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## Overview

This standard identifies the competences you need to prepare for and mark out for the installation of wooden materials, structures and furniture components used in yachts or boats, in accordance with approved procedures. You will need to interpret the information contained in the installation drawings, instructions and specifications, in order to mark out the position of the components accurately and correctly. You will be expected to select the required components, check for any defects in the components that could make them unfit for use, and to use the appropriate marking out tools and equipment, based on the features to be marked out, the accuracy required and the information presented to you. You will need to use these instruments to mark out datums, profiles, hole positions, assembly positions and cutting lines, which will be followed when installing the required components.

Your responsibilities will require you to comply with organisational policy and procedures for the marking out activities undertaken and to report any problems with the activities, equipment or materials used that you cannot personally resolve, or are outside your permitted authority, to the relevant people. You will be expected to ensure that all tools, equipment and materials used in the marking out are correctly accounted for on completion of the activities, and to complete all necessary job/task documentation accurately and legibly. You will be expected to work with a minimum of supervision, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out. \*\*

Your underpinning knowledge will provide a good understanding of your work and will provide an informed approach to applying appropriate marking out procedures for the installation of yacht or boat wooden furniture/outfitting units and assemblies. You will understand the marking out procedures used and their application and will know about the marking out techniques, tools and equipment used, in adequate depth to provide a sound basis for carrying out the activities and ensuring that the marking out is to the required specification.

You will understand the safety precautions required when carrying out the marking out operations. You will be required to demonstrate safe working practices throughout and will understand the responsibility you owe to yourself and others in the workplace, both ashore and afloat.

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## Performance criteria

### You must be able to:

1. work safely at all times, complying with health and safety legislation, regulations, directives and other relevant guidelines
2. obtain and use the correct information for marking out
3. obtain the appropriate marking out equipment and check that it is in a usable condition
4. prepare suitable datums and marking out surfaces
5. mark out using appropriate methods
6. check that the marking out complies with the specification
7. deal promptly and effectively with problems within your control and report those that cannot be resolved
8. complete relevant documentation in line with organisational procedures

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## Knowledge and understanding

### You need to know and understand:

1. the specific safety precautions to be taken when marking out for the installation of yacht or boat wooden furniture/outfitting components and assemblies and with the tools and equipment that are used (including any specific statutory requirements, risk assessment procedures and relevant requirements of HASAWA, COSHH and Work Equipment Regulations; safe disposal of waste materials)
2. how to recognise and deal with emergencies and the procedures to be followed (such as methods of safely evacuating and closing down of compartments in the case of fire or other major incident, first aid, fire fighting and resuscitation of personnel)
3. hazards associated with the installation marking out activities (such as marking out equipment used, lifting and handling bulky or heavy components/assemblies) and how they can be minimised
4. the importance of wearing protective clothing and other appropriate safety equipment (PPE) during the marking out activities
5. the process to obtain the required installation drawings and job instructions
6. how to extract information from installation drawings and related specifications (to include symbols and conventions to appropriate BS or ISO standards) in relation to work undertaken
7. how to carry out currency/issue checks of the specifications you are working with
8. how to interpret first and third angle projections, imperial and metric systems of measurement, workpiece reference points and system of tolerancing
9. the process considerations to be taken into account when marking out for the installation of the yacht or boat wooden components or assemblies (such as fixing a level line, creating working datums)
10. the principles of marking out for installation of yacht or boat wooden furniture components and the types of equipment used
11. the range of operations that the various items of marking out equipment are capable of performing
12. how to select and establish suitable datums; the importance of ensuring that marking out is undertaken from the selected datums; and the possible effects of working from different datums
13. how to set up and align the various components and the tools and equipment to be used (such as spirit levels, laser alignment and levelling equipment, water levels and plumb lines)
14. the use of geometrical construction methods applied to marking out
15. methods of marking out large or long shapes (using chalk lines and

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- laser levelling equipment)
16. marking out and transferring information from templates
  17. the importance of using tools only for the purpose intended; the care that is required when using the equipment and tools; the proper way of preserving and storing tools and equipment between operations
  18. the need for clear lines and dimensional accuracy in marking out to specification and drawing requirements
  19. the problems that can occur with the marking out activities and how these can be avoided
  20. the standards to be attained and the company/customer quality control procedures
  21. the recording documentation to be completed for the marking out activities undertaken and where appropriate, the importance of marking and identifying specific pieces of work in relation to the documentation
  22. the extent of your own responsibility and whom you should report to if you have problems that you cannot resolve

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### Scope/range related to performance criteria

1. Obtain and use appropriate documentation for the marking out activities, to include **three** of the following:

1. drawings
2. specifications
3. verbal instructions
4. sketches

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2. Use marking out methods and techniques, including **one** of the following:

1. direct marking, using instruments
2. use of templates
3. tracing/transfer methods

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3. Use a range of marking out equipment, to include **eight** of the following:

1. pencil
2. scribe or marking knife
3. rule or tape
4. straight edge
5. square
6. protractor or bevel gauges
7. punch
8. dividers, compass or trammels
9. marking or combination gauge
10. templates

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4. Interpret drawings and mark out to the required dimensions, **five** of the following installation requirements:

1. datum and centre lines
2. assembly positional lines/alignment
3. access/penetration openings
4. structural datum/centre lines
5. final unit dimensional sizes

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6. hole positions

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5. Use **two** of the following methods to check and assist with the level and alignment of the marking out:

1. spirit level
2. laser devices
3. water line
4. plumb line

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6. Mark out for the installation of **four** of the following yacht or boat wooden furniture/outfitting components/units:

1. bulkheads
2. bunks
3. furniture units with drawers
4. furniture units with doors
5. doors and door frames
6. mouldings (such as door frame)
7. ladders
8. steps
9. top boxes
10. helm consoles
11. navigational consoles
12. other specific units

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7. Mark out for the installation of yacht or boat furniture/outfitting units which meets **all** of the following requirements:

1. dimensionally accurate (to drawing or specification)
2. has clearly formed lines and profiles
3. datum lines/points are clearly marked and identified
4. uses recognised marking out conventions
5. marking out meets appropriate geometric tolerances (level, square, straight)
6. where appropriate, pitch of erection holes meet specification requirements
7. meets company/customer standards and codes of practice

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## 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

SEMME3219

Marking out for the installation of wooden furniture/outfitting units in yachts and boats



Developed by	Enginuity
Version Number	3
Date Approved	31 Mar 2019
Indicative Review Date	29 Apr 2021
Validity	Current
Status	Original
Originating Organisation	Semta
Original URN	SEMME3219
Relevant Occupations	Marine Engineering Trades
Suite	Marine Engineering Suite 3
Keywords	Marine; engineering; yacht; boat; installation; wooden; furniture; outfitting; components