



Australian Government

PMBPROD380E Produce composites products using mechanised open mould wet lay-up

Release: 1

PMBPROD380E Produce composites products using mechanised open mould wet lay-up

Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBPROD380 Produce composites using chopper gun/depositor.

Application

This unit describes the skills and knowledge required for the practical application of materials and process technology using advanced spray lay-up equipment to produce polymer matrix composites.

This unit applies to an experienced technician working alone or as part of a team.

The unit principally refers to the trade-level skills and knowledge for open-mould mechanised wet lay-up to make thermoset composites products, typically ranging in area from 2 square metres to 200 square metres.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil.

Competency Field

Production – Composites

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Plan work requirements	1.1 Identify and check materials required, including additives, from job specifications 1.2 Identify equipment and processes required for production and upstream and downstream operations from job specifications 1.3 Perform pre-operational checks including checking for and controlling hazards 1.4 Identify and check emergency stops, guards and controls

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.5 Identify checks and testing processes required for equipment, materials, quality and production management to meet job specifications 1.6 Identify waste management strategies to collect excess, discarded or nonconforming materials to be disposed of, recycled or reprocessed according to workplace procedures
2. Perform pre-production tasks	2.1 Verify equipment requirements, including mould, against job specifications 2.2 Set production process according to equipment and workplace specifications, and adjust process to optimise output based on selected materials 2.3 Set up and adjust equipment settings or controls according to equipment and job specifications 2.4 Verify materials, including raw materials, resins, fibres and release agents, against job specifications 2.5 Set up date, batch and materials markings according to workplace procedures 2.6 Undertake other pre-startup checks according to equipment specifications and workplace procedures
3. Operate resin depositor	3.1 Start up and operate resin depositor to apply composite materials to mould, and make adjustments to reach required settings for job specifications 3.2 Ensure process is operating according to equipment specifications and workplace procedures 3.3 Follow checking and testing process to confirm if output meets job specifications and quality standards, and apply strategies to manage nonconforming outputs 3.4 Accurately complete logs and records 3.5 Apply waste management strategies according to workplace procedures 3.6 Shut down machine safely and correctly according to equipment instructions and workplace procedures
4. Anticipate and solve process control variances	4.1 Recognise existing or potential process control variances and their causes 4.2 Determine, prioritise and implement remedial and preventative

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	actions based on identified issues and causes 4.3 Monitor process control variances and corrective actions taken until resolved 4.4 Accurately maintain records and logbooks

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to monitor measurable production variables such as product thickness.
- Reading skills to interpret job and equipment specifications and workplace procedures.
- Writing and oral communication skills to record and report the operation and process control variances.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to PMBPROD380 Produce composites using chopper gun/depositor.

Links

Companion Volume implementation guides are found in VETNet – -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>

Assessment Requirements for PMBPROD380E Produce composites products using mechanised open mould wet lay-up

Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBPROD380 Produce composites using chopper gun/depositor.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- produce composites using mechanised open mould wet lay-up at least once to meet job specifications.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the functions and operating principles of mechanised open mould wet lay-up equipment
- requirements for correct spraying of materials onto the mould surface
- production workflows and their characteristics
- types of materials and their characteristics, including pot life of the resins used
- the criteria for overall process/equipment readiness for the process or equipment being used
- typical quality standards required at each stage of production
- key variables that may affect product quality and production output including:
 - common adjustments that can be made
 - impact of variations in raw materials and equipment operation in relation to final product
 - possible changes to materials properties to better suit specific process requirements
 - impact of ambient conditions and temperature
 - output variables, product quality, thickness, colour and integrity
- organisational procedures relevant to the work environment or job role, including procedures for the emergency shutdown of equipment
- hazards that may arise in the job or work environment, and:
 - their possible causes
 - potential consequences
 - appropriate risk controls.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet – -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>