



Australian Government

Department of Education, Employment and Workplace Relations

LMFGG3005C Process glass by semi-automatic and automatic machines

Release: 1

LMFGG3005C Process glass by semi-automatic and automatic machines

Modification History

Updated format, revised Evidence Guide. Outcome equivalent.

Unit Descriptor

This unit of competency covers the skills and knowledge required to cut, drill, shape and edge glass by semi-automatic and automatic glass processing equipment.

Application of the Unit

This unit covers work involving cutting, shaping, drilling and/or edging of glass by semi-automatic and automatic machines and requires individuals to demonstrate discretion, judgement and problem solving in determining the appropriate techniques, methods and equipment to be used. It may be performed individually or in a team environment..

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

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|---|----------------------------|---|
| 1 | Identify work requirements | <ul style="list-style-type: none">1.1 Work requirements, including glass, types of cuts, shapes and edges, processes and quantities required, are identified from work instructions or job order in accordance with workplace procedures1.2 Occupational health and safety (OHS) requirements, including personal protective equipment, are observed throughout the work1.3 Tools, equipment and materials are selected and checked prior to use to ensure they are appropriate for the work, of the appropriate quality, serviceable and in a safe condition1.4 Cutting list and quality standards are determined and procedures identified in accordance with workplace requirements and industry standards1.5 Glass to be cut, shaped, drilled or edged is selected using information from the work order, including the type of glass, thickness, colour and dimensions1.6 Semi-automatic and automatic machines, related equipment and settings required to perform the work are identified, and information required to be entered into machine to match work requirements or job order is calculated |
| 2 | Prepare for work | <ul style="list-style-type: none">2.1 Technique and sequence of work is planned to ensure processing is conducted in a logical order2.2 Procedures for monitoring quality of materials, work in progress and finished items are identified in accordance with workplace requirements and industry practice2.3 Tools, equipment and attachments required for the work are assembled and checked for good working order2.4 Components and controls of machines, including emergency stops and guards, are identified and appropriate action taken if not in working order2.5 Information required by machine for required process is entered2.6 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 to be processed is checked for imperfections and damage
- 3 Conduct processing operations
- 3.1 Tools, equipment and **tables** are operated and monitored in accordance with manufacturer 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, if required
 - 3.3 Problems occurring during work operations are identified and reported to appropriate persons in accordance with enterprise procedures, and any authorised changes in working procedures followed
 - 3.4 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 Tools, equipment and unused materials are removed and stored appropriately
 - 4.6 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 area and weight, estimate glass requirements and minimise waste
- using pre-checking and inspection techniques to anticipate processing problems, and avoid re-working and wastage
- using developing workplace technology related to the processing of glass by semi-automatic and automatic machines, including computers, handling aids, tools and equipment
- modifying activities to cater for variations in workplace contexts and environment

Required knowledge includes:

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

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 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 with semi-automatic or automatic machines • apply safe handling requirements for machines, equipment, products and materials, including use of personal protective equipment • 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: • process and upload computerised cutting data from optimisation software programs • load and position sheets onto semi-automatic and automatic cutting machines and/or tables • perform pre-cutting tool and machinery checks • cut given dimensions from stock sheets with minimal wastage/off-cuts • cut shapes from optimisation data • remove, pack and store cut glass, including labelling for despatch • calculate the cost of glass and edgework • 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: • semi-automatic, automatic or computerised glass processing equipment • optimisation software programs • an appropriate work area • standard operating procedures • work orders • unprocessed materials • appropriate safety and personal protection equipment.
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>Glass may be:</i>	• annealed or laminated, and may include, but is not limited to: • float glass and coated glass • commercial windows and doors • architectural glazing • mirrors and furniture applications
<i>Glass processing includes:</i>	• cutting • shaping • drilling and edging
<i>Workplace procedures include:</i>	• machine manufacturer specifications, operational and maintenance procedures • workplace procedures relating to the setting and operation of computerised glass cutting, shaping, drilling and edging machines • work instructions, including job sheets, cutting lists and plans • safety standards, including personal protective equipment, OHS regulations and enterprise requirements • AS/NZS 4667:2000 Quality requirements for cut-to-size and processed glass
<i>Personal protective equipment includes:</i>	• that prescribed under legislation, regulation and enterprise policies and practices, and may include: • gloves • gauntlets • safety glasses • footwear • aprons/overalls
<i>Tools and equipment may include:</i>	• flat felt covered cutting tables • gloves • safety glasses • marking pens • chinagraph pencils • templates and lubricants
<i>Cutting may include, but is not</i>	• straight line cutting

limited to:	• shape cutting • circle and oval cutting Glass cutting equipment may include: • semi-automatic and computer-navigated straight line annealed and laminated glass cutters • shape cutters • laser glass cutters • diamond saws and water-jet cutters
<i>Drilling equipment may include, but is not limited to:</i>	• computer numeric controlled (CNC) machines • water jet machines • single head diamond drill machine • double head diamond drill machine
<i>Edging may include:</i>	• arrising • flat and mitre grinding • polishing and bevelling Edging equipment may include: • semi-automatic and computer-navigated straight line and variable angle edgers • straight line and shape edgers • bevellers and brilliant cutter • CNC machines
<i>Semi-automatic and automatic machines may include, but are not limited to:</i>	• semi-automatic, automatic and computerised cutting shaping and edging machines • manual or computer-navigated
<i>Information requirements of CNC machines may include, but are not limited to:</i>	• glass thickness • size • type • stock sheet size • off-cut sizes • print-out information or spreadsheets
<i>Glass processing tables may include:</i>	• air flotation tables • roller castor table or tilt table with air flotation or roller castors

Unit Sector(s)

Glass and glazing

Custom Content Section

Not applicable.