

Title	Manufacture insulated glass units		
Level	4	Credits	15

Purpose	<p>This unit standard is for experienced people in the glass processing industry.</p> <p>People credited with this unit standard are able to: prepare to manufacture Insulated Glass Units (IGUs); and manufacture IGUs.</p>
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Classification	Glass and Glazing > Glass Processing and Manufacturing
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Available grade	Achieved
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Guidance Information

- 1 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:
[Health and Safety at Work Act 2015](#);
[Resource Management Act 1991](#);
Safe Use of Machinery: Best Practice Guidelines; available at www.worksafe.govt.nz;
NZS 4223.2:2016, *Glazing in buildings - Part 2: Insulating glass units*; available at <http://www.standards.co.nz>.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes.

- 2 Definitions
Extruded spacer refers to spacer frame that is applied directly onto glass.
Insulated glass units (IGUs) refer to a glass solution comprised of two pieces of glass that are separated by a spacer, creating an air gap between surfaces.
Job specifications refer to the scope of the work being undertaken. It includes the objectives, quality requirements, deliverables, timeline, budget, etc.
Orientation refers to the identification of a surface to be coated, two pieces of glass with an air gap between both faces facing outside, having the coating outside.
Workplace procedures refer to the documented procedures specific to a workplace that set out the standard and the required practices of that workplace. This may include job specifications, procedures, practices, manufacturer recommendations, technical data sheets and material safety data sheets.

3 Assessment

Evidence for this unit standard must reflect:

- industry standards, current health, safety, industry, and workplace procedures;
- job specifications and customer requirements;
- industry requirements for commercially acceptable timeframes.

Outcomes and performance criteria

Outcome 1

Prepare to manufacture IGUs.

Performance criteria

1.1 Preparation of work area and personal safety precautions are carried out.

Range preparation includes – selection and use of protective clothing and safety equipment, identification of hazards and risks, selection of equipment and completion of maintenance checks, checking materials for shelf life and compliance with storage requirements, review of operational procedures, quality control checks, clearing work area.

1.2 Glass used to manufacture IGUs is checked.

Range checks may include but are not limited to – glass and processing match with requirements of work or customer order (to include type and thickness, make-up, orientation, shapes, size), quality of glass (to include freedom from seeds, surface damage, edge chips), glass size is within processing equipment limitations, glass clear of dirt and moisture, free of sharp edges.

Outcome 2

Manufacture IGUs.

Performance criteria

2.1 Paperwork is checked to confirm specification of IGUs to be processed.

2.2 Spacers are selected, cut, or bent and frame is completed.

2.3 Desiccant fill is completed.

2.4 Primary seal is applied.

2.5 Glass is prepared for assembly.

Range preparation includes – final washing and drying, final checking for faults, orientation for frame placement.

2.6 IGU unit is assembled.

Range assembly tasks may include but are not limited to – application of prepared frame to first piece of glass, application of second piece of glass, pressing of unit after assembly.

2.7 Gas fill is checked.

2.8 Extruded spacer is checked at available locations.

2.9 Application of a secondary seal is performed, and labelling is completed.

2.10 Final inspection and/or testing is carried out to ensure the completed product meets legislative requirements.

Planned review date	31 December 2029
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 April 2004	31 December 2013
Review	2	21 May 2010	31 December 2017
Review	3	18 June 2015	31 December 2026
Rollover and Revision	4	25 August 2022	31 December 2026
Review	5	24 October 2024	N/A

Consent and Moderation Requirements (CMR) reference	0073
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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 at qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.