Title	**Glaze solar control and specialist coated glass**		
Level	**4**	**Credits**	**20**

Purpose	A person credited with this standard can: • demonstrate knowledge of solar control and specialist coated glass; • prepare to glaze solar control and specialist coated glass; • glaze solar control and specialist coated glass; and • complete cleaning and storage requirements.

Classification	Construction Trades > Glazing

Available grade	Achieved

Guidance Information

1 Industry expects this standard to be assessed toward the end of a glazing apprenticeship programme when the apprentice has had opportunity to practice glazing all types of solar control and specialist coated glass.

2 Assessment
Evidence for glazing solar control and specialist coated glass must:
- be to current and relevant Legislation, Standards, and Codes (including safety),
- be to the requirements of the proprietary systems,
- minimise material wastage,
- be collected within an acceptable timeframe,
- be in a manner that maintains a safe and tidy work environment,
- be for different and unfamiliar projects,
- reflect acceptable behaviours.

Evidence for this standard must be verified by an employer or delegated person who has current expertise in the glazing trades and has had the opportunity to regularly observe the candidate in the workplace.

3 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. Glass surface must be protected during handling, transportation, installation, or other site activities.

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

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 Evidence generated for assessment against this standard must reflect the best practice guidelines and principles specified in:

- 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 4666:2012. *Insulating glass units;*
- 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 1170.1:2002. *Structural design actions, part 1: Permanent, imposed and other actions;*
- AS/NZS 1170.2:2021. *Structural design actions, part 2: Wind actions;*
- AS/NZS 1170.3:2003. *Structural design actions, part 3: Snow and ice actions;*
- AS/NZS 1170.5:2004. *Structural design actions, part 5: Earthquake actions – New Zealand;*
- NZS 4218:2009. *Thermal insulation - Housing and small buildings*.

AS/NZS and NZS standards are available at https://www.standards.govt.nz/.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of solar control and specialist coated glass.

Performance criteria

1.1 Describe the types of glass used for solar control and thermal insulation.

Range body tinted glass, reflective glass, insulating glass units (IGUs), low emissivity coatings, printed glass, solar controlled laminated glass panel.

1.2 Identify and describe the performance properties of solar control and specialist coated glasses and IGU.

Range visible light reflection, visible light transmission, solar heat gain, solar heat absorption, emissivity, shading coefficient.

1.3 Identify and describe considerations for the selection of solar control and specialist coated glass.

Range orientation, geographic location, occupant comfort, safety, glare.

1.4 Describe the handling, processing, cleaning, and storage requirements necessary to maintain coating integrity of specialist coated glass.

Range edge deletion, coating exposure time, water quality and temperature, coating contamination, plant and equipment maintenance, orientation of the panel during processing, behaviour of coating and glass during furnacing.

Outcome 2

Prepare to glaze solar control and specialist coated glass.

Performance criteria

2.1 Confirm customer requirements before work begins.

Range design details, drawings, specifications, product information, site operational procedures.

2.2 Provide solutions to comply with glazing product performance specifications.

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

2.4 Check the site before work begins.

Range measurements, fixing/framing methods, glazing methods, surrounds plumb and/or level, installation hazards, inside and outside requirements for glass coating type, shading implications, system drainage.

Outcome 3

Glaze solar control and specialist coated glass.

Performance criteria

3.1 Confirm the glass measurements for edge clearance and edge cover. Address any out-of-specification measurements.

3.2 Cut glass to specification without damage to glass or coatings as required.

3.3 Place setting blocks, location blocks, and distance pieces to meet job specifications.

3.4 Apply fixing method, and glazing materials.

Range fixing method may include sealant, wedge, foam tape, butyl tape, polyethylene foam rod.

3.5 Provide information to the customer about any relevant maintenance requirements.

Outcome 4

Complete cleaning and storage requirements.

Performance criteria

4.1 Clean and store tools and plant used to glaze solar control and specialist coated glass.

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

4.2 Clean the installation and clear and clean the work area.

Planned review date	31 December 2029

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	11 June 1995	31 December 2013
Revision	2	5 February 1997	31 December 2013
Revision	3	20 December 1999	31 December 2013
Review	4	27 April 2004	31 December 2013
Review	5	21 May 2010	31 December 2017
Review	6	18 June 2015	31 December 2024
Review	7	24 November 2022	30 June 2026
Review	8	28 November 2024	30 June 2026
Review	9	29 May 2025	N/A

Consent and Moderation Requirements (CMR) reference	0120

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.