



Australian Government

MEM25012 Install and test operations of marine auxiliary systems

Release: 1

MEM25012 Install and test operations of marine auxiliary systems

Modification History

Release 1. Supersedes and is equivalent to MEM25012B Install and test operations of marine auxiliary systems

Application

This unit of competency defines the skills and knowledge required to install and test marine auxiliary systems.

Site locations can include external and internal locations for foundations, footings, beds and frameworks completed prior to installation and commissioning and tasks can be undertaken in a workshop/site, moored or in a sea-trial situation.

Where installation only is required unit MEM25015 Assemble and install equipment and accessories/ancillaries should be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 6

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13003	Work safely with industrial chemicals and materials
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

Competency Field

Marine craft construction

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | | | |
|---|-----------------------------------|-----|--|
| 1 | Determine job requirements | 1.1 | Follow standard operating procedures (SOPs) |
| | | 1.2 | Comply with work health and safety (WHS) requirements at all times |
| | | 1.3 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, job sheets or work instructions |
| | | | |
| 2 | Select auxiliary system | 2.1 | Identify installation and compatibility of surface and fitting materials |
| | | 2.2 | Identify installation site of system |
| | | 2.3 | Select auxiliary system in accordance with job requirements |
| | | 2.4 | Identify material structure and installation procedures |
| | | 2.5 | Identify and verify associated installation/assembly plans/instruction |
| | | | |
| 3 | Install auxiliary system | 3.1 | Select appropriate tools for specified installation |
| | | 3.2 | Cut structural area to suit installation requirements, where applicable |
| | | 3.3 | Fit structural reinforcement to suit job requirement, where applicable |
| | | 3.4 | Prepare structural area for surface preparation |
| | | 3.5 | Apply coating sealants and/or isolation materials to suit job requirements |
| | | 3.6 | Apply fastening methods |
| | | 3.7 | Apply installation procedures in accordance with job specification |

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

3.8 Apply clean work practices

4 Test operation of auxiliary system

4.1 Apply pre-test checks and verify before standard testing procedures are actioned

4.2 Identify and verify test operation procedures

4.3 Set up and use test equipment in accordance with testing practice

4.4 Test system in accordance with specified operational procedures

4.5 Record/report faults to appropriate authorities

4.6 Rectify faults and re-test for correct operation

4.7 Record and document final test operation according to SOPs

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Materials include one (1) or more of the following:

- metals
- timber
- resin and glass reinforcements

Auxiliary systems include one (1) or more of the

- bilge
- freshwater

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following:

- fire (water)
- sanitary plumbing systems
- lifting systems, including davits, crane and winch units

Test equipment includes one (1) or more of the following:

- mechanical
- pneumatic/electro-pneumatic
- electronic (analog/digital)
- associated instruments that measure variables, including:
 - temperature
 - pressure
 - flow rate
 - levels
 - lights
 - density
 - any other operational variable

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM25012B Install and test operations of marine auxiliary systems

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM25012 Install and test operations of marine auxiliary systems

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, plans and supporting documentation to install and test operations of marine auxiliary systems
- identifying materials for installation from plans/drawings and establish compatibility of component material and structural surface
- selecting and installing auxiliary systems using appropriate tools, equipment and procedures
- selecting and applying sealants and coatings/isolation materials, including sikaflex, paints, flowcoat and nylon to suit job requirements
- modifying structural components without compromising structural and watertight integrity and assembling and installing systems utilising appropriate fastening methods in accordance with plans and specifications
- testing system using appropriate testing equipment to verify correct system operation
- recording/reporting and rectifying all faults and re-testing to ensure correct operation.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- role of plans/specification used for installation of identified components
- species/types of materials and their uses
- compatibility of species/types of construction materials of component and surface
- material species/types of structure/system and installation process
- plans/instruction relevant to installation and assembly of selected system
- tools associated with system installation and their uses
- effects of sea-going stresses on structure and components
- practices used in modifying structural components to suit system applications
- procedures for applying the reinforcement to structural section

- method of sanding for surface preparation
- sealant coatings and/or isolation materials
- waste disposal obligations and regulations
- standard pre-testing checks and role, function and set-up procedure of test equipment
- practice used in testing operation of installed system
- recording procedures for fault diagnosis and identification
- methods used for rectifying faults and re-testing of system operations
- test operation checklist and recording procedure for final test clearance.

Assessment Conditions

- Assessors must:
 - have vocational competency in installing and testing operations of marine auxiliary systems at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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