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

**Part 3:
Attachments and associated
equipment**

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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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 1, *Maritime safety*.

A list of all parts in the ISO 799 series can be found on the ISO website.

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.

Introduction

This document supplements existing IMO requirements for pilot transfer arrangements and associated equipment. The intent of this document is to clarify such requirements, thereby ensuring arrangements and equipment efficiently fulfil their purpose of enabling pilots to embark and disembark safely. It complements ISO 799-1 and ISO 799-2.

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Ships and marine technology — Pilot ladders —

Part 3:

Attachments and associated equipment

1 Scope

This document specifies requirements and recommendations for the attachments and associated equipment of pilot ladders, and gives guidance on their use. It is applicable, but not limited to, securing ladders at less than full length, deck securing points, hull securing equipment, man-ropes, bulwark openings and accesses, deck access, stanchions, anti-chafing arrangements, and interfaces between pilot ladders and accommodation ladders for their combined use.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 799-2, *Ships and marine technology — Pilot ladders — Part 2: Maintenance, use, survey, and inspection*

3 Terms and definitions

No terms and definitions are listed in this document.

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/>

4 Man-ropes

4.1 Man-ropes shall be grade 1 manila rope.

4.2 Two man-ropes of not less than 28 mm and not more than 32 mm in diameter shall be available for use if required by the pilot. These ropes shall be clean.

4.3 Man-ropes shall be fixed at the rope end to the ring plate fixed on deck, and shall be rigged on either side of the ladder ready for use when the pilot disembarks, or upon request from a pilot approaching to board. The man-ropes shall reach the height of the stanchions or bulwarks at the point of access to the deck before terminating at the ring plate on deck.

4.4 Man-ropes shall be tagged and inspected at intervals not exceeding those required for pilot ladders in ISO 799-2.

4.5 Man-ropes shall be stored in accordance with any instructions issued by the rope manufacturer. In the absence of rope manufacturer instructions, due regard should be given to the guidance contained in ISO 799-2:2021, Annex B.

4.6 Man-ropes shall be free of knots.

4.7 The ends of the rope shall be seized or whipped to prevent fraying.

4.8 When rigged with a handhold stanchion, man-ropes shall reach the height of the stanchion. See [8.2](#).

5 Deck securing strongpoints

5.1 Ring plates used to secure man-ropes or pilot ladders shall be capable of withstanding a load of not less than 24 kN.

5.2 When secured to the upper deck, the pilot ladder should be secured at a distance of not less than 915 mm measured horizontally from the ship's side inwards.

5.3 When a pilot ladder is rigged at less than full length to accommodate changes in freeboard, the ladder shall be secured on both side ropes in the manner specified by the pilot ladder manufacturer. In the case of a rolling hitch, the rope shall be at least as strong as the side ropes and shall be secured to a deck securing strongpoint observing the following.

- Any securing ropes used for such purpose shall be tagged and inspected in accordance with ISO 799-2.
- Securing rope construction type, size and knot type shall be specified by the manufacturer and provided to the user in the instructions supplied by the manufacturer as required by ISO 799-2.
- A ladder manufacturer shall provide advice to users on other approved methods of securing the ladder at less than full length. Manufacturers shall provide test data used to determine approved securing methods to the maritime safety administration for approval during the pilot ladder certification process.

6 Hull securing equipment for use when rigging combination arrangements

Securing devices used to secure a pilot ladder to the side-shell of the ship: A pilot ladder shall be secured to the ship's side at either a hand-hold or by a mechanical device, typically magnetic clamps or a pneumatic suction pad (see [Clause 11](#)). This equipment is only intended to bowse the pilot ladder or accommodation ladder to the ship side to prevent it from moving off the ship's side in a seaway. This equipment is not intended to support the weight of the pilot, pilot ladder or accommodation ladder.

7 Deck access

Means shall be provided to ensure safe, convenient and unobstructed passage for any person embarking on, or disembarking from, the ship between the head of the pilot ladder, or of any accommodation ladder or other appliance, and the ship's deck. This access should be not less than 0,7 m or more than 0,8 m in width. Stanchions or handholds at the head of the pilot ladder shall comply with [8.3](#) and [8.4](#).

8 Bulwark openings, accesses and handhold stanchions

8.1 Where passage through a bulwark opening is by means of a gateway in the rails or bulwark, adequate handholds shall be provided which should be not less than 0,7 m or more than 0,8 m apart. Each handhold should be rigidly secured to the ship's structure at or near its base and also at a higher point, be round in shape, not less than 32 mm and not more than 36 mm in diameter and extend not less than 1,2 m above the top of the bulwarks. Stanchions or handrails should not be attached to the bulwark ladder.

8.2 Where passage through a bulwark opening is by means of a bulwark ladder, two handhold stanchions shall be fitted and rigidly secured to the ship's structure at or near their bases and at higher points. The bulwark ladder shall be securely attached to the ship to prevent overturning. Stanchions or handrails should not be attached to the bulwark ladder.

8.3 Each access at the head of a pilot ladder shall have two handholds or handhold stanchions fitted. They shall be not less than 0,7 m or more than 0,8 m apart. Each stanchion or handhold should be rigidly secured to the ship's structure at or near its base and at a higher point, should be round not less than 32 mm and not more than 36 mm in diameter and should extend not less than 1,2 m above the position it is secured to the ship's structure.

8.4 Each stanchion or handhold at the head of a pilot ladder shall have means for man-rope to be passed through a ring at the top of the stanchion and remain in place during use. The ring shall have an internal diameter of nominally 60 mm.

9 Anti-chafing arrangements

Ladders should not be rigged over a "knife-edge" or sharp edge that can chafe side ropes. For example, the "fish plate" or vertical side or sheer strake of the ship rising above the deck can form a sharp edge. In these and similar instances, a means of rounding, such as a pipe, should be affixed to allow the side ropes to rest on the edge with a minimum of chafing.

10 Interface between a pilot ladder and an accommodation ladder for their combined use (i.e. a combination arrangement)

10.1 A combination arrangement, or other equally safe and convenient means, is required by SOLAS^[2] V/23 whenever the distance from the surface of the water to the point of access to the ship is more than 9 m. The accommodation ladder shall be sited leading aft. When in use, means shall be provided to secure the lower platform of the accommodation ladder to the ship's side, so as to ensure that the lower end of the accommodation ladder and the lower platform are held firmly against the ship's side within the parallel body length of the ship and, as far as is practicable, within the mid-ship half-length and clear of all discharges. The platform shall be a minimum of 5 m above sea level.

10.2 When a combination arrangement is used for pilot access, means shall be provided to secure the pilot ladder and man-ropes to the ship's side at a point nominally 1,5 m above the bottom platform of the accommodation ladder.

10.3 In the case of a combination arrangement using an accommodation ladder with a trapdoor in the bottom platform (i.e. embarkation platform), the aperture shall not be less than 750 mm x 750 mm and shall be open to the side of the vessel's hull to allow the pilot ladder to lay flat against the hull. The trapdoor shall open upwards and be secured either flat on the embarkation platform, against the rails at the aft end, or outboard side of the platform, and shall not form part of the handholds. The pilot ladder and man-ropes shall be rigged through the trapdoor extending to the height of at least 2 m above the platform. The pilot ladder shall remain in alignment with and against the ship's side. In addition, means shall be provided to secure the lower platform of the accommodation ladder to the ship's side to ensure that the lower end of the accommodation ladder and the lower platform are held firmly against the ship's side. The top of the pilot ladder shall not be secured to the deck of the lower platform of the accommodation ladder. Sufficient hand holds shall be fitted to allow safe transfer from the pilot ladder to the accommodation ladder. These hand holds shall be round of diameter 28 mm to 32 mm. Refer to [Figure A.1](#) for an example of a trapdoor arrangement.

10.4 In the case of shipside doors where the pilot ladder is secured on deck above the door, any platform used to assist the pilot transferring to or from the ladder shall be forward of the pilot ladder. Such arrangements shall comply with [10.1](#) and [10.2](#).

10.5 In the case of ship side doors with pilot ladders secured inboard of the door opening, the pilot ladder shall be secured to the deck at a strongpoint complying with [5.1](#). Stanchions complying with [8.4](#) shall be in place.

11 Securing equipment (bowsing)

11.1 The means used to secure the accommodation ladder to the ship hull shall have a holding force of not less than 4 kN.

11.2 The means used to secure the pilot ladder side ropes to the ship's hull shall have a holding force of not less than 3 kN each. They shall be able to be easily secured and removable by one person. Each magnetic clamp, suction pad or other method shall have a tether to prevent it from falling should it be dislodged. Each side rope shall be secured to the ship's side using these means. In cases where two pieces of equipment are used, they shall be applied symmetrically.

11.3 In determining appropriate inspection intervals for the securing equipment (bowsing), due regard should be given to the inspection intervals for pilot ladders included in ISO 799-2 and any instruction from the manufacturer of the equipment.

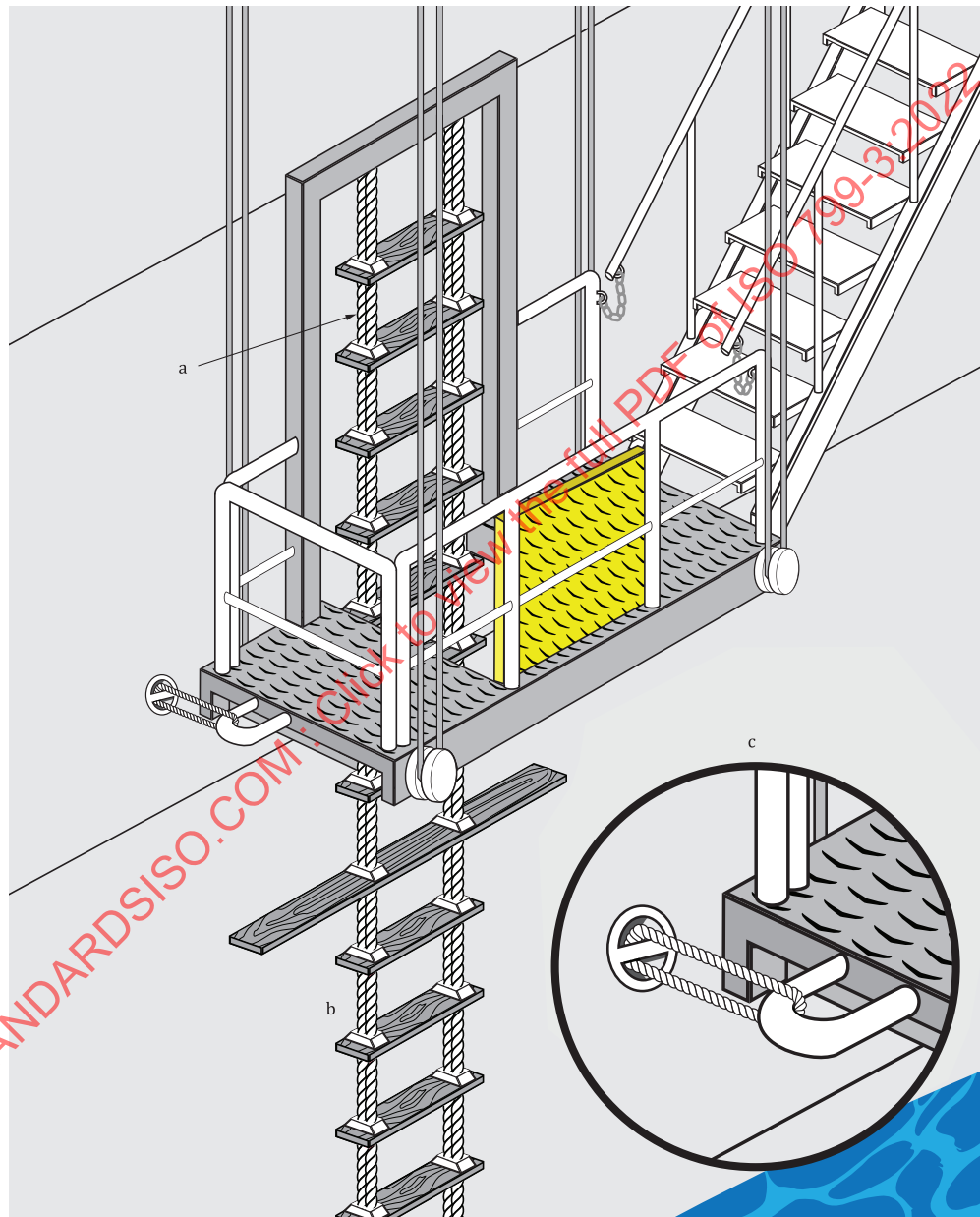
12 Additional equipment

The following additional equipment shall be kept close at hand, ready for immediate use when persons are being transferred:

- heaving line used to assist with the pilot's bag or equipment;
- lifebuoy with a self-igniting light;
- adequate lighting shall be provided to illuminate the transfer arrangements overside and the position of the deck where the person embarks or disembarks.

Annex A (informative)

Example of trapdoor arrangement



Key

- a Pilot ladder/manropes must be rigged through the trapdoor to a height of at least 2m above the platform.
- b Steps must rest firmly against the ship's side.
- c Platform must be secured to the ship's side.

SOURCE Adapted from Reference [4].

Figure A.1 — Example of trapdoor arrangement