant CEN/CENELEC countries these A-Deviations are valid instead of the provisions of the European Standard until they have been removed.

Sweden: In accordance with 'Regulation n.9 : 1974 of the National Maritime Administration', clause **5.8.2**, **5.13.3**, **6.8.2.1**, **6.12.2.2**, the foldable spacer can put the user in a dangerous position when the ladder is hanging in the hooks and if the spacer is not locked. Therefore a fixed spacer is acceptable only. The handrails should be on both sides.

List of references

See national foreword.

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