

Control and optimise the rotational moulding production process for a standard product

Level 3

Credits 12

Purpose People credited with this unit standard are able to: control the moulding process for a repeat production run; trial a standard product in a specified rotational moulding machine; and start up the moulding process for an initial production run.

Subfield Plastics Processing Technology

Domain Rotational Moulding

Status Registered

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Entry information Recommended: Unit 16120, *Mount mould, set and monitor the rotational moulding production process*; Unit 16119, *Service moulds for rotational moulding*; Unit 23131, *Compare melt flow and dimensional stability of plastics materials*; or demonstrate equivalent knowledge and skills.

Accreditation Evaluation of documentation and visit by NZQA and industry.

Standard setting body (SSB) Plastics and Materials Processing Industry Training Organisation Incorporated

Accreditation and Moderation Action Plan (AMAP) reference 0134

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Special notes

- 1 All work practices must meet enterprise health and safety requirements.
- 2 *Enterprise* means an organisation where training and/or assessment is taking place, and/or where the trainee is employed.

- 3 *Enterprise procedure* is defined as actions which comply with the policies, systems, and directives in a particular enterprise. Enterprise procedure must comply with the requirements of the Health and Safety in Employment Act 1992, and subsequent amendments.
- 4 Definitions
Standard product refers to a conventional single skin product, except those classified as complex products below.
Complex product refers to products such as double wall products, multiple shot products, products with moulded graphics, products with inserts, complex shaped products.
Trial refers to the testing and evaluation of either a new mould, or a mould for which there is neither prior knowledge nor production set up information available.

Elements and performance criteria

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Element 1

Control the moulding process for a repeat production run.

Performance criteria

- 1.1 Process parameters are monitored and reported to optimise production and quality in accordance with enterprise requirements.
Range: control effects on finished product part

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- 1.2 Common machine malfunctions are identified, corrected, and reported in accordance with enterprise procedure.

Range common machine malfunctions include – rotation failure, erratic rotation, heating failure, heating fluctuation, cooling failure, cooling fluctuation, control system malfunctions, operator error. Evidence is required for one malfunction, and knowledge of two other malfunctions.

Element 2

Trial a standard product in a specified rotational moulding machine.

Performance criteria

- 2.1 Mould and machine trial preparations are carried out in accordance with enterprise requirements.
- 2.2 The trial mould is fitted, and pre-start procedures are carried out in accordance with enterprise requirements.
- Range pre-start procedures include – mould balancing, verifying mould rotation and clearances, checking for moulding leaks, shot weight checking, part line links, breathers.

- 2.3 Initial machine conditions are set according to product design, material type, and mould construction.
- 2.4 Trial procedures are carried out, and adjustments are made to optimise product quality, productivity, and to satisfy enterprise requirements.
- Range: trial procedures may include but not limited to – cutting product, ultra sonic wall thickness, weight.
- 2.5 Trial results are recorded in accordance with enterprise procedure.

Element 3

Start up the moulding process for an initial production run.

Performance criteria

- 3.1 The machine and mould are put into production, and are monitored to maintain job specification and meet enterprise requirements.
- Range: Enterprise procedure is recorded and set.
- 3.2 Running adjustments are made and are recorded, in accordance with enterprise procedure.
- Range adjustments may include but are not limited to – shield, painting, amplifier adjustment, cycle times, rotation speeds.

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Please note

Providers must be accredited by the Qualifications Authority, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP 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 the Plastics and Materials Processing Industry Training Organisation Incorporated info@pampito.org.nz if you wish to suggest changes to the content of this unit standard.

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