Australian Government

Department of Education, Employment and Workplace Relations

MEM25004B Fair and shape surfaces

Release: 1

MEM25004B Fair and shape surfaces

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers filling, sanding, fairing and grinding to achieve uniform or correct contours and surfaces. Typical applications include marine vessel construction and the manufacture of transport vehicles.

Application of the Unit

Application of the unit	This unit applies to filling, sanding, fairing and grinding practices to achieve uniform or correct contours and surfaces, typically on marine vessels and other transport vehicles. Work would be undertaken autonomously and to predetermined standards of quality and safety, and to standard operational procedures. Typical construction materials may include timber, fibre-reinforced materials and metal materials of new and pre-coated surface area. A variety of fillers and abrasive materials of different grades would be used to suit job application. A selection of hand and power tools may include electric or pneumatic disc, orbital and belt sanders, 'torture-boards', straight and angle grinders. Die grinders may be used for certain applications but should not be used as the sole tool for assessment purposes. Where slipping is required, or when working on a slipped craft, Unit MEM25014B (Perform marine slipping operations) should also be selected. Relevant units related to specific applications and materials should also be selected as required. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM13003B	Work safely with industrial chemicals and materials
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine requirements for operation	1.1. Job requirements are identified. 1.2. Sequence of operations is determined.
2. Prepare for filling/sanding/grinding operations	2.1. Safety equipment is set up in accordance with standard procedure. 2.2. Appropriate fillers and abrasive materials are selected and prepared to suit job requirements and required surface finish. 2.3. Appropriate equipment and accessories are selected and set up ready for operation.
3. Perform filling, sanding, fairing and grinding operations	3.1. Work is carried out to specified finishes. 3.2. Power tools are used to optimise equipment and material use. 3.3. Safety procedures are observed, safety glasses/shield worn and, where applicable, protective clothing is worn. 3.4. Surfaces are checked to ensure compliance to specifications.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- determining and applying job requirements
- identifying and selecting materials to be prepared
- filling/sanding/grinding, fairing and shaping to requirements
- setting up and using safety equipment such as fans, extraction unit
- preparing fillers and abrasive materials
- setting up and using sanding/grinding, power tools such as disc sander, angle grinder and associated safety accessories such as dust extraction assemblies and guard protection
- surface filling, sanding, internal and external sanding to achieve flat, concave and convex surfaces

REQUIRED SKILLS AND KNOWLEDGE
• using personal safety protection • checking surface and finish visually and by use of fairing battens, straightedges, stringlines, french curves, templates etc.
Required knowledge
Look for evidence that confirms knowledge of: • filling and fairing specifications • types, properties and characteristics of fillers and materials to be prepared and features/specific preparation requirements • filler ingredient measuring and preparation techniques • relevant safety equipment and uses/application • filling, fairing and shaping techniques • equipment and accessories and applications • means of optimising life of abrasive materials and reducing waste • personal safety procedures and protective equipment relevant to sanding/grinding practices • safety hazards and hazard reduction relating to faired materials, fillers and abrasives • compliance testing procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to fair and shape surfaces. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, mat-erials handling, recording and reporting associated with fairing and shaping surfaces, or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

EVIDENCE GUIDE	
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Marine craft construction