

<b>Title</b>	<b>Produce a composite item by resin transfer moulding (RTM) light</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to prepare materials and equipment and produce a composite item using RMT light.
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<b>Classification</b>	Composites > Production Composites
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<b>Available grade</b>	Achieved
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### Guidance information

- Definitions**

*Equipment* refers to applicators, dispensers, measuring devices, cutters and cleaning utensils.

*Process specifications* refers to the documented instructions and method of applying the materials to manufacture the item which includes time, materials, temperature, application rates.

*Product specifications* refers to the documented requirements of the manufactured item.

*RTM light* – low pressure closed moulding resin transfer technique that uses a semi rigid matched pair of moulds clamped closed by a perimeter flange. Cavity vacuum is typically less than 0.5 bar.
- All work practices must meet recognised codes of practice such as the *Code of Practice for Health and Safety in the Manufacture of Composites Based on Synthetic Resins (Fibreglass)*, 1998, available at <http://composites.org.nz/publications/code-of-practice/> and workplace policies and procedures (where these exceed code) for personal, product, and workplace health and safety, and must meet the obligations required under the Health and Safety at Work Act 2015, Health and Safety in Employment Regulations 1995, and Resource Management Act 1991, and any subsequent amendments.

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### Outcomes and performance criteria

#### Outcome 1

Prepare materials and equipment to produce a composite item by RTM light.

**Performance criteria**

- 1.1 Plan of injection and vacuum is verified in accordance with process specifications.
- Range includes but is not limited to – resin input positions, vacuum positions, resin pathways, expected injection time, resin cure times, resin to reinforcement ratio.
- 1.2 Mould is prepared in accordance with product specifications.
- 1.3 Pre-form materials are positioned in accordance with process specifications.
- 1.4 Injection and vacuum equipment is set up and calibrated in accordance with manufacturer's instructions.

**Outcome 2**

Produce a composite item using RTM light.

**Performance criteria**

- 2.1 Composite item is produced in accordance with product specifications.
- 2.2 Finished item is checked and remedial action is taken if required to ensure product specifications are met.

<b>Planned review date</b>	31 December 2023
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	20 August 2010	31 December 2020
Review	2	31 May 2018	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	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 the NZ Marine and Composites ITO [training@nzmarine.com](mailto:training@nzmarine.com) if you wish to suggest changes to the content of this unit standard.