SHIPHANDLING AT MOORING OPERATIONS

Purpose:

The e-learning module (ELM) is designed for theoretical training of navigators in accordance with Chapter II of the STCW Convention in the part concerning of mooring operations.

The ELM is included in the *"Shiphandling basics"* 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
- General principles of mooring operations
- Self-mooring the vessel
- Special aspects of mooring twin-screw vessels
- Ship's mooring with assistance of tug-boats
- Safety of ship staying alongside the berth
- Ship's shifting along the berth and turn at the berth
- Mooring in Ship-to-Ship Operations
- Specific features of mooring operations in ice
- Ship's departure from the berth

Target groups

Deck - Management
Deck - Operational

Ship types

Generic

Regulations

Table A-II/1 STCW Code

Competence:	Manoeuvre the ship
Knowledge, understanding and proficiency:	*Ship manoeuvring and handling* Knowledge of: .5 proper procedures for anchoring and mooring

Table A-II/2 STCW Code

Competence:	Manoeuvre and handle a ship in all conditions
Knowledge, understanding and proficiency:	Manoeuvring and handling a ship in all conditions, including: .6 berthing and unberthing under various conditions of wind, tide and current with and without tugs.

Table A-II/3 STCW Code

Competence:	Manoeuvre the ship and operate small ship power
Knowledge, understanding and proficiency:	*Ship manoeuvring and handling* Proper procedures for anchoring and mooring.

E-learning module

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Storm Sim

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Section 1. Mooring System Components

Mooring arrangement.

A mooring arrangement consists of the following:

- ✓ mooring lines;
- ✓ bollards;
- ✓ mooring hawse and fairleaders;
- ✓ fairleads (with or without rollers);
- ✓ reels and dampers;
- ✓ mooring mechanisms (windlass, capstan, winch);
- ✓ auxiliary equipment (stoppers, fenders, clips, heaving lines).
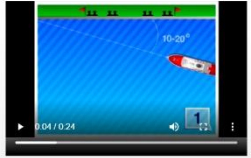
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Section 6. Self-mooring the vessel

APPROACH TO THE BERTH BY STARBOARD SIDE WITHOUT DROPPING ANCHOR IN CALM WEATHER.

When performing this maneuver, one should remember that, when running the engine astern, the stern will go away from the berth, and the bow towards the berth. Therefore, it is necessary to approach the berth at a sharper angle (10 – 20°), after giving the head mooring lines, the rudder should be put hard to port and the engine must go ahead for a short period so that the stern comes closer to the berth.

As soon as the aft lines are given, the engine must run astern to stop the headway, then the ship will stop parallel to the berth line, after which she is pulled up and fixed.

Approach to the berth by starboard side without dropping anchor in calm weather.

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Section 3. Safety rules during mooring operations.
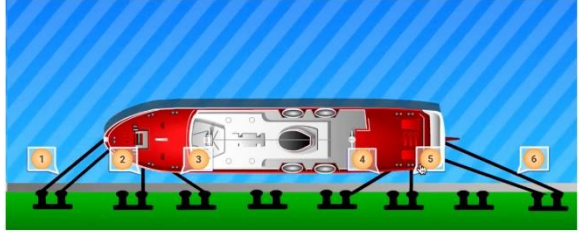
Work by the crew during ship's mooring

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Section 4. General principles of mooring operations.

Diagram of setting of mooring lines on a ship lying alongside the berth:

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Section 11. Specific features of mooring operations in ice

Non-assisted mooring is only allowed in brash ice. If it is necessary to berthing alongside, the berth is approached with the bow to the mooring place where the berth will be located, and if the berth is free along the aft, further towards the aft for a distance equal to half or third of the length of the ship's hull. Then head lines are given and the forward is moved along the berth, chipping the ice with the stem and pushing it with the shoulder. If necessary, lightly operate the main engine, keeping the original direction of the hull to the berth using the rudder. When the bow approaches the mooring place, the spring is held, the rudder is turned hard from the berth, the main engine goes at slow ahead pushing the aft to the berth, then the main engine is stopped and the aft lines are given.

Mooring in the ice alongside the berth using the tugboats is performed in the same way as in the previous case, with the bow moving along the berth. This method makes it possible to move large ice floes from the berth and to push the aft much faster and safer than when approaching beam to the

Non-assisted mooring in brash ice.

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Test tasks

Text of question

What type of towing during mooring/unmooring is shown in the figure?

Choose the correct answer

- ○ Push towing.
- ○ Push/pull.
- ○ Short rope.
- ○ Tow on the towing hook.
- ○ Tow on bitt

Attempt: 1

COMMENT

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