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| **Title** | **Demonstrate knowledge of the application of advanced blown film extrusion processing technology** | | |
| **Level** | **4** | **Credits** | **10** |

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| **Purpose** | People credited with this unit standard are able to demonstrate knowledge of: the application of advanced blown film equipment and systems; corrections for processing defects; and the purging of dissimilar plastics materials. |

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| **Classification** | Plastics Processing Technology > Blown Film Extrusion |

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| **Available grade** | Achieved |

| **Entry information** | |
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| **Recommended skills and knowledge** | Unit 27666, *Optimise complex mono-layer production processes for blown film extrusion*; Unit 27667, *Trial a blown film extrusion product on a specified blown film extrusion line;* Unit 23131, *Compare melt flow and dimensional stability of plastics materials*. |

**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
*Advanced processing technology* – the extensive application of closed-loop control systems beyond the basic level used in industry.
*Dissimilar plastics materials* – those with widely different melt flow indexes and processing temperatures.


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## Outcomes and evidence requirements

### Outcome 1

Demonstrate knowledge of the application of advanced blown film equipment and systems.

Range any four of – gravimetric yield control systems, melt pumps and control systems, internal bubble cooling, automatic gauge profile control systems, width control, gel or defect monitoring, tension control systems, variable depth melt thermocouples.

### Evidence requirements

1.1 The purpose and advantages of the equipment and systems for blown film processing are explained.

1.2 The main components of the equipment and systems and their functions related to blown film processing are identified.

1.3 The main components of the equipment and systems are identified and the link to provide control is explained.

### Outcome 2

Demonstrate knowledge of corrections for processing defects.

Range any five of the following processing defects – gels (cross-linking, contamination, unmelt, carbon), melt fracture, port lines, gauge variation, die lines, creasing, roll taper, impact strength, haze, gloss, opacity, slip, blocking, tensile strength, fish eyes.

### Evidence requirements

2.1 Processing defects and the potential causes are identified and described.

2.2 Approach to the correction of each defect that is systematic and practical is specified.

2.3 The potential effects of over correction are described.

### Outcome 3

Demonstrate knowledge of the purging of dissimilar plastics materials.

### Evidence requirements

3.1 The significance of melt viscosity in purging dissimilar materials is described.


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3.2 A purging procedure is described in detail and the reasons for each step in the procedure of purging dissimilar plastics products are described.

Range procedure – timing, temperature, purging sequence, waste minimisation.

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| **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 | 21 March 1997 | 31 December 2014 |
| Revision | 2 | 15 November 2002 | 31 December 2014 |
| Review | 3 | 27 October 2005 | 31 December 2014 |
| Review | 4 | 17 May 2012 | 31 December 2019 |
| Review | 5 | 15 September 2016 | N/A |

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| **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.


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