

<b>Title</b>	<b>Set and run the injection stretch-blow moulding production process</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	People credited with this unit standard are able to: demonstrate knowledge of the operation of injection stretch-blow moulding equipment; set, control and monitor the production process for a repeat run; perform a material or colour changeover on the moulding equipment; and identify, correct and report routine product moulding faults.
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<b>Classification</b>	Plastics Processing Technology > Injection Stretch-Blow Moulding
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<b>Available grade</b>	Achieved
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<b>Entry information</b>	
<b>Recommended skills and knowledge</b>	Unit 15207, <i>Operate injection stretch-blow moulding equipment</i> ; Unit 23130, <i>Classify and name plastics materials</i> .

**Explanatory notes**

- 1 Legislation relevant to this unit standard includes but is not limited to the Health and Safety at Work Act 2015.
- 2 Definitions  
*Workplace procedures* – procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, site safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.
- 3 The practical aspects of this unit standard apply to either single stage or two stage injection stretch-blow moulding processes.
- 4 All evidence requirements must be performed in accordance with workplace procedures.

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## Outcomes and evidence requirements

### Outcome 1

Demonstrate knowledge of the operation of injection stretch-blow moulding equipment.

#### Evidence requirements

- 1.1 The principles and advantages of injection stretch-blow moulding processes are compared.
- Range advantages – cost of production, process control;  
injection stretch-blow moulding processes – single stage, two stage.
- 1.2 The construction and operation of enterprise injection stretch-blow moulding machine components are described.
- Range construction and operation – fundamental characteristics only;  
components – controls, preform mould clamping unit, injection unit, preform transport unit, bottle blowing unit, power unit, preform conditioning unit, product ejection.
- 1.3 The enterprise injection stretch-blow moulding operation cycles are described, and their inter-relationship is explained.
- Range operation cycles – injection cycle, handling cycle, blow cycle;  
inter-relationship – sequence, duration, temperature, pressure, speed.

### Outcome 2

Set, control and monitor the production process for a repeat run.

#### Evidence requirements

- 2.1 Machine setting information is interpreted and the injection stretch-blow moulding equipment and production line are set.
- Range examples of production line equipment are – conveyors, palletisers, labellers, wrappers, strappers, carton erectors.
- 2.2 Controls are adjusted according to standard setting sheet.
- 2.3 Equipment settings are monitored and reported.
- 2.4 Common injection stretch-blow moulding equipment malfunctions are identified, corrected and reported.
- Range equipment malfunctions – low barrel temperatures, over-riding barrel temperatures, leaking nozzle, dryer temperature faults, hydraulic oil temperatures, air pressure fluctuations, power failure.

**Outcome 3**

Perform a material or colour changeover on the moulding equipment.

**Evidence requirements**

- 3.1 Purging is performed.
- 3.2 Raw material and additives are selected to comply with job specification.
- 3.3 Equipment is cleaned of all previous materials and reloaded with the selected raw material.
- 3.4 Equipment is run with new material and monitored to meet job specifications.

**Outcome 4**

Identify, correct and report routine product moulding faults.

**Evidence requirements**

- 4.1 Routine preform moulding faults are identified, corrected and reported.
- Range routine preform moulding faults – contamination, short shots, gate stringing, flash, bubbles, crystallinity, gate voids.
- 4.2 Routine container blowing faults are identified, corrected and reported.
- Range examples of routine container blowing faults are – pearlescence, off-centre gate, base holes, ringnecks, product not formed, stepped feet.

<b>Planned review date</b>	31 December 2021
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	30 September 1998	31 December 2019
Revision	2	15 November 2002	31 December 2019
Revision	3	17 March 2004	31 December 2019
Rollover and Revision	4	25 September 2006	31 December 2019
Review	5	18 September 2009	31 December 2019
Review	6	15 September 2016	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Please note**

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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**Comments on this unit standard**

Please contact Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.