



Australian Government

Department of Education, Employment and Workplace Relations

PMBPREP201B Prepare moulds for composites production

Revision Number: 1

PMBPREP201B Prepare moulds for composites production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the demoulding and preparation of composite moulds for composites production, and the resolving of routine problems to procedure.

Application of the Unit

Application of this unit

This competency applies to operators who are involved in the preparation of mould surfaces for composites production processes such as gelcoating or thermoforming. It is typically performed by operators working either independently or as part of a work team.

The operator will:

- check mould for conformity to product requirements and process specifications
- check materials are correct
- notice any problems and take required action
- deal with non-conforming products, waste and scrap
- complete logs and reports.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Check work requirements.	1.1 Identify work requirements from production plan or request. 1.2 Check mould, materials and equipment meet requirements for job(s). 1.3 Recognise requirements which may not be in accordance with usual practice. 1.4 Ask questions of appropriate person to confirm unusual practice. 1.5 Identify hazards associated with the job and take appropriate action
2. Prepare mould surfaces.	2.1 Prepare surfaces to procedures. 2.2 Make temporary repairs of minor mould surface defects as needed. 2.3 Clean up equipment and work area when surface preparation is completed.
3. Apply mould release system, as required.	3.1 Select the correct system for the job. 3.2 Apply to mould surfaces as per manufacturer specifications. 3.3 Tape-test the surface release system.
4. Mask-up mould.	4.1 Select suitable masking tape. 4.2 Apply masking tape and other materials.
5. Respond to routine problems to procedures.	5.1 Recognise known faults that occur during the operation. 5.2 Identify and take action on causes of routine faults. 5.3 Log problems as required. 5.4 Identify non-routine process and quality problems and take appropriate action.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. Application of knowledge of materials, equipment and process sufficient to recognise conditions which may lead to out-of-specification production. For example, contaminants such as dirt, moisture or oils on the mould surface will cause surface blemishes on the product.

Knowledge and ability to implement organisation procedures and relevant regulatory requirements, within appropriate time constraints and work standards.

Application of the knowledge of managing risks using the hierarchy of control applied to preparation of mould surfaces. Application of approved hazard control and safety procedures and the use of PPE in relation to handling materials, equipment operation and clean up.

Knowledge of and skills in the processes, materials and equipment used for the preparation of mould surfaces, including:

- correct selection and use of equipment, tools and consumables required to deliver the specified mould surface
- effects of contamination on surface quality
- different mould release systems and the appropriate application techniques for each
- typical problems with each mould release system
- waste management and the importance of re-using non-conforming products wherever possible
- factors which may affect product quality or production output and appropriate remedies (eg mould/tool design, resin type).

Competence also includes the ability to:

- plan own work, including predicting consequences and identifying improvements
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- identify and describe own role and role of others involved directly in the application process.

Language, literacy and numeracy requirements

Operators need to be able to interpret job specifications and recognise labels for different mould releases. They also need to be able to communicate work requirements with other operators.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

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

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- prepare mould surfaces from which the finished product will release successfully
- apply approved procedures.

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

- surface standards are met consistently
- all safety procedures are followed.

Assessment method and context

Assessment will occur over a range of mould surface preparation procedures and will be undertaken in a work-like environment.

Competence in this unit may be assessed:

- by using an appropriate, industrial moulds
- in a situation allowing the generation of evidence of the ability to respond to problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

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.

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. Add any 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. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to the preparation of mould surfaces for gel coating or thermoforming. It includes the operation of all relevant additional equipment where that equipment is integral to the surface preparation process. It includes the demoulding of a previous product or protective surface to procedures where relevant.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This unit of competency includes use of equipment and tools such as:

- applicators (such as brushes, spray gun)
- cleaning tools (such as plastic scrapers, buffs and polishers)
- cutters
- measuring devices
- relevant personal protective equipment.

Hazards

Typical hazards include:

- hazardous materials and vapours
- moving equipment
- manual handling hazards.

Problems

Respond to routine problems means 'apply known solutions to a limited range of predictable problems'. Typical process and product problems may include:

- mould damage/ cracks on the mould
- equipment wear and breakage
- overuse of tools, requiring rework
- build up on mould surface
- variations in materials or contamination of materials.

Appropriate action for non-routine problems may be reporting to designated person or other action specified in the procedures.

Unit Sector(s)

Not applicable.