PTR HOLLAND® GROUP

ROTTERDAM - SINGAPORE - HOUSTON - NEWCASTLE - PIRAEUS

OFTEN IMITATED, NEVER DUPLICATED

PILOT LADDER MAINTENANCE, USE, REPLACEMENT & INSPECTION RECORD BOOK

PTR HOLLAND The Original ACCEPT NO IMITATIONS

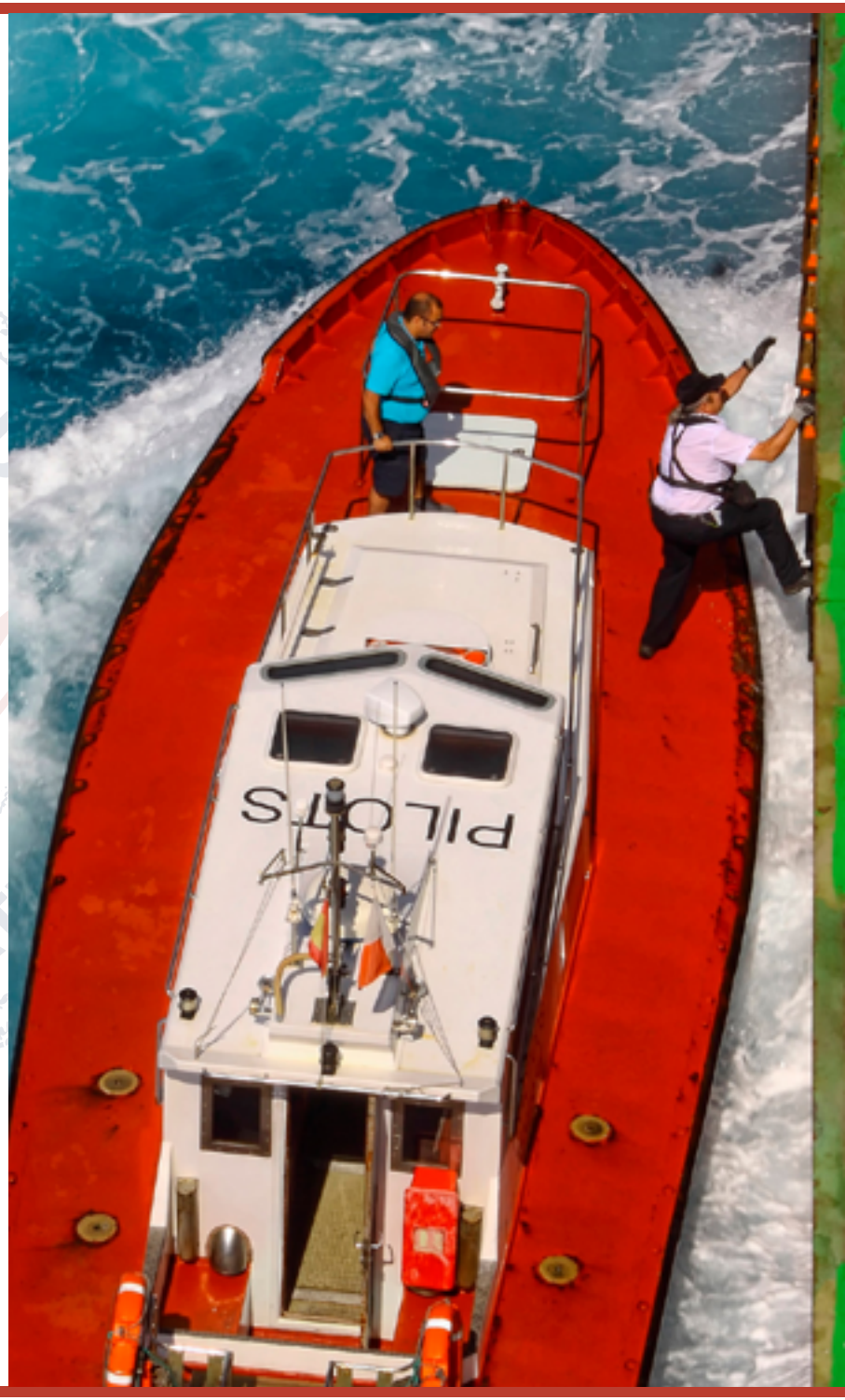
+31 (0)10.714.4945 info@ptrholland.com

WWW.PTRHOLLAND.COM

PTR HOLLAND® Group is pleased to welcome you as a new client. You will find that our DNV-GL class certified Pilot & Embarkation ladders are the best in the business and will provide you with reliability, safety at critical times.

Not only do we boast the best rope ladder production force in the world, but we also have a cadre of technicians, salespeople, warehouse workers, truck drivers, and 24/7-365 availability to help keep your vessels and business running.

We look forward to a long and mutually beneficial relationship. If you have any questions about our services or products please feel free to contact us: info@ptrholland.com



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PTR Holland Digitally Sealed Pilot Ladders - Safety Officer instructions

Your PTR Holland Pilot Ladder is equipped with an Esoptra digital sealing solution that uses digital blockchain technology to permanently tie the ladder to the vessel on which it is installed. This will allow marine pilots boarding the ship to ascertian the origin of the ladder as being a genuine PTR Holland product, with the certificate readily accessible to ensure peace of mind. When the pilot uses his smartphone to scan the QR code on one of the name tags affixed to the ladder, the name of the ship and an identifying picture will be shown, as well as a picture of the ladder tag.

All such sealed ladders will additionally be shown in a publicly accessible registry on the PTR Holland website at https://www.ptrholland.com/verify, to enable marine pilots to verify prior to leaving shore.

These steps are extremely straightforward and user friendly and can be typically performed by the safety officer onboard the vessel. You will need a relevantly recent smartphone with access to a working internet connection to access the system.

1. unpack the pilot ladder
2. locate the name tag with the QR code on it
3. scan the QR code with your smartphone
4. you will be directed to a page like the one to the right
5. type the name of the vessel into the M/V field
6. press the camera button to take a picture that uniquely identifies the ship, either of the ship's bow with its name, or of a unique document clearly mentioning the ship's name
7. press the "SEAL" button
8. READY! After this stage, when someone scans the QR code, typically a marine pilot or PSC officials, they will see a picture similar to the one shown on the far right below
9. the tag can be found underneath the first spreader right after the 4 rubber steps

   different elements of the page are clickable to show:

   a. the certificate

   b. the digital blockchain seal

   c. the tag picture

   d. the vessel related picture

Annex A.

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.	Consulted with PTR Holland® Group for care and use ***instructions prior to carrying out this inspection? Does this ladder have a Certificate of Compliance from DNV-GL 0575-PTR Holland® Group / or other Class Society (IACS)?	☐ Yes ☐ No ☐ Yes ☐ No
2.	Has this ladder been in service more than 30 months? If so, has it been load tested / recertified?	☐ Yes ☐ No ☐ Yes ☐ No
3.	The steps and spreaders are horizontal and evenly spaced (330mm +/- 20mm between steps), free of paint, protective coatings or dirt that will inhibit non-slip capability of the step.	☐ Yes ☐ No
4.	The side ropes are in a serviceable condition. No knots splices or joins except above top step. List any visible damage: _____	☐ Pass ☐ Fail
5.	The steps are not cracked/broken or bent/warped or worn. Step is clean and free of paint.	☐ Yes ☐ No
6.	The step fixtures (chocks, splitting distance piece) are secure and tight.	☐ Yes ☐ No
7.	**Seizing's or aluminum step/securing clamps are in good condition.	☐ Yes ☐ No
8.	Number of replacement steps (Maximum of 2): _____	☐ Pass ☐ Fail
9.	Result of this inspection is recorded in the following location: _____	☐ Yes
10.	Conducted risk assessment prior to rigging of the pilot ladder.	☐ Yes ☐ No
11.	Man ropes: 28-32mm manila manropes are available if requested by pilot.	☐ Yes ☐ No
12.	Man ropes are free of knots, joins, splices, and in a serviceable condition.	☐ Yes ☐ No
13.	This ladder is fit for use.	☐ Yes ☐ No

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Name and Rank of Officer performing the inspection: _____

Signed by Master: _____

**Seizing's: Please see page 9 ***Instructions: Please see page 11

Annex A.1

Table A.2 - Pilot Ladder Post Use inspection checklist to be completed by a Certified Deck Officer after each use.

Date:	Pilot Ladder Identification Number:	
Pilot Ladder post use inspection to be carried out by Certified Deck Officer		
1.	Consulted with PTR Holland® Group for care and use ***instructions prior to carrying out this inspection?	☐ Yes ☐ No
2.	The steps are horizontal and evenly spaced (330mm +/- 20mm between steps).	☐ Yes ☐ No
3.	The side ropes are in a serviceable condition. No knots splices or joins except above top step. List any visible damage: _____	☐ Pass ☐ Fail
4.	The steps are not cracked/broken or bent/warped or worn. Step is clean and free of paint, protective coatings or dirt that will inhibit the non-slip capability of the step.	☐ Yes ☐ No
5.	The step fixtures (chocks, splitting distance piece) are secure and tight.	☐ Yes ☐ No
6.	**Seizing's or aluminum step/securing clamps are in good condition.	☐ Yes ☐ No
7.	Number of replacement steps (Maximum of 2): _____	☐ Pass ☐ Fail
8.	Result of this inspection is recorded in the following location: _____	☐ Yes ☐ No
9.	Is the ladder stored in accordance with PTR Holland® Group ***instructions?	☐ Yes ☐ No
10.	This ladder is fit for ongoing use.	☐ Yes ☐ No

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Name and Rank of the Officer performing the inspection: _____

Signed by Master: _____

**Seizing's: Please see page 9 ***Instructions: Please see page 11

Annex A.2

Table A.3 - Pilot Ladder three (3) monthly inspection to be carried out by Senior Deck Officer.

Note 1: Results to be recorded and kept as per section 7 of this part.

Note 2: This officer should be assisted by a suitably experienced crew member with experience and training in inspecting Pilot Ladders.

Date:	Pilot Ladder Identification Number:	
Pilot Ladder three (3) monthly inspection to be carried out by Senior Deck Officer		
1.	Consulted with PTR Holland® Group for care and use ***instructions prior to carrying out this inspection?	☐ Yes ☐ No
2.	Does the ladder have a current Certificate of Compliance from PTR Holland® Group DNV-GL0575? Has the ladder been in service more than 30 months? (If so, has it been recertified and mark accordingly?)	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No
3.	The steps are horizontal and evenly spaced (330mm +/- 20mm between steps).	☐ Yes ☐ No
4.	The side ropes are in a serviceable condition. No knots, splices, or joints (except above the top step if manufactured in that manner). Refer to PTR Holland®Group written instructions. List any visible damage _____	☐ Pass ☐ Fail
5.	The steps are not cracked/broken or bent/warped or worn. Step is clean and free of paint, protecting coatings or dirt that will inhibit the non-slip capability of the step.	☐ Yes ☐ No
6.	Number of replacement steps (Maximum of 2): _____	☐ Pass ☐ Fail
7.	The step fixtures (chocks / splitting distance piece) are secure and tight.	☐ Yes ☐ No
8.	**Seizing's or aluminum step/securing clamps are in good condition.	☐ Yes ☐ No
9.	Is the ladder being stored in accordance with PTR Holland®Group ***instructions?	☐ Yes ☐ No
10.	Result of this inspection is recorded in the following location _____	☐ Yes
11.	This ladder is fit for ongoing use.	☐ Yes ☐ No

Name and Rank of Senior Officer performing inspection: _____

Signed by Master: _____

**Seizing's: Please see page 9 ***Instructions: Please see page 11

Annex A.3

Table A.4 - Annual inspection of Pilot Ladder to be carried out by Classification Society Surveyor.

Note 1: Results to be recorded as required by section 7 of this part.

Note 2: Alternatively, for Classification Society may use its own checklist.

Date:	Pilot Ladder Identification Number:	
Pilot Ladder Annual inspection to be carried out by Classification Society Surveyor		
1.	Review inspection records of Pilot Ladders. Date of entry into service: _____. If the service life is greater than 30 months, review test records as per ISO799 Part 2 Section 5.5	☐ Pass ☐ Fail
2.	Is PTR Holland® Group care and guidance ***instructions available onboard?	☐ Yes ☐ No
3.	Is the ladder being stored in accordance with PTR Holland® Group care and maintenance ***instructions? Notes: _____	☐ Yes ☐ No
4.	The steps are horizontal and evenly spaced (330mm +/- 20mm between steps).	☐ Yes ☐ No
5.	The steps are not cracked/broken or bent/warped or worn. Step is clean and free of paint, protective coatings or dirt that will inhibit the non-slip capability of the step. Timber steps free of knots.	☐ Yes ☐ No
6.	Number of replacement steps (Maximum of 2): _____ Have the replacement steps been fitted as per PTR Holland® Group instructions?	☐ Pass ☐ Fail ☐ Yes ☐ No
7.	The step fixtures (chocks, splitting distance piece) are secure and tight.	☐ Yes ☐ No
8.	Are the side ropes in good condition? Refer to PTR Holland® Group instructions for inspection of side ropes.	☐ Pass ☐ Fail
9.	Seizing's or aluminum step/securing clamps are in a good condition? Pay particular attention to termination below bottom step. Is the side rope tightly wound around a step fixture or fitted with a double seizing and suitably whipped to prevent fraying?	☐ Yes ☐ No ☐ Pass ☐ Fail
10.	Is the ladder fitted with legible identification plate below top step and lowest spreader?	☐ Yes ☐ No
11.	Result of this inspection is recorded in the following location: _____	☐ Yes

PTR Holland®Group Worldwide

I hereby certify the above Pilot ladder is fit for ongoing use:

Name: _____

Classification Society Performing inspection: _____

Signed by Master: _____

**Seizing's: Please see page 9 ***Instructions: Please see page 11

CAUTION NOTICE

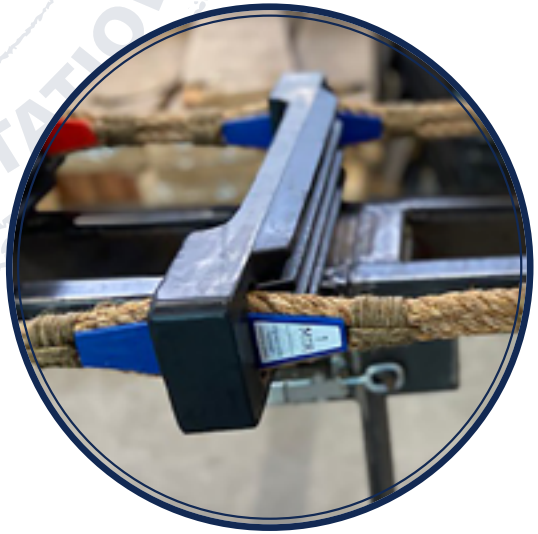
YOU HAVE BECOME THE PROUD OWNER OF A PTR HOLLAND® GROUP TRADITIONAL HAND WHIPPED PILOT OR EMBARKATION LADDER ACCORDING THE LATEST AVAILABLE REQUIREMENTS.

PLEASE BE ADVISED, THAT THOSE TRADITIONAL HAND WHIPPINGS REQUIRE TRADITIONAL ATTENTION AS WELL, THE HAND WHIPPINGS COULD STRETCH OVER TIME AND SHOULD BE CHECKED BEFORE AND AFTER EVERY USE.

IF REQUIRED HAND WHIPPINGS NEED TO BE REDONE- ENSURING THE STEPS AND CHOCKS STAY IN POSITION.

FEEL FREE TO CONTACT US IF ADDITIONAL INFO IS REQUIRED:

INFO@PTRHOLLAND.COM



This Guide contains some practical recommendations and a proposed methodology for assessment in order to help establish common criteria for the assessment of the quality of a Pilot Ladder or Embarkation Ladder for use. Annexes A, A1, B and C provide a check sheet to help principal target groups using this Guide.

Normative References:

ISO 1181:2004 Ropes-Manila and Sisal

ISO/IEC Guide 37:2012 (E) (Instructions for use of products by customers)

ISO 9554:2010 (E) Annex C (Information for use and maintenance)

Pilot Ladders - Care and Maintenance Instruction Manual

Introduction:

Due to its strength, superior grip, good abrasion resistance and low stretch qualities, manila rope is usually the rope of choice when constructing Pilot Ladders. Alternative ropes of synthetic material may be used if they meet the requirements of ISO799-1 4.2.2.Pilot Ladders.

Expected service life of a Pilot ladder as required by ISO799-1-2019 / Part 1.

The service life is very depended on ships staff following the guidelines below, if they follow them correctly the Pilot Ladder will most certainly last until the required retest after 30 months, failure to follow these guidelines will most certainly shorten the service life of the Pilot Ladder.

In most cases, the harsh marine environment will necessitate replacement of pilot ladders prior to this test date. However, this will not always be the case. Results of such test shall be recorded in the vessels planned maintenance system.

Maintenance and Inspection:- Annex A (Informative)

The maintenance and inspection of rope ladders should be included in the vessel's Planned Maintenance System (PMS). Thorough inspections as:

Annex A. (Pilot Ladder Pre-Use Inspection Checklist)

Annex A.1 (Pilot Ladder Post Use Inspection Checklist)

Annex A.2 (Pilot Ladder three (3) Monthly Inspection Checklist)

Annex A.3 (Annual Inspection of Pilot Ladder by a Classification Society Surveyor)

The following points should be borne in mind:

- Rope ladders should be inspected before & after every use that they are in a good condition and must NOT be used if damaged or show signs of deterioration or wear exists. Although the surface of the rope may appear to be in satisfactory condition, natural fibre rope may self-abrade from the inside. Therefore, the lay should be opened at regular intervals along the ladder to check for signs of wear.
- The presence of dark mold spots or a grey powdery substance within the lay of the rope may be an indication of rot or mildew, particularly if accompanied by a musty odor. Once mildew has taken hold, it is very difficult to eradicate.
- A rope, which is stained or has surface fibres, which can be rubbed off easily, may have been attacked by chemicals and their fumes. Dark brown spots on the outside may indicate that the rope has been in contact with acid or acid fumes.
- If the fibres on the surface appear to be weak or frayed and can be picked away with a fingernail, the rope may be suffering from actinic degradation due to exposure to sunlight. The inspection should also cover the fixtures and fittings:

- Spliced tail strands and rope ends should be either whipped or taped to prevent them from unravelling. Any splices with loose tucks should be tightened or renewed.
- Steps, clamps, and chocks should be inspected for damage including cracks, wear, splits, sharp edges, and splinters steps secured by pressed clamps are NOT to be removed or replaced outside a PTR Group facility. Checks should be made to ensure that any slip resistant material applied to the steps is still effective. All steps should be horizontal, and none should be painted, either partially or completely, as this may mask the presence of flaws.
- Marlin seizing's may be affected by rot, mildew, chemicals, acids, detergents, paint, and sunlight in the same way as the rope itself. Their condition should be checked to confirm they have not degraded, even when tarred marlin has been used. Seizing's should be intact and tight, holding the chocks or rungs securely in place.
- Rigging of a ladder should be as per (page 13) of this instruction "How to Rig Pilot Ladder Properly" with the use of a Rolling Hitch Knot pictured below (page 13) shackles securing a ladder directly to pad-eyes on deck inboard / outboard should not be used.
- Shackles securing ladders to pad eyes on deck should be inspected to ensure that they are not corroded beyond acceptable limits. Ideally stainless-steel shackles should be used. Shackle pins should be screwed firmly into the shackle body and moused. Shackle bolts should be tight and secured with a stainless-steel pin.
- Pad Eyes should be inspected for damage and corrosion, welds checked for excessive wear down and cracks. It is also important to remember that new requirements regarding the construction, identification, inspection, and repair of pilot ladders entered into force on 1st July 2012. SOLAS Chapter V. Safety of navigation, regulation 23, Pilot Transfer Arrangements states that:

2.3 A pilot ladder shall be certified by the manufacturer as complying with this regulation or with an international standard acceptable to the Organization. Ladders shall be inspected in accordance with regulations I/6, 7 and 8.

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.

5.1 Stowage and Care

Although manila fibre rope has properties that make it ideal for use in many marine applications, it is susceptible to damage and loss of strength due to a number of factors if it is not stowed and handled carefully below are some of the ways this may happen but is not exhaustive. Abrasion or cuts may occur during routine handling. Bulwarks, fishplates, deck edges, decks, and any other surfaces, which may meet the ladder, should therefore be smooth and free from obstructions or defects, which may chafe or cut the rope.

Manila fibres are susceptible to dry rot and mildew, therefore the rope is treated with chemical preservatives in the factory to provide resistance to such problems. However, rope ladders should not be stowed when wet as the preservatives may become less effective over time. Although manila rope is resistant to alkalis and some chemicals, rope ladders should not be stored together with acids, detergents or paint as these products and their fumes may cause the fibres to deteriorate quickly. Rope ladders should not be dragged over decks, which need cleaning.

Abrasive material such as cargo particles or blasting grit may penetrate the strands and contact with hydraulic oil or fuel residues may cause damage. If a rope ladder is dirty, it should be washed with fresh water. Soaps or detergents should not be used as these products may affect the natural oils and chemical preservatives in the rope.

High-pressure water guns should also be avoided as these may force dirt or grit into the fibres. The ladder should be allowed to dry naturally prior to storage, avoiding the use of hot air blowers or heated compartments.

Once dry, the ladder should be shaken to remove any particles that may remain. Ideally, rope ladders should be stored in a cool, dry, well-ventilated compartment and stowed or hung in a manner, which allows maximum exposure to the air. If kinks are present, these should be removed beforehand.

Rope ladders stored outside should be inspected more frequently to ensure that they are still in a good condition. In sub-zero temperatures, they should be thawed thoroughly before use, as frozen rope fibres are more susceptible to breakage.
In order to protect rope ladders stored outside from the effects of rot, mildew, chemicals, acids, and detergents, they should be stowed on a suitable grating. Wooden pallets, cut down to size, are ideal for this purpose. The height of the grating should be such that the ladder will not meet free water on deck that may contain potentially harmful products.

Manila rope is susceptible to actinic degradation due to ultraviolet radiation, particularly in tropical areas. Rope ladders stored outside should therefore be covered when not in use to protect them from the effects of sunlight. Coverings will also protect ladders from precipitation and frost.
The shipboard ends of rope ladders stored outside on gratings are often shackled to pad-eyes, and it is not uncommon to find the rope between the grating and the pad-eyes uncovered and in contact with the deck. This may result in accelerated deterioration in the vicinity of the eye thimbles due to prolonged exposure to sunlight and water, which may contain chemicals.

Protecting the rope between the grating and the pad- eyes should not be over-looked when stowing and covering a rope ladder, we recommend you do not use this method of shackles and pad eyes.

5.2 Winch use

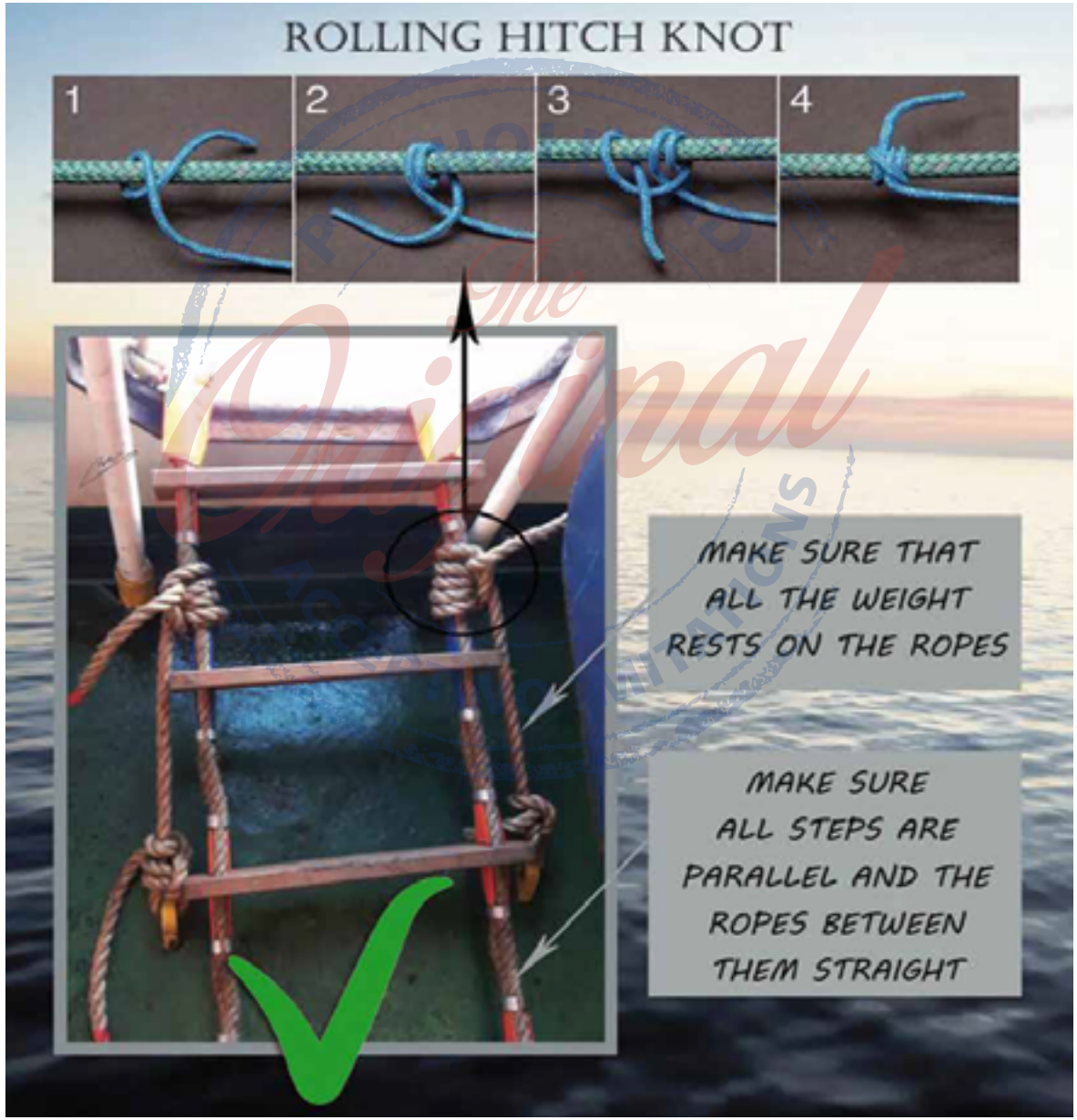
- Please note the winch can generate such a tremendous force that the people operating the winch, need to pay attention when they winch up/down the ladder to guide the ladder and avoid it gets stuck or tripped.
  At the end of the day everything can be ripped apart if appropriate attention is not been given.

- For pilot ladders that operate on a pilot ladder winch, we recommend ladders constructed with normalization steps (63MM) instead of the standard regular flat 28mm steps.

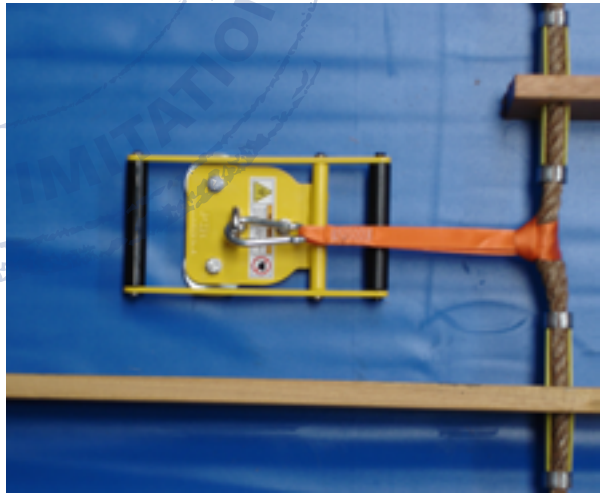
- The drum diameter should be of a size to avoid crushing and undue pressure on the ladder and its components.

PTR Holland Group's ladders give a long, safe and trouble-free service life if handled professionally and with care. The Company cannot be held responsible for ladders that do not receive the recommended and appropriate handling / attention offered in this instruction.

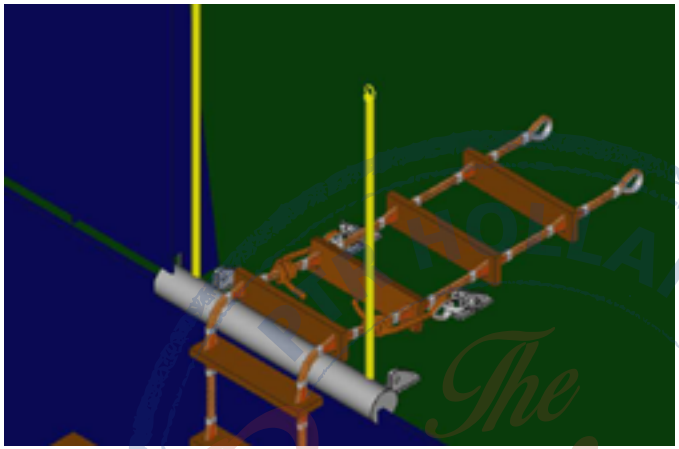
5.3 How to Rig a Pilot Ladder

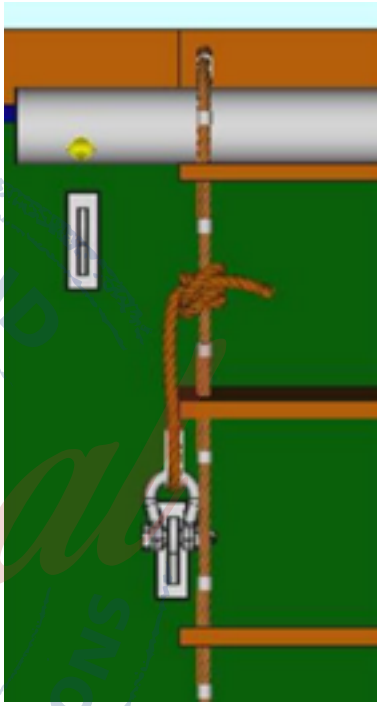


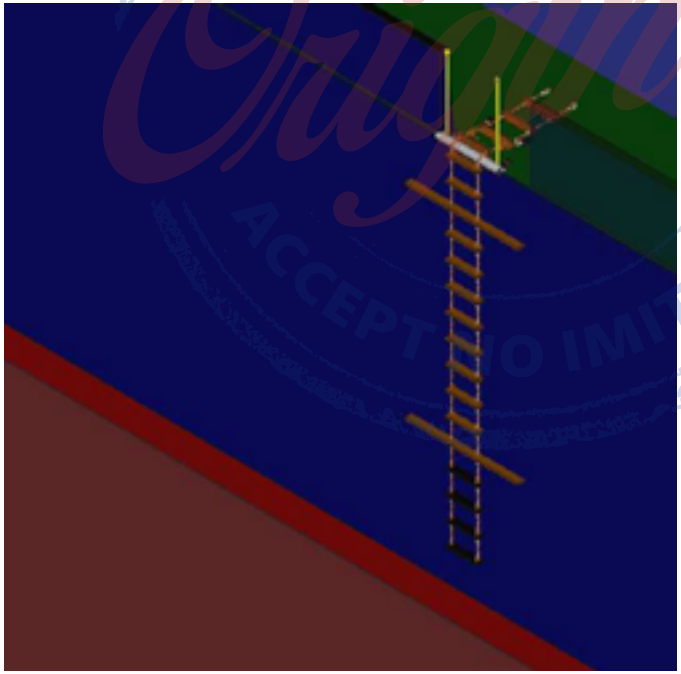
Examples acceptable Rigging for a Pilot Ladder



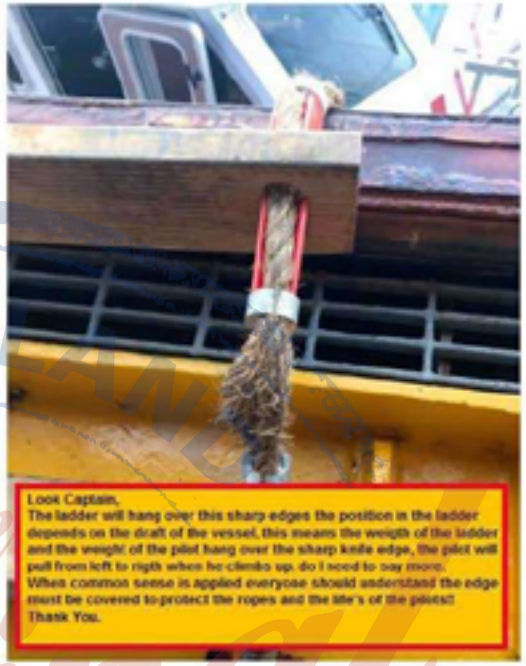
Examples acceptable Rigging for a Pilot Ladder





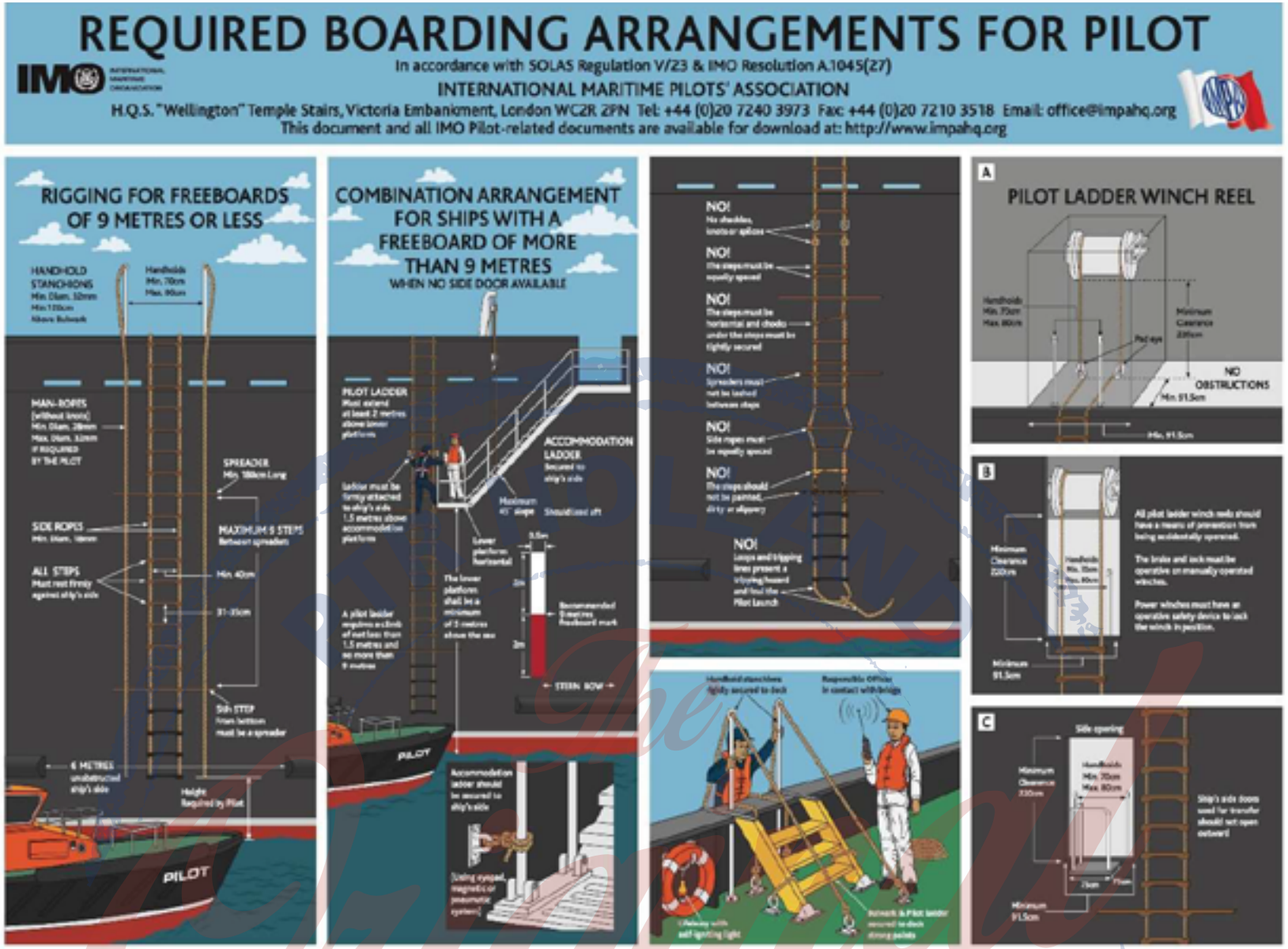


Examples unacceptable Rigging for a Pilot Ladder



5.4 IMPA Pilot Ladder (Boarding Arrangement)

IMPA Pilot Ladder Poster:- Annex C (Informative)

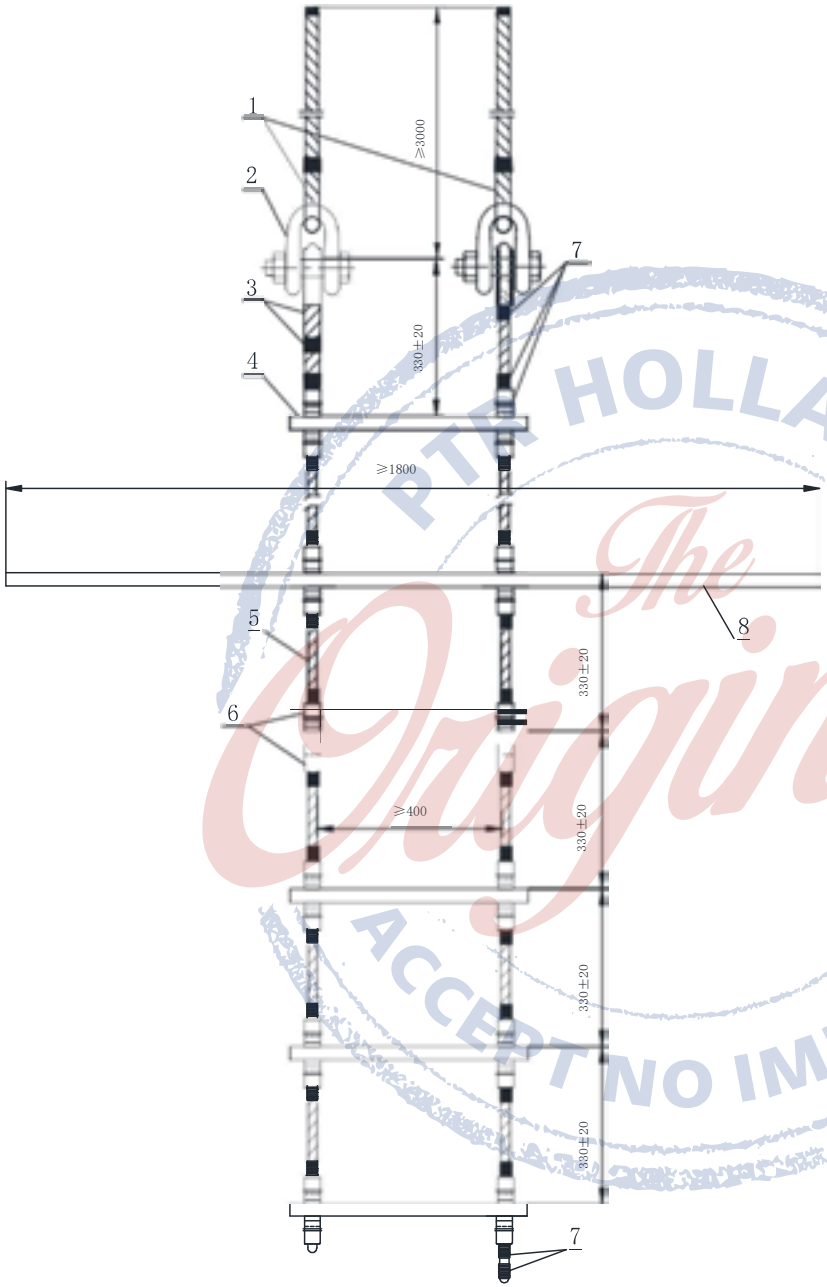


Normally, pilots board and disembark using a traditional rope ladder from and to a pilot boat. However, this can be a dangerous procedure if those involved do not adhere to International Maritime Organization (IMO) standards or fail to practice acceptable seamanship skills.

The three major causes of accidents are defects in the ladder treads, side ropes or a lack of proper attachment of the ladder to the vessel. Seafarers should always check the condition of the ladder before it is rigged and ensure it is secure to the ship.

In case of doubt or you have any questions, we can be contacted as below, Rotterdam:
info@ptrholland.com
+31.10.71.44.945
or check our website for our other worldwide offices.
www.ptrholland.com

5.5 Construction Types of Pilot Ladders for Reference



Key:-

1 Securing Rope

2 Shackle

3 Splice, Rope Seizing, Clamp

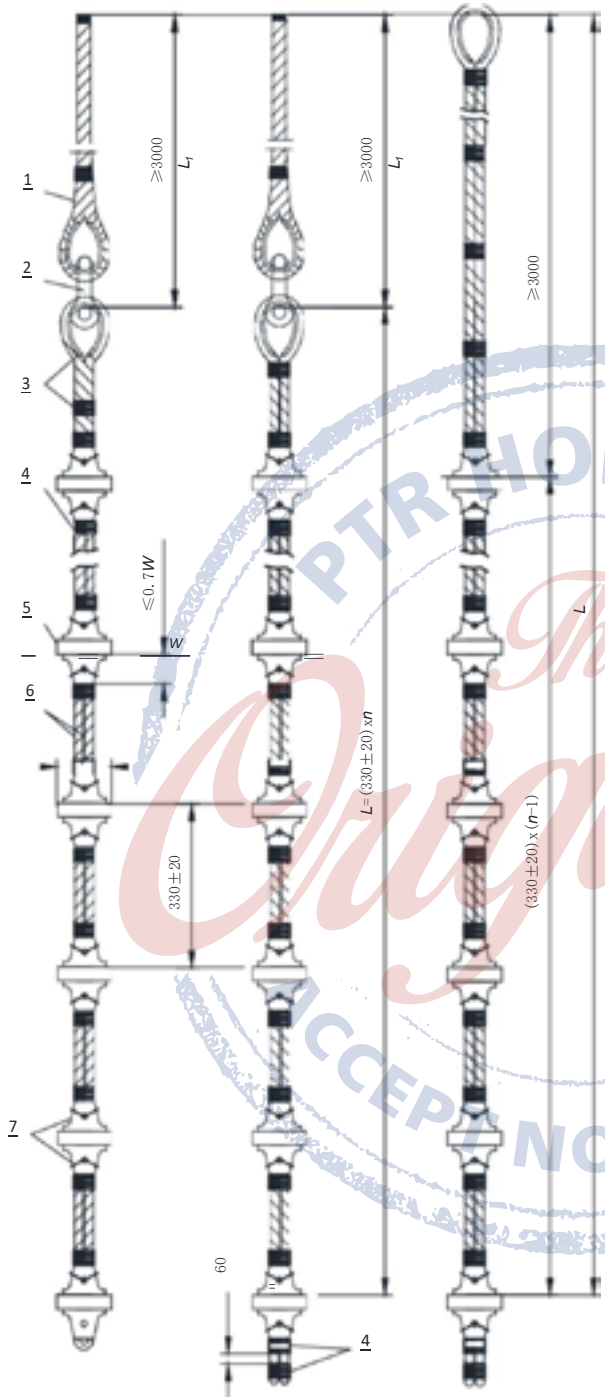
4 Wooden Step

5 Side Rope

6 Clamp Fixture

7 Rope Seizing

8 Spreader Step



Key:-

1 Securing Rope

2 Shackle

3 Splice, Rope Seizing, Clamp

4 Rope Seizing (figure eight racking type)

5 Wooden Step

6 Side Rope

7 Plastic Fixture, Chock- Step Fixture

Note 1: Length of securing rope: L1

Note 2: The length of ladder: L

Note 3: The width of the step: W

Note 4: The number of steps in the ladder: n

5.6 Replacement Criteria

Any damage to or degradation of a natural fibre rope ladder should be evaluated by an appropriately experienced crew member. If deemed necessary, or if any doubt exists, the ladder should be removed from service and repaired or replaced. The manufacturer shall offer replacement steps, including replacement spreader steps, for the ladder that can replace a removed step, without the need for unstringing and restringing the ladder. Replacement steps shall meet all the requirements in this document for steps, and each step shall be supplied with all parts necessary to install the step in the ladder.

Factors which may result in such action may include:

- Fraying, abrasion, cuts, or signs of excessive wear
- Deterioration (particularly if long fibres pulled from the rope lack strength and break easily)
- Damage caused by chemicals, detergent, or paint
- Powdering between strands
- Discoloration (other than benign stains)
- Rot or mildew
- Variations in diameter size
- Exposure to overloading or shock loads
- Kinks that are difficult to remove

If small sections of rope are found to be damaged or weakened, the entire length should be replaced completely. It is not acceptable to crop out the affected areas and reconnect the rope regardless of the method used (e.g. splicing, joining shackles, knots).

Steps, spreaders, clamps or chocks that are cracked, worn, split, splintered or painted should be replaced, as should any worn or missing anti-slip material. New chocks should always be secured with fresh seizing's or clamp fixtures. Any seizing's found to be in poor condition should be changed.

Replacement Procedure For Whippings

1. The damaged step or spreader should be carefully removed along with the whippings above and below the step. Every care should be taken not to damage the side ropes during this operation.
2. The replacement step/spreader should have the chokes placed on either side of the step where the cut outs are. Half of the choke one side of step and half the other side of step.
3. The step/spreader should then be placed in the ladder with the side ropes on both sides running along the groove in the choke. The step/spreader should be placed mid distance between the upper and lower step.
4. A figure 8 seizing of 3 ply tarred marlin should then be applied both above and below the winnet on both sides of the ladder to hold them tightly in place. The whipping should consist of a minimum 38mm length around both ropes and should be locked off with by means of a double frapping and finished off by passing between the side ropes.

If it is necessary to replace a rope ladder completely, the old one should be dismantled or destroyed to prevent the possibility of inadvertent use and recycled as per Ladder end of life information below.

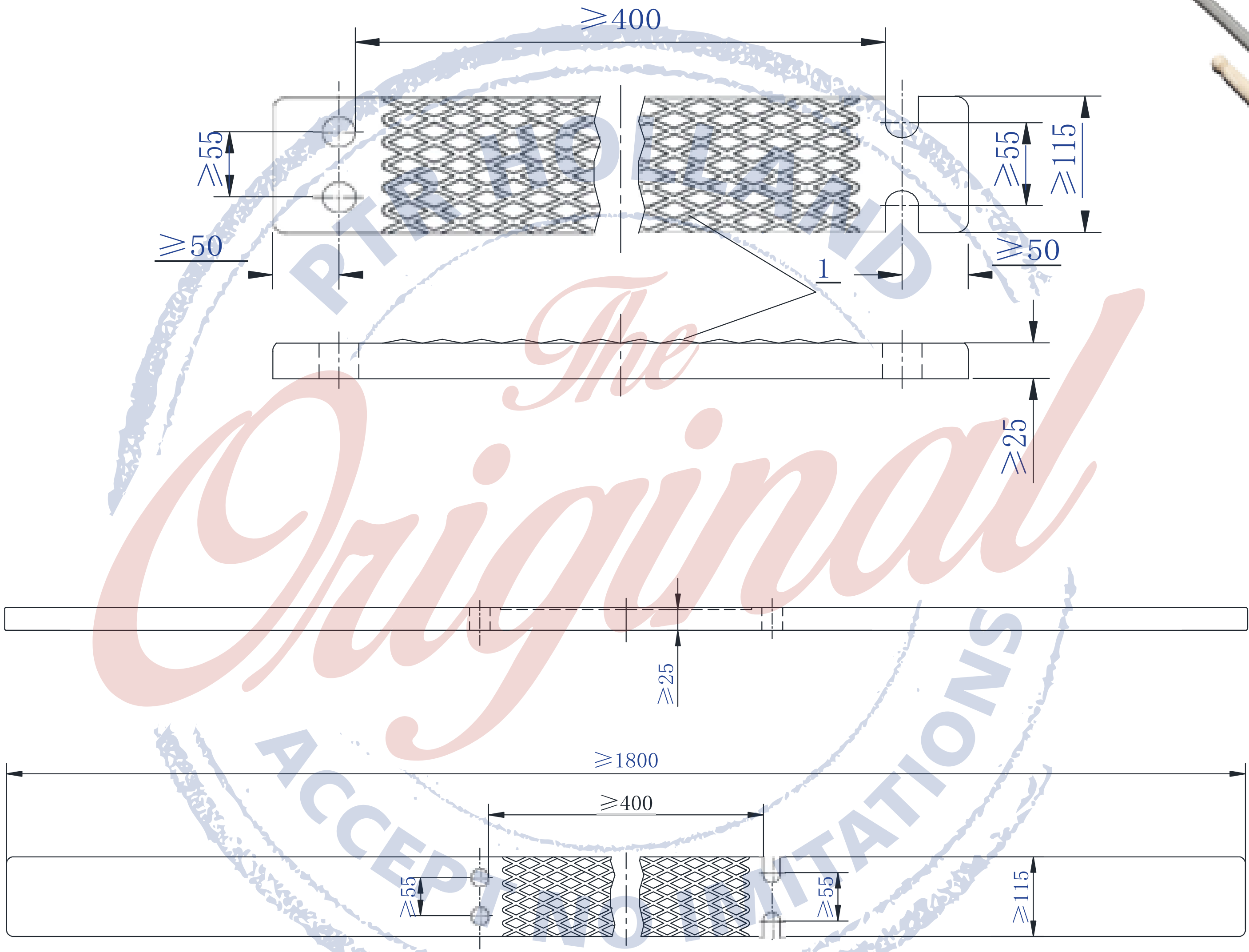
Replacement Procedure Metal Clamps

1. The damaged step or spreader should be carefully removed. Every care should be taken not to damage the side ropes and clamps during this operation.
2. The replacement step/spreader should then be slid into position with the grooves facing upwards between the 4 nylon chocks and set ready to take the nuts and bolts, these are tightened gradually securing the step in its new position.

We do not advise of any other repairs to the ladder except for the replacement of damaged steps as per ISO799-1 2019, the manufacturer or the manufacturers approved repair representative's facility. Shackles should be replaced if wear or corrosion has reduced the diameter of the crown or pin by more than 10%.

Pad eyes found to be worn beyond Classification Society limits should be renewed. Any cracked welds should be ground out, repaired by a suitably qualified welder, and subjected to Non-Destructive Testing (NDT) thereafter.

Repair step types



5.7 Product End of Life Information

This product is made from raw materials that when broken down, and which can be processed and used again and/or be recycled. See local waste facilities for advice.

OUR GLOBAL PRESENCE:

- ROTTERDAM
- PIRAEUS GREECE
- NEWCASTLE UK
- SINGAPORE
- HOUSTON TEXAS
- QINGDAO PRC
- UNITED ARAB EMIRATES (SOON)
- ALGECIRAS
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PTR HOLLAND® GROUP

Rotterdam
Dintelweg 107
3198 LB Europoort-Rotterdam
The Netherlands
Phone: (+31)10 - 714 49 45
Email: info@ptrholland.com

Singapore
16 Fan Yoong Road
Singapore 629793
Singapore
Phone: +65 62 65 65 95
Email: sales-singapore@ptrholland.com

Houston
822 E. Sam Houston Pkwy S.
Pasadena, Texas 77503
Phone: (+1) 281-884-8642
Email: sales-houston@ptrholland.com

Piraeus Greece
Markou Mpotsari 19
18538 Piraeus Greece
Phone: +30.210.418.3355
Email: hellas@ptrholland.com