

<b>Title</b>	<b>Repair composite aeronautical components</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>20</b>

<b>Purpose</b>	People completing this unit standard are able to: prepare to repair composite aeronautical components; lay-up repair materials; restore finish and prepare components for use; and carry out task completion activities.
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<b>Classification</b>	Aeronautical Engineering > Aeronautical Composites
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 All tasks must be carried out in accordance with enterprise procedures.
- 2 Definitions  
*Enterprise procedures* – procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.  
*Room temperature* is below 65 degrees Celsius (150 degrees Fahrenheit).
- 3 This unit standard covers repair of composite aeronautical components and does not cover fabrication. Fabrication is covered in Unit 4023, *Fabricate and repair composite aeronautical components at room temperature*, and Unit 4024, *Fabricate and repair composite aeronautical components at elevated temperatures*.
- 4 This unit standard applies to tasks carried out at room temperature and elevated temperatures.

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### Outcomes and performance criteria

#### Outcome 1

Prepare to repair composite aeronautical components.

#### Performance criteria

- 1.1 Task is determined by reviewing documentation.

1.2 Work environment is set up.

Range may include but is not limited to – publications, materials, tooling, equipment, safety equipment, environmental conditions established.

1.3 Repair task is planned.

Range inspection, damage determination.

1.4 Resources are obtained and checked for serviceability or status.

Range may include but is not limited to – publications, tools, equipment, safety equipment, materials.

1.5 Repair or manufacturing sketches are produced to meet manufacturer's specifications.

1.6 Component is prepared.

Range may include but is not limited to – cleaned, disassembled, support tooling attached, damage removed, surface prepared.

1.7 Tooling is assembled, prepared, positioned, and supported ready for lay-up.

1.8 Equipment is prepared for use.

Range may include but is not limited to – operate, calibrate.

1.9 Work area is secured to prevent disruption to lay-up process.

## **Outcome 2**

Lay-up repair materials.

### **Performance criteria**

2.1 Materials are prepared.

2.2 Materials are applied.

2.3 Pressure is applied and controlled in accordance with manufacturer's specifications.

2.4 Cure time and temperature are controlled and/or monitored in accordance with manufacturer's specifications.

## **Outcome 3**

Restore finish and prepare components for use.

**Performance criteria**

- 3.1 Tooling and support equipment are removed without causing damage.
- 3.2 Component serviceability is verified.
- Range inspect, obtain specialist advice.
- 3.3 Further repair work is initiated for non-conforming work.
- 3.4 Composite material edges are sealed.
- 3.5 Component is finished, and surface restored in accordance with manufacturer's specifications.
- Range may include but is not limited to – potting and filling, surface finishing, edge trimming and sealing.
- 3.6 Inspections are obtained.
- 3.7 Documentation is completed.

**Outcome 4**

Carry out task completion activities.

**Performance criteria**

- 4.1 Completion activities specific to task and work area are carried out.
- Range may include but is not limited to – tool control, cleaning, tidying, return of publications, preparation for next activity, return of aircraft and systems to normal.
- 4.2 Resources are checked for serviceability and returned to service or storage.
- Range tools, equipment, safety equipment.
- 4.3 Leftover items, parts, and materials are disposed of.
- Range may include but is not limited to – serviceable, unserviceable, surplus, waste, scrap, hazardous.

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<b>Planned review date</b>	31 December 2024
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	26 March 2007	31 December 2016
Review	2	24 October 2014	31 December 2021
Review	3	26 March 2020	N/A

**Consent and Moderation Requirements (CMR) reference**

0028

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

**Comments on this unit standard**

Please contact ServiceIQ [qualifications@serviceiq.org.nz](mailto:qualifications@serviceiq.org.nz) if you wish to suggest changes to the content of this unit standard.