
Pilbara Ports Mooring Standards (Port Hedland)

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Mariners and Port users,

We are pleased to announce the implementation of the Pilbara Ports Mooring Standards for Port Hedland, effective 1 January 2025. These standards are designed to ensure the highest levels of safety and operational efficiency for all vessels operating within our port. Compliance with the below-provided standards/ guidelines is essential for maintaining best practices in mooring

For enquiries related to the standard, please contact Pilbara Ports Port Hedland Harbour Master Team: PH.HMTeam@pilbaraports.com.au

Pilbara Ports appreciates your cooperation and commitment to maintaining the highest standards of marine safety at the Port of Port Hedland.



Behrouz Daei Zadeh
Harbour Master East (Port Hedland)

Ensuring safe and efficient mooring practices is paramount to the operations at the Port of Port Hedland. The following mooring standards have been established to uphold the highest levels of safety, environmental protection, and operational efficiency. These standards apply to all vessels operating within the port and are designed to promote best practices in mooring operations, effective from 1 January 2025.

1. MOORING LINE MANAGEMENT PLAN (MLMP)

1.1 Requirement

- The Document of Compliance (DOC) holder must have a Mooring Line management Plan.
- The DOC holder must ensure that vessels have a dedicated Mooring Line Management Plan.
- The MLMP should be integrated into the ship operator's requirements for maintenance, inspection, and retirement of mooring lines and tails throughout their lifecycle.
- The plan can be incorporated into existing safety or maintenance management systems.

1.2 Contents of MLMP

- Specific procedures for maintenance, storage, inspection, and operational use of mooring lines including the application of the render set point when the ship is at berth.
- Procedures and training protocols for the crew on snap-back zones, mooring hazards, and the application of the render set point.
- Mark Safe Working Load (SWL) on deck fittings in tonnes (t) or kilonewtons (KN).

1.3 Operational Guidelines

- Wear zone management as per MEG4, Section 5.4.4.
- Regularly updated mooring logs documenting certificate dates, first-in-use, end-to-end dates, storage conditions, and inspection details.
- Inspection of mooring tails before each use as specified in the MLMP.
- Procedures for winch brake render tests, including relevant calculations for both conventional drums and split drums.

1.4 Risk Assessment and Communication

- The Master must conduct and share specific risk assessments with the crew before berthing and un-berthing.
- During Master/Pilot exchanges and ship/shore interfaces, the Master must communicate concerns about all relevant factors and terminal limitations.
- Task analysis and refresher training on mooring systems must be periodically conducted.

1.5 Compliance and Certification

- DOC holders must ensure vessels comply with sufficient manning levels during mooring operations, as outlined in the operator's SMS or MLMP.

- All mooring lines and tails must have accurate, up-to-date certificates onboard.

2. MOORING LINES

2.1 Specifications

- Mooring lines must have a Minimum Breaking Load (MBL) of 100-105% of the Ship Design MBL.
- The maximum diameter of the mooring line must not exceed 110mm.
- The minimum length of the mooring line shall be 220 metres.

2.2 Uniformity and Condition

- Lines in the same service area must be of similar materials, MBL, diameter, and length.
- All lines, including spares, must be in good condition, free from knots, bends, splices, and wear/abrasion damage.
- All HMPE / HMSF lines must have suitable tails attached to the main line which is to the requirements of the OEM.

2.3 Service Life and Retirement

- All mooring lines must be end-to-end 2.5 years after first use and retired when residual strength is 75% of the design MBL or after 5 years from the certificate date.

2.4 Spare Lines

- A vessel must carry a minimum of 4 spare mooring lines of similar material, MBL, and diameter to the active lines.

3. MOORING TAILS

3.1 Specifications

- Mooring tails MBL shall be 125-130% of the ship design MBL.
- The maximum diameter of the mooring tails must not exceed 110mm.
- The standard recommended overall length for mooring tails is 11 metres, however, for exposed mooring a 22-metre tail provides additional elongation in the mooring arrangement.
- Masters to ensure that all tails connected to the main line are following the requirements of the OEM.
- Tails should be attached directly to HMSF / HMPE mooring lines using a cow hitch method. A cow hitch is a method of joining two fibre ropes without using connection devices.

3.2 Uniformity and Condition

- Tails in the same service area must be of similar materials, MBL, diameter, and length.

3.3 Inspection and Retirement

- Tails must be inspected before each use and retired when residual strength is 75% of the design MBL or after 24 months from the certificate date.

3.4 Spare Tails

- The vessel must carry a minimum of four spare mooring tails of similar material, MBL, and diameter to the active tails.

4. WINCH BRAKE RENDER TEST

4.1 Testing Requirements

- Conduct winch brake render tests at least annually or after any changes affecting the render test calculation.
- Pilbara Ports recommends the vessel's manager set the brake at 60% of the Ship Design MBL as per MEG 4 guidelines in section 6.4.6.
- Follow manufacturer-specific equipment and procedures for testing.
- Check the brake lining for significant wear. Brakes should be closely examined to ensure all linkages are working correctly, brake band material thickness is adequate, and the condition of the brake lining is satisfactory. Equipment manufacturer's manuals will provide details of the permitted minimum brake band thickness.

4.2 Operational Compliance

- The main purpose of brake render testing is to verify that the brake will render at a lower load than the Ship Design MBL.
- Use appropriate test kits and follow manufacturer recommendations for the brake setting and calibration.
- For conventional screw brakes, a tag should be attached stating the torque value.
- For spring-applied brakes, the spring compression distance should be recorded, and the mechanisms secured with a seal.
- A stopper arrangement, i.e. locking nut on the threaded end, should not be used on the tightening screw. Stopper arrangement can impede the brake setting and reduce the brake holding load. (Mooring Equipment Guidelines (MEG4), 2018)

5. ADDITIONAL REQUIREMENTS

- Tails must be retired after 24 months without exception.
- Maintain a minimum of 4 spare lines and four tails onboard, adhering to the MLMP specifications.
- All spare lines and tails must match the material, MBL, and diameter of the active lines onboard.
- The MBL of the stopper should be around 50% of the MBL of the line being stopped. Polyamide (nylon) stoppers should not be used on polyamide lines due to the low coefficient of friction of the material.

- The entire area of the mooring deck should be considered a potential snap-back zone. All crew working on a mooring deck should be made aware of this with clearly visible signage. All crew should be trained and be familiar with bights, snap-back zones, connecting tug lines, let-go tug lines and the hazards associated with mooring operations.
- All mooring lines and tails certificates must be kept on board.
- All mooring lines are to be tended regularly during the vessel's stay at the nominated terminal/berth at the Port of Port Hedland.

6. NON-COMPLIANCE

Vessels not compliant with the mooring line retirement policy set in this standard will be assessed on a case-by-case basis and require approval from Pilbara Ports and the terminal. The assessment will consider:

- Condition of the lines
- Operator's mooring-related incident history
- Documented maintenance and storage regimes
- Documented hours of use for each mooring line
- Terminal's acceptance letter

By adhering to these standards, Pilbara Ports aims to enhance safety, operational efficiency, and environmental protection in all mooring activities at the Port of Port Hedland.