



Purpose:

The e-learning module is designed for theoretical training of ratings as able seafarer deck in accordance with Chapter II of the STCW Convention in the part concerning of mooring equipment.

The ELM is included in the "*Able seaman*" library.

What is an e-learning module?

E-learning module is the electronic textbook on one or more sections. Theoretical materials can be accompanied by drawings, diagrams, photos, animations and videos. There is a test for assessment of knowledge gained at the end of each section.

Contents:

- Mooring System Components
- Safety Regulations for Mooring Operations
- Safety rules during mooring operations

Target groups

Deck - Support

Ship types

Generic



Regulations

Table A-II/5 STCW Code

Competence:

Contribute to berthing, anchoring and other mooring operations

Knowledge, understanding
and proficiency:

Working knowledge of the mooring system and related procedures




MOORING EQUIPMENT
Version: 02/2023

Section 1. Mooring System Components

Mooring System Components.

The mooring arrangement is used to fasten the vessel to the berth, alongside another vessel, to mooring buoys, mooring bits, as well as shifting the vessel along the berths.



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Section 1. Mooring System Components


MOORING LINES.

Fiber, wire and synthetic ropes are used as mooring lines. A quantity and size of the ropes are determined according to the supply characteristic of a given vessel.

Wire ropes are used less and less as they poorly take up dynamic loads, require great physical force when they are given from the ship to the berth. On seagoing vessels, the most commonly used are wire mooring lines 19 to 28 mm in diameter.

Mooring lines made of synthetic ropes became a frequent practice. They are lighter than equal-strength steel and fiber mooring lines, have good flexibility, which is maintained at relatively low temperatures.

Mooring lines made of polypropylene or terylene ropes are the most convenient. Their strength is lower than the nylon ones, but due to their lower elasticity, they better fix the position of the vessel at the berth and are less dangerous in



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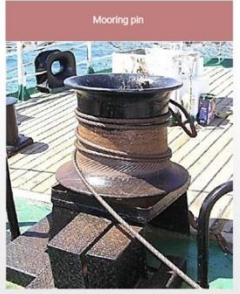
Section 1. Mooring System Components

MOORING GEAR.

Mooring pins, ordinary and automatic mooring winches, windlasses (to work with bow mooring lines) are used as mooring machinery for heaving in and tightening mooring lines.

Mooring pins are installed to work with stern mooring lines. They take up little space on deck, the mooring pins gear is located below deck.

To heave up mooring lines on the forecastle, the windlass mooring warping heads are used.

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Section 1. Mooring System Components

RIDING STOPPER.

The stopper is pulled along the mooring line in the direction of tension. When the mooring line is on the stopper, the cable should not abruptly be dropped from the gypsy head or capstan so as not to tear off the stopper by the jerk. The mooring lines should first be carefully slacked back by the reverse motion of the capstan or windlass without removing the turns from the drum, and, only after making sure that the stopper securely holds the mooring line, the latter should be quickly shifted to the bollard.

Large ships may use stationary swivel type stoppers where the rope is clamping by a screw between the cheeks. The stationary stoppers are installed on deck between the chock or fairlead and the bollard.

Taking in and fastening of mooring lines is greatly simplified when using bollards with rotating pillars, which have begun to be used recently. The mooring line is laid in figure-eight on the bollard pillar and given to the windlass gypsy head. When taking in the rope, the bollard pillars turn freely giving the cable. After removing the cable from the windlass gypsy head, it will not be slacked back as the bollards have a stopper that prevents them from turning in the opposite direction.



Removable stoppers:
a) fiber;
b) chain.

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Section 3. Safety rules during mooring operations.

Safety rules during mooring operations.

1. When preparing for mooring, the Master must be on the navigation bridge and must command himself the maneuvers of the ship.
2. Before mooring to the berth, the side port-glass on the mooring board must be closed.
3. Before starting the mooring operations, make sure that the mooring machinery and reels are in good condition and work properly.
4. Start-up the mooring machinery only on the command of the person in charge of operations.




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Test tasks



Test of question:
What is the name of the part №4?
Choose the correct answer:

Butt.
 A hat.
 Base.
 Stopper.
 Tide.
 Curbstone.

Attempts: 1

COMMENT

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