



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 operations.

The ELM is included in the "*Able seafarer deck*" 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:

- Types of mooring operations. Preparation for mooring operations. Securing the vessel at the mooring point. Mooring of the vessel at mooring lines at the berth.
- Use and care of the mooring device
- Safety rules during mooring operations
- Mooring of the vessel to the berth side (log) and stern
- Special aspects of mooring twin-screw vessels
- Mooring a vessel using tugs
- Safety of ship staying alongside the berth
- Hauling the vessel along the berth and turning it around
- Barreling the vessel
- Mooring to the side of another vessel at anchor or underway
- Entry of a vessel into a floating dock
- Features of mooring operations in ice
- Departure of the vessel on voyage

Target groups

Deck - Support

Ship types

Generic



Regulations

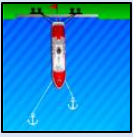
Table A-II/5 STCW Code

Competence:

Contribute to berthing, anchoring and other mooring operations

Knowledge, understanding
and proficiency:

Working knowledge of the mooring system and related procedures

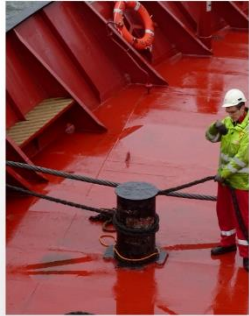


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Section 2: Use and care of the mooring device

When the vessel is moored, the following must be performed:

1. It is forbidden to leave the wire mooring lines on the winless drums, even for a short time as, when pulling or jerking the moorings, the shafts of machinery might be bent.
2. In places with a sharp fluctuation in the water level, it is recommended that, as mooring lines, fiber ropes or ropes be used that are made of synthetic materials.
3. During loading and unloading, it must be checked that all mooring lines are equally tight and do not have excessive slack or are not too tight. Particular attention should be paid to mooring lines in ports where water level fluctuations occur.
4. When there are strong winds or currents, the mooring lines that experience the most stress shall be evenly tightened. Where there is swell, the mooring lines shall have some slack in order to reduce their tension when the vessel sways.
5. When it rains, mooring lines and lanyards made of fiber ropes must be periodically slacked back, because when wet, they shorten by 10 – 12% and might be broken.

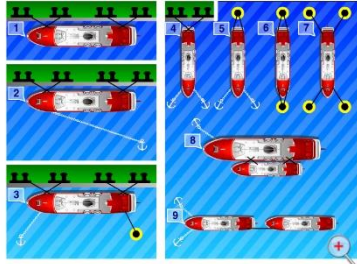


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Section 4: Mooring of the vessel to the berth side (log) and stam



Main methods of ship's mooring:
1 – alongside; 2 – alongside with dropped anchor; 3 – alongside with dropped anchor and mooring line on the buoy; 4 – stern-on mooring; 5 – at the buoy with dropped anchor; 6 – at two buoys; 7 – at four buoys; 8 – ship-to-ship; 9 – at guess-rope.


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Section 3: Safety rules during mooring operations

Work by the crew during ship's mooring



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Section 4: Mooring of the vessel to the berth side (log) and stam

APPROACH TO THE BERTH BY PORT SIDE BETWEEN LYING VESSELS.

The following must be carried out to perform the maneuver:

1. approach the berth at an angle of 30 – 40° at slow ahead or by inertia;
2. drop the anchor from the "sea" side, not reaching 75 – 100 m to the berth, continuing to approach it by inertia and slacking back the anchor chain;
3. approach the berth, hold the anchor chain, give and fix the head line and forward spring, put the rudder away from the berth and give speed ahead;
4. when the stern of the ship approaches the berth, stop the engine, give and fix the aft lines.



Approach to the berth by port side between lying vessels.

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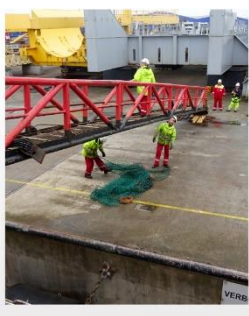
Section 7: Safety of ship staying alongside the berth

Safety of ship staying alongside the berth

Upon completion of mooring operations, it is necessary to give the "finished with engine" command. Then, a part of the crew is sent to prepare the ship for cargo operations, and another part to provide the connection to the shore, that is, to prepare the accommodation ladder or install a gangway; sometimes, a storm ladder has to be used as temporary connection with the shore.

Any of the above means of connection to the shore must be secured and equipped with safety nets; handrails must be installed and guide ropes tightened, a life buoy with a throwing line must be ready. At night, adequate lighting must be provided.

Wooden or tarpaulin shields are to be hung using the scouppers plug on the board facing the berth, especially those of the sewage disposal system and of the main condenser outlet pipe.




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Test tasks



Test of questions

When is it necessary to moor to an anchored vessel?

Choose the correct answer:

- At the moment the center line of the anchored vessel coincides with the line of action of external forces.
- At the moment this vessel goes the greatest distance from the dropped anchor.
- At the moment when this vessel goes the least distance from the dropped anchor.

Answer: 1

COMMENT

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