



Australian Government

PMC553040 Set up and optimise glass forming process

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to PMC553040C Set up and optimise glass forming process

Application

This unit of competency covers the skills and knowledge required to set up and optimise a glass forming process. It applies to forming of glass as typically used in production of flat glass, glass containers and glass fibre products.

This unit of competency applies to experienced operators, leading hands, supervisors or those in similar roles who are required to perform shutdown and isolation procedures, prepare and set up equipment, perform changeovers, make adjustments to optimise process, remedy faults/non-conformity 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.

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.

- | | | |
|---|--|--|
| 1 | Prepare for equipment installation | 1.1 Determine the product to be manufactured |
| | | 1.2 Ensure that the equipment change parts, ancillaries and fixtures are available as required |
| | | 1.3 Perform pre-installment equipment preparation according to procedures |
| | | 1.4 Ensure that the equipment is in a safe condition for use |
| 2 | Remove current equipment and/or tooling | 2.1 Identify and implement all safety and emergency procedures |
| | | 2.2 Shut down equipment in accordance with procedures |
| | | 2.3 Isolate equipment in accordance with procedures |
| | | 2.4 Remove ancillary equipment in accordance with procedures |
| | | 2.5 Complete records and logs for removal of current equipment |
| 3 | Install and set up new equipment and/or tooling | 3.1 Perform required checks and tests prior to installation |
| | | 3.2 Identify any faults in equipment/tooling and take appropriate action |
| | | 3.3 Install and set up appropriate ancillary equipment in accordance with procedures |
| | | 3.4 Set up equipment/tooling as required |
| | | 3.5 Monitor and adjust until production is as required |
| 4 | Monitor, interpret data and adjust | 4.1 Monitor process data |
| | | 4.2 Ensure forming equipment start-up function complies with work instructions |

	operation	4.3	Operate glass forming equipment in accordance with procedures
		4.4	Monitor plant and process and deduce conditions of materials in process and products being made
		4.5	Take appropriate action to improve process operation
		4.6	Check that process operation has improved
		4.7	Monitor and adjust until production is as required
		4.8	
		4.9	
		4.10	
5	Sample, test and record product data	5.1	Sample as required by the product and in line with enterprise requirements
		5.2	Complete appropriate test to enterprise and client requirements
		5.3	Identify variations from process parameters and take appropriate action
		5.4	Measure/graph and record operating parameters, according to enterprise requirements
		5.5	Record test results as required by procedures
6	Rectify equipment and quality problems	6.1	Identify the range of equipment and quality faults that can occur during the operation
		6.2	Diagnose possible causes of equipment and quality faults
		6.3	Rectify cause of equipment failure and quality faults by established enterprise procedures
		6.4	Identify and rectify equipment failure causes in accordance with established enterprise procedures
		6.5	Ensure appropriate records and logs of equipment operations are maintained to meet enterprise

		requirements
		6.6 Identify non-routine problems and report to designated person
7	Shut down equipment	7.1 Shut down equipment in accordance with procedures
		7.2 Complete appropriate records and logs
		7.3 Shut down equipment in an emergency situation
8	Prepare equipment for maintenance	8.1 Isolate equipment in accordance with work instructions
		8.2 Make sure area is clear and safe for maintenance
		8.3 Complete all records and logs
9	Control hazards	9.1 Identify hazards from the job to be done
		9.2 Identify other hazards in the work area
		9.3 Assess the risks arising from those hazards
		9.4 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:

- manufacturer's technical information
- job cards
- drawings
- 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.

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:

- raw materials supply
- equipment alignment
- out-of-specification settings (e.g. temperature and speed)
- product quality problems.

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.

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.

Tools and equipment Tools and equipment include:

- glass forming equipment as used to make one or more of:
 - flat glass
 - insulation, glass wool insulation, laminated blankets or roll and boards
 - fibreglass or glass filaments
 - packaging, bottles or jars
- ancillary equipment that is integral to the process
- measuring and recording equipment.

Unit Mapping Information

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Links

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