



Australian Government

Department of Education, Employment and Workplace Relations

LMFGG3019B Conduct commercial and structural glazing

Revision Number: 1

LMFGG3019B Conduct commercial and structural glazing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit addresses the knowledge and skills required to replace glass in commercial, structural and/or architectural engineered applications.
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

Employability skills	This unit contains employability skills.
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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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
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. Workplace health and safety requirements for fabrication and installation of commercial glazing, including personal protection needs, are identified and observed throughout the work 1.3. The process for fabricating and installing commercial glazing is identified
2. Prepare for work	2.1. Work sequence is planned in a logical order to suit the job 2.2. Tools, equipment and materials, other than glass and frames, are selected and checked prior to use to ensure that 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: 2.3.1. customer order 2.3.2. existing glass type 2.3.3. requirements for security, noise or light control 2.3.4. relevant Australian Standards 2.4. Glass fixing method is selected according to: 2.4.1. specification 2.4.2. type of glass and frame 2.4.3. security requirements 2.4.4. sealing methods 2.4.5. Australian Standards 2.5. Glass is checked for type, size and imperfections
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 recognised and action taken to resolve in accordance with regulations and enterprise requirements 3.3. Covering material is applied where necessary to protect existing fixtures and fittings 3.4. Special characteristics of the window or door which may affect the finished job are identified and corrective action taken

ELEMENT	PERFORMANCE CRITERIA
4. Prepare frame and materials	4.1. Frame condition (if applicable) is assessed to ensure suitability for glazing in accordance with customer requirements 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 by: 4.3.1. removing any remains of glass and sealants 4.3.2. cleaning 4.3.3. surface preparation (if required) 4.3.4. checking size against specification 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 industry procedures and Australian Standards 5.2. Solvents and sealants are used in accordance with manufacturers' recommendations and Australian Standards 5.3. Excess sealing material is removed 5.4. 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. Workplace documentation is completed in accordance with workplace requirements 6.3. 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 6.4. Tools, equipment and materials are cleaned and stored following workplace procedures 6.5. Waste and scrap material is removed for disposal or recycling as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- collect, organise and understand information related to work orders, basic plans, and safety procedures
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with work supervisor, other workers and customers, and the reporting of work outcomes and problems
- plan and organise activities including the preparation and layout of the work area and the obtaining of equipment and materials to avoid any back tracking, workflow interruptions or wastage
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise workflow and productivity
- use mathematical ideas and techniques to correctly complete measurements, calculate work requirements, optimise glass sizes for economical cutting and assemble required materials
- use pre-checking and inspection techniques to plan work, avoiding re-working and wastage
- use the workplace technology related to commercial and structural reglazing

Required knowledge

- the types, qualities and characteristics of glass, including the hazards and handling requirements
- relevant Australian Standards
- the techniques, methods, materials and process of commercial and structural reglazing
- workflow in relation to fitting glass
- the application and operation of tools and equipment used
- identification of equipment, processes and procedures
- workplace safety system requirements related to commercial and structural reglazing

Evidence Guide

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.

Critical aspects of evidence

- Interpret work order/job instruction and locate and apply relevant information to conduct commercial and structural reglazing
- 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 glass, frames, equipment and products
 - maintain required production output and product quality
- To complete a minimum of:
 - safely remove broken glass from commercial and architectural frames
 - prepare frame and opening including cleanup and/or frame repair
 - measure glass for commercial windows, doors, show and food cabinets including sliding tracks, shop fronts and returns, architectural, curtain wall, structural and overhead glazing
 - select glass to comply with AS1288
 - cut and process glass in accordance with AS4667
 - identify and work with ladders and scaffolding to the relevant regulations and standards
 - identify and apply glazing, structural sealants and tapes
 - install and weatherproof glazing materials
 - calculate the cost of glass and labour
- Work effectively with others
- Modify activities to cater for variations in workplace contexts and environment

Resource implications

Frames, glass, fixing material, sealants, workplace operating procedures and work orders, personal protective equipment and an appropriate work area/site.

EVIDENCE GUIDE	
Method of assessment	Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts. Assessment should be by direct observation of tasks and questioning on underpinning knowledge. Assessment may be in conjunction with assessment of other relevant units of competency.
Context of assessment	Assessment may occur on the job or in a workplace simulated facility with relevant process equipment, materials, work instructions and deadlines.

Range Statement

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.

Unit context

- Work requires individuals to demonstrate some discretion, judgement and problem solving skills in the handling and installation of glass products
- Work is carried out in accordance with statutory requirements, environment legislation, manual handling procedures and relevant regulations and organisation insurance requirements
- OHS requirements may include legislation, standards, building codes, material safety management systems and local safe operating procedures

Commercial and structural reglazing

- Commercial and structural reglazing covers work involving the on-site replacement of glass for commercial, structural and other architectural engineered applications. It includes:
 - commercial windows and doors, including: casement, sash, awning and double hung windows, shopfronts and returns, louvres, hinged, pivot and sliding doors and windows, automatic doors, mirrors, furniture applications, showcases, sliding tracks and food cabinets
 - curtain walls, balustrading, structural and suspended glazing and overhead glazing
- It may also include:
 - toughened glass assemblies
 - aluminium glazing systems, including planar assemblies, curtain wall systems, spider assemblies, panel wall systems (hung and stacked)
 - Armour-view balustrading
 - watertight glazing techniques, including

RANGE STATEMENT	
	knowledge of silicone
Tools and equipment may include:	• glass cutters • pliers • hack-out knives • drills • putty knives • tape measures • scaffolding • ladders
Materials may include but are not limited to:	• all forms of flat glass and acrylic glazing products • plastic • aluminium • steel • solid timber • gaskets • sealants and adhesives
Types of glass may include but are not limited to:	• annealed glass • toughened glass • laminated glass • wired glass • bandit resistant glass • bullet resistant glass • heat reflective glass • sputter coated and spandrel glass
Methods of glazing may include:	• pocket • flush • channel glazing • structural and double glazing
Personal protective equipment	Personal protective equipment is to include that prescribed under legislation, regulation and enterprise policies and practices. It may include: • gauntlets • gloves • safety glasses • hard hats • safety footwear • aprons and overalls

RANGE STATEMENT**Information and procedures**

- Workplace procedures and regulations relating to handling, movement and fitting of glass for commercial and structural applications
- Quality and Australian Standards and procedures
- Equipment and material manufacturer specifications and operational procedures
- Work instructions including job sheets, cutting lists, plans, patterns, templates, drawings and/or designs
- Safety standards include personal protective equipment, OHS regulations and enterprise requirements
- Australian Standards:
 - AS1288 Glass in buildings, selection and installation
 - AS2208 Safety glazing materials in buildings
 - AS4667 Quality requirements for cut to size and processed glass

Unit Sector(s)**Unit sector**

Glass and Glazing

Competency field**Competency field****Co-requisite units**

Co-requisite units		

