

National Certificate in Plastics Processing Technology (Technical) (Level 2) with strands in Injection Moulding, Extrusion, Blow Moulding, Pressure Thermoforming, Vacuum Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch-Blow Moulding, Rotational Moulding, Film Slitting, and Expanded Polystyrene Moulding

Level 2

Credits 75

This qualification has been **reviewed**. The last date to meet the requirements is 31 December 2019.

Transition Arrangements

This qualification has been reviewed and replaced by the New Zealand Certificate in Plastics Processing (Level 3) with an optional strand in Plastics Engineering [Ref: 2974].

The last date for entry into programmes leading to the replaced qualification is 31 December 2017. The last date for assessment against the replaced qualification is 31 December 2019.

Candidates currently working towards this qualification may either complete its requirements by the date specified or transfer to the replacement qualification.

It is anticipated that no existing candidates will be disadvantaged by these transition arrangements. However, anyone who feels that they have been disadvantaged may appeal to Competenz at the address below. Appeals will be considered on a case by case basis.

For detailed information see [Review Summaries](#) on the NZQA website.

NZQF National Qualification Registration Information

Process	Version	Date	Last Date for Assessment
Registration	1	February 1998	December 2004
Review	2	February 1999	December 2004
Review	3	August 1999	December 2004
Revision	4	May 2000	December 2004
Review	5	October 2002	December 2008
Revision	6	May 2006	December 2009
Review	7	August 2008	December 2012
Review	8	September 2010	December 2019
Republished	8	December 2010	December 2019
Review	9	October 2015	December 2019

Standard Setting Body

Competenz
PO Box 9005
Newmarket
Auckland 1149

Telephone 0800 526 1800
Fax 09 539 9899
Email info@competenz.org.nz
Website <http://www.competenz.org.nz/>

Reviewed

National Certificate in Plastics Processing Technology (Technical) (Level 2) with strands in Injection Moulding, Extrusion, Blow Moulding, Pressure Thermoforming, Vacuum Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch-Blow Moulding, Rotational Moulding, Film Slitting, and Expanded Polystyrene Moulding

Level	2
Credits	75

Purpose

The National Certificate in Plastics Processing Technology (Technical) (Level 2) with strands [Ref: 0394] is the entry level qualification in the plastics industry. It is designed as the basis for holders to further their qualifications, in either plastics processing or engineering and maintenance in one specified sector of the plastics industry. Holders of this certificate are able to undertake entry level activities involved in processing, equipment, and tooling under supervision.

The qualification comprises compulsory standards – selected to build sound basic engineering and plastics materials knowledge and capabilities – and strands, which provide candidates with specialised skills and knowledge of particular plastics processing techniques and plastics materials.

In addition to gaining credit for the compulsory standards and a strand, candidates will also choose a balance of credits, to meet the minimum of 75 credits, from an Elective section that is designed to allow recognition of skills relevant to candidates' specific worksites. The Elective section allows candidates to choose from a range of standards in areas such as core electrical, occupational health and safety practice, and interpersonal communications among others.

People who hold the National Certificate in Manufacturing (Core Skills) (Level 2) [Ref: 1581] are encouraged to further their knowledge and skills through attainment of this specific entry level Plastics Processing Technology (Technical) qualification.

Certificate holders are encouraged to undertake further training towards the National Certificates in Plastics Processing Technology (Technical) (Levels 3 and 4) with strands [Ref: 0395 and Ref: 0396], or the National Certificate in Engineering and Technology (Plastics Engineering) (Level 4) with strands in Injection Moulding, Extrusion, Blow Moulding, Pressure Thermoforming, Vacuum Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch-Blow Moulding, and Rotational Moulding [Ref: 1407].

Credit Range

	Core Compulsory	Injection Moulding Strand	
		Compulsory	Elective
Level 1 credits	-	4	0-5
Level 2 or above credits	33	33	0-5
Minimum totals	33	37	5

	Extrusion Strand		Blow Moulding Strand	
	Compulsory	Elective	Compulsory	Elective
Level 1 credits	4	0-8	-	0-3
Level 2 or above credits	30	0-8	39	0-3
Minimum totals	34	8	39	3

	Pressure Thermoforming Strand		Vacuum Thermoforming Strand	
	Compulsory	Elective	Compulsory	Elective
Level 1 credits	4	0-10	4	0-10
Level 2 or above credits	28	0-10	28	0-10
Minimum totals	32	10	32	10

	Blown Film Extrusion Strand		Film Conversion Strand	
	Compulsory	Elective	Compulsory	Elective
Level 1 credits	4	0-9	3	0-22
Level 2 or above credits	29	0-9	17	0-22
Minimum totals	33	9	20	22

	Injection Stretch-Blow Moulding Strand		Rotational Moulding Strand	
	Compulsory	Elective	Compulsory	Elective
Level 1 credits	5	0-16	4	0-16
Level 2 or above credits	21	0-16	22	0-16
Minimum totals	26	16	26	16

	Film Slitting Strand		Expanded Polystyrene Moulding strand	
	Compulsory	Elective	Compulsory	Elective
Level 1 credits	3	0-32	7	0-22
Level 2 or above credits	7	0-32	13	0-22
Minimum totals	10	32	20	22

Requirements for Award of Qualification

Award of NZQF National Qualifications

Credit gained for a standard may be used only once to meet the requirements of this qualification.

Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided on the New Zealand Qualifications Authority (NZQA) website: <http://www.nzqa.govt.nz/qualifications-standards/standards/standards-exclusion-list/>.

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (ID). Any version of a standard with the same ID may be used to meet qualification requirements that list the ID and/or that specify the past or current classification of the standard.

Summary of Requirements

- A minimum of 75 credits
- Core Compulsory standards
- Elective - Balance

One of the following strands is required

- Injection Moulding Strand
- Extrusion Strand
- Blow Moulding Strand
- Pressure Thermoforming Strand
- Vacuum Thermoforming Strand
- Blown Film Extrusion Strand
- Film Conversion Strand
- Injection Stretch-Blow Moulding Strand
- Rotational Moulding Strand
- Film Slitting Strand
- Expanded Polystyrene Moulding Strand

Detailed Requirements

Core Compulsory

The following standards are required

Engineering and Technology > Mechanical Engineering > Engineering Core Skills

ID	Title	Level	Credit
2395	Select, use and care for, engineering hand tools	2	4
2396	Select, use and maintain portable hand held engineering power tools	2	4
21911	Demonstrate knowledge of safety on engineering worksites	2	1
21912	Apply safe working practices on an engineering worksite	2	2
21913	Shift loads in engineering installation, maintenance, and fabrication work	2	2

Engineering and Technology > Mechanical Engineering > Engineering - Materials

ID	Title	Level	Credit
20799	Demonstrate basic knowledge of engineering metals	2	4
20917	Demonstrate basic knowledge of engineering materials	2	2

Manufacturing > Plastics Processing Technology > Plastics Materials

ID	Title	Level	Credit
23129	Process and use plastics materials	2	6
23130	Classify and name plastics materials	2	8

Elective

The balance of credits to achieve a minimum of 75 credits may come from the following:

Field	Subfield	Domain
Engineering and Technology	Electrical Engineering	Core Electrical
	Mechanical Engineering	Engineering Drawing and Design
		Engineering - Measurement
		Fluid Power - Hydraulics
		Fluid Power - Pneumatics
		Maintenance and Diagnostics in Mechanical Engineering
		Mechanical Assembly
Health	Occupational Health and Safety	Occupational Health and Safety Practice
Humanities	Communication Skills	Interpersonal Communications
		Writing
Manufacturing	Any	Any

Injection Moulding Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Injection Moulding

ID	Title	Level	Credit
252	Perform basic process operations for injection moulding	1	4
253	Operate the injection moulding machine	2	6
254	Run and monitor the injection moulding production process	2	9
256	Set up simple moulds for injection moulding	2	8

ID	Title	Level	Credit
258	Service simple moulds for injection moulding	2	6
259	Service advanced moulds for injection moulding	2	4

Extrusion Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Extrusion

ID	Title	Level	Credit
281	Perform basic extrusion process operations	1	4
282	Operate the extrusion machine	2	8
283	Run and monitor the extrusion production process	2	12
285	Change dies and set ancillary equipment for extrusion	2	10

Blow Moulding Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Blow Moulding

ID	Title	Level	Credit
296	Operate the blow moulding machine	2	6
297	Run and monitor the blow moulding production process	2	10
299	Service simple tooling for blow moulding	2	7
300	Service advanced tooling for blow moulding	2	8
302	Set up simple tooling for blow moulding	2	8

Pressure Thermoforming Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Thermoforming

ID	Title	Level	Credit
261	Perform basic process operations for thermoforming	1	4
262	Operate the thermoforming machine	2	6
264	Run and monitor the production process for pressure thermoforming	2	8
267	Set up simple tooling for thermoforming	2	8
269	Service simple tooling for thermoforming	2	6

Vacuum Thermoforming Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Thermoforming

ID	Title	Level	Credit
261	Perform basic process operations for thermoforming	1	4
262	Operate the thermoforming machine	2	6
263	Run and monitor the production process for vacuum thermoforming	2	8
267	Set up simple tooling for thermoforming	2	8
269	Service simple tooling for thermoforming	2	6

Blown Film Extrusion Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Blown Film Extrusion

ID	Title	Level	Credit
287	Perform basic process operations for blown film extrusion	1	4
288	Operate the blown film extrusion machine	2	8
289	Control and optimise mono-layer production process for blown film extrusion	2	12
293	Service mono-layer dies and extruder screws for blown film extrusion	2	9

Film Conversion Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Film Conversion

ID	Title	Level	Credit
275	Perform basic process operations for film conversion	1	3
276	Operate the machine for film conversion	2	7
277	Set up and control simple operations for film conversion	2	10

Injection Stretch-Blow Moulding Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Injection Stretch-Blow Moulding

ID	Title	Level	Credit
15206	Perform basic process operations for injection stretch-blow moulding	1	5
15207	Operate injection stretch-blow moulding equipment	2	6

ID	Title	Level	Credit
15208	Set and run the injection stretch-blow moulding production process	2	9
15211	Service tooling for injection stretch-blow moulding	2	6

Rotational Moulding Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Rotational Moulding

ID	Title	Level	Credit
16116	Perform basic process operations for rotational moulding	1	4
16117	Operate the rotational moulding machine	2	6
16119	Service moulds for rotational moulding	2	5
16120	Mount mould, set and monitor the rotational moulding production process	2	11

Film Slitting Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Film Slitting

ID	Title	Level	Credit
279	Perform basic process operations for film slitting	1	3
280	Set, operate, and control the production process for film slitting	2	7

Expanded Polystyrene Moulding Strand

The following standards are required

Manufacturing > Plastics Processing Technology > Expanded Polystyrene Moulding

ID	Title	Level	Credit
17461	Perform basic operations for expanded polystyrene processing	1	4
17462	Operate and control the expanded polystyrene moulding machine	2	8
17465	Service a mould for expanded polystyrene moulding production	2	5

Manufacturing > Plastics Processing Technology > Plastics Materials

ID	Title	Level	Credit
17460	Demonstrate knowledge of expanded polystyrene materials	1	3

Transition Arrangements

Version 8

Version 8 was republished to add an exemption from standard 23129 for candidates holding credit for standard 272. The exemption was required so that candidates could transfer existing achievement from version 5 of the expiring National Certificate in Plastics Processing Technology (Technical) (Level 1) with strands [Ref: 0260] to the National Certificate in Plastics Processing Technology (Technical) (Level 2) with strands [Ref: 0394].

Transition arrangements were updated to reflect this.

This qualification was originally issued as Version 8 following review. The National Certificate in Plastics Processing Technology (Technical) (Level 1) with strands [Ref: 0260], which was formerly a prerequisite for this qualification, was designated expiring and its critical components were included in the strands of this qualification.

Changes to structure and content

- Qualification and strand pre-requisites were removed.
- Film Slitting and Expanded Polystyrene Moulding strands were added and the qualification title was amended.
- An Elective section was added.
- The overall credit requirement was reduced from 94-117 to 75 credits.
- The credit requirement of the Core Compulsory section was reduced from 84 to 33 credits.
- Standards 2395, 20917, and 23129 were added to the Core Compulsory section.
- Standards 1277, 1304, 2387, 2397, 2430, 2431, 3492, 3501, 4435, 9677, 15851, 17344, 17345, 20597, 20598, 20611, and 20612 were removed from the Core Compulsory section, but can still be used to meet the requirements of the new Elective section.
- Standards 252 and 253 from [Ref: 0260] were added to the Injection Moulding strand.
- Standards 281 and 282 from [Ref: 0260] were added to the Extrusion strand.
- Standard 296 from [Ref: 0260] was added to the Blow Moulding strand.
- Standards 261 and 262 from [Ref: 0260] were added to the Pressure Thermoforming and the Vacuum Thermoforming strands.
- Standards 287 and 288 from [Ref: 0260] were added to the Blown Film Extrusion strand.
- Standards 275 and 276 from [Ref: 0260] were added to the Film Conversion strand.
- Standards 15206 and 15207 from [Ref: 0260] were added to the Injection Stretch-Blow Moulding strand.
- Standards 16116 and 16117 from [Ref: 0260] were added to the Rotational Moulding strand.

For detailed information see Review Summaries on the NZQA website.

This qualification contains standards that replace earlier standards. For the purposes of this qualification, people who have gained credit for the expiring standards are exempt from the requirement to gain credit for the replacement standards – see table below.

Credit for	Exempt from
272	23129
273	23130
2824	21911, 21912
4795	20917
4796	20799
12299	21913

This qualification contains a classification that has replaced an earlier classification. For the purposes of this qualification, people who have gained credit for the standards in the expiring classification are exempt from the requirement to gain credit for the replacement classification – see table below.

Standards from	Are treated as Standards from
Engineering and Technology > Mechanical Engineering > Fluid Power	Engineering and Technology > Mechanical Engineering > Fluid Power - Pneumatics
Engineering and Technology > Mechanical Engineering > Fluid Power	Engineering and Technology > Mechanical Engineering > Fluid Power - Hydraulics

All existing candidates may complete version 7 of this qualification or transfer their existing achievements to version 8.

People currently working towards version 6, or who have existing achievement from version 5, of the National Certificate in Plastics Processing Technology (Technical) (Level 1) with strands [Ref: 0260] may also transfer applicable existing achievements to version 8 of this qualification.

The last date for entry into programmes leading to the award of version 7 of this qualification shall be the same as the first day of registration of version 8 of this qualification.

Competenz has endeavoured to ensure that no person has been disadvantaged by this review. Anyone who thinks that they have been disadvantaged should, in the first instance, contact the ITO at the address below.

Previous versions of the qualification

Version 7 was issued following review. Standard 15845 was removed from the Core Compulsory section. The Core Elective section was removed and the standards in it moved to the Core Compulsory. Expiring standards 273 and 2389 in various strands were replaced by 23130 and 2387 respectively and have been moved to the Core Compulsory. Classifications, titles, levels, and credits of standards were updated to reflect current versions. Credit totals adjusted from 85-114 to 94-117. The descriptor *Technical* was added to the title.

Version 6 was issued to take account of the review of Mechanical Engineering standards and to update standard titles, credits and domain classifications. Standards 20611 and 20612 were included in the Core Compulsory section, a Core Elective section was created to include standards 17344, 17345, 20597 and 20598, and standards 2723, 2824, 4796, and 12299 were replaced by standards 20597, 20598, 21911, 21912, 20799, and 21913 respectively.

Version 5 was issued to remove standards 101 and 15848 from the Core Compulsory section, and to remove the Core Elective section.

Version 4 was issued in order to include the domains Core Driving Knowledge and Skills, and Driver Licence Endorsements in the Core Elective section to incorporate changes to driving regulations in relation to fork-lift operations.

Version 3 was issued to take account of the review of Electrical Engineering standards and to include the subfields of Lifting Equipment and Storekeeping and Warehousing in the Core Elective section. Standards 745, 1179, 1183 and 6627 were replaced by standards 15845, 15851, 15848 and 12299 respectively.

Version 2 was issued to include strands in Injection Stretch-Blow Moulding and Rotational Moulding.

Other standard setting bodies whose standards are included in the qualification

Competenz

Certification

This certificate will display the logos of NZQA, Competenz and the organisation that has been granted consent to assess against standards that meet the requirements of the qualification (accredited).

Classification

This qualification is classified according to the classification system listed on the Directory of Assessment Standards (DAS) and the New Zealand Standard Classification of Education (NZSCED) system as specified below.

DAS Classification		NZSCED	
Code	Description	Code	Description
190	Manufacturing > Plastics Processing Technology	030108	Engineering and Related Technologies > Manufacturing, Engineering and Technology > Plastics Processing Technology

Quality Management Systems

Providers and Industry Training Organisations must be granted consent to assess by a recognised Quality Assurance Body before they can register credits from assessment against standards. Accredited providers and Industry Training Organisations assessing against standards must engage with the moderation system that applies to those standards. Accreditation requirements and the moderation system are outlined in the associated Accreditation and Moderation Action Plan (AMAP) for each standard.

REVIEWING