



Australian Government

Department of Education, Employment and Workplace Relations

LMFGG3009C Set up and operate glass laminating equipment

Release: 1

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Modification History

Updated format, adding glass rating system references, revised Evidence Guide. Outcome equivalent.

Unit Descriptor

This unit of competency covers the skills and knowledge required to set up and operate glass laminating equipment. It includes operator maintenance.

Application of the Unit

This unit covers work involving the set-up, operation and monitoring of glass laminating equipment and requires individuals to demonstrate discretion, judgement and problem solving in the set-up and operation of glass laminating machines. Work is generally performed individually or in a team environment, with general supervision, and may be part of a production process.

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 | Prepare for work | 1.1 Work requirements from work instructions are determined |
| | | 1.2 Occupational health and safety (OHS) requirements relevant to operating glass laminating equipment , including personal protective equipment , are observed throughout the work |
| | | 1.3 Work sequence is planned in a logical order to suit the job and workplace procedures |
| | | 1.4 Tools, equipment and materials are selected and checked prior to use to ensure they are appropriate for the work, of the required quality, serviceable and in a safe condition |
| | | 1.5 Machines, cutting tools and jigs are identified and checked for safe and effective operation, including emergency stops, gauges, guards and controls |
| | | 1.6 Procedures for checking the quality of materials and items produced, rating system compliance, working condition of equipment and quality requirements for each stage of the laminating process are identified |
| | | 1.7 Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the work |
| 2 | Set up equipment | 2.1 Machine settings and adjustments are made in accordance with job requirements and machine and tool manufacturer instructions |
| | | 2.2 Trial runs are conducted to check machine operation, accuracy and quality of finished work, and any necessary adjustments made to machine settings |
| 3 | Conduct glass laminating operations | 3.1 Glass to be laminated is prepared for the process in accordance with workplace procedures or industry practice |
| | | 3.2 Start-up and shutdown procedures for equipment used in the laminating process are completed in accordance with |

- manufacturer instructions or workplace procedures
- 3.3 Glass flopping and washing procedures are conducted in accordance with manufacturer instructions or workplace procedures
- 3.4 White room procedures are conducted in accordance with manufacturer instructions or workplace procedures
- 3.5 White room hoist is operated in accordance with manufacturer instructions or workplace procedures
- 3.6 Pre-press oven and glass stacker are operated in accordance with manufacturer instructions or workplace procedures to recognised industry standards
- 3.7 Air lifter is operated in accordance with manufacturer instructions or workplace procedures
- 3.8 Autoclave is loaded, operated and unloaded in accordance with manufacturer instructions or workplace procedures
- 3.9 Cutting table is operated to cut glass to required size (if applicable) in accordance with manufacturer instructions or workplace procedures
- 3.10 Straight line linear machine is operated in accordance with manufacturer instructions or workplace procedures
- 4 Complete work and maintain equipment
- 4.1 Product is inspected for quality of work and items which do not meet quality requirements discarded or returned for reprocessing in accordance with workplace procedures
- 4.2 Completed work is placed in holding area in accordance with workplace procedures
- 4.3 Work area is cleaned and rubbish disposed of, as appropriate
- 4.4 Equipment is cleaned and inspected for serviceability in accordance with workplace procedures
- 4.5 Unserviceable equipment is tagged and faults identified in accordance with workplace procedures
- 4.6 Equipment and tooling is maintained in accordance with

workplace procedures

- 4.7 Tools, equipment and unused materials are removed and stored appropriately
- 4.8 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 work requirements, optimise glass sizes for handling and processing, and assemble required materials
- using pre-checking and inspection techniques to plan work, and avoid re-working and wastage
- using the workplace technology related to the operation of glass laminating equipment
- modifying activities to cater for variations in workplace contexts and environment

Required knowledge includes:

- procedures for the set-up, operation and operator maintenance of glass laminating equipment
- glass and window rating systems for noise, fade control and security applications
- workflow requirements relating to the operation of glass laminating equipment
- characteristics of materials used and uses of products produced in the glass laminating process
- workplace procedures for the reporting of material, product or equipment faults
- workplace safety system requirements related to the operation of glass laminating equipment

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 order/job instruction and locate and apply relevant information, including relevant glass and window rating systems to operate glass laminating equipment • plan the conduct of glass laminating operations • set up, operate, monitor and perform operator maintenance of glass laminating equipment • 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 • as a minimum: • identify and demonstrate glass flopping and washing operation and procedures • identify and demonstrate the white room operation and procedures • safely load glass into the pre-press oven and stacker • operate the pre-press oven and stacker during the glass laminating process • operate an air lifter • operate an autoclave • safely complete the requirements of the packing area • operate a laminating cutting table • carry out post-laminating procedures

	- perform testing, classification and marking of toughened glass in accordance with AS/NZS 2208:1996 Safety glazing materials in buildings - 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: - glass laminating equipment - workplace operating procedures - unprocessed materials - personal protective equipment - an appropriate work area.
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	
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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>Work instructions may include:</i>	• material to be used • process required to complete work tasks • the type, thickness and colour of the interlayer • number of sheets to be laminated and holding area for completed items • the correct machine heat and pressure settings for the materials being used
<i>Glass laminating equipment includes:</i>	• equipment and machines involved in the process of laminating glass. This involves the insertion of an intermediary layer between two layers of glass • laminated glass may include: • safety glass • automotive glass • bullet and bandit resistant glass • patterned laminated glass • insulated glass
<i>Personal protective equipment includes:</i>	• that prescribed under legislation, regulation and enterprise policies and practices, and may include: • gauntlets • gloves • safety glasses • hard hats • safety footwear • aprons and overalls
<i>Workplace procedures include:</i>	• workplace procedures relating to the setting up and operation of glass laminating machinery • machine manufacturer specifications and operational procedures • workplace procedures relating to the handling and movement of glass

	• work instructions including job sheets, cutting lists, plans, drawings and designs • safety standards, including personal protective equipment, OHS regulations and enterprise requirements • AS/NZS 2208:1996 Safety glazing materials in buildings
<i>Tools and equipment are to include:</i>	• glass flopping and washing machines • white room • hoist • pre-press oven • glass stacker • air lifter • autoclave • packing equipment • cutting machine • straight line linear machine • standards stamping equipment, including stamp
<i>Materials are to include, but are not limited to:</i>	• annealed float • sheet and patterned glass

Unit Sector(s)

Glass and glazing

Custom Content Section

Not applicable.