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Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

Indian Standard

SHIPBUILDING AND MARINE STRUCTURES — RUNGS FOR DOG-STEP LADDERS

( First Revision )

ICS 47.020.50
NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 9519 : 1990 'Shipbuilding and marine structures — Rungs for dog-step ladders' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Shipbuilding Sectional Committee and approval of the Transport Engineering Division Council.

This standard was first published in 1977. The present revision was taken up to harmonize it with current international practices. In the revised standard, rungs for dog-step ladders for ship's masts have been included.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker in the International Standard while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their places, are listed below along with their degree of equivalence for the editions indicated:

<table>
<thead>
<tr>
<th>International Standard</th>
<th>Corresponding Indian Standard</th>
<th>Degree of Equivalence</th>
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<tr>
<td>ISO 630 : 1980 'Structural steels'</td>
<td>IS 2062 : 2006 Hot rolled low, medium and high tensile structural steel (sixth revision)</td>
<td>Technically Equivalent</td>
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</table>

The technical committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

<table>
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<th>International Standard</th>
<th>Title</th>
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For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Since revised in 1995
1 Scope

This International Standard specifies the types, dimensions, material, manufacture and designation of rungs for dog-step ladders; it also lays down the installation and composition of single rungs forming a dog-step ladder.

Dog-step ladders, formed from single rungs, may only be used where fixed vertical ladders with stringers cannot be installed. Dog-step ladders fitted to the ship’s structure should serve only to bridge minor differences in height.

Dog-step ladders as specified in this International Standard may also be fitted to marine structures other than ships to serve equivalent purposes.

NOTE 1 Users of this International Standard should note that they should ensure compliance with such statutory requirements, rules and regulations as may be applicable to the individual ship or marine structure concerned.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.


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

3 Types

Rungs for dog-step ladders are divided into the following two types:

- Type A for ship’s structure;
- Type B for ship’s masts.

4 Material

4.1 Semi-finished product

The rungs shall be formed from steel square bars meeting the specification of ISO 1035-2

4.2 Steel quality

The bars shall be made of steel meeting the specification of ISO 630, grade Fe 360, as the minimum quality.

NOTE 2 Alternatively, ship quality steel may be used provided that it has equivalent mechanical and welding properties.

5 Manufacture

5.1 Defects

Rungs shall be free from defects likely to cause injury to persons using the dog-step ladder.

5.2 Surface finish

Standard finish of rungs shall be raw and without preservation.

1) For example, as specified in ISO 3797:1976, Shipbuilding — Vertical steel ladders.
By special agreement only rungs may be sand-blasted and preserved

6 Dimensions

The dimensions of rungs shall be in accordance with figure 1 and figure 2 as appropriate

6.1 Dimensions for type A

Type A rungs shall meet the requirements shown in figure 1

Where type A rungs are to be installed against insulated walls, the leg-length of the rungs shall be lengthened, preferably to 300 mm. At the same time the clearance between the rung and the insulation surface indicated in figure 3 shall be maintained. If such a type of rung is needed, it shall be given as an element of the designation

6.2 Dimensions for type B

Type B rungs shall meet the requirements shown in figure 2

6.3 Tolerances

Tolerances for dimensions in figure 1, figure 2 and figure 3 shall correspond to accuracy grade V (very coarse) given in ISO 2768-1

7 Mass

The mass of a rung shall be as follows

\[ \text{type A} \approx 2.2 \text{ kg}. \]
\[ \text{type B} \approx 0.72 \text{ kg}. \]

8 Installation

8.1 Rungs shall be installed in accordance with figure 3. The bottom rung shall be as near as possible to 300 mm above the lower access level.

8.2 Rungs shall be welded to the ship’s structure or to the ship’s mast in such a way as to support a load of 1000 N with a safety factor of 1.5.

This can be achieved with one all-round fillet weld of 4 mm minimum at the weld-on ends of the rungs.

9 Designation

For reference and ordering purposes, rungs and ladders formed from rungs according to this International Standard shall be designated as given in 9.1 and 9.2

9.1 Elements for designation

The following elements shall be indicated, in the order given

a) denomination rung (for a single rung) or ladder (for composition of rungs).

b) number of this International Standard, ISO 9519;

Developed length: 734

Dimensions in millimetres

Figure 1 — Rung type A

Developed length: 228

Dimensions in millimetres

Figure 2 — Rung type B
c) type, code letter: A or B (see clause 3);

d) leg length (for insulated walls only): 300 mm or more, as appropriate;

e) number of rungs forming a ladder (for ladder designation, only).

9.2 Examples of designation

9.2.1 Example for single rung

A rung according to this International Standard, of type A, is designated as follows:

Rung ISO 9519 - A

9.2.2 Example for ladder

A ladder according to this International Standard, formed from rungs of type B, number of rungs 8, is designated as follows:

Ladder ISO 9519 - B6

Dimensions in millimetres

Figure 3 — Installation details
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This Indian Standard has been developed from Doc No.: TED 17 (655).

Amendments Issued Since Publication

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BUREAU OF INDIAN STANDARDS

Headquarters:
Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
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