Australian Government

Department of Education, Employment and Workplace Relations

PMBPROD280B Operate resin-glass depositor equipment

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor
This competency covers the operation of automated resin-glass depositor (chopper gun) equipment for composite products and the resolving of routine problems to procedure in the production process.

Application of the Unit

Application of this unit
This competency applies to operators who are required to undertake the routine operation of automated resin-glass depositor equipment. This competency is typically performed by operators working either independently or as part of a work team.
The operator will:

- check product for quality and conformity to specifications
- check raw materials
- notice any problems and take required action (eg reporting)
- deal with non-conforming products, waste and scrap
- complete logs and reports.

They may record key variable such as fibre-to resin ratios affected by temperature and humidity.

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	PERFORMANCE CRITERIA
ELEMENT	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 product, materials and equipment 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 non standard job specifications. 1.5 Ensure housekeeping is to requirements. 1.6 Identify hazards associated with the job and take appropriate action. 1.7 Perform other pre-operational checks in accordance with workplace procedures.
2. Check process set-up.	2.1 Check safety equipment and guards are in position and working. 2.2 Check operation of resin-glass depositor equipment. 2.3 Check moulds for cracks, chips, marks and cleanliness. 2.4 Check materials, including fibre preforms, resins, additives and release agents are correct. 2.5 Complete pre-start checks.
3. Operate equipment to procedures.	3.1 Start equipment safely and correctly when required. 3.2 Check process is operating within required limits. 3.3 Collect products and store as required. 3.4 Check product/process is in specification/to required quality standard. 3.5 Maintain supply of material(s) as required. 3.6 Complete logs and records as required. 3.7 Collect and segregate scrap, waste and other materials as required. 3.8 Keep equipment and work area clean. 3.9 Pause equipment cycle and perform emergency stop, as required.
4. Respond to routine problems in accordance	4.1 Recognise known faults that occur during the

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.
with procedures.	operation. 4.2 Identify and take action on causes of routine faults. 4.3 Log problems as required. 4.4 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 the materials, equipment and process sufficient to recognise out of specification products, process problems and materials faults.
Knowledge of organisation procedures, relevant regulatory requirements and the ability to implement them within appropriate time constraints and work standards.
Application of the knowledge of managing risks using the hierarchy of controls applied to the composites process. Application of approved hazard control and safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup.
Show knowledge of and skills in theoperation of resin-glass depositor equipment and its maincomponents sufficient for the consistent production of quality products including:

- production workflow sequences and materials demand
- reasons for checking process control panels and reporting readings which are outside of normal range process variability
- accurately monitor equipment operation and product quality
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- process behaviours of resins and the role of additives
- waste management and importance of reusing non-conforming products wherever possible
- correct selection and use of equipment, materials, processes and procedures
- explain the effect of unauthorised or emergency shutdown in relation to safety and production requirements
- identify factors which may affect product quality or production output and appropriate remedies.

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 process.

Language, **literacy and numeracy requirements**
This unit requires the ability to read and interpret typical product specifications, job sheets, procedures, material labels and safety information as provided to operators.
Writing is required to the level of completing workplace forms.
Numeracy is required to the level of reading tables of figures and graphs (and applying the resultant information), using formula percentages/ratios to determine the required mass of an additive(catalyst, pigment etc) for a given amount of resin, and similar manipulations and interpretation.

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:

- apply the required skills and knowledge to operate resin-glass depositor equipment
- apply approved procedures.

Consistent performance should be demonstrated. For example, look to see thatproduction standards are met consistently.
Assessment method and context
Assessment will occur on resin-glass depositor equipment and will be undertaken in a work-like environment.
Competence in this unit may be assessed:

- by using an appropriateindustrial resin-glass depositorrequiring demonstration of operation and emergency stop procedures
- in a situation allowing for 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 operation of automated resin-glass depositor equipment including moulds, depositor, pumps and controllers.

It includes the operation of all relevant additional equipment where that equipment is integral to the process.

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 competency includes use of equipment and tools such as:

- moulds
- resin pumps, fibre feed and fittings, such as hoses and couplings
- controller, such as PLC if fitted
- hand tools used in the this process
- material loading equipment used for loading of raw materials
- relevant personal protective equipment.

Hazards

Typical hazards include:

- spills dusts/vapours
- slip and fall
- temperature
- hazardous substances
- moving equipment
- manual handling hazards.

Problems

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

- equipment malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool or mould damage
- routine product faults
- machine malfunction / failure
- mould/tooling problems.

Typical product problems may include:

- incorrect quantity of materials/additives
- contaminated materials/additives
- variations in materials and/or contamination of materials
- resin and fibre over or under supplied to mould
- wrong raw materials/additives.

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

Unit Sector(s)

Not applicable.