



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **AURV324823A Fabricate composite material components**

**Release: 1**

## AURV324823A Fabricate composite material components

### Modification History

Not Applicable

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers the competence required to fabricate components for use in vehicle bodies using composite materials, such as fibreglass, carbon fibre and Kevlar.
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### Application of the Unit

<b>Application of the unit</b>	<p>The unit includes identification and confirmation of work requirement, preparation for work, fabrication and checking of components and completion of work finalisation processes, including clean-up and documentation.</p> <p>Work requires individuals to demonstrate judgement and problem-solving skills in managing own work activities and contributing to a productive team environment.</p> <p>Work is carried out in accordance with award provisions.</p>
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### Licensing/Regulatory Information

Not Applicable

### Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## 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.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work	1.1. Work instructions are used to determine the job requirements, including job sheets, quality and quantity of materials. 1.2. Job specifications are read and interpreted. 1.3. OH&S requirements, including personal protection needs, are observed throughout the work. 1.4. Materials are selected and inspected for quality. 1.5. Hand, power tooling and safety equipment are identified and checked for safe use. 1.6. Procedures are determined to minimise waste material. 1.7. Procedures are identified for maximising energy efficiency while completing the job.
2. Fabricate item/ component to determined requirements	2.1. Information is accessed and interpreted from manufacturer/ component supplier specifications. 2.2. Tooling and materials are prepared for use. 2.3. Fabrication procedures are carried out following enterprise procedures. 2.4. Item/component is fabricated without causing damage to equipment or machinery. 2.5. All activities are carried out according to industry regulations/guidelines, OH&S legislation, and enterprise procedures/policies. 2.6. Fabricated component is checked to specification and workplace records are completed to worksite requirements.
3. Clean up work area and maintain equipment	3.1. Material that can be reused is collected and stored. 3.2. Waste and scrap is removed following workplace procedures. 3.3. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures. 3.4. Unserviceable equipment is tagged and faults identified in accordance with workplace procedures. 3.5. Operator maintenance is completed in accordance with manufacturer/component supplier specifications and worksite procedures. 3.6. Tooling is maintained in accordance with workplace procedures.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

- apply research and interpretive skills sufficient to locate, interpret and apply manufacturer/component supplier procedures, workplace policies and procedures
- apply analytical skills required for identification and analysis of technical information
- apply plain English literacy and communication skills in relation to dealing with customers and team members
- apply questioning and active listening skills for example when obtaining information from customers
- apply oral communication skills sufficient to convey information and concepts to customers
- apply planning and organising skills to own work activities, including making good use of time and resources, sorting out priorities and monitoring one's own performance
- interact effectively with other persons both on a one-to-one basis and in groups, including understanding and responding to the needs of a customer and working effectively as a member of a team to achieve a shared goal
- establish safe and effective work processes which anticipate and/or resolve problems and downtime, to systematically develop solutions to avoid or minimise reworking and avoid wastage
- use mathematical ideas and techniques to calculate time, assess tolerances, apply accurate measurements, calculate material requirements and establish quality checks
- use workplace technology related to fabrication of composite material components, including the use of specialist tooling, measuring equipment and communication devices and the reporting/recording of results

#### Required knowledge

A working knowledge of:

- OH&S regulations/requirements, equipment, material and personal safety requirements
- environmental requirements
- types of composite materials
- fabrication processes
- technical information

**REQUIRED SKILLS AND KNOWLEDGE**

- measuring procedures
- manufacturer/component supplier/enterprise policies
- manual handling techniques
- work organisation and planning processes
- enterprise quality processes

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>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.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>It is essential that competence is fully observed and there is ability to transfer competence to changing circumstances and to respond to unusual situations in the critical aspects of:</p> <ul style="list-style-type: none"> <li>• observing safety procedures and requirements</li> <li>• communicating effectively with others involved in or affected by the work</li> <li>• selecting methods and techniques appropriate to the circumstances</li> <li>• completing preparatory activity in a systematic manner</li> <li>• completing a range of component fabrication to enterprise requirements</li> <li>• completing component fabrication without damage to tooling, equipment and persons</li> <li>• completing workplace records.</li> </ul>
<b>Context of, and specific resources for assessment</b>	<p>Application of competence is to be assessed in the workplace or simulated worksite.</p> <p>Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints.</p> <p>Assessment is to comply with regulatory requirements, including Australian Standards.</p> <p>The following resources should be made available:</p> <ul style="list-style-type: none"> <li>• workplace location or simulated workplace</li> <li>• materials to fabrication of composite material components</li> <li>• equipment, hand and power tooling appropriate to fabrication of composite material components</li> <li>• activities covering mandatory task requirements</li> <li>• specifications and work instructions.</li> </ul>
<b>Method of assessment</b>	<ul style="list-style-type: none"> <li>• Assessment must satisfy the endorsed assessment guidelines of the automotive industry's RS&amp;R Training Package.</li> <li>• Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge.</li> </ul>

<b>EVIDENCE GUIDE</b>	
	<ul style="list-style-type: none"> <li>• Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies.</li> <li>• Assessment may be applied under project related conditions and require evidence of process.</li> <li>• Assessment must confirm a reasonable inference that competence is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.</li> <li>• It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements.</li> <li>• Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role.</li> </ul>
<b>Guidance information for assessment</b>	

## Range Statement

<b>RANGE STATEMENT</b>	
<p>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.</p>	
<b>Composite materials</b>	Composite materials may include fibreglass, carbon fibre and Kevlar.
<b>Methods</b>	Methods are to include both hand and machine operations, mixing, measuring and jig work, and mould usage.
<b>OH&amp;S</b>	OH&S requirements are to be in accordance with legislation/regulations/codes of practice and enterprise safety policies and procedures. This



<b>RANGE STATEMENT</b>	
	may include protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, enterprise first aid, hazard control and hazardous materials and substances.
<b>Personal protective equipment</b>	Personal protective equipment is to include that prescribed under legislation/regulation/codes of practice and workplace policies and practices.
<b>Safe operating procedures</b>	Safe operating procedures are to include, but are not limited to operational risk assessment and treatments associated with vehicular movement, toxic substances, electrical safety, machinery movement and operation, manual and mechanical lifting and shifting, working in proximity to others and worksite visitors .
<b>Emergency procedures</b>	Emergency procedures related to this unit are to include, but are not limited to emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and worksite evacuation.
<b>Environmental requirements</b>	Environmental requirements are to include but are not limited to waste management, noise, dust and clean-up management.
<b>Quality requirements</b>	Quality requirements are to include, but are not limited to regulations, including Australian Standards, internal company quality policy and standards and enterprise operations and procedures.
<b>Statutory/regulatory authorities</b>	Statutory/regulatory authorities may include Federal, State/Territory and local authorities administering acts, regulations and codes of practice.
<b>Tooling and equipment</b>	Tooling and equipment may include hand tooling, power tooling, specialist tooling for composite material work, moulds, jigs and measuring equipment.
<b>Materials</b>	Materials may include composite materials, mixers, fibreglass, carbon fibre, Kevlar and

<b>RANGE STATEMENT</b>	
	cleaning materials.
<b>Communications</b>	Communications are to include, but are not limited to verbal and visual instructions and fault reporting and may include worksite specific instructions, written instructions, plans or instructions related to job/task, telephones and pagers.
<b>Information/documents</b>	<p>Sources of information/documents may include:</p> <ul style="list-style-type: none"> <li>• verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, memos, material safety data sheets, diagrams or sketches</li> <li>• safe work procedures related to fabrication of composite material components</li> <li>• regulatory/legislative requirements pertaining to automotive industry, including Australian Design Rules</li> <li>• engineer's design specifications and instructions</li> <li>• organisation work specifications and requirements</li> <li>• instructions issued by authorised enterprise or external persons</li> <li>• Australian Standards.</li> </ul>

**Unit Sector(s)**

<b>Unit sector</b>	Vehicle body
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**Co-requisite units**

<b>Co-requisite units</b>	

## Competency field

Competency field	
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