

BW guide to Pilot Ladder compliance

Marking, Certification

Every pilot ladder should have certain markings and certificates to go along with it.

SOLAS 2.4. All pilot ladders used for pilot transfer shall be clearly identified with tags or other permanent marking so as to enable identification of each appliance for the purposes of survey, inspection and record keeping. A record shall be kept on the ship as to the date the identified ladder is placed into service and any repairs effected.

For this example, we use the guidelines ISO 799-1:2019 to explain the various Markings and notations. Every pilot ladder should have a serial number marked as per ISO-799 section 8 as follows:

The bottom of the top step and bottom of the lowest spreader step of the ladder shall be marked with:

- The name and the address of the manufacturer
- The Manufacturer's model designation
- "ISO 799-1" and "SOLAS"
- the year of assembly or reassembly of the ladder
- identification of the approved maritime safety administration, along with any approval indications required by that administration
- where used, identification of an approved organization acting on behalf of the maritime safety administration.
- If a replacement step is used, the words "REPLACEMENT STEP ONLY" shall be used as well.



Marking under the step of the mentioned ladder

This is for instance a PTR Goliath ladder marked with all of the above items, except for the fact that ISO 799:2004 is still mentioned. This standard has now been replaced by ISO-799-1:2019.



Name tag plate of the mentioned pilot ladder

The name tag plate on this ladder displays a few important items that can be cross referenced with the certificate: Type, Model, Length, Production date, as well as the serial number (Prod.No) and the approval standard.

There are **3 logo's** on the top of this plate, which are important in this respect:

- **The DNV-GL logo**, the classification society that type approves this ladder, as well as the Manufacturing Company.
- **The PTR Holland logo**, which is the logo of the Manufacturing Company
- **The Steering wheel**, marked with MED, as well as the number 0575. The symbol and "MED" stand for Marine Equipment Directive 4.49, the EU standard for pilot ladders for all EU flagged vessels. The number indicates the EU designated number of the "Notified Body" which is DNV GL in this case.



PTR HOLLAND® GROUP

ROTTERDAM · SINGAPORE · HOUSTON · NEWCASTLE · QINGDAO PRC

EUROPEAN COMMUNITY DECLARATION OF CONFORMITY

**We hereby declare that the following specified equipment complies with the
Marine Equipment Directive 2014/90/EU**

Equipment description : Pilot ladder (MED / 4.49)
Type : Goliath
Ladder/Serial No. : 3156773
Ladder Length (mtr) : 3.30mtr
Date of manufacture : 07/03/2018
Manufacturer : PTR Holland Group
Manufacturer address : Dintelweg 107, 3198 LB, Europoort Rotterdam, The Netherlands.

Equipment intended for:

Purchaser : [Redacted]
Vessel Name : [Redacted]
Purchase Order No. : [Redacted]

This equipment has been tested to verify compliance with the following Regulations and Testing Standards:

- Type approval requirements : SOLAS 74 Reg. V/23 & SOLAS 74 Reg. X/3
- Carriage and performance requirements : SOLAS 74 Reg. V/23, X/3
IMO Res. A.1045(27)
IMO Res. MSC/Circ. 1428
- Testing Standards : IMO Res. A.1045(27) & ISO 799:2004.

EC Type-Examination Certificate No.


(for module B) : MEDB00002T9
Issued By : DNV GL / 0575

Quality System Certificate No.

For module D : MEDD0000154
Issued By : DNV GL / 0575

Technical documentation for this equipment is retained at the following address: : info@ptrholland.com

Marking and stamping / Marquage:


0575 / 2018



SIGNED ON BEHALF OF THE MANUFACTURER

Name : [Redacted]
Position : [Redacted]
Place & date : Rotterdam, 07/03/2018

Register your rope ladder and receive a free 30 months mandatory load test
www.ptrholland.com/load-test-registration/



Certificate of the above-mentioned ladder

The certificate that goes along with this ladder shows the following items:

- **Statement** that the ladder complies with MED 2014/90/EU
- **Description:** Type of equipment, and the MED category (4.49)
- **Type:** Manufacturers Type “Goliath”
- **Serial No.** “3156773” (Corresponding with the serial number on the ladder)
- **Ladder Length(m)** (Corresponding with the length on the ladder)
- **Date of manufacture:** 07/03/2018. (Corresponding with the date on the ladder)
**
- **Manufacturer:** (Corresponding with the manufacturer on the ladder)
- **Manufacturer Address**
- **Vessel name**
- **The standards, resolutions and regulations** to which the ladder complies: In this case ISO-799, Solas and IMO res 1045(27)
- **The EC-Type-Examination certificate** issued for this type of ladder: in this case its number is MEDB00002T9 (Corresponding with the number on the ladder) , issued by DNV GL (number 0575). This certificate goes by the name of : “EC-Type Examination Certificate (Module B)”. (The manufacturer of this ladder also issues a copy of this document with the ladder)
- **The Quality System Certificate No.** is the certificate issued by classification society DNV GL about the Quality System of the Manufacturer. This certificate goes by the name of : “QS-Certificate of Assessment – EC (Module D)”. (The manufacturer of this ladder also issues a copy of this document with the ladder)
- **The Steering Wheel** symbol of MED 4.49: same as on the ladder (see above)
- **The Logo** of the classification society.
- **The signature** on behalf of the manufacturer
- **Registration QR code:** The manufacturer of these ladders uses blockchain technology to keep track of the ladders produced. On the latest ladders, the steel plate on the ladder also shows the same QR code. This allows inspectors to easily scan the pilot ladder and check online if all specifications are correct. (see below)



Pilot ladder name tag with QR Code

Guide to non-compliant ladders

EXAMPLE



On this particular tag we see ISO 799 reference, which is the correct ISO standard for a pilot ladder, but when we look closer, we see 'embarkation ladder' on the tag. This basically means the tag is wrong, ladder cannot have been tested and approved to specs as required for a pilot ladder. Embarkation ladders have a different ISO number, different specifications than a pilot ladder and will be used for a different purpose.

EXAMPLE



In the photo we see a ladder with 3 rubber steps instead of 4 as required. Therefore, this can never be a certified pilot ladder. We also see a spreader in this ladder. There are rules concerning spreaders as well-off course: (IMO A.1045, 2.1.4) *Pilot ladders with more than 5 steps should have a spreader not less than 1.8 m long....The lowest spreader should be the fifth step from the bottom of the ladder and the interval between any spreader step and the next should not exceed nine steps.*

IMO a.1045 2.1.2.1: if made of hardwood, they should be made in one piece, free of knots.

Every step on the ladder has to be made out of one-piece, self-made ideas on steps or spreaders are not allowed and make the ladder non-compliant and it cannot be used anymore.



EXAMPLE

This brand of ladders you can come across quite often, ladders shall not be painted or varnished, which means this is absolutely a non-compliant ladder.

IMO a. 1045 states in 2.1.2.4: they should have an efficient nonslip surface...varnish and non-slip don't go together really well.

Side ropes

IMO A.1045:

The side ropes of the pilot ladder should consist out of two uncovered ropes not less than 18mm in diameter on each side and should be continuous, with no joints and have a breaking strength of at least 24kN per side rope. The two side ropes should each consist of one continuous length of rope, the midpoint half-length being located on a thimble large enough to accommodate at least two passes of side rope.

It is allowed according to iso 799-1 to use another material to make side ropes, but they must have the same specifications as the manila ropes.

Each side rope has to be made out of one continuous length of rope on every side and at the top end thimble eyes must be installed to secure the ladder to strongpoints on deck. The ropes must be without joints knots or splices except at the very top and the very bottom.

Replacement Steps

Concerning replacement steps IMO A. 1045 states in 2.1.3: no pilot ladder shall have more than 2 replacement steps which are secured in place by a method different from that used in the original construction of the ladder, and any steps so secured should be replaced as soon as reasonably practicable etc. etc.

Every manufacturer has to deliver repair steps and spreaders together with every sold pilot ladder. On this picture we see different repair steps, as they will be delivered with the ladder.



Securing steps to side ropes

There are basically 2 methods of assembling the steps to the ladder:

1. Whipping
2. Clamping

Both methods have pro and cons, which we will discuss below.

Whipping is the oldest method of assembling the steps to the side ropes.



EXAMPLE

In the photo above, we find the whipping method and right away we see the danger of this method, when no proper maintenance has been given. The whipping ropes are, as the side ropes, natural fiber and have to be inspected and maintained on a regular base. Whippings can come loose as you can see and then the steps are not hold in place anymore. This will lead to loosen and not horizontal steps.



Loose steps due to worn out whippings.

Clamping

A method that has been invented by one of the bigger ladder manufacturers back in 1986. They have also patented the system. The danger in this system is that, when the clamps have not been installed correctly, they will 'choke' the side ropes, and that can result into breaking of the side ropes, because the internal structure of these ropes will be damaged.



EXAMPLE

This is a proper clamping method: clamp is around the rope, but does not touch itself, which obviously means the rope will not be choked.

EXAMPLE



Here we see the clamps are too tight and the result is visible: rope gets stuck in between the two ends of the clamps...rope comes apart and the ladder could break when you use it.

Not acceptable constructions:

EXAMPLE

Example 1 – rope crossing



Example 2 – loop below lowest step

