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| Title | Demonstrate knowledge of the principles and procedures for aluminium window installation | | |
| Level | 4 | Credits | 5 |

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| Purpose | <p>This unit standard is for experienced people employed to install windows.</p> <p>A person credited with this unit standard is able to demonstrate knowledge of:</p> <ul style="list-style-type: none"> • the principles of aluminium window installation; • the procedures common to all aluminium window installation systems; • sealants, fixing methods; and • industry guidelines for aluminium window installation. |
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| Classification | Joinery > Architectural Aluminium Joinery |
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| Available grade | Achieved |
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Guidance Information

- 1 Legislation and standards relevant to this unit standard include – Building Act 2004, Health and Safety at Work Act 2015, Resource Management Act 1991, New Zealand Building Code Compliance Documents and Handbooks. Wellington: Department of Building and Housing, 2008, available at <http://www.dbh.govt.nz/building-code-compliance-documents>, New Zealand Standard (NZS) 4211:2008 *Specification for performance of windows*; NZS 3504:1979 *Specification for aluminium windows*; NZS 3604:2011 *Timber-framed buildings*; AS/NZS 1170.0:2002 *Structural design actions – General principles*; and AS/NZS 4666:2012 *Insulating glass units*, available at <http://www.standards.co.nz>.
- 2 References
Insulated Glass Unit Manufacturers' Association (IGUMA) guidelines and data sheets available from the Window Association of NZ (Inc.), PO Box 11 464, Manners Street, Wellington;
BRANZ recommendations for window installation, available at <http://www.branz.co.nz>.
- 3 Definitions
E2 AS/1 – the Acceptable Solution for Clause E2 External Moisture of the NZ Building Code (the 'Weathertightness solution') and sets out performance standards for installation of windows and doors.
MSDS – material safety data sheets.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the principles of aluminium window installation.

Performance criteria

1.1 Principles of water management in buildings and their application to aluminium window installation are explained in terms of industry guidelines.

Range principles include – deflection, drainage, durability, drying.

1.2 The concept of plumb installation is explained and the effects of ‘out of plumb’ on window installation are described in terms of industry guidelines.

1.3 The use of tolerances as applied to window installation is explained in terms of industry guidelines.

Range tolerances include – minimum and nominal tolerances, thermal and building movement and expansion, deflection (lintels, steel beams).

1.4 The importance of pressure equalisation in window installation is explained in terms of industry guidelines.

1.5 The requirements for sill support under Clause E2 of the New Zealand Building Code and the IGUMA guidelines and their application are described.

Range requirements include – single-glazed units, insulated glass units.

1.6 The effects which incompatible materials that are in contact with each other have on window components are explained.

Range materials include – brackets, fixings, flashings, sealants.

1.7 Occupational health and safety requirements for window installation are explained in terms of legislative requirements.

Range requirements may include – height, lifting, personal safety equipment.

Outcome 2

Demonstrate knowledge of the procedures common to all aluminium window installation systems.

Range procedures include – building design (cavity construction, direct fix), window installation system;
evidence is required of two joinery products used in the candidate’s workplace.

Performance criteria

- 2.1 The requirements common to all window installation systems are identified and described for specific aluminium joinery products.
- 2.2 The variations between window installation systems are identified and described for specific aluminium joinery products.

Outcome 3

Demonstrate knowledge of sealants and fixing methods used for aluminium window installation.

Performance criteria

- 3.1 The properties and uses of sealants for installing aluminium windows are identified and described.

Range sealants may include – acrylic, urethane, silicon.

- 3.2 The safety requirements for use of sealants are explained.

Range safety requirements include – ventilation, clothing, masks, MSDS.

- 3.3 Methods of fixing aluminium window components are explained.

Range methods include – nails, screws, glue, proprietary fixing products.

- 3.4 Calculation of correct fixing spaces is described, and the consequence of incorrect spacing is explained.

Outcome 4

Demonstrate knowledge of industry guidelines for aluminium window installation.

Range guidelines include – cladding supplier's recommendations for installation, BRANZ recommendations for installation, IGUMA guidelines.

Performance criteria

- 4.1 The purpose of each set of guidelines is explained.

- 4.2 The application of each set of guidelines to the window installation process is specified.

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| 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 | 20 June 2008 | 31 December 2012 |
| Rollover and Revision | 2 | 20 May 2011 | 31 December 2017 |
| Review | 3 | 21 May 2015 | 31 December 2025 |
| Review | 4 | 26 May 2022 | N/A |

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| 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.