International Standard

ISO 9557

First edition
2024-01

Ships and marine technology — Wire rope lifting platform for inspection

Reference number
ISO 9557:2024(en)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Classification **2**
4.1 Drive type 2
4.2 Rated working load 2
5 Design requirements **2**
5.1 General requirements 2
5.2 Safety requirements 3
5.3 Main platform structure 3
5.4 Hoisting device 3
5.5 Fastening device 4
5.6 Fall arrest device 4
6 Test methods **4**
6.1 Prototype test 4
6.2 Operation under no load 4
6.3 Operation under rated load 4
6.4 Brake performance test 4
6.4.1 Slippage measurement 4
6.4.2 Emergency stop test 4
6.4.3 Emergency lowering test 5
7 Designation **5**
8 Documentation **5**
Bibliography **6**

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 8, *Ship design*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Ships and marine technology — Wire rope lifting platform for inspection

1 Scope

This document specifies the classification, design requirements and test methods of wire rope lifting platform for inspection (hereinafter called as “wire lift platform” throughout this document) as an alternative means of access for close-up inspections of under-deck structures of ships and offshore structures.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
alternative means of access
portable or movable means of access provided for inspections and thickness measurements of hull structures in areas otherwise not accessible by permanent means of access

Note 1 to entry: Areas not accessible by permanent means of access are included in IMO Resolution MSC 158(78).

3.2
rated working load
maximum effective load of the wire lift platform

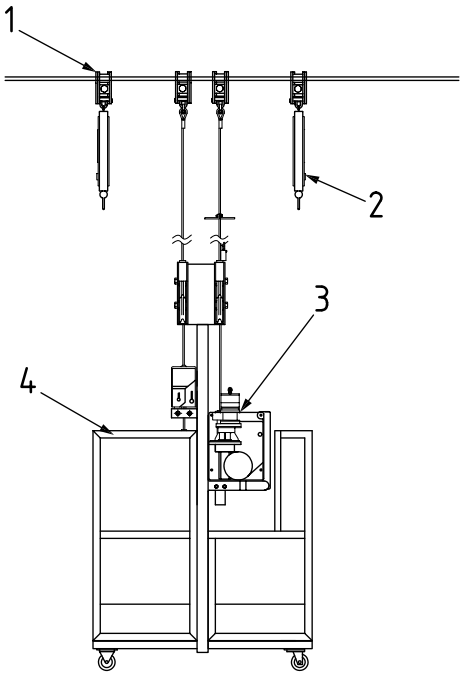
3.3
main platform structure
device surrounded by guard rails for holding the operators

3.4
hoisting device
device used for lifting and lowering the platform

3.5
fastening device
mechanism fastened to the underdeck structure for hanging platforms and fall arrest devices

3.6
fall arrest device
device connected to operators' safety belts that automatically lock to prevent operators from falling when the platform's falling speed exceeds the set speed

Note 1 to entry: See Figure 1.



Key

1	fastening device	3	hoisting device
2	fall arrest device	4	main platform structure

Figure 1 — Diagram for a wire lift platform

4 Classification

4.1 Drive type

The wire lift platform has several types of power sources such as manual, pneumatic and electrical power.

4.2 Rated working load

The wire lift platform should be set to the rated working load of 240 kg for two persons.

5 Design requirements

5.1 General requirements

5.1.1 Wire lift platform shall be manufactured in accordance with drawings and technical documents approved by the Administration or authorized organizations.

5.1.2 The self-made parts of wire lift platform shall be assembled after passing the inspection; the standard parts, purchased parts and out-sourced parts shall be assembled only after obtaining the certificate of the manufacturer or passing the inspection specified by the relevant standards.

5.1.3 The parts of the same model produced by the manufacturer shall be interchangeable.

5.1.4 The manufacturer shall provide users with relevant information on the installation, operation and maintenance of wire lift platform.

5.2 Safety requirements

5.2.1 The brake of wire lift platforms shall be such that the platform with the rated working load stops within a braking distance of not more than 100 mm.

5.2.2 The brake of wire lift platform shall be such that the platform can automatically brake and be manually lowered to a steady stop via the manual lowering device when it loses the power supply.

5.2.3 Wire lift platform shall be fitted with an overload protection device.

5.2.4 Wire lift platform shall be fitted with an upper stroke limiter.

5.3 Main platform structure

5.3.1 The main platform structure shall have sufficient strength and rigidity; the maximum deflection of the bottom surface of the platform shall be not more than 6 mm when subjected to the rated working load.

5.3.2 The dimensions of the main platform structure shall be 600 mm × 1 200 mm for double-man platform.

5.3.3 The main platform structure is to be designed and manufactured as follows:

a) the bottom of the platform shall be set with the baseboard with a minimum height of 100 mm;

b) the gap from the baseboard to the platform ground shall be not more than 10 mm;

c) the guardrail with a minimum height of 1 000 mm shall be installed around the platform, the guardrail shall include at least one middle crossbar or some other equivalent protection;

d) the free space between the top railing and the middle crossbar and between the middle crossbar and the baseboard shall be not more than 500 mm;

e) the maximum clear spacing between two guardrails shall be not more than 100 mm;

f) the inner clearing width of the platform shall be not less than 500 mm, and the operating area for each operator shall be not less than 0,25 m^2.

5.3.4 The platform shall be fitted with a non-skid bottom plate, and the maximum opening of the bottom plate shall not allow the ball with a diameter of 15 mm to fall through it.

5.3.5 The bottom of the platform shall be equipped with a roller for the platform to move freely.

5.3.6 The materials for the main platform structure shall be selected in accordance with the design requirements. Aluminium alloy and other types of light-weight materials that meet the design requirements are preferred.

5.4 Hoisting device

5.4.1 The ratio of the diameter of the sheave or pulley of the hoisting device to the diameter of the wire rope shall be not less than 20.

5.4.2 The hoisting device shall be equipped with a brake whose braking torque shall be greater than 1,5 times the rated hoisting torque.

5.5 Fastening device

5.5.1 The fastening device shall have sufficient strength and rigidity to withstand the deadweight of the wire lift platform, the rated working load and the deadweight of the wire rope.

5.5.2 The contact between the fastening device and the hull structure shall be lined with flexible materials such as rubber to prevent damage to the painting on the surface of the hull structure.

5.6 Fall arrest device

5.6.1 The fall arrest device shall automatically lock when the wire lift platform accidentally falls or the falling speed of the personnel exceeds the set speed.

5.6.2 The fall arrest device for each person shall be rated at least 120 kg and shall be fitted with manual hoisting and descending function.

5.6.3 When the fall arrest device is subjected to a load of 120 kg, it shall be held stationary for 15 min without any slip.

6 Test methods

6.1 Prototype test

The manufacture shall conduct a product test which includes the content of 6.2, 6.3 and 6.4.

6.2 Operation under no load

The wire lift platform shall be lifted and lowered for three times each at a lifting speed greater than 6 m/min and less than 9 m/min under no load. Each stroke shall be not less than 5 m.

6.3 Operation under rated load

6.3.1 The wire lift platform shall have 240 kg load uniformly distributed and be lifted and lowered for three times each after being hung with the fastening device. Each stroke shall be not less than 5 m.

6.3.2 The wire lift platform shall have 240 kg load in the left and right eccentric load positions respectively and be lifted and lowered for three times each under each working condition. Each stroke shall be not less than 5 m.

6.4 Brake performance test

6.4.1 Slippage measurement

The platform shall have 240 kg load uniformly distributed after being hung with the fastening device and stop with the brake at a height of 0,5 m from the ground. There shall be no presence of slippage or creeping motion after the brake acts for 15 min.

6.4.2 Emergency stop test

While the wire lift platforms withstanding the rated test load is being lowered, the power supply shall be cut off to stop the platform from lowering; the slip displacement of the platform from being off power to it coming to a standstill shall be measured. The platform shall be tested for three times.

6.4.3 Emergency lowering test

Under the rated load, the power supply shall be cut off and the brake shall be manually released to lower the wire lift platforms (the lowering distance shall be not less than 2 m) so as to verify the reliability of the manual lowering device.

7 Designation

The product sign and trademark shall be fastened to a conspicuous and safe position on the platform with the following information:

a) manufacturer name;

b) product name, model number and standard code number, if applicable;

c) main technical performance parameters of the product;

d) product number and date of production.

8 Documentation

Wire lift platforms shall be provided with the following documents upon delivery from the factory:

a) packing list;

b) instructions for product operation and maintenance;

c) manufacturer's certificate;

d) lists of accompanied spare parts, accessories and special tools.