



Australian Government

PMBPROD356 Construct moulds for composite products

Release: 1

PMBPROD356 Construct moulds for composite products

Modification History

Release 1. Supersedes and is equivalent to PMBPROD356C Construct moulds for composite products

Application

This unit of competency covers the skills and knowledge required to plan and make a moulds from which composite products can be made. The mould will be made on a suitable plug/pattern.

This unit of competency applies to experienced operators who are required to convert specification or design into a plan for the mould, construct and cure the moulds, make adjustments to remedy faults and non-conformity and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

PMBPROD247 Hand lay up composites

PMBPREP201 Prepare moulds for composites production

Competency Field

Production

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|--|---|
| 1 | Plan own work requirements | <div>1.1 Identify equipment and processes to be used for production process and upstream and downstream operations from production plan or request</div> <div>1.2 Identify and check materials required, including additives</div> <div>1.3 Implement measures to control identified hazards in line with procedures and duty of care</div> <div>1.4 Identify requirements for materials, quality, production and equipment checks</div> <div>1.5 Identify materials, waste management and housekeeping needs</div> |
| 2 | Plan mould construction | <div>2.1 Produce a plan for the mould construction to specification</div> <div>2.2 Have design approved as necessary according to enterprise specifications</div> <div>2.3 Plan all steps of the mould production</div> <div>2.4 Check points are examined for measurements and tests according to specifications</div> |
| 3 | Set up equipment, tools and materials | <div>3.1 Clear and set up work area</div> <div>3.2 Identify and locate materials and equipment for the mould construction according to job specification</div> |
| 4 | Construct mould | <div>4.1 Apply mould materials according to specification</div> <div>4.2 Check dimensions, structural reinforcements, supports and flanges to the specifications or design</div> <div>4.3 Cure mould and release according to procedures</div> <div>4.4 Recheck dimensions of the finished mould</div> <div>4.5 Check fit with other matching mould parts and adjust where necessary</div> |

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| 5 | Anticipate and solve problems | 5.1 | Recognise a problem or a potential problem |
| | | 5.2 | Determine problems needing priority action |
| | | 5.3 | Refer problems outside area of responsibility to appropriate person, with possible causes |
| | | 5.4 | Solve problems within area of responsibility |
| | | 5.5 | Seek information and assistance as required to solve problems |
| | | 5.6 | Follow through items initiated until final resolution has occurred |

Foundation Skills

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

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE

requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment

Tools and equipment include:

- plugs/patterns
- hand tools
- power tools
- hand application tools (e.g. rollers, trowels, brushes and filleting tools)
- ancillary equipment that is integral to the process.

Additional tools and equipment will be selected as required from:

- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids such as hand carts and trolleys
- relevant personal protective equipment.

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- flammability
- rotational equipment or vibration
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust, vapours or other atmospheric hazards

- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Problems Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- emergency situations
- dimensional accuracy of the mould
- placement of flanges, closures and fitments
- attachment of substructures
- wrong materials for the mould construction
- incorrect fibre-to-resin ratios
- intermittent faults.

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

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