Title	**Carry out chemical conversion of aeronautical grade aluminium components**		
Level	**4**	**Credits**	**5**

Purpose	People credited with this unit standard are able to: prepare to carry out chemical conversion of aeronautical grade aluminium components; carry out chemical conversion; perform post-chemical conversion treatment; and complete the chemical conversion task. They are also able to operate, be in full control, and take responsibility for the process.

Classification	Aeronautical Engineering > Aeronautical Electroplating

Available grade	Achieved

Guidance Information

1 All tasks must be carried out in accordance with enterprise procedures.

2 Definition
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.

3 Acts, regulations, and bylaws regarding the handling of toxic material and waste must be complied with during assessment against this unit standard.

4 This unit standard applies to a chemical conversion on any aeronautical grade aluminium.

Outcomes and performance criteria

Outcome 1

Prepare to carry out chemical conversion of aeronautical grade aluminium components.

Performance criteria

1.1 Task is determined by reviewing maintenance documentation and enterprise procedures.

1.2 Component identity is confirmed with documentation.

1.3 Work area is prepared and checked.

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

1.4 Solution parameters are analysed to ensure process tolerances are met.

1.5 Component is stripped.

1.6 Corrosion removal is carried out.

1.7 Dimensional tolerance assessment is completed to ensure conformity with specifications.

Outcome 2

Carry out chemical conversion.

Performance criteria

2.1 Component is masked.

Range may include but is not limited to – tape, paint, lacquer, metallic foil, wax, plastic sheeting, fixtures.

2.2 Chemical conversion is applied to aluminium component.

2.3 Equipment is monitored and adjusted.

Range may include but is not limited to – solution agitation, solution temperature, pH.

Outcome 3

Perform post-chemical conversion treatment.

Performance criteria

3.1 Masking and jigging is removed.

3.2 Component is sealed.

3.3 Quality control is carried out.

Range may include but is not limited to – visual inspection, adhesion testing, abrasion resistance test.

Outcome 4

Complete the chemical conversion task.

Performance criteria

4.1 Component is prepared for use, storage, or transit.

Range may include but is not limited to – inhibiting, packing.

4.2 Resources are checked for serviceability and returned to service or storage.

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

4.3 Leftover parts and materials are disposed of.

Range may include but is not limited to – serviceable, unserviceable, surplus, waste, scrap, hazardous.

4.4 Documentation is completed.

Range may include but is not limited to – labels, work cards, release notes, certification.

4.5 Work area is left in a state that enables the next task to begin.

Planned review date	31 December 2027

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 November 2017	31 December 2021
Review	2	26 March 2020	N/A
Rollover and Revision	3	26 April 2024	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 Ringa Hora Services Workforce Development Council qualifications@ringahora.nz if you wish to suggest changes to the content of this unit standard.