

Title	Prepare screenprinting stencils for printed circuit board processes		
Level	3	Credits	20

Purpose	<p>This unit standard covers the preparation of screenprinting stencils for use in the manufacture of printed circuit boards (PCB). This includes track layouts, component layout, screening and conductive layouts, and solder masking.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> –prepare screenprinting frames; and –create screenprinting stencils for printed circuit board processes.
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Classification	Electronic Engineering > Electronic Manufacturing
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Available grade	Achieved
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Recommended entry information	Unit 12573, <i>Deal with hazardous materials in an electronic manufacturing environment.</i>
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Guidance Information

- 1 For *PCB fabrication operations*, covering PCB cutting, scoring, drilling, routing, and press operations, refer to Unit 12582, *Control printed circuit board fabrication operations*.
For *PCB manufacturing processes*, covering etching, plating, tinning, and deposition of conductive films, refer to Unit 12583, *Control printed circuit board manufacturing processes*.
For *PCB screenprinting processes*, covering circuit printing, solder masking, and component layout masking, refer to Unit 12584, *Control printed circuit board screenprinting processes*.
- 2 Candidates are expected to be familiar with the following:
 - a the processes associated with the preparation of each type of screenprinting stencil;
 - b the health and safety standards associated with the materials used in the preparation of screenprinting stencils.
- 3 Range
 - a types of screenprinting stencil – two or more of – track layout, component layout, screening layout, conductive layout, solder masking;
 - b versions of screenprinting stencil – one or more of – manual versions, machine versions.

- 4 References
Hazardous Substances and New Organisms Act 1996;
Health and Safety in Employment Act 1992.
- 5 The following apply to all outcomes of this unit standard:
- a all activities are to be completed and reported within agreed timeframes;
 - b all work practices must meet worksite's documented quality management requirements;
 - c all activities must comply with policies, procedures and requirements of the enterprises involved; any relevant legislative and/or regulatory requirements, which include, but are not limited to, the Health and Safety in Employment Act 1992 and the Hazardous Substances and New Organisms Act 1996.

Outcomes and performance criteria

Outcome 1

Prepare screenprinting frames.

Performance criteria

- 1.1 The selection of materials is suitable for the specified screenprinting process.
- Range frame material, the screen material, the screen mesh size.
- 1.2 The assembly method and use of jigs comply with preparation instructions.
- 1.3 The completed frame meets the requirements of the specified screenprinting process.
- Range mesh fastening, mesh tension, other specified screenprinting requirements.

Outcome 2

Create screenprinting stencils for printed circuit board processes.

Performance criteria

- 2.1 The film coating matches the specified screenprinting process requirement.
- Range film coating includes – choice of material, thickness and state of cure.
- 2.2 The creation of the screenprinting stencil image complies with preparation instructions.
- Range instructions include items on – image focus, image registration, exposure and development processes.

- 2.3 The screenprinting stencil produces results which meet the specified PCB process standards.

Range standards include – image quality, registration, film strength and stability.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	24 February 1998	31 December 2021
Review	2	28 June 1999	31 December 2021
Revision	3	3 April 2001	31 December 2021
Review	4	23 November 2003	31 December 2021
Rollover and Revision	5	19 March 2010	31 December 2021
Review	6	26 July 2018	31 December 2021

Consent and Moderation Requirements (CMR) reference

0003

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