



Australian Government

MEM25008 Repair marine vessel surfaces and structures

Release: 2

MEM25008 Repair marine vessel surfaces and structures

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM25008 Repair marine vessel surfaces and structures (Release 1).

Release 1. Supersedes and is equivalent to MEM25008B Repair marine vessel surfaces and structures.

Application

This unit of competency defines the skills and knowledge required to repair marine vessel structures and surfaces and chosen repair methods must take account of stresses encountered by vessels at sea.

Where mechanical systems/components/fittings are to be replaced unit MEM18055 Dismantle, replace and assemble engineering components should also be selected.

Where location/erection of structures is required unit MEM25003 Set up marine vessel structures should also be selected.

Where sheathing applications are required unit MEM25006 Undertake marine sheathing operations should also be selected.

Where cosmetic maintenance/repair of surfaces is required unit MEM25007 Maintain marine vessel surfaces should also be selected.

Where slipping is required, or when working on a slipped craft, unit MEM25014 Perform marine slipping operations should also be selected.

Where relevant units related to specific applications and materials are required appropriate units should also be selected.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12007	Mark off/out structural fabrications and shapes
MEM12023	Perform engineering measurements
MEM12024	Perform computations

MEM13003	Work safely with industrial chemicals and materials
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM25004	Fair and shape surfaces
MEM25007	Maintain marine vessel surfaces

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 damaged structural areas/sectors and determine extent of damage
		1.5	Determine repair requirements
2	Remove and repair damaged sectors	2.1	Reinforce/support damaged sector, where applicable
		2.2	Remove damaged sector
		2.3	Determine method of component replacement
		2.4	Repair/construct damaged components to specification

Elements describe the essential outcomes.

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

using appropriate tools/equipment, materials and techniques

2.5 Fasten components using appropriate fastening practices

2.6 Prepare repaired surface area and re-coat to specifications

2.7 Clean repairs in accordance with delivery requirements

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.

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

- hull
- superstructure
- decks

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

- fibre reinforced plastics
- timber
- metal
- polycarbonates
- acrylics
- glass

Stresses encountered by vessels at sea include one (1) or more of the following:

- hogging
- sagging
- wracking
- sheering
- panting

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.

Damage includes one (1) or more of the following:

- foreign contact damage, including reef and jetty collision
- environmental problems, including fungi, marine and insect effects on timber
- variants of severe corrosion in metals, including electrolysis and galvanic corrosion
- holed hull
- star-cracking in fibre reinforced plastics
- hull penetration causing ingress of water

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

- fibre reinforced plastics construction, including osmosis
- structural repair, including impediments to structural and watertight integrity
- replacement of hull and deck
- planking
- replacement of cracked hatch tops and portlight windows

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM25008 Repair marine vessel surfaces and structures (Release 1).

Release 1. Supersedes and is equivalent to MEM25008B Repair marine vessel surfaces and structures.

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 MEM25008 Repair marine vessel surfaces and structures

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM25008 Repair marine vessel surfaces and structures (Release 1).

Release 1. Supersedes and is equivalent to MEM25008B Repair marine vessel surfaces and structures.

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 the type and extent of structural damage to the area/sector
- selecting and preparing the suitable repair method and materials and appropriate tools and equipment to undertake the task
- disassembling components, where required, and undertaking repair damage to surfaces and structures to specifications
- reassembling and/or replacing components and reconnecting/refitting through-hull fittings
- preparing surface for application of surface finishes and protective coatings matching colours and textures to specifications
- testing and re-establishing watertight integrity in accordance with procedures.

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)
- structure, component, surface and core identification
- effect of damage in relation to the integrity of the hull and structures and the capacity of the vessel to withstand stresses encountered at sea
- repair methods and materials for timber, fibre reinforced plastics, and metal surfaces and structures
- characteristics of chosen materials
- affect on structural and or watertight integrity
- tools/equipment, their specification and application
- techniques for reinforcement/shoring/support
- methods for re-constructing damaged components
- fastening methods and application procedure

- procedures used in preparing, re-finishing or re-coating and types and applications of coatings
- colour and texture matching techniques
- methods of testing and re-establishing watertight integrity
- procedures for pre-delivery clean-up of damaged sector.

Assessment Conditions

- Assessors must:
 - have vocational competency in repairing marine vessel surfaces and structures 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.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including 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.

Links

Companion Volume implementation guides are found in VETNet -

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