



Australian Government

Department of Education, Employment and Workplace Relations

MSAPMOPS202A Fabricate polymer materials

Revision Number: 1

MSAPMOPS202A Fabricate polymer materials

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to fabricate polymer materials to a specified shape and resolve routine problems to procedure. It applies to rubber and plastic materials.
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Application of the Unit

Application of the unit	This unit of competency applies to operators who are involved in the fabrication of polymer materials, typically sheet, pipe or rod, into specified shapes. This unit of competency is typically performed by operators working either independently or as part of a work team. It includes: • setting up equipment • preparing and checking materials as required • dealing with non-conforming products, waste and scrap • identifying and taking action on routine predictable process problems • completing logs and reports. Some fabrication applications may also require competence in bonding or welding polymers in which case, competency in this unit may also require competency in: • PMBPROD242A Bond polymers to surfaces • PMBPROD287B Weld plastics materials.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	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. Check work requirements	1.1. Identify work requirements 1.2. Check product, materials and equipment meet requirements for job 1.3. Interpret plans, patterns, designs or specifications 1.4. Recognise requirements which may not be in accordance with usual practice 1.5. Ask questions of appropriate person to confirm unusual practice 1.6. Identify hazards associated with the job and apply appropriate hazard controls 1.7. Complete records as required
2. Conduct pre-fabrication operations as required	2.1. Set up tools, jigs, fixtures and equipment ready for job 2.2. Identify materials, patterns and consumables required 2.3. Check hazard controls are operational and appropriate 2.4. Mark out/lay out job for fabrication 2.5. Undertake other pre-fabrication requirements in accordance with procedures 2.6. Identify non-conformances and report to appropriate personnel
3. Form materials to shape	3.1. Arrange materials in order prior to forming 3.2. Form and fix material into shape as required 3.3. Measure and check product is to specifications, making adjustments as required 3.4. Trim and finish joints and fabricated product as required
4. Resolve routine problems	4.1. Identify likely faults that occur during the operation/task 4.2. Identify and take action on causes of routine faults in accordance with procedures 4.3. Ensure appropriate records are maintained 4.4. Identify non-routine problems and report to designated person

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- applying knowledge of the materials, equipment and processes sufficient to recognise out of specification products, process problems and materials faults
- identifying hazards associated with the job/work environment
- applying the hierarchy of control to the hazards
- planning own work including predicting consequences and identifying improvements
- identifying when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- identifying and describing own role and role of others involved directly in the fabrication of materials process
- reading and interpreting typical product specifications, job sheets, procedures, material labels and safety information as provided to operators
- writing skills to the level of completing workplace forms.
- basic numeracy skills to determine that two 25 kg bags are needed to make up a requirement for 50 kg

Required knowledge

- organisation procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards
- process of fabricating materials and the main components sufficient for consistent production of quality products including:
 - production workflow sequences and material demand
 - identifying different types of materials and their behaviour when joined
 - identifying different, forming and joining equipment and suitability for materials
 - accurately monitoring equipment operation and product quality
 - the potential effects of variations in raw materials and outside variables in relation to quality of product
 - waste management and knowing the importance of reusing non-conforming products wherever possible
 - factors which may affect product quality of production output and appropriate remedies

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

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Demonstrates skills and knowledge required to:

- apply the required skills and knowledge to the fabrication process
- apply approved procedures.

Consistent performance should be demonstrated. For example, look to see that:

- fabrication production standards are met consistently.

Context of and specific resources for assessment

Assessment may occur on the job or in an appropriately simulated environment. Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.

Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Method of assessment

- Assessment must satisfy the endorsed assessment guidelines of the Manufacturing Training Package.
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge.
- Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application.
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process.
- Assessment must confirm a reasonable inference that

EVIDENCE GUIDE	
	competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances. Assessment may be in conjunction with assessment of other units of competency where required.
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

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.

Context	This unit of competency includes the processes required to form materials into specified shapes, including cutting, bending, fixing, welding and finishing to component
Work requirements	Work requirements may be determined from: • job/shop orders • plans/specifications • procedures • other means
Procedures	Procedures include: • all relevant workplace procedures • work instructions • temporary instructions • relevant industry and government codes and standards
Tools and equipment	Tools and equipment may include: • power saws, jig saws and thermal cutting devices • drilling, riveting, bolting and stitching • hand tools as required • relevant personal protective equipment
Hazards	Typical hazards include: • fibres - airborne and handled • sharp edges, swarf and scrap • manual handling • cut hazards • power tools, leads and power supplies • stationary and moving machinery, parts and components
Form	Forming may require:

RANGE STATEMENT	
	bending, heating, holding in a jig fixture or other methods of achieving the required shape
Fix	Fixing may be by: - mechanical means (e.g. rivets, bolts) - chemical means (e.g. solvents, adhesives) - thermal (e.g. welding) or other processes. Additional units of competency may need to be accessed to cover some means of fixing.
Problems	Respond to routine problems means apply known solutions to a limited range of predictable problems. Typical process and product problems may include: - pattern incorrect - marking errors - wear and breakage - loss of power or drives - controller sequence and timer issues - sequencing problems
Records	Records may include: - log books/sheets - electronic records - job/work sheets - other records

Unit Sector(s)

Unit sector	
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		