



Australian Government

Department of Education, Employment and Workplace Relations

LMFGG2009C Fabricate and assemble metal frames

Release: 1

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Modification History

Updated format, minor content revisions, revised Evidence Guide. Outcome equivalent.

Unit Descriptor

This unit of competency covers the skills and knowledge required to fabricate and assemble metal frames.

Application of the Unit

This unit involves job roles in workplaces which are involved in the manufacture of frames from aluminium and/or steel and requires individuals to demonstrate discretion, judgement and problem solving in the set-up and operation of machines and in the assembly of frames.

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 | Identify work requirements and components | 1.1 | Work requirements in the form of product to be <i>fabricated and assembled</i> , its use, specifications, components and attachments are identified from work instructions |
| | | 1.2 | Australian Standards relating to glass components and products associated with the process are identified and complied with |
| | | 1.3 | Occupational health and safety (OHS) requirements for fabrication and assembly of metal frames, including <i>personal protective equipment</i> , are observed throughout the work |
| | | 1.4 | Components, attachments, <i>materials</i> and tools required for the fabrication and assembly are identified and their availability, suitability (in terms of size, quantity, finish and profile), quality and serviceability ascertained |
| | | 1.5 | <i>Tools, equipment</i> and fixing and joining devices suitable for the method of fixing are identified and the process for the fabrication and assembly of metal frames determined |
| 2 | Prepare for fabrication and assembly | 2.1 | Work sequence is planned in a logical order to suit the product specifications and <i>workplace procedures</i> |
| | | 2.2 | Tools, equipment, components, attachments 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 | Jigs identified as being required are prepared or selected and checked for suitability for purpose |
| | | 2.4 | Measurements are checked for accuracy, legibility and tolerance, and mating or directional marks noted and positioned |
| | | 2.5 | Machines and equipment are set up in accordance with production objectives, manufacturer instructions and workplace procedures |

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| 3 | Fabricate and assemble components | 3.1 | Machines, tools and equipment are operated in accordance with manufacturer instructions and workplace procedures to produce components in conformance to specifications |
| | | 3.2 | Components are laid out and frames <i>assembled</i> ensuring conformity to specifications, alignment and appropriate fastening |
| 4 | Complete work | 4.1 | Completed frame is inspected to ensure compliance with quality standards and customer requirements |
| | | 4.2 | Equipment is cleaned, inspected and stored in accordance with workplace procedures, with unserviceable items tagged, faults identified and appropriate personnel informed |
| | | 4.3 | Work area is cleaned and rubbish disposed of, as appropriate |
| | | 4.4 | Waste materials are removed from work area and disposed of in accordance with relevant statutory requirements and enterprise requirements |
| | | 4.5 | Tools, equipment and unused materials are removed and stored appropriately |
| | | 4.6 | Workplace documentation is completed in accordance with enterprise 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, and optimise component and material sizes for economical cutting and assembling of required materials
- using pre-checking and inspection techniques to plan work, and avoid re-working and wastage
- using workplace technology related to the fabrication and assembly of metal frames
- modifying activities to cater for variations in workplace contexts and environment

Required knowledge includes:

- workflow requirements in relation to frame production
- workplace safety system requirements related to the fabrication and assembly of metal frames
- operation of tools and equipment used in the fabrication and assembly process
- identification of equipment, processes and procedures
- relevant Australian Standards

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"> • interpret work order/job instruction and locate and apply relevant information to fabricate and assemble metal frames • apply safe handling requirements for equipment, products and materials, including use of personal protective equipment • follow work instructions, operating procedures and inspection practices to: <ul style="list-style-type: none"> • minimise the risk of injury to self and others • prevent damage to goods, equipment and products • maintain required production output and product quality • complete work from product specification data sheets which may include fabricating frame and sash components • identify and select product materials • identify, select and install component hardware, including: <ul style="list-style-type: none"> • weather seals • wheels • stays • hinges • guides • locks • assemble frames, including: <ul style="list-style-type: none"> • gaskets • tapes • sealants • adhesives • fasteners • reveal linings and flashings in accordance with AS

	<p>2047:1999 Windows in buildings - Selection and installation (Section 6)</p> <ul style="list-style-type: none"> • label and certify frames in accordance with AS 2047:1999 Windows in buildings - Selection and installation (Section 8) • work effectively with others.
<p>Context of and specific resources for assessment</p>	<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"> • frame components • consumables • workplace operating procedures • personal protective equipment • appropriate work area • tools and equipment.
<p>Method of assessment</p>	<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</p>

	other units of competency.
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.

<p><i>Fabrication and assembly includes:</i></p>	<ul style="list-style-type: none"> • the selection of materials, components and attachments required for a metal frame, its fabrication and assembly prior to its installation. Fabrication may include, but is not limited to: <ul style="list-style-type: none"> • cutting • routing • milling • pressing • drilling • crimping
<p><i>Personal protective equipment includes:</i></p>	<ul style="list-style-type: none"> • that prescribed under legislation, regulation and Australian Standard policies and practices, and may include: <ul style="list-style-type: none"> • gloves • safety glasses • gauntlets • safety footwear • hard hats • aprons and overalls
<p><i>Materials may include, but are not limited to:</i></p>	<ul style="list-style-type: none"> • aluminium alloys and steel • hardware • fasteners • plastics • sealants • tapes • vinyl • gaskets and timber reveals
<p><i>Tools and equipment may include:</i></p>	<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

	<ul style="list-style-type: none"> • electric and pneumatic powered drills and screwdrivers • pop rivet guns • pleuws guns and general hand tools
Workplace procedures include:	<ul style="list-style-type: none"> • workplace procedures relating to the setting and operation of machinery • machine manufacturer specifications and operational procedures • work instructions, including job sheets, cutting lists plans, drawings and designs • safety standards, including personal protective equipment, OHS regulations and enterprise requirements • AS 2047:1999 Windows in buildings - Selection and installation
Components are assembled using:	<ul style="list-style-type: none"> • a jig (if required) • appropriate fastenings • appropriate tools and equipment

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Unit Sector(s)

Glass and glazing

Custom Content Section

Not applicable.