



Australian Government

Department of Education, Employment and Workplace Relations

LMFGG3007B Form glass

Revision Number: 1

LMFGG3007B Form glass

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit addresses the knowledge and skills required to form glass.
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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 are identified from work instructions to determine: 1.1.1. materials to be used 1.1.2. pattern or mould to be used 1.1.3. process required to complete work tasks 1.1.4. number of sheets to be formed and holding area for completed items 1.1.5. the correct kiln settings for the glass being formed 1.2. Workplace health and safety requirements relevant to forming glass, including personal protection needs, are observed throughout the work 1.3. The process for obtaining materials and moving completed work to the next process is identified 1.4. Procedures are identified for checking: 1.4.1. quality of materials and items produced 1.4.2. working condition of kiln and any other equipment/attachments 1.4.3. quality requirements for each stage of the forming process 1.5. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency
2. Prepare for work	2.1. Work sequence is planned in a logical order to suit the job 2.2. Kiln, tools, equipment and materials are selected and checked prior to use to ensure that they are appropriate for the work, serviceable and in a safe condition 2.3. Kiln components and controls, including emergency stops and guards are identified and checked for correct operation
3. Conduct glass forming operations	3.1. Kiln and forming equipment is operated, adjusted and monitored in accordance with workplace procedures to ensure correct product quality and output 3.2. Problems occurring during work operations are identified and reported to appropriate persons in accordance with workplace procedures

ELEMENT	PERFORMANCE CRITERIA
	3.3. Authorised changes in working procedures and/or requirements are followed
4. Complete work	4.1. Product is inspected for quality against work instructions, and items that do not meet requirements are reworked or discarded 4.2. Waste and scrap material is removed for disposal or recycling as required 4.3. Tools, equipment and unused materials are removed and/or stored as appropriate 4.4. Work area and kiln is cleaned and rubbish disposed of as appropriate 4.5. Workplace documentation is completed as required by workplace procedures

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, minimise wastage and assemble required materials
- use pre-checking and inspection techniques to plan work, avoiding re-working and wastage
- use the limited workplace technology related to the forming of glass

Required knowledge

- the qualities and characteristics of glass, including the hazards and handling requirements
- identification of equipment, processes and procedures for forming glass
- procedures for reporting materials, product or equipment faults
- workplace safety system requirements related to the forming of glass
- workflow in relation to forming of glass
- characteristics of materials used and uses of products produced

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 prepare to form glass
- 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 production output and product quality
- Complete a minimum of forming glass of four differing patterns using varying slumping techniques to the capacity of the kiln being used. Patterns may be existing moulds or improvised designs.
- Work effectively with others
- Modify activities to cater for variations in workplace contexts and environment

Resource implications

Glass forming equipment, work area, work order, standard operating procedures, unprocessed materials.

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

- This unit covers work involving the operation and monitoring of glass forming in kilns
- OHS requirements may include legislation, standards, building codes, material safety management systems 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
- Work requires individuals to demonstrate discretion, judgement and problem solving skills in the set up and operation of machines. This may be demonstrated either individually or in a team environment
- Work is generally performed individually, with general supervision and may be part of a production process
- Work may be performed in workplaces which are involved in the manufacture of customised formed glass products

Forming glass

- Forming glass is the texturing or patterning of glass by bringing float glass to a semi-molten state and forming or slumping it over a pattern. As kiln-formed glass is custom manufactured, patterns/artwork are specific to a project. Moulds and patterns are formed to produce textures and patterns for the industry (glass merchants, architects, designers, shop fitters, signwriters and bathroom supplies, commercial and domestic)
- Glass being formed may include but is not limited to:
 - sheet glass
 - float glass

RANGE STATEMENT	
	patterned glass
Tools and equipment are to include:	- kiln bed (sand bed screed flat and firm to create the patterns or artwork) - moulds and items for background patterns such as paint rollers - wire - trowels
Materials are to include but are not limited to:	- float glass - sand and patterning material such as silicone - dowel - sea shells
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
Information and procedures	- Equipment manufacturer specifications and operational procedures - Workplace procedures relating to the setting and operation of glass forming equipment - Work instructions, including job sheets, plans, drawings and designs - Safety standards include personal protective equipment, OHS regulations and enterprise requirements - Quality standards and procedures

Unit Sector(s)

Unit sector	Glass and Glazing
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		