



Australian Government

Department of Education, Employment and Workplace Relations

LMFGG3016B Fabricate and install residential windows and doors

Revision Number: 1

LMFGG3016B Fabricate and install residential windows and doors

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit addresses the knowledge and skills required to plan, fabricate and install residential windows and doors.
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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

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan for work	<p>1.1. Work requirements in the form of type of window or door to be fabricated and installed are identified from work instructions. This includes the identification of its pattern or plan</p> <p>1.2. Workplace health and safety requirements for fabrication and installation of windows and doors including personal protection needs, are observed throughout the work</p> <p>1.3. The process for fabricating and installing windows and doors is identified</p> <p>1.4. Types and quantities of materials required are calculated from plans or work instructions or by measuring the fixture opening in accordance with Australian Standards and industry practice</p> <p>1.5. Cutting lists are prepared from plans, work instructions or measurements of opening to suit the window or door to be installed</p> <p>1.6. Fittings, fixings and joining devices or materials are selected in line with specifications or type of materials to be joined or fixed and Australian standards</p> <p>1.7. Tools and equipment appropriate to the fixing method are identified</p>
2. Prepare for work	<p>2.1. Work sequence is determined in a logical order to suit the job</p> <p>2.2. 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</p> <p>2.3. Components of the window or door are checked against specifications or job order for: size, quantity, finish and profile</p>
3. Fabricate and install window or door	<p>3.1. Materials are measured and marked to cutting list requirements and most economical use of materials</p> <p>3.2. Materials are cut to cutting list requirements in accordance with workplace procedures or industry practice</p> <p>3.3. Components of window or door are assembled in accordance with recognised industry standards</p> <p>3.4. Fittings are installed to window or door in accordance with workplace procedures or industry</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>practice</p> <p>3.5. Window or door is installed in opening using appropriate fixing method in accordance with recognised industry standard</p>
4. Complete work	<p>4.1. Installed window or door is inspected for quality of work and repaired, re-fabricated or re-installed as required in accordance with workplace procedures</p> <p>4.2. Material which can be re-used is collected and stored</p> <p>4.3. Waste and scrap material is removed for disposal or recycling as required</p> <p>4.4. Work area is cleaned and rubbish disposed of as appropriate</p> <p>4.5. Tools, equipment and unused materials are cleaned and removed and stored appropriately</p> <p>4.6. Workplace documentation is completed in accordance with workplace requirements</p>

Required Skills and Knowledge

Required knowledge

- workflow in relation to the fabrication and installation of windows and doors
- characteristics of materials used and uses of products produced
- workplace safety system requirements related to the fabrication and installation of windows and doors
- identification of equipment, processes and procedures
- relevant Australian standards

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

- Plan the fabrication and installation of windows and doors
- Interpret work order/job instruction and locate and apply relevant information to fabricate and install windows and doors
- 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:
 - measure for the installation of windows and doors
 - work from product specification data sheets and specifier software programs
 - identify and select product materials, including selection of mullions and transoms in relation to wind loading.
 - fabricate frame and sash components including cutting, tooling, routing, milling, drilling and crimping
 - identify, select and install component hardware, including weather seals, wheels, stays, hinges, guides and locks
 - apply the window energy rating system (WERS)
 - select and cut glass in accordance with AS1288 and AS4667
 - assemble frames, including glass, gaskets, tapes, sealants, adhesives, fasteners, reveal linings and flashings in accordance with AS2047, section 6
 - label and certify frames in accordance with AS2047, section 8
 - install residential windows and doors
 - calculate cost of residential windows and doors

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Work effectively with others • Modify activities to cater for variations in workplace contexts and environment
Resource implications	Aluminium framing material, timber framing material, door or window glass, fittings, fixing/fasteners, workplace operating procedures, personal protective equipment and an appropriate work area.
Method of assessment	<p>Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.</p> <p>Assessment should be by direct observation of tasks and questioning on underpinning knowledge.</p> <p>Assessment may be in conjunction with assessment of other relevant units of competency.</p>
Context of assessment	Assessment may occur on the job or in a workplace simulated facility with relevant fabrication and installation 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	<ul style="list-style-type: none"> • Work requires individuals to demonstrate discretion, judgement and problem solving skills in the fabrication and installation process • Work is carried out in accordance with statutory requirements, environment legislation, manual handling procedures and relevant regulations, Australian standards, building codes and organisation insurance requirements • OHS requirements may include legislation, Australian 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
Residential windows may include:	<ul style="list-style-type: none"> • aluminium sliding • double hung • casement and awning windows • louvre windows and double glazed windows
Residential doors may include:	<ul style="list-style-type: none"> • aluminium sliding • hinged and bi-fold doors
Tools and equipment may include:	<ul style="list-style-type: none"> • assembly benches • drop and up-cut saws • pneumatic • hydraulic and manual presses • frame and sash tooling • copy routers • end millers • crimpers • electric and pneumatic powered drills and screwdrivers • pop rivet guns • glue guns and general hand tools

RANGE STATEMENT	
Materials are to include but are not limited to:	<ul style="list-style-type: none"> • aluminium alloys and steel • hardware • fasteners • plastics • sealants • tapes • vinyl • gaskets • timber reveals and flashings
Glass includes:	<ul style="list-style-type: none"> • annealed glass • safety glass • patterned glass • tinted • heat reflective and insulated glass units
Hardware includes:	<ul style="list-style-type: none"> • locks • wheels • stays • hinges • springs and balances and any component required for the operation of residential windows
Personal protective equipment	<p>Personal protective equipment is to include that prescribed under legislation, regulations and enterprise practices and procedures. It may include:</p> <ul style="list-style-type: none"> • gauntlets • gloves • safety glasses • hard hats • safety footwear • aprons and overalls
Information and procedures	<ul style="list-style-type: none"> • Workplace procedures relating to the fabrication and installation of windows and doors • Equipment or tool manufacturer specifications and operational procedures • Work instructions, including job sheets, plans, drawings and designs • Safety standards include personal protective equipment, OHS regulations and enterprise

RANGE STATEMENT

	requirements <ul style="list-style-type: none"> • Australian standards: <ul style="list-style-type: none"> • AS2047 Windows in buildings, selection and installation • AS1288 Glass in buildings, selection and installation • AS4667 Quality requirements for cut to size and processed glass • AS4666 Insulating glass units • WERS - The Window Energy Rating System
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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		