

Title	Demonstrate knowledge of the aluminium joinery industry		
Level	2	Credits	8

Purpose	<p>A person credited with this standard is able to:</p> <ul style="list-style-type: none"> • demonstrate knowledge of the production, properties and characteristics of aluminium; • demonstrate knowledge of the cleaning, maintenance requirements, and procedures for finished aluminium products; • demonstrate knowledge of the types and uses of aluminium joinery; • demonstrate knowledge of weathertightness in relation to aluminium joinery; • describe the manufacturing process for aluminium joinery products; and • identify the key codes of practice for the manufacture of aluminium joinery products.
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Classification	Joinery > Architectural Aluminium Joinery
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Available grade	Achieved
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Guidance Information

- Reference
Window & Glass Association New Zealand. (2019). *Guide to Window Installation as described in E2/AS1 Amendment 8*. Window & Glass Association NZ: Retrieved from <https://www.wganz.org.nz/wp-content/uploads/2019/07/WGANZ-Guide-to-E2-AS1-Amd-8-V1.5-August-19.pdf>.
- Resources
 - NZS 4211:2008. *Specification for performance of windows*.
 - NZS 4223 Parts 1 and 2:1985. *Code of practice for glazing in buildings*.
 NZS and SNZ standards can be retrieved from <http://www.standards.co.nz/>.
- Definition
Company procedures – the documents and procedures that include company rules, codes and practices; machine and equipment operating instructions; quality and conformance checks; and health and safety requirements.

4 Range

Evidence generated for assessment against this standard must reflect workplace and industry requirements specified in:

- documented worksite specifications, procedures, and practices;
- manufacturer recommendations, specifications, and technical data sheets;
- applicable standards and codes of practice.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the production, properties and characteristics of aluminium.

Performance criteria

1.1 Extraction and reduction processes are explained in terms of the production of pure aluminium and its alloys.

Range processes include – mining, refining, smelting.

1.2 Physical and mechanical properties of aluminium are identified and related to applications.

Range properties include – chemical, weight, thermal expansion and conductivity, melting point, strength, workability, reflectivity, toxicity.

1.3 Corrosion of aluminium is described in the context of metal integrity and appearance.

Range corrosion includes – galvanic, deposition, pitting, crevice, chemical, atmospheric, any other non-compatible materials.

Outcome 2

Demonstrate knowledge of the cleaning, maintenance requirements, and procedures for finished aluminium products.

Performance criteria

2.1 Cleaning practices applicable to the finished surface condition of aluminium products are described in terms of company procedures.

Range minor cleaning requirements include – soap, water, brush;
moderate cleaning requirements include – solvents, waxed-based polish cleaner.

2.2 Procedures for selecting, mixing, and applying cleaning solutions are described in terms of manufacturers' instructions.

- 2.3 Procedures for maintaining aluminium joinery products are described in terms of company procedures and manufacturers' instructions.

Outcome 3

Demonstrate knowledge of the types and uses of aluminium joinery.

Performance criteria

- 3.1 Residential window and door types are described in accordance with the *Guide to Window Installation as described in E2/AS1 Amendment 8*.
- 3.2 Commercial aluminium joinery products are described in accordance with the *Guide to Window Installation as described in E2/AS1 Amendment 8*.

Outcome 4

Demonstrate knowledge of weathertightness in relation to aluminium joinery.

Performance criteria

- 4.1 The mechanisms of water ingress are identified.
- Range mechanisms include – wind pressure, capillary action, gravity.
- 4.2 Methods of managing water ingress are described in terms of company procedures.
- Range methods include – dry and wet seals, drainage systems, flashings.

Outcome 5

Describe the manufacturing process for aluminium joinery products.

Performance criteria

- 5.1 Each step in the manufacturing process is described in terms of company procedures.
- Range steps include – cutting, preparation, machining, assembling, glazing, revealing.

Outcome 6

Identify the key codes of practice for the manufacture of aluminium joinery products.

Range codes of practice include – NZS 4211:2008, NZS 4223 Parts 1 and 2:1985.

Performance criteria

- 6.1 The title and coverage of each key code of practice is described.

- 6.2 The application of each code of practice to aluminium window and door manufacture is described.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	11 August 1993	31 December 2012
Review	2	26 July 2000	31 December 2012
Review	3	24 August 2006	31 December 2012
Rollover and Revision	4	20 May 2011	31 December 2017
Review	5	21 May 2015	21 December 2025
Review	6	26 May 2022	N/A

Consent and Moderation Requirements (CMR) reference	0048
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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 Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.