



Australian Government

PMC553072 Model fibrous plaster products

Release: 1

PMC553072 Model fibrous plaster products

Modification History

Release 1. Supersedes and is equivalent to PMC553072B Model fibrous plaster products

Application

This unit of competency covers the skills and knowledge required to make a model of a final fibrous plaster product. The model will typically be used as a prototype for future production.

This unit of competency applies to plaster modellers or those in similar roles who are required to determine the specifications for the work piece; plan, prepare for and make the model; 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

Nil

Competency Field

Operations

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.

- | | | |
|--|------------|--|
| 1 Determine work piece to be produced | 1.1 | Discuss required attributes of the work piece with supervisor or, as appropriate, the client |
| | 1.2 | Determine dimensions and geometry of the work piece |
| | 1.3 | Identify the profile, pattern and specific features |

- required to be replicated
- 1.4 Establish and/or plan fixing or anchoring points and the best way to facilitate this in the work piece
 - 1.5 Plan the production method and determine materials and equipment needs
 - 2 **Set up work area and equipment**
 - 2.1 Establish work area, including anchor points for slides or screeds, as necessary
 - 2.2 Develop templates required to produce the work piece
 - 2.3 Mark out the correct dimensions and work piece geometry and check against templates or slide radii
 - 2.4 Establish and position any support materials required to develop and sustain the work piece during production
 - 2.5 Position any lifting or anchoring materials and check that these do not inhibit templates or screeds
 - 2.6 Test the functionality of the slides and ensure that all parts of the proposed work piece can be accessed
 - 3 **Generate profile of required work piece**
 - 3.1 Produce a segment of the desired profile and ensure that this matches the requirements of the original design
 - 3.2 Mount the sample to facilitate replication or to produce appropriate surface detail on the work piece
 - 3.3 Lubricate the sample for replication and the supporting work plate to facilitate ease of stripping of the completed work piece
 - 4 **Produce work piece**
 - 4.1 Set up the supporting material in a manner which avoids interference with the screed or template
 - 4.2 Prepare plaster mix and ensure fibre strand is available
 - 4.3 Build up rough outline of the work piece adding fibre as the process proceeds
 - 4.4 Form up the desired shape by moving the sample, template or mould to facilitate development of the

- desired profile or by screeding off
- 4.5 Build in anchor points or reinforcing at desired positions as the work proceeds
 - 4.6 Hollow out the work piece to minimise the mass of the object, as appropriate
 - 4.7 Check the profile to ensure compliance with the desired product
 - 4.8 Check the work piece for dimensional accuracy
- 5 **Strip and inspect completed work piece**
- 5.1 Remove any external supports from the work piece after the plaster has dried
 - 5.2 Dismantle slides if used
 - 5.3 Clean and put away tools and fitments used in the production process
 - 5.4 Remove the work piece and inspect for errors, damage or porosity
 - 5.5 Clean up any excrescences and remove any waste material
 - 5.6 Coat the surface of the finished product according to organisational requirements to protect the surface
 - 5.7 Remove finished product to storage and shipment
- 6 **Control hazards**
- 6.1 Identify hazards during the process or within the work area
 - 6.2 Assess the risks arising from those hazards
 - 6.3 Implement measures to control those risks in line with procedures and duty of care
- 7 **Respond to problems**
- 7.1 Identify possible problems in equipment or process
 - 7.2 Determine problems needing action

- 7.3 Determine possible fault causes
- 7.4 Rectify problem using appropriate solution within area of responsibility
- 7.5 Follow through items initiated until final resolution has occurred
- 7.6 Report problems outside area of responsibility to designated person

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, equipment and production processes 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:

- manufacturer's technical information
- job cards
- drawings
- 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.

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

- heat, smoke, dust, vapours or other atmospheric hazards
- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- electricity
- gas
- gases and liquids under pressure
- noise
- rotational equipment or vibration
- plant services (steam, condensate, cooling water, etc)
- structural hazards
- equipment failures
- machinery, equipment and product mass
- limited head spaces or overhangs
- working at heights
- working in restricted or confined spaces
- other hazards that might arise.

Problems Routine and non-routine problems must be resolved.

Routine problems are predictable and have known solutions and include one or more of:

- incorrect calculations or setting out
- inappropriate plaster mixtures
- variations in ambient temperature
- inappropriate placement of reinforcing or anchor points.

Non-routine problems are unexpected problems or variations of previous 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.

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.

Tools and equipment

Tools and equipment include:

- slides
- templates
- hand and power tools
- mixing equipment
- lifting equipment (for large work).

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMC553072B Model fibrous plaster products

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=45a7f1d5-61a5-447a-9688-7abbd7e1a5c7>

Assessment Requirements for PMC553072 Model fibrous plaster products

Modification History

Release 1. Supersedes and is equivalent to PMC553072B Model fibrous plaster products

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and demonstrate the ability to:

- read and interpret product specifications, designs, drawings/plans, material labels and safety data sheets (SDS)
- determine specifications for the work piece
- plan production method and prepare materials, equipment, segments/samples
- make the model and check conformity to specifications
- make adjustments to remedy faults and non-conformity
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- distinguish between causes of problems, including:
 - equipment failure/malfunction
 - wrong readings/measurements
 - materials faults
 - dimensional inaccuracies
 - inappropriate allowance for material shrinkage
 - damage to components
- recognise and prioritise problems requiring action
- resolve routine and non-routine problems
- communicate effectively with team/work group and supervisors
- complete workplace records
- perform geometric and lineal calculations.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including knowledge of:

- principles of fibrous plaster product modelling
- functions, limitations and principles of operation of the equipment used in the process
- impact of variations in equipment, materials and process on product (model) quality and production output
- characteristics of materials used in modelling fibrous plaster products

- quality requirements at each stage of construction
- factors which may affect model quality and appropriate remedies
- non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
 - their possible causes
 - potential consequences
 - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
 - will typically include a supervisor/third-party report or other evidence, focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of an appropriate industrial item/s of equipment requiring demonstration of operation, start-up and shutdown procedures and responding to problems
 - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
 - walk-throughs
 - pilot plant operation
 - industry-based case studies/scenarios
 - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
 - relevant VET or other qualification/Statement of Attainment
 - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
 - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
 - being currently employed undertaking the type of work being assessed
 - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
 - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
 - conducting on the job training/assessments of the type of work being assessed
 - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=45a7f1d5-61a5-447a-9688-7abbd7e1a5c7>