



Australian Government

PMC552003 Operate grinding equipment

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to PMC552003C Operate grinding equipment.

Application

This unit of competency covers the skills and knowledge required to operate grinding and ancillary equipment. Grinding is typically used to reduce the size of raw materials, materials in process, product and scrap/recycled material. Examples include:

- quarried materials
- cement clinker
- lime
- ceramics and clay
- ground minerals
- glass
- concrete waste
- fibre cement.

This unit of competency applies to operators who are required conduct pre-start checks, prepare materials, start equipment, monitor the process, rectify routine problems, facilitate output changes and distribute ground 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 | Prepare to grind materials | 1.1 | Check equipment for hazards, danger and isolation tags in accordance with standard operating procedures (SOPs) |
| | | 1.2 | Perform checks to ensure all doors, inspection openings and guards are in position and secure |
| | | 1.3 | Make adjustments to equipment settings to ensure conformance with SOPs |
| | | 1.4 | Notify appropriate personnel of intention to start equipment |
| | | 1.5 | Conduct additional pre-start checks as required in accordance with SOPs |
| | | 1.6 | Ensure an adequate supply of materials is available to meet production requirements |
| 2 | Grind materials | 2.1 | Start equipment in sequence in accordance with SOPs |
| | | 2.2 | Monitor instrument/control panels and adjust as necessary to remain within specified operating parameters |
| | | 2.3 | Make physical inspections of plant and equipment at specified intervals to identify any anomalies in accordance with SOPs |
| | | 2.4 | Maximise product throughput and efficiency to maintain target parameters |
| | | 2.5 | Communicate with appropriate personnel regarding the status of operations in line with enterprise requirements |
| | | 2.6 | Employ safe working practices which conform with work health and safety (WHS) and enterprise requirements |
| | | 2.7 | Shut down equipment in accordance with procedures and complete required records |

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| 3 | Rectify routine problems | 3.1 | Identify the range of faults that can occur during the operation |
| | | 3.2 | Determine and rectify faults caused by procedures |
| | | 3.3 | Identify and rectify equipment failure causes in accordance with procedures |
| | | 3.4 | Make sure appropriate records and log books of equipment operations are maintained to meet procedures |
| | | 3.5 | Identify non-routine problems and report to designated person |
| | | | |
| 4 | Distribute ground product | 4.1 | Distribute ground materials to their correct silo/storage area in accordance with SOPs |
| | | 4.2 | Monitor silo/storage areas to ensure compliance with enterprise storage quality/quantity requirements |
| | | | |
| 5 | Control hazards | 5.1 | Identify hazards in the grinding work area |
| | | 5.2 | Assess the risks arising from those hazards |
| | | 5.3 | Implement measures to control those risks in line with procedures |
| | | 5.4 | Shut down in an emergency as required |

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

Equipment and unit This unit of competency includes all such items of equipment and unit operations which form part of the grinding system. A unit comprises two or more components of plant/equipment that are operated together to produce

- operations** product, including as appropriate to the site:
- ball mills
 - hammer mills
 - roller mills
 - pans
 - edge mills
 - other equipment integral to the operation of the grinding system.

Problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- out-of-specification grinding media
- variations in temperature and moisture
- variations in feed
- product discharge problems.

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/>