

## Overview

This standard identifies the competences you need to carry out mooring and berthing operations, in accordance with approved procedures. You will be required to handle mooring wires, ropes and chains, and to operate capstans, winches and windlasses correctly and safely. In addition, you will be able to position and secure gangways, walkways, platforms and pontoons. Prior to carrying out mooring and berthing operations, you must ensure that mooring wire, ropes and chains are in a suitable condition and are laid out to minimise any risk of injury to persons involved in the operations, that there is power to windlasses, winches and capstans and that they are operating correctly. Any developing or actual unsafe situations must be communicated immediately to the person who has overall responsibility for the berthing and mooring operation. During mooring and berthing operations, you will be expected to comply with organisational procedures, which will include the proper interpretation or verbal orders, some of which will be via radio communication and the use and interpretation of hand signals.

This standard applies to floating structures and vessels, with or without their own power, assisted by tugs or being positioned using ancillary machinery.

Your responsibilities will require you to comply with organisational policy and procedures for the mooring and berthing activities undertaken and to report any problems with these activities that you cannot personally resolve, or are outside your permitted authority, to the relevant people. You will be expected to work with a minimum of supervision, taking full responsibility for your own actions and for the safety of yourself and others around you.

Your underpinning knowledge will provide a good understanding of mooring and berthing operations and will provide an informed approach to applying the laid-down procedures. You will understand the handling characteristics of hawsers, wire ropes and chains, and the correct use of ancillary machinery used in the berthing and mooring operations. You will understand signalling and communication procedures, in sufficient depth to provide a sound basis for carrying out the mooring and berthing activity safely and correctly. You will also understand the storage, maintenance and inspection requirements of the mooring equipment.

You will understand the safety precautions required and risks involved in the mooring and berthing operations and the ways in which these can be minimised. You will be

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required to demonstrate safe working practices throughout and will understand the responsibility you owe to yourself and others, both ashore and afloat.

## Performance criteria

### *You must be able to:*

1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. follow the relevant operational procedures when carrying out your activities
3. carry out your activities within the limits of your personal authority
4. prepare equipment/machinery correctly for mooring/berthing operations
5. establish within time constraints ship to shore link
6. use signals and other communications effectively
7. position and secure vessel with regard for prevailing conditions
8. complete relevant documentation in line with organisational procedures

## Knowledge and understanding

### *You need to know and understand:*

1. the specific safety precautions to be taken during mooring and berthing operations (to include personal protective equipment (PPE), safety of others, accident procedures, statutory regulations and risk assessment procedures)
2. the hazards associated with carrying out mooring and berthing operations and how they can be minimised
3. the signalling techniques used during the mooring and berthing operations
4. the various verbal commands and communication methods that are used (including correct radio communication procedures)
5. the correct operation of winches, windlasses and capstans (particularly with regard to emergency stops)
6. the correct methods of laying out hawsers, wire ropes and chains, in preparation for mooring and berthing operations
7. how to establish ship/structure-to-shore links
8. the characteristics of hawsers, of different materials, and wire ropes when being heaved, or slackened on winch, windlass and capstan drums
9. the action of the various hawsers and wires when subject to breaking strains
10. the importance of fair leads when heaving or slackening hawsers and wire ropes
11. the range of equipment and machinery necessary for mooring and berthing operations
12. the effect of environmental conditions (including tides and wind) on mooring and berthing operations
13. the purpose of equipment such as headlines and springs when carrying out mooring and berthing operations
14. the techniques for applying stoppers to hawsers, wire ropes and chains
15. securing hawsers, wire ropes and chains to bollards and mooring posts.
16. assessing mooring requirements (number of parts) with relation to weather and tidal conditions
17. checking the condition of hawsers, wire ropes, chains and associated equipment
18. the correct storage of hawsers, wire rope and chains

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19. the problems that can occur with the mooring and berthing operations and how these can be overcome
20. the importance of ensuring that the completed mooring is safe and secure
21. the importance of ensuring that guard rails, chains and stanchions are correctly secured
22. what to do if you find flaws or damage in the hawsers, wire ropes or chains
23. the extent of your own responsibility and whom you should report to if you have problems that you cannot resolve

### Scope/range related to performance criteria

1.

Ensure that all of the following have been carried out, prior to mooring and berthing operations:

- 1.1 power supply to winches, capstans windlasses is switched on and they are operating correctly
- 1.2 hawsers, wire ropes and chains are laid out in such a way as to minimise risk during the operations
- 1.3 communication systems are adequate and operational
- 1.4 rope and wire stoppers are in place
- 1.5 the nature of the mooring/ berthing operation is understood
- 1.6 all hawsers, wire ropes and chains are suitable for the mooring berthing operation and are in good condition

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1.

Establish a ship-to-shore link, using **two** of the following:

- 1.1 heaving line
- 1.2 rocket line
- 1.3 mooring boat
- 1.4 tug

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1.

Operate **two** of the following during the berthing/mooring operations:

- 1.1 electric windlass
- 1.2 hydraulic windlass
- 1.3 electric winch
- 1.4 hydraulic winch
- 1.5 electric capstan
- 1.6 hydraulic capstan

2.

Take part in and direct the positioning of the vessel, craft or structure, ensuring fair leads and using **three** of the following:

- 2.1 hawsers
- 2.2 wire ropes
- 2.3 chains
- 2.4 head ropes
- 2.5 letting go anchor
- 2.6 weighing anchor
- 2.7 headlines

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- 2.8 stern lines
- 2.9 breast lines
- 2.10 springs

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1.

Secure the vessel, craft or structure in place, ensuring adequate moorings to suit the conditions, to include carrying out **three** of the following

- 1.1 using rope stoppers
- 1.2 using chain stoppers
- 1.3 using patent stoppers
- 1.4 turning up hawsers and wire ropes on bollards and mooring posts and making secure
- 1.5 setting up and adjusting tension winches

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1.

During berthing and mooring operations, position and secure **two** of the following:

- 1.1 gangways
- 1.2 walkways
- 1.3 platforms
- 1.4 pontoons
- 1.5 landing stages
- 1.6 fixed fenders

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1.

Let go the vessel, craft or structure from the moorings, ensuring **all** of the following:

- 1.1 head and stern lines, breast lines and springs are singled up and let go in the correct sequence
- 1.2 relevant people are informed when letting go moorings that could foul propellers or thrusters.
- 1.3 all lines are retrieved with the maximum speed, consistent with safety
- 1.4 where appropriate, tugs are secured prior to letting go
- 1.5 retrieved hawsers and wire ropes are safely coiled to avoid trip hazards

## Behaviours

### **Behaviours:**

You will be able to apply the appropriate behaviours required in the workplace to meet the job profile and overall company objectives, such as:

- strong work ethic
- positive attitude
- team player
- dependability
- responsibility
- honesty
- integrity
- motivation
- commitment

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