



Australian Government

PMC552002 Operate equipment to blend/mix materials

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to PMC552002C Operate equipment to blend/mix materials.

Application

This unit of competency covers the skills and knowledge required to select and blend/mix materials using blending/mixing and ancillary equipment.

This unit of competency applies to operators who are required to select the correct type and quantity of materials, set up and operate equipment, monitor the process, rectify routine problems and conduct routine maintenance.

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.

Where manual handling forms part of the work the operator will also require competency in PMBHAN103 Shift materials safely by hand.

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 | Determine blend/mix requirements | 1.1 | Check work schedule/job specification/job card |
| | | 1.2 | Identify customer requirements and set parameters in accordance with standard procedures |
| | | 1.3 | Select correct type and quantity of materials |
| | | 1.4 | Meet all special requirements and specifications |
| | | 1.5 | Identify any material handling problems and take action in accordance with standard procedures |
| | | 1.6 | Update material records as appropriate |
| 2 | Control hazards | 2.1 | Identify hazards from the materials |
| | | 2.2 | Identify other hazards in blending/mixing work area |
| | | 2.3 | Assess the risks arising from those hazards |
| | | 2.4 | Implement measures to control those risks in line with procedures |
| 3 | Blend/mix materials | 3.1 | Set up, start and operate blending/mixing equipment as required by specifications and standard procedures |
| | | 3.2 | Prepare and add materials to blender/mixer as required by specification and standard procedures |
| | | 3.3 | Check that materials prepared match requirements |
| | | 3.4 | Use ancillary equipment, as required, according to standard procedures |
| | | 3.5 | Ensure equipment is operated in accordance with established enterprise procedures |
| | | 3.6 | Blend/mix materials to obtain required results |

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|---|--|-----|--|
| 4 | Monitor and record operation | 4.1 | Monitor equipment performance in accordance with work instructions and manufacturer specifications |
| | | 4.2 | Monitor non-conforming product against customer specifications |
| | | 4.3 | Adjust and control equipment to ensure correct product quality |
| | | 4.4 | Complete final inspection checks |
| | | 4.5 | Complete appropriate records and logs |
| | | | |
| 5 | Rectify routine problems | 5.1 | Recognise any faults that occur during the operation |
| | | 5.2 | Determine and rectify fault causes in accordance with procedures/work instructions |
| | | 5.3 | Identify and rectify equipment failure causes in accordance with procedures/work instructions |
| | | 5.4 | Ensure appropriate records and log books of equipment operations are maintained to meet procedures/work instructions |
| | | 5.5 | Identify non-routine problems and report to designated person |
| | | | |
| 6 | Maintain blending/mixing plant and area | 6.1 | Keep area and equipment clean and in good order |
| | | 6.2 | Unload and shut down equipment as required |
| | | 6.3 | Respond to routine faults according to enterprise procedures |
| | | 6.4 | Report non-routine faults according to enterprise 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.

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

- operations** produce product, including as appropriate to the site:
- pumps (lubrication and cooling pumps)
 - utilities and services
 - heat exchangers (intercoolers)
 - vibration monitoring
 - other equipment integral to the operation of the system.

Problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- equipment malfunction
- material handling, such as equipment failure and blockages
- material property variation
- blend/mix tolerance
- uniform dispersion of minor ingredients/additives
- blending/mixing to special requirements/colour
- mixing sequence
- matching mixes produced with production requirements
- monitoring and adjusting process conditions
- recognising and acting on potential and actual problems
- quality problems including customer requirements.

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/>