Australian Government

Department of Education, Employment and Workplace Relations

MEM26019A Finish a composite product

Release: 1

MEM26019A Finish a composite product

Modification History

Release 1 New unit

Unit Descriptor

This unit of competency covers the skills and knowledge required to mechanically finish a composite product. There are a range of mechanical techniques used and the appropriate technique needs to be selected for a job and then used.

Application of the Unit

This unit covers the selection and use of the appropriate mechanical finishing technique for a composite product. This unit does not cover gel coating or similar but may include gel coat repairs, moulding imperfection repairs, repairs to moulds and detailing.
Finishing technique selection may typically be undertaken by an individual in liaison with relevant stakeholders or it may undertaken by a team. Selection may be undertaken in an office environment or at the worksite.
Use of the finishing technique will be part of a fabrication and may be undertaken by an individual or a team. It may be undertaken in a workshop or factory environment or in the field and may be used to manufacture new products, prototypes and samples, or to make repairs.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

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

1	Interpret product requirements	1.1	Determine requirements of final products
		1.2	Determine finish requirements
2	Select most appropriate finishing for job	2.1	Compare required finish with results of different finishing methods
		2.2	Select most appropriate finishing method
		2.3	Conduct a process evaluation test (PET), where appropriate, and review finishing method, as required
3	Finish product	3.1	Identify and control hazards
		3.2	Prepare finishing equipment, tools and materials, as required
		3.3	Finish product using selected process
		3.4	Minimise waste
		3.5	Review finished product compared to requirements
		3.6	Identify areas for improvement and take appropriate actions
		3.7	Complete any required documentation/reporting

Required Skills and Knowledge

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

Required skills

Required skills include:

- using hand tools
- using power tools and machine tools
- observing finished surfaces
- interpreting and applying procedures
- reporting, as required

Required knowledge

Required knowledge includes:

- deburring
- sanding
- surface preparation
- preparing cut edges
- drill bits and sizes
- measurement of tools and relationship to finished size
- choice of tool
- gel coat repair, metal flake, dual colour and touch up chips

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	It is essential that the process and equipment be understood and that the importance of critical material properties, settings and readings is known. Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action.

	Consistent performance should be demonstrated. In particular look to see that: • all reasonably appropriate finishing methods have been considered • an appropriate finishing procedure has been chosen • the reasons for choosing the finishing process are sound • the product finish meets its requirements. Competence must be demonstrated in the operation of all ancillary equipment to the level required for this unit of competency.
Context of and specific resources for assessment	Assessment will require the selection of mechanical finishing methods, justifying those choices and finishing products using those methods. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.
Method of assessment	A single assessment event is not appropriate. On-the-job assessment should be included as part of the assessment process wherever possible. Where assessment occurs off the job, judgement must consider evidence of the candidate's performance in a productive work environment that includes a sufficient range of appropriate tasks and materials to cover the scope of application for this unit. 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.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

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.

Procedures	Procedures may be written, verbal, computer-based or in some other form, and may include: • all work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. Responsible Care) and government regulations
Techniques	Techniques might include: • trimming • forming holes (drilling, hole saw or other penetration) using hand, power or machine tools • using jigs and fixtures • removing burrs
Finishing	Finishing may include: • machining • polishing • buffing • blasting • etching • making holes
Requirements of final product	Requirements of final product may be determined from various sources, including: • drawings • product specifications • customer requests • descriptions of required use of product
Logs and reports	Logs and reports may include: • paper or electronic based

	• verbal reports • items found which require action
Appropriate action	Appropriate action includes: • determining problems needing action • determining possible fault causes • rectifying problem using appropriate solution within area of responsibility • following through items initiated until final resolution has occurred • reporting problems outside area of responsibility to designated person
Typical problems	Typical problems may include: • damage to laminate from finishing process
Health, safety and environment (HSE)	All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence

Unit Sector(s)

Composites

Custom Content Section

Not applicable.