



Australian Government

PMC553010 Process raw meal into product

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to PMC553010C Process raw meal into product

Application

This unit of competency covers the skills and knowledge required to process raw meal through a kiln to produce cement and/or lime product.

This unit of competency applies to experienced operators, leading hands, supervisors or those in similar roles who are required to perform pre-start, start-up and shutdown procedures; monitor and adjust the process to maximise throughput and maintain quality; distribute product to storage 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.

This competency does not require the operation of a central control panel.

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

Pre-requisite Unit

PMC552010 Operate a calcining kiln

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 | Prepare for processing | 1.1 | Notify/keep informed all relevant people about the current status operations and any intention to make changes |
| | | 1.2 | Perform all pre-start checks in accordance with standard operating procedures (SOPs) |
| | | 1.3 | Set up and configure equipment start-up function complying with procedures |
| | | 1.4 | Check plant/equipment settings against operating parameters as identified in SOPs |
| | | 1.5 | Load raw materials in accordance with work instructions |
| | | 1.6 | Start up plant/equipment in accordance with procedures |
| 2 | Process raw meal | 2.1 | Commence/continue process operations in accordance with specified operating procedures |
| | | 2.2 | Monitor and check against target parameters instrument/control panels for variations, fluctuations or trends |
| | | 2.3 | Maximise throughput of system while meeting quality target parameters |
| | | 2.4 | Check and adjust ancillary equipment as required |
| 3 | Distribute product to storage | 3.1 | Monitor and perform necessary adjustments to discharge rate and temperature as required |
| | | 3.2 | Monitor the distribution transport system for efficiency and spillages and take appropriate action as required |
| | | 3.3 | Monitor the distribution of product to the correct storage area and level of product in that area, and redirect as required |

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| 4 | Respond to problems | 4.1 Identify possible routine and non-routine problems in the equipment or process |
| | | 4.2 Determine problems needing action |
| | | 4.3 Determine possible fault causes |
| | | 4.4 Rectify problem using appropriate solution within area of responsibility |
| | | 4.5 Follow through items initiated until final resolution has occurred |
| | | 4.6 Report problems outside area of responsibility to designated person |
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| 5 | Shut down equipment | 5.1 Ensure line is clear of all product and left ready for shutdown |
| | | 5.2 Shut down equipment in accordance with procedures |
| | | 5.3 Complete appropriate records and logs |
| | | 5.4 Shut down equipment in an emergency situation |
| | | |
| 6 | Prepare equipment for maintenance | 6.1 Isolate equipment in accordance with procedures |
| | | 6.2 Remove any broken materials safely |
| | | 6.3 Ensure area is clear and safe for maintenance |
| | | |
| 7 | Control hazards | 7.1 Identify hazards in kiln work area |
| | | 7.2 Assess the risks arising from those hazards |
| | | 7.3 Implement measures to control those risks in line with procedures and duty of care |

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
- 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:

- equipment malfunctions
- temperature fluctuations
- quality of product
- material/feed variations
- spillages and leakages
- inaccuracies in blending and proportioning of raw materials
- out-of-specification moisture content of raw materials/slurry
- variations in temperature, time and cooling rates
- variations in feed rates or quantities
- vibration.

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:

- kiln
- instrument panels (local)
- measuring and recording equipment
- ancillary equipment that is integral to the process
- support equipment (e.g. grinding mills, pumps, dust collectors, mixing and blending silos, vibrating screens and rotary kilns).

Additional equipment will be selected as required from:

- communication equipment
- hand tools
- emergency stop buttons and lanyards
- safety clothing and equipment.

Unit Mapping Information

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Links

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