SLOVENSKI STANDARD
SIST EN 790:2002

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Inland navigation vessels - Stairs with inclination angles of 45o to 60o - Requirements, types

Inland navigation vessels - Stairs with inclination angles of 45° to 60° - Requirements, types

Fahrzeuge der Binnenschiffahrt - Treppen mit Steigungswinkeln von 45° bis 60° - Anforderungen, Bauarten

Bateaux de navigation intérieure - Escaliers a angles d'inclinaison entre 45° et 60° - Exigences, types

Ta slovenski standard je istoveten z: **EN 790:2001**

ICS:

47.020.10	Ladijski trupi in njihovi konstrukcijski elementi	Hulls and their structure elements
47.060	Jezerska in reļ na plovila	Inland navigation vessels

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EUROPEAN STANDARD

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EN 790

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ICS 47.020.10; 47.060

Supersedes EN 790:1994

English version

Inland navigation vessels - Stairs with inclination angles of 45° to 60° - Requirements, types

Bateaux de navigation intérieure - Escaliers à angles d'inclinaison entre 45° et 60° - Exigences, types

Fahrzeuge der Binnenschiffahrt - Treppen mit Steigungswinkeln von 45° bis 60° - Anforderungen, Bauarten

This European Standard was approved by CEN on 8 March 2001.

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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 Management Centre has the same status as the official versions.

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

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Contents

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 supersedes EN 790:1994.

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of an identical text or by endorsement, at the latest by November 2001, and conflicting national standards shall be withdrawn by November 2001.

The standard specifies requirements for stairs within the meaning of Council Directive 82/714/EEC of 4 October 1982 laying down technical requirements for inland waterway vessels.

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.

1 Scope

This European Standard applies to stairs with inclination angles of 45° to 60°, having at least two steps, in working areas of inland navigation vessels.

It does not apply to stairs in passenger areas.

NOTE Whenever possible, stairs specified in EN 13056 should be preferred.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions fronm 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 711, *Inland navigation vesselst – Railings for decks – Requirements, types*

EN 22768-1, *General tolerances – Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (Identical to ISO 2768-1:1989)*

EN 13056:2000, *Inland navigation vessels – Stairs with inclination angles of 30° to < 45° – Requirements, types*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1
stair
walkway with steps solidly fixed between two planes
[EN 13056:2000, 3.1]

3.2
inclination angle
angle between the pitch line connecting the front edge of the steps and the horizontal line

[EN 13056:2000, 3.2]

3.3
stair breadth
clear breadth of the stair measured between the strings

[EN 13056:2000, 3.3]

3.4
headroom
perpendicular distance between the pitch line connecting the front edges of the steps and the fixed components above them

3.5
step
tread of the stair

[EN 13056:2000, 3.5]

3.6
space between steps
vertical distance between the upper edges of successive steps

[EN 13056:2000, 3.6]

3.7
depth of steps
distance between the front and rear edges of the steps measured on the tread

[EN 13056:2000, 3.7]

3.8
string
lateral limitation of the stair supporting the steps

[EN 13056:2000, 3.8]

3.9
railing
construction of stanchions, hand rail and intermediate rails or network

[EN 13056:2000, 3.9]

3.10
height of railing
perpendicular distance between the pitch line connecting the front edges of the steps and the upper edge of the hand rail

3.11
hand rail

3.11.1
upper continuous part of a railing running in parallel to the string and serving as a handhold to persons using the stair and protecting them from falling outboard of the railing

[EN 13056:2000, 3.11.1]

3.11.2
round secton which is fixed at a bulkhead adjacent to the stair, running in parallel to the stairway and serving as a handhold

[EN 13056:2000, 3.11.2]

3.12
stanchion
part of the railing connecting hand rail and intermediate rail, if any, to the string

[EN 13056:2000, 3.12]

3.13
intermediate rail
continuous part fixed between hand rail and string serving as additional protection from falling outboard of the railing

4 Safety requirements

4.1 Design

For stairs, the dimensions and specifications given in 4.2 to 6 shall be met; the design style does not have to correspond to figure 1.

4.2 Dimensions

General tolerances: ISO 2768 - c conforming to EN 22768-1

Stairs, railings, platforms as well as free space in front of and above the stairs shall conform to to specifications given in tables 1 and 2.

Table 1 — Stair dimensions and their explanation

Dimensions in millimetres

Symbol	Explanation	Dimensions
α	Inclination angle of the stair	see table 2
A	Space between steps	see table 2, 4.3 and 4.4
B	Depth of steps	see table 2
C	Vertical distance between the upper edge of the lowest step and the floor	$a\,^{+10}_{-30}$
E	Vertical distance between the upper rear edge of the highest step and the front edge of the upper landing	≤ 30
f_1	Stair breadth between the strings	≥ 600
f_2	Clear width between railings or hand rails	≥ 600
G	Distance between hand rail and fixed components	≥ 60
h	Height of railing	$900\,^{+50}_{0}$
i	Vertical distance between the centre lines of hand rail and intermediate rail	≈ h/2
j	Distance between stanchions, measured at the hand rail	≤ 1 500
k	Headroom	≥ 2 100
n	Number of steps	–

Tabee 2 — Dimensions *α, a* und *b*

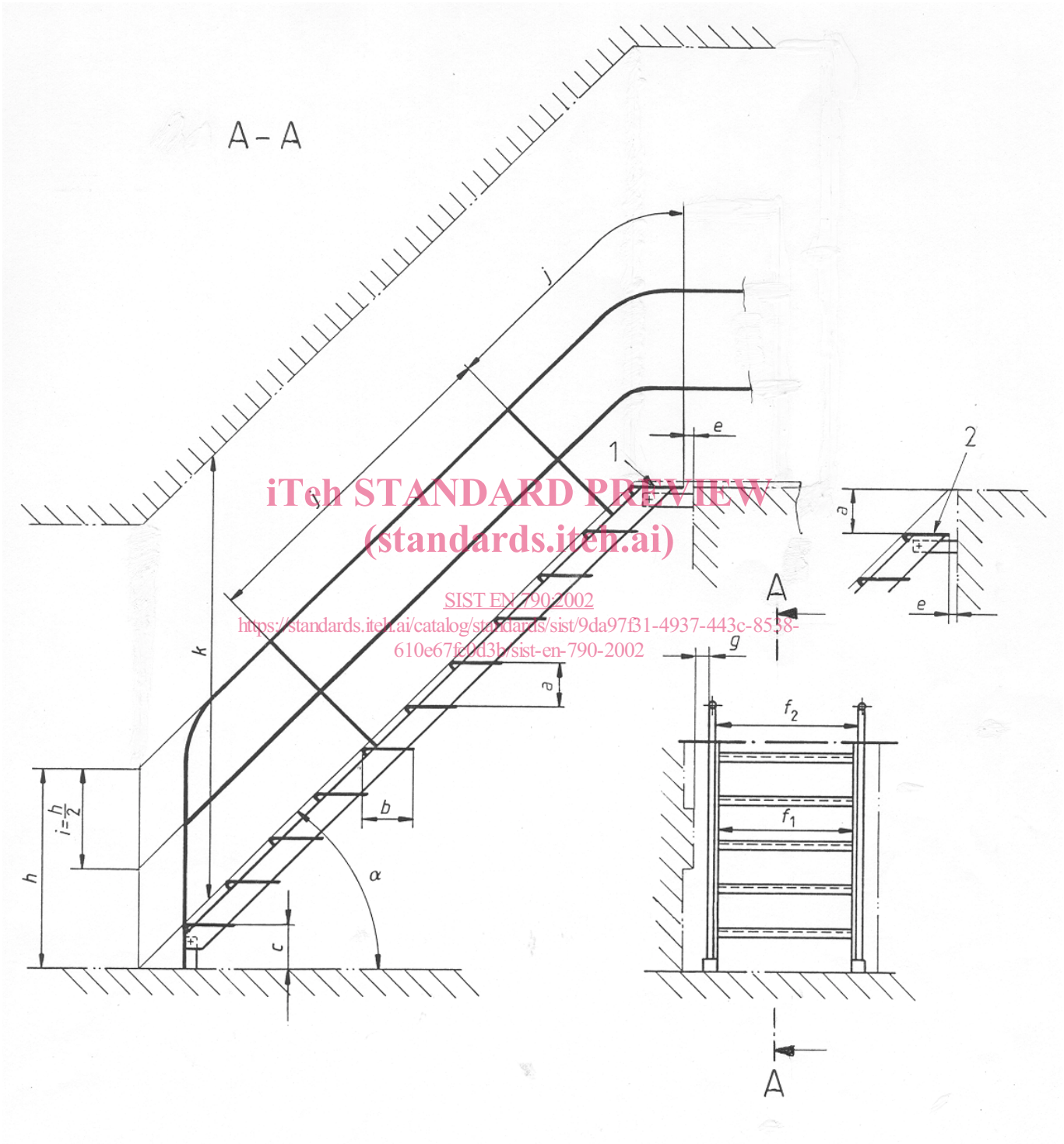
Dimensions in millimetres

Dimensions	Stairs for outside area and general use			Stairs for machine and boiler rooms
α [a])	45°	50°	55°	60°
a [b])	$200\,^{+30}_{0}$	$200\,^{+20}_{-10}$	200	$200\,^{0}_{-30}$
b	≥ 230	≥ 200	≥ 175	≥ 150

[a]) Intermediate values of α are permissible, the associated values of *a* and b are to be interpolated.
[b]) see 4.4

Stair with 45° inclination angle is illustrated

Dimensions in millimetres



Legend

1 Step on upper landing
2 Step one step spacing *a* lower than upper landing

Figure 1 — Illustration of stair with 45° inclination angle