

Title	Install a structural glass assembly		
Level	4	Credits	10

Purpose	<p>A person credited with this standard can:</p> <ul style="list-style-type: none"> • explain structural glass assembly systems; • prepare to install a structural glass assembly; • install a structural glass assembly; and • complete cleaning and storage requirements.
----------------	---

Classification	Construction Trades > Glazing
-----------------------	-------------------------------

Available grade	Achieved
------------------------	----------

Guidance Information

1 Assessment

This unit standard must be assessed under the supervision of a commercially competent glazing practitioner in workplace conditions that reflect:

- current health, safety, industry, and workplace requirements; and
- industry requirements for commercially acceptable timeframes.

Evidence generated for assessment against this standard must be verified by a person who has current expertise in the glazing trades and has had the opportunity to regularly observe the candidate in the workplace.

- 2 Installations must be completed without injury to personnel or damage to products and equipment. Personal protective equipment must be used to meet regulatory and worksite requirements.

3 Definitions

Personal protective equipment includes – anything used or worn by a person (including clothing) to minimise risks to the person's health and safety.

A *structural glass assembly* is a frameless assembly of glass where a portion of the structural load is taken by the glass itself rather than by a supporting frame.

Worksite requirements refer to instructions to staff on policy and procedures which are documented in manual format and are available in the workplace. These requirements include – company specifications and procedures, work instructions, manufacturer's specifications, product quality specifications, legislative requirements.

4 Range

Structural glass wall.

- 5 Evidence generated for assessment against this standard must reflect the best practice guidelines and principles specified in:
- NZS 3604:2011. *Timber-framed buildings*;
 - NZS 4223.1:2008. *Glazing in buildings – Part 1: Code of practice for glazing in buildings - Glass selection and glazing*;
 - NZS 4223.2:2016. *Glazing in buildings – Part 2: Insulating Glass Units*;
 - NZS 4223.3:2016. *Glazing in buildings – Part 3: Human impact safety requirements*;
 - NZS 4223.4:2008. *Glazing in buildings – Part 4: Wind, dead, snow, and live actions*;
 - AS/NZS 4667:2000. *Quality requirements for cut-to-size and processed glass*;
 - AS/NZS 4668:2000. *Glossary of terms used in the glass and glazing industry*;
 - AS/NZS 1170.0:2002. *Structural design actions – Part 0: General principles*;
 - AS/NZS 1576.1:2019. *Scaffolding – Part 1: General requirements*;
 - AS/NZS 4284 2008 *Testing of building facades*.
- AS/NZS standards are available at <http://www.standards.govt.nz>.

Outcomes and performance criteria

Outcome 1

Explain structural glass assembly systems.

Range includes – ground-based assemblies, fully-fixed assemblies, suspended assemblies, tension rod systems, canopy systems, glass structures incorporating glass beams and columns.

Performance criteria

1.1 Explain the construction methods of structural glass assembly.

Range hardware and component types, structural support principles, glass types, applications.

1.2 Explain the compliance requirements for installation of structural glass assemblies.

Range installation to design specifications, producer statement responsibilities, implication of non-compliance with design specifications, structural integrity requirements for Insulated Glass Units (IGU) fixing systems.

1.3 Explain the design requirements for structural glass assemblies.

Range span, inter-storey deflection, wind loads, live loads, interface with structure, glass stresses, sloped or overhead situations, out of plane movement, accommodation of movement within system, seismic considerations.

Outcome 2

Prepare to install a structural glass assembly.

Performance criteria

2.1 Confirm the design requirements and job specifications before work begins.

Range design details, dimensions, architectural and working drawings, manufacturer specifications and instructions, site operational procedures, construction programme, producer statements.

2.2 Check and gather equipment, tools, and installation materials before work begins.

2.3 Undertake a site check for the installation.

Range site safety plan, installation plan, coordinating with other trades on-site, access and crane or lifting, confirmation of dimensions, site floor levels and allowance for floor finishes, suitability and location of fixing provisions, surrounds are plumb and/or level.

2.4 Finalise installation plan.

Range cost, time, availability of materials.

Outcome 3

Install a structural glass assembly.

Performance criteria

3.1 Confirm the set-out meets the design requirements and job specifications.

3.2 Install a structural glass assembly to meet a job specification.

Range fit channels, flashings, perimeter structural connections; fit glass fins, beams or columns, fit interconnecting hardware, attach glass, seal joints.

3.3 Provide information to the customer about any relevant protection, maintenance and cleaning, warranty maintenance.

Outcome 4

Complete cleaning and storage requirements.

Performance criteria

4.1 Clean and store tools and plant used to install a structural glass assembly.

Range plant may include – any machinery, vehicle, equipment (including personal protective equipment) used in a glazing operation.

4.2 Clean the glass assembly and clear and clean the work area.

Replacement information	This unit standard replaced unit standard 20521.
--------------------------------	--

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	18 June 2015	31 December 2024
Review	2	24 November 2022	N/A

Consent and Moderation Requirements (CMR) reference	0048
--	------

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

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.