



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **LMFGG3007C Form glass**

**Release: 1**

## **LMFGG3007C Form glass**

### **Modification History**

Updated format, revised Evidence Guide. Outcome equivalent.

### **Unit Descriptor**

This unit of competency covers the skills and knowledge required to form glass.

### **Application of the Unit**

This unit covers work involving the operation and monitoring of glass forming in kilns in workplaces which are involved in the manufacture of customised formed glass products. The work requires individuals to demonstrate discretion, judgement and problem solving in the set-up and operation of machines, either individually or in a team environment with general supervision.

### **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 are identified from work instructions  |
|   |                                  | 1.2 | Occupational health and safety (OHS) requirements relevant to forming glass, including personal protective equipment, 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 for checking the quality of materials and items produced, working condition of kiln and any other equipment/attachments and the quality requirements for each stage of the forming process are identified |
|   |                                  | 1.5 | Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the work                                       |
| 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 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 are 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 personnel in accordance with workplace procedures   |
|   |                                  | 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

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, minimise wastage and assemble required materials
- using pre-checking and inspection techniques to plan work, and avoid re-working and wastage
- using workplace technology related to the forming of glass
- 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
- correct identification of equipment, processes and procedures for forming glass
- procedures for reporting materials, product or equipment faults
- correct operation of kilns
- workplace safety system requirements related to the forming of glass
- workflow requirements in relation to forming of glass
- characteristics of materials used and uses of products produced

## 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	<p>Assessors must be satisfied that the candidate can competently and consistently:</p> <ul style="list-style-type: none"> <li>• interpret work order/job instruction and prepare to form glass</li> <li>• apply safe handling requirements for equipment, products and materials, including use of personal protective equipment</li> <li>• follow work instructions, operating procedures and inspection practices to:             <ul style="list-style-type: none"> <li>• minimise the risk of injury to self and others</li> <li>• prevent damage to goods, equipment and products</li> <li>• maintain required production output and product quality</li> </ul> </li> <li>• complete a minimum of forming glass of four (4) differing patterns using varying slumping techniques to the capacity of the kiln being used (Patterns may be existing moulds or improvised designs)</li> <li>• work effectively with others.</li> </ul>
Context of and specific resources for assessment	<p>The application of competency is to be assessed in the workplace or realistically simulated workplace.</p> <p>Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.</p> <p>Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context.</p> <p>Assessment is to comply with relevant regulatory or Australian Standard requirements.</p> <p>The following resources should be made available:</p> <ul style="list-style-type: none"> <li>• glass forming equipment</li> <li>• kiln</li> <li>• an appropriate work area</li> </ul>

	<ul style="list-style-type: none"> <li>• work order</li> <li>• standard operating procedures</li> <li>• unprocessed materials.</li> </ul>
Method of assessment	<p>Assessment must satisfy the endorsed Assessment Guidelines of the LMF02 Furnishing Industry Training Package.</p> <p>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.</p> <p>Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure correct interpretation and application.</p> <p>Assessment may be applied under project-related conditions (real or simulated) and require evidence of process.</p> <p>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.</p> <p>Assessment may be in conjunction with assessment of other units of competency.</p>
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.

<b><i>Work instructions may include:</i></b>	<ul style="list-style-type: none"> <li>• materials to be used</li> <li>• pattern or mould to be used</li> <li>• process required to complete work tasks</li> <li>• number of sheets to be formed and holding area for completed items</li> <li>• the correct kiln settings for the glass being formed</li> </ul>
<b><i>Forming glass includes:</i></b>	<ul style="list-style-type: none"> <li>• the texturing or patterning of glass by bringing float</li> </ul>

	<p>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, sign writers and bathroom supplies - commercial and domestic)</p> <ul style="list-style-type: none"> <li>• glass being formed may include, but is not limited to: <ul style="list-style-type: none"> <li>• sheet glass</li> <li>• float glass</li> <li>• patterned glass</li> </ul> </li> </ul>
<p><b><i>Personal protective equipment includes:</i></b></p>	<ul style="list-style-type: none"> <li>• that prescribed under legislation, regulation and enterprise policies and practices, and may include: <ul style="list-style-type: none"> <li>• gauntlets</li> <li>• gloves</li> <li>• safety glasses</li> <li>• hard hats</li> <li>• safety footwear</li> <li>• aprons and overalls</li> </ul> </li> </ul>
<p><b><i>Materials are to include, but are not limited to:</i></b></p>	<ul style="list-style-type: none"> <li>• float glass</li> <li>• sand and patterning material, such as silicone</li> <li>• dowel</li> <li>• sea shells</li> </ul>
<p><b><i>Tools and equipment are to include:</i></b></p>	<ul style="list-style-type: none"> <li>• kiln bed (sand bed screed flat and firm to create the patterns or artwork)</li> <li>• moulds and items for background patterns, such as paint rollers</li> <li>• wire</li> <li>• trowels</li> </ul>
<p><b><i>Workplace procedures include:</i></b></p>	<ul style="list-style-type: none"> <li>• equipment manufacturer specifications and operational procedures</li> <li>• workplace procedures relating to the setting and operation of glass forming equipment</li> <li>• work instructions, including job sheets, plans, drawings and designs</li> <li>• safety standards, including personal protective equipment, OHS regulations and enterprise requirements</li> <li>• quality standards and procedures</li> </ul>



## **Unit Sector(s)**

Glass and glazing

## **Custom Content Section**

Not applicable.