



Australian Government

PMC552031 Operate extrusion equipment

Release: 1

PMC552031 Operate extrusion equipment

Modification History

Release 1. Supersedes and is equivalent to PMC552031C Operate extrusion equipment

Application

This unit of competency covers the skills and knowledge required to operate extrusion equipment and ancillary equipment that is integral to the process. It applies to a large production context where the extrusion is used to form clay, ceramic or concrete products.

This unit of competency applies to operators who are required to prepare materials and equipment, monitor and adjust the equipment and rectify routine problems.

This unit of competency does not apply to presses or back stamping, slip forming or manual forming. This unit does not require the operation of a central control panel.

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 the extrusion equipment | 1.1 Determine the product formation requirements from the production program |
| | | 1.2 Ensure the required change parts are in place |
| | | 1.3 Ensure the required raw materials are selected and loaded or connected to the equipment |
| | | 1.4 Ensure the equipment is safe to use |
| 2 | Operate forming equipment | 2.1 Ensure correct vacuum is applied to raw material |
| | | 2.2 Operate equipment to produce product of the required shape, dimensions and consistency |
| | | 2.3 Monitor equipment conditions and adjust as required |
| | | 2.4 Monitor and adjust product properties as required |
| | | 2.5 Record production data as required |
| 3 | Operate surface finishing equipment | 3.1 Operate surface patterning equipment as required |
| | | 3.2 Operate frit application and similar equipment as required |
| | | 3.3 Monitor operations and adjust/refill as required |
| | | 3.4 Apply glazing material as required |
| 4 | Unload and shut down extrusion equipment | 4.1 Unload and shut down extrusion equipment at conclusion of the production run to requirements |
| | | 4.2 Clean up work area and perform housekeeping duties |
| | | 4.3 Store materials appropriately |

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|---|---------------------------------|-----|--|
| 5 | Rectify routine problems | 5.1 | Identify the range of faults that can 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 | Control hazards | 6.1 | Identify hazards in extruder 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 |

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.

Tools and equipment Tools and equipment include:

- extruder, including dies, wire trims or blades

- surface finishing/treatment equipment
- ancillary equipment that is integral to the process.

Problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- moisture content not within specifications
- maladjustment of the cutting wires
- damage to the product

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:

- high temperatures
- 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/>