

Title	Use problem-solving models to determine solutions to resolve technical manufacturing processing problems		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to identify, select; and apply problem-solving models; and determine solutions to resolve technical manufacturing processing problems.
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Classification	Manufacturing Skills > Manufacturing Processes
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Available grade	Achieved
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Guidance Information

- 1 Legislation relevant to this unit standard includes but is not limited to the: Health and Safety at Work Act 2015.
- 2 Definitions

Problem-solving models refers to a process with a series of defined steps and may include quality tools such as Kaizen.

Workplace procedures refer to 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, and procedures to comply with legislative and local body requirements.
- 3 Range

Evidence of problem solving over three different sub-system types is required. Sub-system type examples may include but are not limited to – control system, mechanical system, electronic system, pneumatic system, hydraulic system.
- 4 Assessment information
 - a All activities and evidence must be in accordance with workplace procedures.
 - b This unit standard may be assessed alongside Unit 9695, *Examine problem-solving models and explain associated techniques*.
- 5 Recommended skills and knowledge

Unit 9695, *Examine problem-solving models and explain associated techniques*; and technical knowledge and experience of the systems being problem-solved.

Outcomes and performance criteria

Outcome 1

Identify and select problem-solving models to determine and resolve technical manufacturing processing problems.

Performance criteria

1.1 Problem-solving models are identified that are appropriate to problem criteria.

Range criteria examples are – duration, effects.

1.2 Models are selected and written down in a series of process steps appropriate to the problems. The written models can be used for problem-solving.

Outcome 2

Apply problem-solving models to determine technical manufacturing processing problems.

Performance criteria

2.1 Models are applied to identify possible solutions appropriate to the problems.

Range sub-system types may include but are not limited to – control system, mechanical system, electronic system, pneumatic system, hydraulic system;
evidence of problem solving over three different sub-system types is required.

2.2 Models are applied to trace and identify sub-system problems.

Range sub-system types may include but are not limited to – control system, mechanical system, electronic system, pneumatic system, hydraulic system;
evidence of problem solving over three different sub-system types is required.

2.3 A product production fault that is not obvious is traced to the relevant system part of the machine and the cause is determined.

2.4 A material related problem is traced and the cause is identified.

Outcome 3

Determine solutions to resolve technical manufacturing processing problems.

Performance Criteria

3.1 Resolution requirements for a sub-system problem are determined.

Range sub-system types may include but are not limited to – control system, mechanical system, electronic system, pneumatic system, hydraulic system;
evidence of problem solving over three different sub-system types is required.

3.2 Resolution requirements for a material related problem are determined.

3.3 Problem solving information and resolution requirements are communicated to relevant people to enable resolution.

Range may include but is not limited to – internal people with responsibility for technical resolution, external technical specialists.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 September 2016	31 December 2023
Review	2	26 August 2021	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>.

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.