

Title	Service mono-layer dies and extruder screws for blown film extrusion		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of the design of mono-layer die types; service a mono-layer die; and identify and describe extruders and service an extruder screw.
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Classification	Plastics Processing Technology > Blown Film Extrusion
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Available grade	Achieved
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Entry information	
Recommended skills and knowledge	Unit 29514, <i>Operate pre-set plastics processing machinery.</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 Definition
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 the design of mono-layer die types.

Evidence requirements

1.1 Mono-layer die types and design are described.

Range die types – bottom fed spider, bottom fed spiral mandrel die, plate die.

1.2 Die rotation methods are identified and described.

Range die rotation methods – continuous rotation, oscillating, die and extruder platform, oscillating haul off.

Outcome 2

Service a mono-layer die.

Evidence requirements

2.1 Die construction is interpreted in accordance with information on engineering drawings.

2.2 Die lip changing and setting is performed.

2.3 Die stripping and cleaning is carried out in accordance with manufacturer's procedures.

2.4 Polymer contact surfaces are inspected for damage and results are reported.

2.5 Seals and sealing surfaces are inspected, inspection results are recorded and reported, and damaged seals are replaced.

2.6 Die routine maintenance and reassembly is carried out in accordance with manufacturer's procedures.

Outcome 3

Identify and describe extruders and service an extruder screw.

Evidence requirements

3.1 Extruder types are identified and described.

Range extruder types – water cooled barrel, air cooled barrel, smooth bore, grooved feed.

3.2 Extruder screw design characteristics and types are identified and their application for different materials is described.

Range design characteristics – feed zone, compression zone, metering zone, diameter, length to diameter ratio, compression ratio; types – general purpose, barrier, grooved feed, mixing section.

- 3.3 The reasons for removal and refitting of extruder screws is described and extruder screws are removed in accordance with machine manufacturer's specifications.
- 3.4 Extruder screws and barrels are cleaned and inspected for wear and damage and results are recorded and reported.
- 3.5 Extruder screws are identified and re-fitted in accordance with machine manufacturer's specifications.

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 2014
Revision	2	13 February 1997	31 December 2014
Review	3	23 January 1998	31 December 2014
Review	4	27 October 2005	31 December 2014
Review	5	17 May 2012	31 December 2019
Review	6	15 September 2016	N/A

Consent and Moderation Requirements (CMR) reference	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.

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.