

Installing rigging and lifting equipment

Overview

This standard identifies the competences you need to install rigging and lifting equipment, in accordance with approved procedures. You will be required to install the rigging and lifting equipment, and to comply with health and safety requirements and Lifting Operations and Lifting Equipment Regulations (LOLER). The rigging and lifting equipment to be installed will include such items as tower, jib and overhead cranes, fixed and swinging derricks, lifeboat davits, accommodation ladders, anchor cables, and standing rigging (such as stays, aerials and guy pennants). You will be expected to use safe and appropriate techniques to install and secure the equipment in position, ensuring that the rigging arrangements are as laid down in the plans and specifications, particularly with regard to safe working load (SWL) or working load limit (WLL). Prior to installation, you must ensure that all items of equipment, including wire and fibre ropes, have relevant test certificates and are free from defects.

Your responsibilities will require you to comply with health and safety regulations and your organisation's policies and procedures for the installation activities undertaken and to report any problems with these activities that you cannot resolve, or are outside your defined authority, to the relevant people. You will be expected to work with a minimum of supervision, taking personal responsibility for your own actions and for the accuracy and safety of the work that you undertake.

Your underpinning knowledge will provide a good understanding of your work and will provide an informed approach to applying the required installation procedures for marine rigging and lifting equipment. You will understand the layout and requirements of the rigging and lifting arrangements, their intended use and the constraints and limitations of the respective rigs. You will know about the installation of the rigging and lifting equipment, in adequate depth to provide a sound basis for carrying out the activities to the required specification.

You will understand the safety precautions required when carrying out the installation of the rigging and lifting equipment. You will be required to demonstrate safe working practices throughout and will understand your responsibility for taking the necessary safeguards to protect yourself and others from accidents and injury in the workplace.

Installing rigging and lifting equipment

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 all relevant drawings and specifications for the installation being carried out
3. use the correct tools and equipment for the installation operations and check that they are in a safe and usable condition
4. install, position and secure the equipment and components in accordance with the specification
5. ensure that all necessary connections to the equipment are complete
6. deal promptly and effectively with problems within your control and report those that cannot be solved
7. check that the installation is complete and that all components are free from damage
8. complete relevant documentation in line with organisational procedures

Installing rigging and lifting equipment

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions to be taken when installing rigging and lifting equipment, and the need for ensuring load security (such as general workshop and site safety, appropriate personal protective equipment, protecting other workers during the lifting operations; accident procedure; statutory regulations, risk assessment procedures and COSHH regulations)
2. the Approved Code of Practice for the safe use of rigging lifting equipment and the Lifting Operations and Lifting Equipment Regulations (LOLER)
3. the hazards and precautions to be taken when working at height (including the personal protective equipment (PPE) to be used)
4. the risk relating to installing rigging and lifting equipment
5. company procedures and practices with regard to installing rigging and lifting equipment
6. how to obtain and interpret rigging layouts, drawings and specifications
7. how to carry out currency/issue checks of the specifications you are working with
8. from the rigging layout, how to determine components required (including wires, shackles, blocks, lifting hooks)
9. how to ensure that all components have the correct SWL or WLL
10. how to obtain the required components
11. how to check that all components have the required test certificates
12. the specific requirements for the marking of lifting equipment and the specific method used in the organisation in which you are working
13. checks that should be made on the rigging and lifting equipment prior to installation, and what you should look for
14. proof load tests on lifting equipment
15. required SWL/WLL of the respective parts of the rigging/lifting layout
16. the correct procedure for reeving multi-sheave blocks
17. the methods and sequence of installing rigging and lifting equipment
18. the importance of the correct layout of rigging/lifting equipment, particularly with regard to fairleads
19. the limitations with regard to SWL/WLL relating to different rigs and layouts
20. how to check the correct operation of the differing rigging and lifting arrangements and possible defects
21. procedures for reporting defects in machinery, rigging equipment and fibre or wire ropes and actions to be taken
22. how to record details of the installation of rigging and lifting equipment

Installing rigging and lifting equipment

- 23. problems that can occur when installing rigging and lifting equipment, and how they can be resolved
- 24. the extent of your own responsibility and whom you should report to if you have problems that you cannot resolve

Installing rigging and lifting equipment

Scope/range related to performance criteria

1. Carry out **all** of the following during the installation of the rigging and lifting equipment activities:

1. adhere to all company safety procedures and practices and to legislation relating to the installation of rigging and lifting equipment
2. provide safe access and working arrangements for the area in which rigging is to take place
3. use specialised personal protective equipment (PPE) when working at height
4. check that all equipment has test certificates and is compliant with current legislation
5. ensure that all equipment registers are maintained
6. inspect all slings/wires before use, and replace any that are damaged
7. ensure that all rigging/lifting equipment is marked with the safe working load (SWL) or working load limit (WLL)
8. ensure that company procedures are followed with regard to colour coding

2. Install rigging/lifting equipment to specification, on **three** of the following:

1. tower crane
2. jib crane
3. overhead crane
4. fixed derrick
5. swinging derrick
6. lifeboat davits
7. accommodation ladder
8. anchor cables

3. Carry out **all** of the following during the installation of rigging and lifting equipment of a heavy lift (25 ton and above) swinging derrick:

1. from the rigging plan, determine layout and equipment required, ensuring the correct SWL/WLL for all equipment
2. obtain all equipment, ensuring that it has relevant test certificates
3. reeve topping lift, lift blocks and guy arrangements
4. install topping lift, lift blocks and guy arrangements, checking

Installing rigging and lifting equipment

- that any fixed pad eyes/lugs have an adequate SWL/WLL and are not corroded or damaged
 - 5. ensure that fairleads for all running gear and wire ropes are laid down correctly and are properly connected to winch drums
4. Carry out checks of the installation, to include **three** of the following:
- 1. lifeboat davit leads are correct and lifeboats can be lowered to the correct extent for lightship condition
 - 2. the anchor cable runs freely over stop and windlass, with no turns in the cable and it is correctly secured in the chain locker
 - 3. crane topping lifts and hoists are of sufficient length, with fairleads to the drums
 - 4. derrick topping lifts and lift wires are of sufficient length, have fairleads and lay down correctly on the drum
 - 5. guy arrangements on swinging derricks control the required arc of swing
 - 6. all critical securing shackles have retaining pins or mousings fitted
 - 7. accommodation ladder falls are of sufficient length to allow for lightship condition and fairleads lay down correctly on the winch drum
5. Correctly install **one** of the following items of standing rigging:
- 1. stays
 - 2. aerals
 - 3. guy pennants
6. Complete **two** of the following documentary records relating to the installation activity:
- 1. register of rigging lifting equipment
 - 2. rigging equipment plan/layout
 - 3. record of colour coding
 - 4. defect reports
 - 5. other specific recording method

Installing rigging and lifting equipment

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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