

Title	Control the production process for vacuum thermoforming		
Level	3	Credits	8

Purpose	People credited with this unit standard are able to: demonstrate knowledge of, and control the vacuumforming process for a repeat production run; and start up the vacuumforming process for a repeat production run.
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Classification	Plastics Processing Technology > Thermoforming
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Available grade	Achieved
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Entry information	
Recommended skills and knowledge	Unit 267, <i>Set up tooling for thermoforming</i> ; Unit 269, <i>Service tooling for thermoforming</i> ; and Unit 23131, <i>Compare melt flow and dimensional stability of 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
Tooling – moulds and associated ancillary equipment. Examples of features are male or female mould plates, vacuum or mounting plates, back plate, vacuum holes, venting holes, cooling water systems, inserts, plug assists, clamping frames, back plate, cavity inserts, venting system, in-mould cutting components, stripper plate, ejector system, cooling systems (baffled holes, spirals, flood and tube systems), pressure box, plug assist assembly. Associated ancillary equipment is tooling for use in semi-automatic or fully automatic product trimming operations and includes steel rule knives, and punches and dies.
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 All evidence requirements must be performed in accordance with workplace procedures.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of, and control the vacuum forming process for a repeat production run.

Evidence requirements

1.1 Common machine malfunctions are explained.

Range examples of common machine malfunctions are – heater failure; heating faults; timing errors; machine speed variation; drive belt slippage; drive motor failure; interlock failure; air pressure loss, air leaks; worn bushes and guides; unlubricated components; vacuum leaks and malfunctions; pump failure; evidence for two malfunctions is required.

1.2 A common machine malfunction is identified, corrected and reported.

Range examples of common machine malfunctions are – heater failure; heating faults; timing errors; machine speed variation; drive belt slippage; drive motor failure; interlock failure; air pressure loss, air leaks; worn bushes and guides; unlubricated components; vacuum leaks and malfunctions; pump failure; Malfunction must be different to those explained in evidence requirement 1.1.

1.3 Controls are monitored and adjusted to optimise production and quality.

Outcome 2

Start up the vacuum forming process for a repeat production run.

Evidence requirements

2.1 The machine and tooling are put into production and are monitored to meet the job specification.

2.2 Running adjustments are made and recorded.

Planned review date	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	28 April 1993	31 December 2012
Revision	2	13 February 1997	31 December 2012
Review	3	23 January 1998	31 December 2012
Review	4	27 October 2005	31 December 2012
Review	5	18 August 2011	31 December 2019
Review	6	15 September 2016	N/A

Consent and Moderation Requirements (CMR) reference

0013

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.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.