



Australian Government

Department of Education, Employment and Workplace Relations

LMFGG3017C Fabricate and install commercial glazing

Release: 1

LMFGG3017C Fabricate and install commercial glazing

Modification History

Updated format, added potential to fabricate and install curved glass and continuous balustrading, revised Evidence Guide. Outcome equivalent.

Unit Descriptor

This unit of competency covers the skills and knowledge required to plan, fabricate and install flat glass in commercial shopfronts, doors and windows. Curved glass may also be used.

Application of the Unit

Work requires individuals to demonstrate discretion, judgement and problem solving in the planning and fitting of flat and/or curved glass in commercial applications. Work is generally performed in a team environment, with general supervision, and may be part of a production process..

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|---|-----|--|
| 1 | Identify work requirements | 1.1 | Work requirements in the form of <i>type of glass</i> , frames and the method of fixing are identified from work instructions |
| | | 1.2 | Occupational health and safety (OHS) requirements for <i>fabrication and installation of commercial glazing</i> , including <i>personal protective equipment</i> , are identified and observed throughout the work |
| | | 1.3 | The process for fabricating and installing commercial flat and/or <i>curved glazing</i> is identified |
| 2 | Prepare for work | 2.1 | Work sequence is planned in a logical order to suit the job and <i>workplace procedures</i> |
| | | 2.2 | <i>Tools, equipment and materials</i> , 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 | <i>Glass fixing method</i> and appropriate <i>method of glazing</i> are selected |
| 3 | Identify site conditions and restraints | 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 | <i>Frame is prepared</i> (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 |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

- collecting, organising and understanding information related to work orders, basic plans and safety procedures
- using communication skills to the level required to confirm work requirements and specifications; communicate effectively regarding work requirements with supervisors, other workers and customers; report work outcomes and problems; and relate to people from a range of social, cultural and ethnic backgrounds, and of varying physical and mental abilities
- using literacy skills to the level required to understand information related to work orders, including common industry terminology, plans and safety procedures; prepare reports; and interpret technical information and specifications
- planning and organising activities, including the preparation and layout of the work area, and the obtaining of equipment and materials to avoid any backtracking, workflow interruptions or wastage
- working with others and in a team by recognising dependencies and using cooperative approaches to optimise workflow and productivity
- using mathematical ideas and techniques to correctly complete measurements, calculate work requirements, and optimise glass sizes for economical cutting and assembling of required materials
- using pre-checking and inspection techniques to plan work, and avoid re-working and wastage
- using workplace technology related to the fabrication and installation of commercial glazing
- modifying activities to cater for variations in workplace contexts and environment

Required knowledge includes:

- 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
- workflow requirements in relation to the fabrication and installation of commercial glazing
- relevant Australian Standards
- the 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

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the language, literacy and numeracy capacity of the candidate and the work being performed.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently: • interpret work order/job instruction and locate and apply relevant information to fabricate and install commercial glazing • apply safe handling requirements for equipment, products and materials, including use of personal protective equipment • follow work instructions, operating procedures and inspection practices to: • minimise the risk of injury to self and others • prevent damage to goods, equipment and products • maintain required product quality • as a minimum: • measure for the installation of flat and curved commercial windows, shopfronts and doors • work from product specification data sheets and/or specified software programs • identify and select product materials that are fit for purpose • 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 2047:1999 Windows in buildings -

	Selection and installation • install framed and frameless commercial windows • calculate the cost of commercial windows, shopfronts and doors • work effectively with others.
Context of and specific resources for assessment	The application of competency is to be assessed in the workplace or realistically simulated workplace. Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints. Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context. Assessment is to comply with relevant regulatory or Australian Standard requirements. The following resources should be made available: • frames • flat and/or curved glass • fixing materials • sealants • workplace operating procedures and work orders • personal protective equipment • an appropriate work area/site.
Method of assessment	Assessment must satisfy the endorsed Assessment Guidelines of the LMF02 Furnishing Industry Training Package. Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge. Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure correct interpretation and application. Assessment may be applied under project-related conditions (real or simulated) and require evidence of process. Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.

	Assessment may be in conjunction with assessment of other units of competency.
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Types of glass may include, but are not limited to:</i>	• annealed glass • toughened glass • laminated glass • bandit resistant glass • bullet resistant glass and heat reflective glass
<i>Fabrication and installation of commercial glazing covers:</i>	• work involving the fabrication, assembly, glazing and installation of framed and/or frameless shopfronts and returns, fixed and operable windows, hinged, pivot, sliding and automatic doors. It may include: • toughened glass assemblies • watertight glazing techniques, including use of silicone • may include balustrading
<i>Personal protective equipment includes:</i>	• that prescribed under legislation, regulation and enterprise policies and practices, and may include: • gauntlets • gloves • safety glasses • hard hats • safety footwear • aprons and overalls
<i>Curved glazing may include:</i>	• cylindrical and non-cylindrical (or 'J') curves used for: • revolving doors • shopfronts • lifts and foyers • partitions

	• pool surrounds
Workplace procedures may include:	• workplace procedures relating to fitting of glass for commercial applications • on-site procedures and regulations relating to the handling and movement of glass • work instructions, including job sheets, cutting lists, plans, patterns, templates, drawings and/or designs • safety standards, including personal protective equipment, OHS regulations and enterprise requirements • 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 2047:1999 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
Tools and equipment may 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 and general hand tools
Materials may include:	• all forms of flat and curved glass and acrylic glazing products • plastic • aluminium • steel • solid timber • gaskets

	• sealants and adhesives
<i>Glass fixing method covers:</i>	• specifications • type of glass and frame • security requirements • sealing methods • Australian Standards
<i>Methods of glazing may include:</i>	• pocket • flush • channel • double glazing
<i>Frame preparation may include:</i>	• cleaning • surface preparation (if required) • checking size against specification

Unit Sector(s)

Glass and glazing

Custom Content Section

Not applicable.