

Title	Describe plastics processing, fabrication and product finishing technologies		
Level	5	Credits	8

Purpose	People credited with this unit standard are able to describe plastics processing and fabrication technologies; and plastic product finishing technologies.
----------------	--

Classification	Plastics Processing Technology > Plastics Processing - General
-----------------------	--

Available grade	Achieved
------------------------	----------

Explanatory notes

- Plastics processing technologies* include:
 Melt and semi-melt processing – injection moulding (conventional, co-injection, co-moulding, gas injection), blow moulding, injection-blow moulding, injection stretch-blow moulding, extrusion (pipe, profile, sheet, coating, cables, monofilaments), blown film extrusion, cast film extrusion, thermoforming, calendering, rotational moulding, compression moulding, transfer moulding.
 Liquid resin processing – reaction injection moulding, fibre composite moulding (hand lay up and chopped strand).
 Cellular plastics processing – chemical, physical and mechanical forms of cellular plastics production.
 Polymer casting.
 Film conversion and laminating.
 Machining of plastics.
Fabrication technologies – welding (hot air, hot plate, ultrasonic, high frequency, laser, friction), mechanical joining, adhesive and solvent joining, machining of plastics.
- Plastic product finishing technologies* include:
 labelling – adhesive, heat transfer, in-mould;
 printing – screen, offset, pad, flexographic, gravure, laser;
 stamping – film, foil and embossing;
 metallising;
 plating;
 painting;
 coating – dip, plasma, fluidised bed.

Outcomes and evidence requirements

Outcome 1

Describe plastics processing and fabrication technologies.

Range description is required for two different plastics processing and fabrication technologies.

Evidence requirements

1.1 The operating principles of plastics processing and fabrication technologies are described.

1.2 Two typical product applications and the polymers used for plastics processing and fabrication technologies are described.

1.3 The technical advantages and disadvantages of plastics processing and fabrication technologies are described.

Range material and multi-material versatility; shape and design versatility; effects of processing on material properties; product dimensional accuracy; consistency of product properties; environmental considerations.

1.4 The commercial advantages and disadvantages of plastics processing and fabrication technologies are described.

Range tooling costs, production output, new product production lead time, automation, product unit cost, set up costs and run lengths.

Outcome 2

Describe plastic product finishing technologies.

Range description is required for three different plastic product finishing technologies.

Evidence requirements

2.1 The operating principles of plastic product finishing technologies are described.

2.2 Two typical applications for each plastic product finishing technology are described.

Planned review date	31 December 2021
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 May 2002	31 December 2019
Rollover and Revision	2	25 September 2006	31 December 2019
Review	3	11 December 2009	31 December 2019
Review	4	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.