



Australian Government

MEM25005 Construct and assemble marine vessel timber components

Release: 2

MEM25005 Construct and assemble marine vessel timber components

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM25005 Construct and assemble marine vessel timber components (Release 1).

Release 1. Supersedes and is equivalent to MEM25005B Construct and assemble marine vessel timber components.

Application

This unit of competency defines the skills and knowledge required to construct and assemble marine timber components, including laminating by cold processes, and applies to marine vessel backbone components.

Where hull is to be planked, planking can include carvel, strip, clinker and double diagonal systems.

Where permanent timber bending practices are required including boiling/steam bending then see unit MEM25009 Form timber shapes using hot processes.

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

Band: A

Unit Weight: 8

Pre-requisite Unit

MEM04018	Perform general woodworking machine operations
MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12007	Mark off/out structural fabrications and shapes
MEM12023	Perform engineering measurements
MEM12024	Perform computations
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

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	<table><tr><td>1.1</td><td>Follow standard operating procedures (SOPs)</td></tr><tr><td>1.2</td><td>Comply with work health and safety (WHS) requirements at all times</td></tr><tr><td>1.3</td><td>Use appropriate personal protective equipment (PPE) in accordance with SOPs</td></tr><tr><td>1.4</td><td>Identify job requirements from specifications, drawings, job sheets or work instructions</td></tr></table>	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, drawings, job sheets or work instructions		
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2 Construct marine vessel timber components	<table><tr><td>2.1</td><td>Select appropriate tools/equipment to suit job application</td></tr><tr><td>2.2</td><td>Select template/measurement to suit component construction</td></tr><tr><td>2.3</td><td>Ensure material is dressed, sized and shaped to suit job requirements and specifications</td></tr><tr><td>2.4</td><td>Check final form/shape of component against template/measurement specification and modify, as necessary</td></tr><tr><td>2.5</td><td>Apply component identification and set-up markings</td></tr></table>	2.1	Select appropriate tools/equipment to suit job application	2.2	Select template/measurement to suit component construction	2.3	Ensure material is dressed, sized and shaped to suit job requirements and specifications	2.4	Check final form/shape of component against template/measurement specification and modify, as necessary	2.5	Apply component identification and set-up markings
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3 Assemble components	<table><tr><td>3.1</td><td>Set up jig support assembly to suit job requirements</td></tr><tr><td>3.2</td><td>Select materials for fastening, joining and sealing and use according to job specifications and requirements</td></tr></table>	3.1	Set up jig support assembly to suit job requirements	3.2	Select materials for fastening, joining and sealing and use according to job specifications and requirements						
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Performance criteria describe the performance needed to demonstrate achievement of the element.

- 3.3 Determine assembly and fastening sequence
- 3.4 Carry out material preservation requirements, as required
- 3.5 Assemble components to specified line markings and positions
- 3.6 Ensure assembled component meets specifications
- 3.7 Clean/prepare component assembly to suit job 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.

Marine vessel backbone components include one (1) or more of the following:

- keel
- deadwoods
- stem
- transverse and longitudinal framing
- knees
- deck framing
- hull construction
- laid deck construction
- superstructures

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

- hardwood
- softwood
- plywood sheeting
- a combination

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- | | |
|--|---|
| Tools and equipment include one (1) or more of the following: | <ul style="list-style-type: none">• hand and hand held power tools• workshop equipment• bandsaw• surfacer• thicknesser |
| Fastening methods include one (1) or more of the following: | <ul style="list-style-type: none">• marine-grade adhesives• sealant and caulking materials• metal fasteners (copper/silicon bronze/monel/stainless steel) |

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM25005 Construct and assemble marine vessel timber components (Release 1).

Release 1. Supersedes and is equivalent to MEM25005B Construct and assemble marine vessel timber components.

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 MEM25005 Construct and assemble marine vessel timber components

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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 drawings, procedures, templates, construction details, assembly practices and material types to construct and assemble marine vessel timber components
- cutting/sizing and preparing and forming/shaping timber against template/measurement specifications and modifying as required and checking final form/shape against job specifications for compliance
- assembling supporting jigs to suit job requirements
- selecting and using fastening methods and determining fastening sequence
- finishing and applying preservation materials, cleaning excess material wastage and undertaking disposal of waste in accordance with SOPs.

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)
- component types/materials/templates and their uses
- characteristics, properties, specifications and uses of species, including durability, strength and appearance
- types, specification and uses of fasteners
- applicable codes and regulations
- methods used to take off measurements, mark out, construct and assemble components
- effect on access, rigidity, strength, buoyancy and resistance to stresses encountered at sea
- hand tools, power tools and workshop machinery to suit construction applications
- practices for cutting/dressing/sizing/shaping material
- measuring and marking out techniques using graduated devices, battens and templates

- procedures used in checking final form/shape
- clamping and shoring methods and the use of jigs
- procedures, codes and regulations used in applying relevant fastenings to suit assembly
- methods of cleaning, preserving and finishing components, their uses and safety precautions
- waste disposal obligations and regulations.

Assessment Conditions

- Assessors must:
 - have vocational competency in constructing and assembling marine vessel timber components 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.

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