Australian Government

Department of Education, Employment and Workplace Relations

LMFGG2007B Process glass by basic machines

Revision Number: 1

LMFGG2007B Process glass by basic machines

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the competency to cut, shape, drill and edge annealed glass up to and including 6mm thick and laminated glass up to and including 6.38mm thick.

Application of the Unit

Application of the unit	

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

Employability skills	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

ELEMENT	PERFORMANCE CRITERIA
1. Identify work requirements	1.1. Work requirements including materials, types of cuts, shapes and edges, processes and quantities required are identified from work instructions or job order in accordance with workplace procedures 1.2. Workplace health and safety requirements, including personal protection needs, are observed throughout the work 1.3. Tools, equipment and materials are selected and checked prior to use to ensure that they are appropriate for the work, of the appropriate quality, serviceable and in a safe condition 1.4. Cutting list and quality standards are determined and procedures identified in accordance with workplace requirements and industry standards 1.5. Glass to be cut, shaped, drilled or edged is selected using information from the work order, including type of glass, thickness, colour and dimensions 1.6. Machines, equipment and settings required to perform the work are identified
2. Prepare for work	2.1. Technique and sequence of work is planned to ensure processing is conducted in a logical order 2.2. Procedures for monitoring quality of materials, work in progress and finished items are identified in accordance with workplace requirements and industry practice 2.3. Suitable cutting, shaping, drilling, and edging machines are selected 2.4. Glass processing table is selected and work surface is cleared of debris and dust 2.5. Components and controls of machines including emergency stops and guards are identified and tested for working order 2.6. Work area is cleared of obstructions and potential hazards 2.7. Glass to be processed is located in the work area using appropriate handling techniques 2.8. Glass is measured accurately to minimise waste and within specified tolerances according to enterprise standards 2.9. Components and controls of machines including emergency stops and guards are identified and tested

ELEMENT	PERFORMANCE CRITERIA
	for working order 2.10. Glass is checked for imperfections and damage prior to handling
3. Conduct processing operations	3.1. Tools and equipment are operated and monitored in accordance with manufacturers' instructions and workplace procedures to ensure correct product quality and output 3.2. Glass is processed to required standard in accordance with job order, work instructions and procedures, including the performance of routine lubrication and adjustments of machines/equipment 3.3. Problems occurring during work operations are identified and reported to appropriate persons in accordance with enterprise procedures 3.4. Waste quantities are checked to ensure that they are within allowable limits 3.5. Authorised changes in working procedures are followed 3.6. Completed product is inspected for quality of work and repaired, reprocessed or discarded in accordance with workplace procedures
4. Complete work	4.1. Processed glass is labelled and stored following workplace procedures ensuring there are no projections 4.2. Scraps and off-cuts are removed for disposal or recycling as required 4.3. Work area clean up is completed following workplace procedures 4.4. Equipment is cleaned and stored according to workplace requirements 4.5. Workplace documentation is completed in accordance with workplace requirements 4.6. Tools, equipment and unused materials are removed and stored appropriately

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 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 backtracking, 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 area and weight, estimate glass requirements and minimise waste
- use pre-checking and inspection techniques to anticipate processing problems, avoid re-working and wastage
- use the limited workplace technology related to the processing of glass by basic machine, including handling aids, tools, equipment, calculators and measuring devices

Required knowledge

- the qualities and characteristics of glass, including the hazards and handling requirements
- workplace safety system requirements related to glass processing by basic machines
- identification of glass processing equipment, including its functions and procedures
- the set up and operation of glass processing equipment including procedures for reporting machine/product defects or equipment faults
- workflow in relation to glass processing

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 orders and plan processing operations
	• Identify the materials, patterns/plans, processes, machines, equipment and settings to undertake a glass cutting, drilling, shaping and/or edging task by basic machines
	• Apply safe handling requirements for machines, equipment, products and materials, including use of personal protective equipment
	• Apply AS4667 Quality requirements for cut to size and processed glass
	• Set up for and prepare to process glass
	• 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 production output and product quality
	• As a minimum, demonstrate the ability to:
	  • identify and use AS4667 Quality requirements for cut-to-size and processed glass
	  • complete straight cuts, simple shapes, truncated and radius corners, circles, fan holes, pay holes and ovals in glass up to 6 mm annealed and 6.38 mm laminated glass up to 1.0 m 2
	  • cut 6 mm annealed and 6.38 mm laminated glass using a diamond saw
	  • arris, grind and polish flat, round and mitre edges on 6 mm annealed and 6.38 mm laminated glass up to 0.5 m 2
	  • drill holes with tungsten and diamond drill bits in 6 mm annealed and 6.38 mm laminated glass up to 0.5 m 2
	  • calculate the cost of glass and edgework
	• Work effectively with others
	• Modify activities to cater for variations in workplace contexts and environment

EVIDENCE GUIDE	
Resource implications	Glass sheet/product, processing facilities/equipment (such as basic cutting and edging machines), table, work area, work orders and appropriate safety and personal protection equipment.
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 glass processing machines, 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	• This unit covers work involving cutting, shaping, drilling and/or edging of glass by basic machines • Work requires individuals to demonstrate discretion, judgement and problem solving skills in determining the appropriate techniques, methods and equipment to be used to process glass by basic machines. This may be demonstrated either individually or in a team environment • OHS requirements may include legislation, building codes, material safety management systems, hazardous substance and dangerous goods codes and local safe operating procedures • Work is carried out in accordance with statutory requirements, environment legislation, manual handling procedures and relevant regulations and organisation insurance requirements
Glass is:	• annealed glass less than or equal to 6mm thick • laminated glass less than or equal to 6.38mm thick
Glass processing includes:	• straight cutting • circle cutting • freehand cutting • drilling and edging
Edging may include:	• arrising • flat • round and mitre grinding • flat • round and mitre polishing and bevelling
Tools and equipment may include:	• flat felt covered cutting tables • tungsten wheel glass cutters

RANGE STATEMENT	
	• speed cutters • circle cutters • L-squares and straight edges • tape measures • glass handling gloves • safety glasses • gauntlets • aprons • marking pens • chinagraph pencils • templates and lubricants
Tables appropriate for cutting large glass sheets include:	• air flotation tables • roller castor tables or tilt tables with air flotation • breaker bars or roller castors
Edging equipment may include but is not limited to:	• finishing or belt machines • diamond or pencil edgers • pumice or cork polishers • horizontal wheels • finger slotters and hand tools
Drilling equipment may include, but is not limited to:	• portable • wall-mounted and free-standing diamond drill presses and saws
Materials are to include but are not limited to:	• annealed and laminated glass for residential and commercial glazing and furniture applications
Personal protective equipment	Personal protective equipment is to include that prescribed under legislation, regulation and Australian Standard policies and practices. It may include: • gloves • safety glasses • gauntlets • footwear • earmuffs • aprons and overalls
Information and procedures	• Machine manufacturer specifications and operational procedures • Workplace procedures relating to the setting and operation of glass cutting, drilling and

RANGE STATEMENT	
	edging machines • Work instructions, including job sheets, cutting lists and plans • Safety standards include personal protective equipment, OHS regulations and enterprise requirements • 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		