



Australian Government

MSMPMC403 Set up and optimise glass forming process

Release: 1

MSMPMC403 Set up and optimise glass forming process

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553040 Set up and optimise glass forming process

Application

This unit describes 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 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 or non-conformity and solve problems within area of responsibility.

This unit applies to an experienced operator demonstrating broad theoretical and technical knowledge and well-developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Operations

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
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 1.3 Perform pre-installment equipment preparation according to procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	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 2.3 Isolate equipment 2.4 Remove ancillary equipment 2.5 Complete records and logs for removal of current equipment
3. Install and set up new equipment an/or tooling	3.1 Perform required checks and tests prior to installation 3.2 Identify any faults in equipment or tooling and take appropriate action 3.3 Install and set up appropriate ancillary equipment 3.4 Set up equipment and tooling as required
4. Monitor, interpret data and adjust operation	4.1 Monitor process data 4.2 Ensure forming equipment start-up function complies with work instructions 4.3 Operate glass forming equipment 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
5. Sample, test and record product data	5.1 Sample product 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
6. Shut down equipment	6.1 Ensure equipment is left in a safe manner for shutdown 6.2 Shut down equipment and complete appropriate records and logs

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
7. Prepare equipment for maintenance	7.1 Isolate equipment 7.2 Make sure area is clear and safe for maintenance 7.3 Complete all records and logs
8. Rectify routine problems	8.1 Identify and rectify routine problems 8.2 Maintain records and log books of equipment operations 8.3 Identify non-routine problems and report to designated person
9. Control hazards	9.1 Identify glass forming hazards 9.2 Assess the risks arising from those hazards 9.3 Implement measures to control those risks 9.4 Shut down equipment in an emergency

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC553040 Set up and optimise glass forming process

Links

Companion Volume Implementation Guides are available at VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMPMC403 Set up and optimise glass forming process

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up and optimised a glass forming process on at least 1 occasion, including:
 - monitoring the following key variables to ensure product integrity and conformance to specification:
 - installation and performance of equipment and tooling
 - process parameters
 - yield
 - energy utilisation
 - variations
 - fluctuations
 - trends
 - material properties and chemical reactions
 - recognising possible causes of the following problems:
 - electrical, mechanical and instrument failure and malfunction
 - wrong readings
 - material variations and contamination
 - process abnormalities
 - procedural errors
 - atmospheric conditions.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of glass forming process
- glass forming, ancillary, measuring and recording equipment, including:
 - functions, limitations
 - start-up, operation and shutdown processes
 - impact of equipment settings on product quality, production output and optimisation of process

- impact of variations in process conditions and raw materials on product quality, production output and optimisation of process
- importance of atmospheric conditions and effect on process
- characteristics of materials being processed and their behaviour in relation to process conditions and stages of production
- quality requirements at each stage of production
- common adjustments in process variables and their impact on product quality and production output
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- work health and safety (WHS) requirements relevant to work outcome
- glass forming hazards and:
 - their possible causes
 - potential consequences
 - risk control procedures.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - glass forming equipment, ancillary equipment and materials
 - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
 - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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