



Australian Government

PMC552022 Prepare materials for clay and ceramic production

Release: 1

PMC552022 Prepare materials for clay and ceramic production

Modification History

Release 1. Supersedes and is equivalent to PMC552022C Prepare materials for clay and ceramic production.

Application

This unit of competency covers the skills and knowledge required to prepare and mix clays and other materials for making clay and ceramic products.

This unit of competency applies to operators who are required to prepare materials and mixing equipment, load and mix materials to meet specifications and rectify routine problems.

This unit of competency does not apply to forming of products, or the blending of bulk raw materials.

This unit of competency applies to an individual working alone or as part of a team or group and working 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.

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|---|-------------------------------------|-----|---|
| 1 | Mix raw materials | 1.1 | Receive, sample and store raw materials as required |
| | | 1.2 | Load and start mixing equipment to procedures |
| | | 1.3 | Operate mixing equipment to produce materials as specified |
| | | 1.4 | Operate mixing equipment within specifications |
| | | 1.5 | Carry out routine maintenance to specifications |
| | | 1.6 | Unload and shut down mixing equipment to specifications |
| | | 1.7 | Store materials as required |
| | | | |
| 2 | Settle mixtures as required | 2.1 | Operate pumps and valves to move materials as required |
| | | 2.2 | Load materials into tank as required |
| | | 2.3 | Produce a properly settled mixture |
| | | 2.4 | Pump mixture to appropriate storage after treatment |
| | | 2.5 | Carry out routine maintenance to settling equipment to specifications |
| | | 2.6 | Report sediment status to designated person |
| | | | |
| 3 | Control moisture of mixtures | 3.1 | Operate equipment to produce clay with the correct moisture content |
| | | 3.2 | Carry out routine maintenance to moisture control equipment to specifications |
| | | 3.3 | Unload and shut down moisture control equipment as required |
| | | 3.4 | Store materials as required |

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|---|---------------------------------|-----|--|
| 4 | Rectify routine problems | 4.1 | Identify the range of faults that can occur during the operation |
| | | 4.2 | Determine and rectify fault causes by procedures |
| | | 4.3 | Identify and rectify equipment failure causes to procedures |
| | | 4.4 | Maintain appropriate records and log books of equipment operations in accordance with procedures |
| | | 4.5 | Identify non-routine problems and report to designated person |
| | | | |
| 5 | Control hazards | 5.1 | Identify hazards from the job to be done |
| | | 5.2 | Identify other hazards in the work area |
| | | 5.3 | Assess the risks arising from those hazards |
| | | 5.4 | Implement measures to control those risks in line with procedures |

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:

- job cards
- 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.

Problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- adjustments to allow for materials variations
- equipment malfunction
- contamination.

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience.

Non-routine problems must be reported according to according to relevant procedures.

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.

Records and reports Records include one or more of:

- log books/sheets
- electronic records
- job/work sheets

- other records used for the smooth running of the plant.

Reports include one or more of:

- paper or electronic-based logs and reports
- verbal/radio reports
- reporting items found which require action.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>