# Mooring System Maintenance — study guide



Mooring lines and winches are only as good as their maintenance. This guide covers storage, inspection, load terms and the brake test.[1]

## Storage and preventive maintenance

Ensuring lines are stored correctly is an important part of **preventive maintenance**. Lines should be stored in a **protected** area, and **twist and turns** should be removed from the lines before storing. Using covers, mats or protective sleeves also helps mooring lines achieve a long and safe service life.

## Inspection

During inspections of mooring systems, consider the specific processes on board and practical experience with the specific lines. The same **type and size** of mooring line should be used for the same service.

## Load terms

- **Safe Working Load (SWL)** — the maximum safe load that a **fixed** piece of equipment can handle without risk of breaking.
- **Working Load Limit (WLL)** — the maximum safe load for a **mooring line**.
- **Ship Design Minimum Breaking Load (MBL)** — the minimum load at which a new and dry mooring line could break.

## Winch brake tests

Winch brake tests are performed to confirm that the **brake renders (slips) before the line's MBL is reached**, so that the line is protected rather than broken. The statement that brake tests ensure the brake does *not* render before MBL is reached is therefore **false**.

## Key facts to remember

- Correct storage = preventive maintenance: protected area, remove twist and turns first.
- Inspect using the ship's specific processes and experience with the specific lines.
- Same type and size of line for the same service.
- SWL = fixed equipment limit; WLL = mooring line limit; MBL = minimum breaking load of a new dry line.
- Winch brake test: the brake should render before MBL so the line is protected.
- Use covers, mats or sleeves to extend line life.

## Sources

1. OCIMF Mooring Equipment Guidelines (MEG4) — line management, inspection and

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winch brake testing.

2. SOLAS Chapter II-1, Regulation 3-8 — towing and mooring equipment.