E-learning Modules Library

# ABLE SEAFARER DECK

**Description**

E-learning modules library (ELM Library) “Able Seafarer deck” consists of the set of ELMs.

**Purpose**

ELM Library is designed for theoretical training of Ratings as Able Seafarer Deck and ratings forming part of a navigational watch (RFPNW).

**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:**

1. ELM “Signs of ship classification”
2. ELM “Steering gear“
3. ELM “Anchor equipment“
4. ELM “Mooring equipment“
5. ELM “Towing equipment“
6. ELM “Ship fittings“
7. ELM “Life-Saving appliances“
8. ELM “Cargo handling equipment“
9. ELM “Ship systems“
10. ELM “Nautical tools and devices”
11. ELM “Watchkeeping“
12. ELM “Look-out by sight and hearing”
13. ELM “Emergency procedures“
14. ELM “Pilot ladder“
15. ELM “Mooring operations”
16. ELM “Towing operations”
17. ELM “Anchoring operations“
18. ELM “Cargo operations“
19. ELM “Shipboard maintenance and repair”
20. ELM “Marine environmental pollution prevention”

**Target groups**

Deck - Support

**Ship types**

Generic

**Regulations**

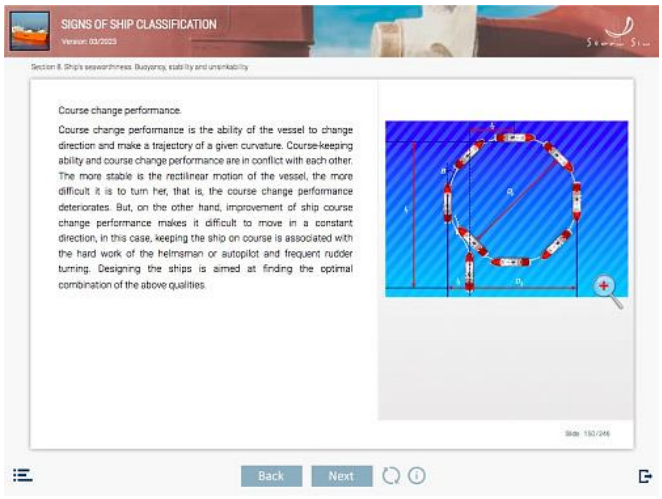
STCW Convention:

- Regulation II/4
- Regulation II/5

STCW Code:

- Section A-II/4
- Section A-II/5

# ABLE SEAMAN


SIGNS OF SHIP CLASSIFICATION
Course change performance.
Course change performance is the ability of the vessel to change direction and make a trajectory of a given curvature. Course-keeping ability and course change performance are in conflict with each other. The more stable is the rectilinear motion of the vessel, the more difficult it is to turn her, that is, the course change performance deteriorates. But, on the other hand, improvement of ship course change performance makes it difficult to move in a constant direction, in this case, keeping the ship on course is associated with the hard work of the helmsman or autopilot and frequent rudder turning. Designing the ships is aimed at finding the optimal combination of the above qualities.
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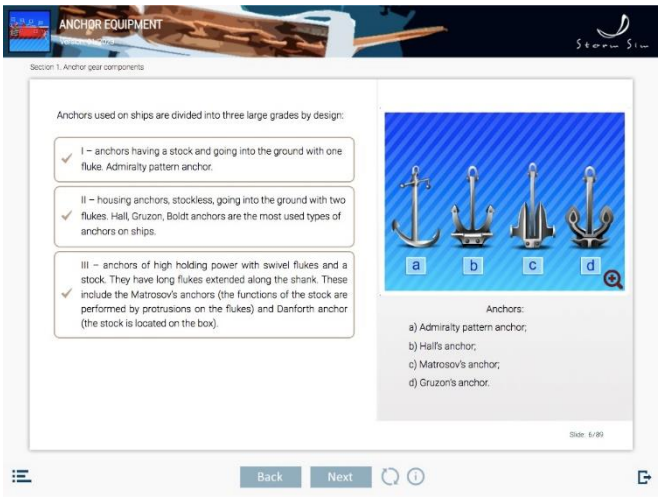
ANCHOR EQUIPMENT
Anchors used on ships are divided into three large grades by design:
I – anchors having a stock and going into the ground with one fluke. Admiralty pattern anchor.
II – housing anchors, stockless, going into the ground with two flukes. Hall, Gruzon, Boldt anchors are the most used types of anchors on ships.
III – anchors of high holding power with swivel flukes and a stock. They have long flukes extended along the shank. These include the Matrosov's anchors (the functions of the stock are performed by protrusions on the flukes) and Danforth anchor (the stock is located on the box).
a
b
c
d
Anchors:
a) Admiralty pattern anchor;
b) Hall's anchor;
c) Matrosov's anchor;
d) Gruzon's anchor.
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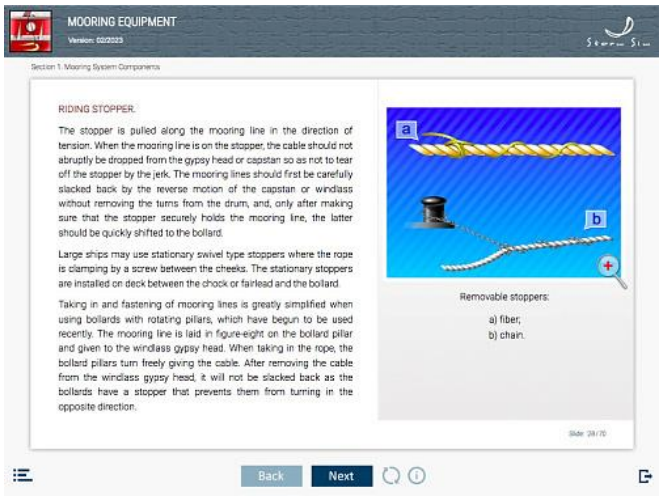
MOORING EQUIPMENT
RIDING STOPPER.
The stopper is pulled along the mooring line in the direction of tension. When the mooring line is on the stopper, the cable should not abruptly be dropped from the gypsy head or capstan so as not to tear off the stopper by the jerk. The mooring lines should first be 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.
a
b
Removable stoppers:
a) fiber;
b) chain.
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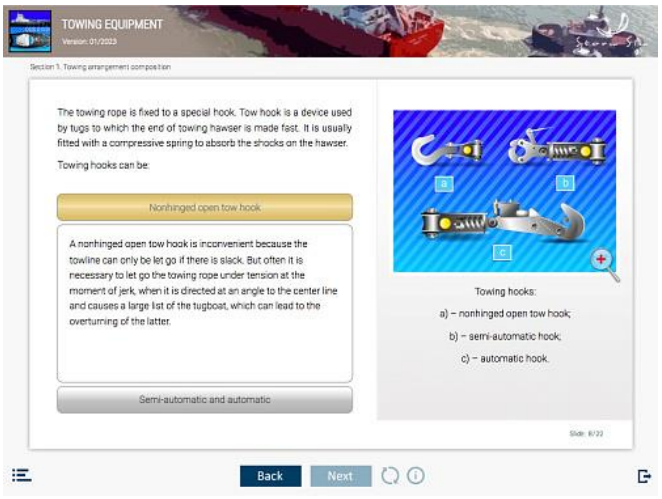
TOWING EQUIPMENT
The towing rope is fixed to a special hook. Tow hook is a device used by tugs to which the end of towing hawser is made fast. It is usually fitted with a compressive spring to absorb the shocks on the hawser.
Towing hooks can be:
Nonhinged open tow hook
A nonhinged open tow hook is inconvenient because the towline can only be let go if there is slack. But often it is necessary to let go the towing rope under tension at the moment of jerk, when it is directed at an angle to the center line and causes a large list of the tugboat, which can lead to the overturning of the latter.
Semi-automatic and automatic
a
b
c
Towing hooks:
a) – nonhinged open tow hook;
b) – semi-automatic hook;
c) – automatic hook.
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CARGO HANDLING EQUIPMENT
The folding hatch cover can be made of one cover that covers the entire hatch. The cover is hinged to the coaming and, when the hatch is open, it takes vertical position, which creates some inconvenience during cargo operations.
Therefore, the folding hatch cover with two covers is more often used, each cover closes only half of the hatch. The cover consists of two parts – sections, hinged to each other. A powerful hydraulic drive is used to open and close the covers.
1
2
3
4
5
6
7
8
9
Folding hatch cover with hydraulic drive:
1 – leading section; 2 – driven section; 3 – slot for the stopper plank; 4 – driven section roller; 5 – limiting support; 6 – supports; 7 – plunger; 8 – rubber shock absorbers; 9 – end brackets.
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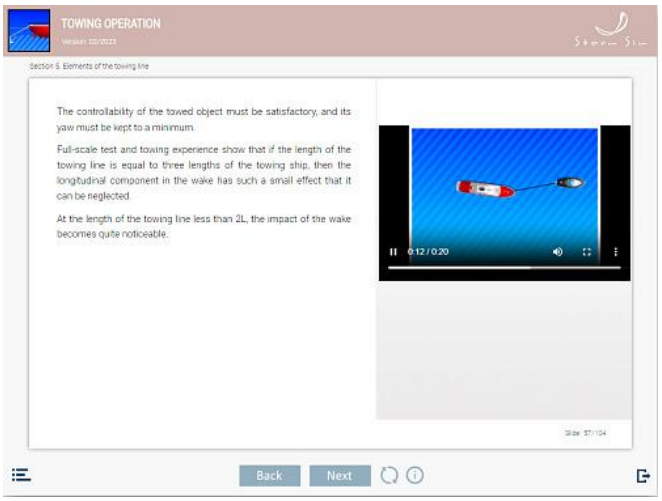
TOWING OPERATION
The controllability of the towed object must be satisfactory, and its yaw must be kept to a minimum.
Full-scale test and towing experience show that if the length of the towing line is equal to three lengths of the towing ship, then the longitudinal component in the wake has such a small effect that it can be neglected.
At the length of the towing line less than 2L, the impact of the wake becomes quite noticeable.
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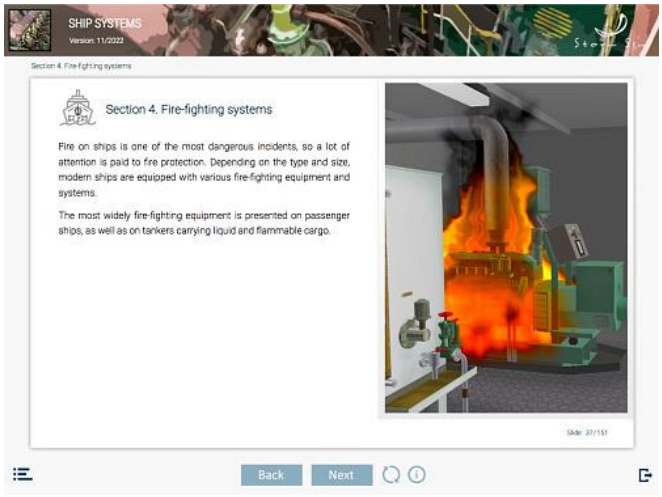


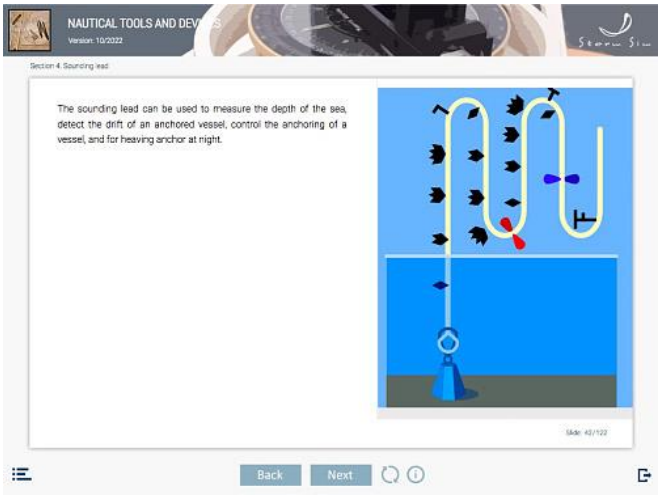


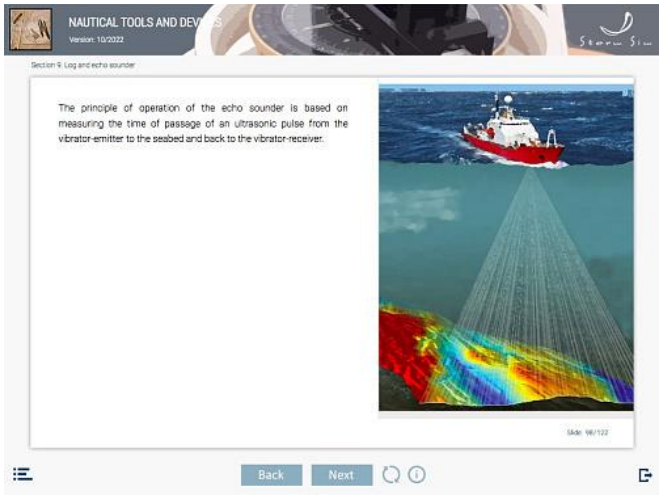


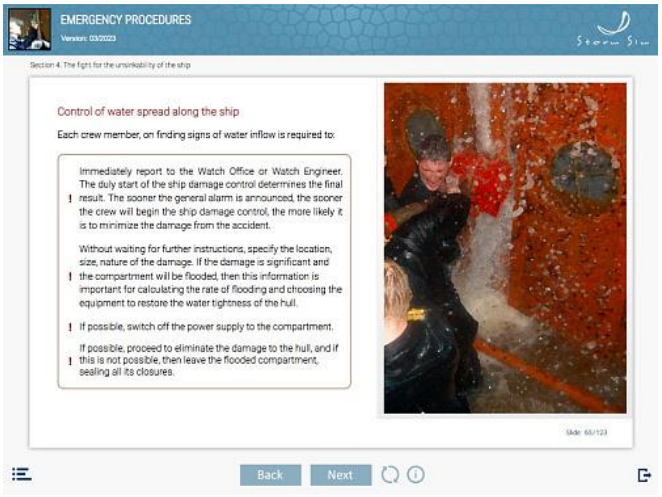


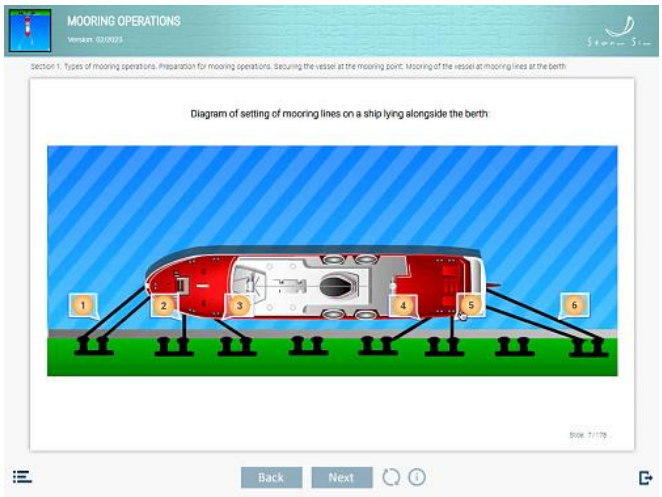


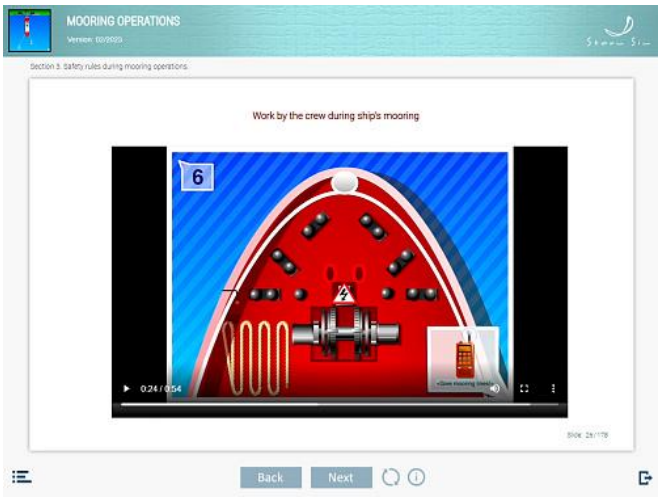


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