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## **Ships and marine technology — Pilot ladders —**

### **Part 2:**

### **Maintenance, use, survey, and inspection**

ICS: 47.020.50

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## 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 documents 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](http://www.iso.org/directives)).

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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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 1, *Maritime Safety*.

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](http://www.iso.org/members.html).

## Introduction

This document supplements existing IMO requirements for pilot transfer arrangements and equipment. Since IMO instruments include specific requirements for manufacturers to supply guidance on maintenance, storage, and use of pilot ladders, the information contained in this document are in excess of the existing IMO requirements. The inclusion of this guidance was considered necessary in order to ensure that Pilot Ladders are kept in a condition consistent with requirements of IMO instruments and ISO 799-1 Ships and marine technology—pilot ladders—part 1: design and specification.

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# Ships and marine technology — Pilot ladders —

## Part 2: Maintenance, use, survey, and inspection

### 1 Scope

This document provides guidance on maintenance, use, storage, and inspection of pilot ladders.

### 2 Normative references

The following referenced documents are indispensable for the applications of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1181:2004, *Fibre ropes — Manila and sisal — 3-, 4- and 8-strand ropes*

ISO 9554:2010, *Fibre ropes - General specifications*

ISO/IEC Guide 37:2012, *Instructions for use of products by consumers*

ISO 799-1:2019, *Ships and marine technology — Pilot ladders — Part 1: Design and specification*

### 3 Terms and definitions

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

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1 User

Ship's Master, Officers, and Crew who operate a ship on a day-to-day basis

#### 3.2 Deck Officer

Deck crew certificated in accordance with the STCW Convention

#### 3.3 Senior Deck Officer

Deck crew certificated in accordance with the STCW Convention and performing the duties of Chief Officer or Master

#### 3.4 Spreader step

Step no less than 1.8m long to prevent the pilot ladder from twisting.

## 4 Inspection of ladders

The ladders shall be inspected before and after each use by certificated deck officer. Additionally, senior deck officer shall inspect the ladders at three-month intervals. The classification society surveyor shall inspect the ladders annually.

## 5 Care and Maintenance Instructions

The manufacturer of a Pilot Ladder shall supply care and maintenance instructions to users. These instructions shall be produced in accordance with ISO/IEC Guide 37:2012(E).

The minimum instructions required are as follows:

- a) Instructions for inspecting ladder before and after use. A sample checklist for such inspections is contained in [Annex A](#).
- b) Instructions on detailed periodic inspection and a list of people authorised to conduct this inspection. The minimum time between these inspections and qualification of person carrying out these inspections, shall be in accordance with sample checklist for such inspections. Examples are contained in [Annex A](#). Classification Society may use its alternative checklist in lieu of [Annex A](#).
- c) Specific instructions on inspecting the side ropes; i.e., How to inspect manila or other types of rope used and factors to be taken into account when determining suitability for ongoing use. These instructions shall be in accordance ISO 9554:2010 Fibre Ropes – General Specifications [Annex C](#).
- d) Specific instructions on inspecting and repairing rope seizings or securing devices.
- e) List of repairs that can be conducted by users without the need for recertification.
- f) Care and Storage instructions with specific warning on the proximity to chemicals, effect of sunlight or other possible causes degradation of the ladder e.g. potential effect of different cargo types on ladders longevity, effect of being stored wet. These instructions shall take into account ISO 9554:2010 Fibre Ropes – General Specifications [Annex A](#).
- g) Factors that would shorten the life of the pilot ladder, e.g. passing over sharp coamings or small diameter bends, different methods used to secure ladder to deck such as shackles around side ropes.
- h) Acceptable and unacceptable method(s) of securing ladder to strong points, e.g. the use of iron deck tongues is an unacceptable method of securing pilot ladders to the deck.
- i) Pictorial examples of damage or conditions under which the ladder must be withdrawn from service. A detailed written description shall be included with these examples.
- j) Expected service life of Pilot Ladder, which may be less than 30 months, particularly on ladders where side ropes cannot be inspected due to the use of mechanically applied metal clamps.
- k) Inspections shall be carried out at intervals stated in [Annex A](#).

## 6 Maintenance

**6.1** Damaged steps shall be replaced with replacement steps meeting the requirements of ISO 799 Ships and marine technology – Pilot ladders – Part 1, Design and specification, [section 4](#). The replacement steps shall be of the type supplied or specified by the ladder manufacturer. A ladder shall not include more than two replacement steps. These steps shall not be next to each other.

**6.1.1** Replacement steps shall be fitted by manufacturer or the manufacturer's approved repair facility. Records shall be maintained of replacement steps in accordance with [section 6](#) of this part.



**6.2** If a ladder requires a third replacement step, it shall be rebuilt and recertified by the manufacturer or the manufacturer's approved repair facility.

**6.3** A ladder with spun-polyester side ropes, with the inner core showing at any place throughout the length of the ladder, is no longer serviceable.

**6.4** Where a manufacturer allows replacement steps to be fitted, the manufacturer shall supply:

- Two replacement steps.
- One replacement spreader.
- Step fixtures to allow repair to be carried out.
- Instructions for fitting replacement steps and/or spreader.

**6.5** Where a manufacturer allows small repairs such as replacement of rope seizings or replacement of step fixtures, the manufacturer shall supply seizing material and spare step fixtures.

**6.6** Each ladder shall be subjected to the ladder and step attachment strength test in ISO 799 Ships and marine technology – Pilot ladders – Part 1, Design and specification, Table 2 at intervals of not more than 30 months. The ladder shall be stamped or tagged under the lowest spreader and the top step with the date of the test and the identification of the person or company performing the test. The person or company performing the test shall also provide a test certificate to the master indicating the details of the test, including the date, and the identification of the person or company performing the test. Each ladder which fails the test shall be rebuilt according to ISO 799 Ships and marine technology – Pilot ladders – Part 1, Design and specification, section 10.3, or scrapped.

## 7 Records

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The Ship's Master shall maintain records relating to pilot transfer equipment and arrangements. These records must be available for inspection on request of Port State Control Officer, Class Surveyor, Flag State, Port Authority, or Marine Pilot.

These records shall include:

- a) Equipment serial number or identity number
- b) Certificate of compliance from manufacturer
- c) Date of receipt onboard
- d) Date ladder or piece of equipment put into and withdrawn from service
- e) Date of detailed inspection and person performing inspections
- f) Any findings
- g) Repairs carried out
- h) Records of any steps replaced
- i) Records as required by [Section 9.3](#) of this part

## 8 Storage

Pilot transfer equipment and arrangements shall be kept clean and properly stowed in accordance with manufacturer's care and maintenance instructions.

## 9 Use

**9.1** The safety of a person suspended over the ship's side on a pilot ladder is dependent on the material state of the ladder and on personnel maintaining a firm hold on that structure. Accordingly, embarkation, disembarkation and other over the side uses of a pilot ladder by a pilot or other persons should be treated as a safety critical activity.

**9.2** Personnel performing inspections on pilot transfer arrangements and equipment should take a "safety first" approach to determining the suitability for ongoing use. If there is any doubt the equipment shall not be used. Pilot ladders not complying with all parts of this standard shall NOT be used.

**9.3** The rigging and derigging of pilot transfer arrangements is considered a safety critical activity. Operators shall perform risk assessment. This risk assessment shall include but not be limited to the rigging and derigging process. Records of Risk Assessment to be maintained in accordance with requirements of vessel's safety management system.

**9.4** The use of pilot transfer arrangements and equipment to board and disembark ships is considered a safety critical activity. Organizations employing personnel who board and disembark vessels by pilot ladder shall perform a risk assessment for such operations.

**9.5** Personnel responsible for rigging and inspecting pilot transfer arrangements and equipment shall receive periodic training in the inspection requirements, regulations, and standards associated with pilot transfer arrangements and equipment. This requirement may be fulfilled by the use of an Onboard Computer Based training module.

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## Annex A (normative)

### Examples for manufacturer to use when developing checklist as required by [section 5](#) of this part

**Table A.1 — Pilot Ladder Pre-Use inspection checklist to be completed by a Certificated Deck Officer prior to each use**

Date:		Pilot Ladder Identification Number:	
Pilot Ladder pre use inspection to be carried out by Certificated Deck Officer			
1	Consult Manufacturer's care and use instructions prior to carrying out this inspection. Does ladder have a certificate of compliance from manufacturer?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Has ladder been in service more than 30 months? (If so has it been recertified)	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
3	Steps and spreaders horizontal and evenly spaced (330mm +/- 20mm between steps), free of paint, protective coatings or dirt that will inhibit non-slip capability of the step.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Side ropes serviceable condition. No knots splices or joins except above top step. List any visible damage: _____	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
5	Steps not cracked/broken or bent/warped or worn. Step clean and free of paint.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Step fixtures secure and tight	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Seizings/Step securing in good condition	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Number of replacement steps (maximum of 2) _____	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
9.	Result of this inspection recorded in the following location: _____	<input type="checkbox"/> Yes	
10	Conduct risk assessment prior to rigging pilot ladder	<input type="checkbox"/> Yes	
11.	Man ropes; 28-32mm manila manropes available if requested by pilot. Man ropes free of knots, joins, splices. Serviceable condition.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

This ladder is fit for use. ☐ YES ☐ NO

Name and Rank of Officer Performing inspection: \_\_\_\_\_

Signed by Master: \_\_\_\_\_