



Australian Government

MSFGG3017 Fabricate and install commercial glazing

Release: 2

MSFGG3017 Fabricate and install commercial glazing

Modification History

Release 2 - Update of Australian Standards codes. Statement regarding currency of Australian Standards included in Range of Conditions and Performance Evidence.

Release 1 - New unit of competency

Application

This unit of competency covers planning, fabricating and installing flat or curved glass in commercial shopfronts, doors and windows.

Licensing, legislative or certification requirements may apply to this unit and relevant state/territory and local government agencies should be consulted to determine any necessary certification or licensing for undertaking glass and glazing work. Access to construction sites requires certification of general induction training specified by the *National Code of Practice for Induction for Construction Work* (ASCC 2007).

Pre-requisite Unit

Competency Field

Unit Sector

Glass and Glazing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Identify work requirements	1.1	Work requirements in the form of type of glass, frames and the method of fixing are identified from work instructions
		1.2	Work health and safety (WHS) requirements for fabrication and installation of commercial glazing, including personal protective equipment, are identified and observed throughout the work
		1.3	Process for fabricating and installing commercial flat and/or curved glazing is determined
2	Prepare for work	2.1	Work sequence is planned in a logical order to suit the job

- and workplace procedures
- 2.2 Tools, equipment and materials, other than glass and frames, are selected and checked prior to use to ensure they are appropriate for the work, serviceable and in a safe condition
 - 2.3 Type of glass to be fitted and frames are selected to match the customer order
 - 2.4 Glass is checked for type, size and imperfections
 - 2.5 Glass fixing method and appropriate method of glazing are selected
- 3 Identify site conditions and constraints
- 3.1 Site safety hazards are recognised and corrective action taken to reduce injury to self and others
 - 3.2 Other on-site difficulties are identified and corrective action taken in accordance with regulations and enterprise agreements
 - 3.3 Special characteristics of the glass aperture are identified in relation to the effect of the glass fitting process on the finished job
 - 3.4 Covering material is applied, where necessary, to protect existing fixtures and fittings
- 4 Prepare frame
- 4.1 Frame condition is assessed to ensure suitability for glazing in accordance with customer order and Australian Standards
 - 4.2 Defective frames are reported for repair or replacement in accordance with workplace procedures
 - 4.3 Frame is prepared, if required, to receive glass
 - 4.4 Fixing and sealing materials are prepared by mixing or cutting to length, as appropriate
- 5 Fit glass
- 5.1 Glass is fixed to the frame using the selected method and in accordance with recognised Australian and industry standards
 - 5.2 Solvents and sealants are used in accordance with manufacturer recommendations and Australian Standards
 - 5.3 Excess sealing material is removed and the glass and

			frame are cleaned after fixing
6	Complete work	6.1	Completed installation is checked to ensure compliance with customer requirements, specifications and Australian Standards
		6.2	Work area is cleaned and left in a safe condition and rubbish removed from work area and disposed of in accordance with relevant statutory requirements and workplace requirements
		6.3	Tools, equipment and materials are cleaned and stored following workplace procedures
		6.4	Waste and scrap material are removed for disposal or recycling, as required
		6.5	Workplace documentation is completed in accordance with workplace requirements including calculating the cost of glass, fittings, materials and labour

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit context includes:

- WHS requirements, including legislation, building codes, material safety management systems, hazardous and dangerous goods codes, and local safe operating procedures or equivalent
- work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements
- work requires individuals to demonstrate some discretion,

	judgement and problem solving
Types of glass include:	• annealed glass • toughened glass • laminated glass • bandit-resistant glass • bullet-resistant glass • heat-reflective glass
Fabrication and installation of commercial glazing includes:	• the fabrication, assembly, glazing and installation of framed and/or frameless shopfronts and returns, fixed and operable windows, hinged, pivot, sliding and automatic doors • toughened glass assemblies • watertight glazing techniques, including use of silicone • balustrading
Curved glazing includes:	• cylindrical and non-cylindrical (or 'J') curves used for: • revolving doors • shopfronts • lifts and foyers • partitions • pool surrounds
Tools and equipment include:	• assembly benches • drop and up-cut saws • pneumatic tools • hydraulic and manual presses • frame and sash tooling • copy routers • end millers • crimpers • electric and pneumatic powered drills and screwdrivers • pop rivet guns • glue guns • general hand tools
Materials include:	• all forms of flat and curved glass and acrylic glazing products • plastic • aluminium • steel • solid timber • gaskets • sealants • adhesives
Glass fixing method	• specifications

- covers:**
- type of glass and frame
 - security requirements
 - sealing methods
 - Australian Standards
- Personal protective equipment includes:**
- that prescribed under legislation, regulation and enterprise policies and practices:
 - gauntlets
 - gloves
 - safety glasses
 - hard hats
 - safety footwear
 - aprons and overalls
- Information and procedures include:**
- workplace procedures relating to the use of tools and equipment and personal protective equipment
 - work instructions, including job sheets, cutting lists, plans, drawings and designs
 - workplace procedures relating to reporting and communication
 - manufacturer specifications and operational procedures
 - Australian Standards:
 - AS 1228:2006 Glass in buildings - Selection and installation
 - AS/NZS 4667:2000 Quality requirements for cut-to-size and processed glass
 - AS 2047:2014 Windows in buildings - Selection and installation
 - AS/NZS 2208:1996 Safety glazing materials in buildings
 - AS/NZS 2343:1997 Bullet-resistant panels and elements
 - AS 3555.1:2003 Building elements - Testing and rating for intruder resistance - Intruder-resistant building panels

Note, wherever Australia Standards are listed they apply at the time of publication, but the most current version (including amendments) or replacement versions are to be used.

Unit Mapping Information

Supersedes and is equivalent to LMFGG3017C Fabricate and install commercial glazing.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFGG3017 Fabricate and install commercial glazing

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Performance Evidence

- Interpret work order and locate and apply relevant information
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Identify materials used in the work process
- Follow work instructions, operating procedures and inspection processes to:
 - minimise the risk of injury to self or others
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
- Measure for the installation of flat and curved commercial windows, shopfronts and doors and work from product specification data sheets and/or specified software programs
- Identify and select product materials that are fit for purpose and fabricate frame and sash components, including cutting, tooling/milling, routing, drilling and/or crimping
- Identify, select and install component hardware, including weather seals, wheels, stays, hinges and concealed overhead closer (COC) pivots, guides and/or locks
- Select and cut glass to AS 1228:2006 Glass in buildings - Selection and installation, and AS/NZS 4667:2000 Quality requirements for cut-to-size and processed glass
- Assemble frames, including glass, gaskets, tapes, sealants, adhesives and fasteners in accordance with AS 2047:2014 Windows in buildings - Selection and installation
 - *Note, wherever Australia Standards are listed they apply at the time of publication, but the most current version (including amendments) or replacement versions are to be used.*
- Install framed and frameless commercial windows
- Calculate the cost of commercial windows, shopfronts and doors
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of work outcomes and problems, interpret basic plans and follow safety procedures
- Avoid backtracking, work flow interruptions or wastage
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Types, qualities and characteristics of flat and/or curved glass, including hazards and handling requirements
- Techniques, methods, materials and processes of fabricating and installing commercial glazing
- Curved glass characteristics and uses
- Work flow requirements in relation to the fabrication and installation of commercial glazing
- Relevant Australian Standards
- Application and operation of tools and equipment used
- Correct identification of equipment, processes and procedures
- Workplace safety system requirements related to the fabrication and installation of commercial glazing

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
 - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to frames, flat and/or curved glass, fixing materials, sealants, workplace operating procedures and work orders, personal protective equipment and an appropriate work area/site.

Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>