



Australian Government

Department of Education, Employment and Workplace Relations

LMFGG3012B Set up and operate insulated glass unit manufacturing equipment

Revision Number: 1

LMFGG3012B Set up and operate insulated glass unit manufacturing equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the competency to set up and operate insulated glass unit (IGU) manufacturing equipment. It includes the conduct of associated IGU quality testing.
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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. Prepare for work	1.1. Work requirements from work instructions to ascertain: 1.1.1. material to be used 1.1.2. process required to complete work tasks 1.1.3. the required size of the units 1.1.4. number of insulated glass units required and holding area for completed items 1.2. Workplace health and safety requirements relevant to operating insulating glass equipment including personal protection needs, are observed throughout the work 1.3. Work sequence is planned in a logical order to suit the job 1.4. Tools, equipment and materials are selected and checked prior to use to ensure that they are appropriate for the work, of the required quality, serviceable and in a safe condition 1.5. IGU machines, tools and equipment are identified and checked for safe and effective operation, including emergency stops, gauges, guards and controls 1.6. Procedures are identified for checking: 1.6.1. quality of materials and items produced 1.6.2. working condition of equipment 1.6.3. quality requirements for each stage of the IGU manufacturing process 1.7. 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. Set up equipment	2.1. Machine settings and adjustments are made in accordance with job requirements and machine and tool manufacturer instructions 2.2. IGU spacers are cut and sorted into order of run in accordance with workplace procedures 2.3. Desiccant to be used in process is tested in accordance with industry standards and workplace practices 2.4. Trial runs are conducted to check machine operation, accuracy and quality of finished work 2.5. Necessary adjustments are made to machine settings
3. Conduct insulated glass unit	3.1. Glass sheets are loaded into IGU machine using the appropriate mechanical handling equipment

ELEMENT	PERFORMANCE CRITERIA
manufacturing operations	3.2. IGU spacers are assembled in accordance with specification/order and workplace procedures 3.3. IGU machine is operated to wash and dry glass and to press the unit 3.4. Unit is unloaded from IGU machine and relocated for sealing using appropriate mechanical handling equipment in accordance with workplace practices 3.5. Primary and secondary seal equipment is operated in accordance with workplace procedures 3.6. Testing for water vapour (dewpoint) and integrity of sealing (moisture) is conducted in accordance with workplace procedures 3.7. Serviceable units are labelled and stored in accordance with industry standards and workplace procedures, with items not meeting quality requirements being discarded or returned for reprocessing in accordance with workplace procedures
4. Complete work and maintain equipment	4.1. Work area is cleaned and rubbish disposed of as appropriate 4.2. IGU machine is cleaned and inspected for serviceability in accordance with workplace procedures 4.3. Unserviceable equipment is tagged and faults identified in accordance with workplace procedures 4.4. Equipment and tooling is maintained in accordance with workplace procedures 4.5. 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 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, optimise glass sizes for handling and processing and assemble required materials
- use pre-checking and inspection techniques to plan work, avoiding re-working and wastage
- use the workplace technology related to the operation of insulated glass unit manufacturing equipment

Required knowledge

- procedures for the set up, operation and operator maintenance of insulated glass unit manufacturing equipment
- workflow relating to the operation of insulated glass unit manufacturing equipment
- characteristics of materials used and uses of products produced in the insulated glass unit manufacturing process
- workplace procedures for the reporting of material, product or equipment faults
- workplace safety system requirements related to the operation of insulated glass unit manufacturing equipment

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 locate and apply relevant information to the operation of insulated glass unit manufacturing equipment
- Plan the conduct of insulated glass unit manufacturing operations
- Set up, operate and monitor insulated glass unit (IGU) manufacturing equipment and the quality testing of IGU
- 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, demonstrate the ability to prepare, set up, manufacture and conduct the appropriate quality testing of five differing IGU patterns to the capacity of the IGU machine
- Work effectively with others
- Modify activities to cater for variations in workplace contexts and environment

Resource implications

Insulated glass unit manufacturing equipment, workplace operating procedures, unprocessed materials, personal protective equipment and an appropriate work area.

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 insulated glass unit manufacturing equipment, materials, work instructions

EVIDENCE GUIDE

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 set up, operation and monitoring of insulated glass unit manufacturing equipment, including quality testing of IGU • Work requires individuals to demonstrate discretion, judgement and problem solving skills in the set up and operation of insulating glass unit manufacturing machines • Work is carried out in accordance with statutory requirements, environment legislation, manual handling procedures and relevant regulations and organisation insurance requirements • OH&S requirements may include legislation, standards, building codes, material safety management systems and local safe operating procedures • Work is generally performed individually, with general supervision and may be part of a production process
Insulated glass units (IGU)	Insulated glass units are two sheets of glass that are separated by a spacer, sealed to form an airtight unit
Tools and equipment are to include:	• cutting equipment (saws, etc.) • spacer preparation equipment (appropriate size) • sieve machine and desiccant equipment • primary seal equipment • secondary seal equipment • basic hand tools (screwdriver, scraper, etc.) • mechanical handling equipment
Materials are to include but are not limited to:	• customer requirements for glass (annealed • toughened or laminated) • corner keys for spacers

RANGE STATEMENT	
	• appropriate primary (polyisobutylene) and secondary sealant (polysulphide) and separation paper

RANGE STATEMENT	
Personal protective equipment	Personal protective equipment is to include that prescribed under legislation, regulations and enterprise practices and procedures. It may include: • gauntlets • gloves • safety glasses • hard hats • safety footwear • aprons • hearing protection • overalls
Information and procedures	• Workplace procedures relating to the setting up and operation of insulated glass unit manufacturing 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 include personal protective equipment, OHS regulations and enterprise requirements • Australian Standards: • AS1288 Glass in buildings, selection and installation. • AS2208 Safety glazing materials in buildings • AS4666 Insulating glass units • AS4667 Quality requirements for cut to size and processed glass

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		