

Title	Produce resin items to finished product specifications for composites		
Level	3	Credits	30

Purpose	People credited with this unit standard are able to: select and prepare materials, resources, equipment, and consumables to produce resin items; produce resin items; demould laminated items; and prepare for and finish items to specifications.
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Classification	Composites > Production Composites
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Available grade	Achieved
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Guidance Information

- 1 Legislation, regulations, references and/or industry standards relevant to this unit standard include but are not limited to the:
 - [Code of Practice for Health and Safety in the Manufacture of Composites Based on Synthetic Resins \(Fibreglass\), 1998](#)
 - [Health and Safety at Work Act 2015](#)
 - [Hazardous Substances and New Organisms Act 1996](#)
 - [Resource Management Act 1991](#)

Any new, amended or replacement Acts, regulations, rules, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

- 2 Definitions

Equipment refers to tools, machinery, and cleaning utensils.

Materials refer to resins, catalyst, reinforcements, cores, waxes, polymers (teflon), extenders and/or additives.

Process specifications refer to the documented order and method of applying the materials used to manufacture the item (time, materials, temperature, and application rates).

Product specifications refer to the documented requirements of the manufactured item.

Resin refers to vinyl ester, epoxy, laminated polyester, phenolic, or any other resin type used in the marine or composite industry.

Resources refer to moulds, workstations, or laminating and post-cure plant.

Workplace policies and procedures refer to the documented procedures and policies for providing guidelines of the tasks and activities carried out in the workplace. This typically includes relevant health and safety policies to manage risk in the workplace.

3 Assessment Information Range

Evidence of two different types of resins to produce two different items; items produced must include external corners, internal corners, concave surfaces, and convex surfaces.

Evidence presented for assessment against this unit standard must be in accordance with product and process specifications and workplace policies and procedures.

Outcomes and performance criteria

Outcome 1

Select and prepare materials, resources, equipment, and consumables to produce resin items.

Performance criteria

1.1 Materials, resources, equipment, and consumables are selected and prepared.

Outcome 2

Produce resin items.

Performance criteria

2.1 Resin items are produced.

2.2 Cured resin items are checked.

2.3 Produced resin items are checked.

Outcome 3

Demould laminated items.

Performance criteria

3.1 Resources, materials, and equipment are prepared.

3.2 Laminated items are demoulded.

3.3 Produced laminated items are checked.

Outcome 4

Prepare for and finish items to specifications.

Performance criteria

4.1 Items, resources, materials and equipment are prepared.

4.2 Items are finished.

4.3 Finished items are checked.

Range checking includes – weight, dimension, resin content, surface imperfections, plant placement, air entrapment, gelcoat defections, cure level, gloss level.

Replacement information	This unit standard replaced unit standard 3160, unit standard 3161, unit standard 3162, unit standard 3184, and unit standard 3185.
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Planned review date	31 December 2030
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 October 2015	31 December 2023
Review	2	26 August 2021	31 December 2027
Review	3	26 June 2025	N/A

Consent and Moderation Requirements (CMR) reference	0136
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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 Hanga-Aro-Rau Engineering, Manufacturing and Logistics Workforce Development Council at qualifications@hangaarorau.nz if you wish to suggest changes to this unit standard.