SLOVENSKI STANDARD
SIST EN 1255:2000

01-december-2000

Inland navigation vessels - Swing derricks

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Fahrzeuge der Binnenschiffahrt - Schwenkbäume

Bateaux de navigation intérieure - Sauterelles

Ta slovenski standard je istoveten z: **EN 1255:1995**

ICS:

47.020.40	Dvigalna oprema in oprema za pretovor	Lifting and cargo handling equipment
47.060	Jezerska in rečna plovila	Inland navigation vessels

SIST EN 1255:2000 **en**

EUROPEAN STANDARD **EN 1255**

NORME EUROPÉENNE

EUROPÄISCHE NORM January 1995

ICS **47.020.10: 47.060**

Descriptors: Shipbuilding, inland navigation, ships, gangway, definitions, specifications, safety, dimensions, equipment specifications, tests, designation, marking

English version

Inland navigation vessels - Swing derricks

Bateaux de navigation intérieure - Sauterelles Fahrzeuge der Binnenschiffahrt - Schwenkbäume

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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

Contents

Foreword

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

Safety requirements of this European Standard were worked out in accordance with ISO 4085 and national standards as well as national regulations.

Annex A is informative.

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of an identical text or by endorsement, at the latest by July 1995, and conflicting national standards shall be withdrawn at the latest by July 1995.

According to 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, United Kingdom.

1 Scope

This European Standard applies to swing derricks used on inland navigation vessels. It specifies requirements and test conditions which have to be observed for safety reasons.

Swing derricks are used for transfer of crew members ashore and back to the vessel for laying out ropes during mooring and unmooring operations, particularly when the vessel is close to canals or riverbanks and when no other safe means of getting ashore in those cases is possible.

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 696 [1)]	Fibre ropes for general service - Polyamid
EN 10 027-1:1992	Designation systems for steels; Part 1: Steel names, principal symbols;
ENV 10 220	Plain end steel tubes, welded and seamless - Dimensions and masses per unit length
ISO 2408:1985	Steel wire ropes for general purposes - Characteristics
ISO 2415:1987	Forged shackles for general lifting purposes - Dee shackles and bow shackles
ISO 2768-1	General tolerances - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications
ISO 4085	Shipbuilding - inland navigation - Swing derricks
ISO 7531:1987	Wire rope slings for general purposes - Characteristics and specifications

[1)] in preparation

3 Definitions

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

3.1 swing derrick: A structure which is solidly fixed to the vessel and provided with a mobile jib positioned approximately parallel to the design waterline.

3.2 jib: A structural member made of steel or aluminium which is provided with two handles.

3.3 pillar: Structure to support the jib and the jib guy.

3.4 jib guy: Connection between the outer end of the jib and the upper end of the pillar.

3.5 hauling line: A rope for hauling back the jib into its initial position.

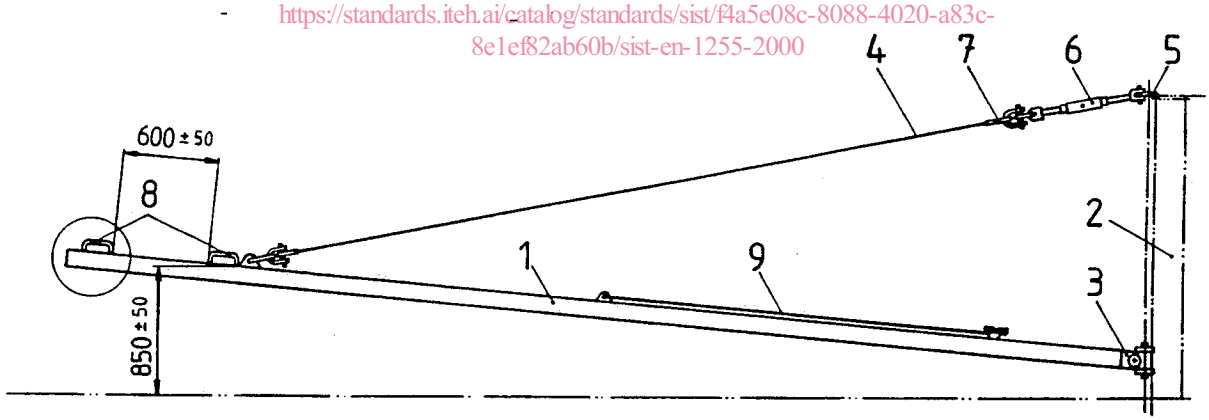
4 Safety requirements

4.1 Safety dimensions

Dimensions in millimetres.
They apply to numerical data without indication of dimensions in figures and tables.
General tolerances: ISO 2768-c.
This tolerance class in accordance with ISO 2768-1 applies to dimensions without associated limit deviation.

Dimensions shall comply with figure 1.

NOTE: Swing derricks are not expected to conform to the design illustrated in figure 1.



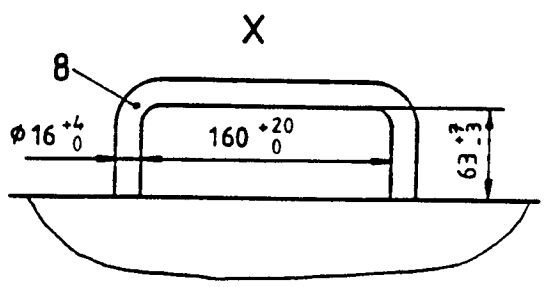


Figure 1: Swing derrick

Table 1: Names of component parts

Nr.	Name
1	Jib
2	Pillar
3	Swivel
4	Jib guy
5	Jib guy support
6	Turnbuckle
7	Shackle
8	Handle
9	hauling line

4.2 Strength requirements

All parts of the swing derrick shall be designed to support a single load of 100 kg applied on the jib centrally between the handles through the full slewing range.

5 Construction

NOTE: The construction as described in Annex A is an example of a swing derrick made of steel.

5.1 Jib

The jib shall consist of seamless tube. The tube ends shall be sealed. If tubes of different diameters are used for the jib, these shall be inserted into one another and fully welded. All welded seams shall be designed to be airtight.

If steel tubes are used the inside of the tube shall be treated with an appropriate protective coating.

The jib shall be secured aboard ship in such a way that unintentional movement is avoided and that it does not unduly obstruct the working areas and walkways.

The minimum diameter of the jib measured between handles shall be 75 mm.

5.2 Pillar

The pillar may be either a structure especially erected to support the jib and jib guy or any other appropriate component part of the vessel (e.g. hatch coaming). The component part shall be firmly connected to the hull and shall not unduly obstruct the working areas and the walkways.

5.3 Swivel

The swivel shall be designed to ensure easy slewing of the jib. Bending moments resulting from the jib load shall not be transmissible to the swivel. The bearing bolt shall be locked.

5.4 Jib guy

Round steel bars or steel wire ropes may be used for the jib guy. If steel wire ropes are used, their ends shall be fitted with means of thimbles. The rope ends shall be provided with clamps. Splices and screw rope clamps shall not be used.

5.5 Jib guy support

The jib guy support and the swivel shall lie along one axis. As far as possible, the jib guy support shall be positioned vertically above the swivel when the ship is on even keel or it shall be moved in the direction of the bow by a length dimension which is related to half the difference in trim between the light and loaded conditions. The jib guy support shall ensure easy slewing when loaded. The bearing bolt shall be locked.

5.6 Turnbuckle

By means of an easily accessible turnbuckle the outer end of the jib shall be adjustable in height in such a way that the upper range between the handles can be adjusted above the walkway by a dimension of 800 to 900 mm. The turnbuckle shall be secured to prevent unintentional movement. One end of the turnbuckle may be integral with the jib guy support.

5.7 Shackle

The jib guy and turnbuckle shall be connected by means of a shackle. Shackle pins shall be locked to prevent unintentional movement.

5.8 Handle

The handles shall be made of the same material as the jib and shall be welded to it.

5.9 Hauling line

The hauling line shall have a minimum diameter of 10 mm and shall be fitted on the upper side of the jib, approximately midlength. The free end shall also be attached on the upper side in such a way that it may be easily untied and fastened. The secured inner end of the hauling line shall be within 0,5 m of the base of the swivel.

5.10 Surface protection

All parts of the swing derrick shall be permanently protected against the influence of weather. Steel wire ropes shall be hot dip galvanized in accordance with ISO 2408.

6 Testing

6.1 In general

Testing of the swing derrick is carried out by visual examination and measurement effected by authorized institutions after installation on board.

NOTE: Authorized institutions are registered at CEN and examine in conformity with European Regulations.

6.2 Stength Test

First the jib shall be slewed in such a way that the area between the handles is vertically above the ship's side. Then the jib shall be loaded with a single load of 200 kg centrally between the handles. The deflection measured in the loaded area shall not exceed 3% of the jib length. There shall be no permanent deformation after the load has been removed.

Then the jib shall be loaded again with the single load of 200 kg centrally between the handles and slewed over the full slewing range. After the load has been removed there shall be no permanent deformation.

7 Designation

Designation of a swing derrick as shown in figure A1 with a jib length of l = 8500 mm:

Swing derrick EN 1255 - 8500

8 Marking

The swing derrick shall be marked by means of a manufacturer's name plate.

This name plate shall be weatherproof and be permanently fitted on the jib near the swivel.

It shall contain the following information:

Swing derrick EN 1255 - Jib length in millimetres
Permissible load capacity 100 kg
Manufacturer or supplier (Name, place, country)
Test mark