



Australian Government

MSFGG4004 Perform laser measurement and levelling for glass windows and doors in buildings

Release: 2

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Modification History

Release 2 - Update of Australian Standards codes. Statement regarding currency of Australian Standards included in Range of Conditions and Performance Evidence.

Release 1 - New unit of competency

Application

This unit of competency covers using and maintaining laser measuring and levelling devices to check measurements and apply levelling for installation of glass windows and doors in buildings. It involves taking accurate measurements/readings, making calculations for levelling and alignment glass component installation tasks in job roles requiring discretion, judgement and problem solving.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Competency Field

Unit Sector

Glass and Glazing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 Prepare for glass laser measurement and levelling | 1.1 Task requirements are determined by inspection of glass window and door components to be installed in a building and following relevant plans, drawings and texts in accordance with the work plan |
| | 1.2 Appropriate laser levelling equipment for the installation job is selected and set up to manufacturer recommendations |
| | 1.3 Levelling is planned in detail including sequencing and prioritising tasks and system requirements |

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| | | 1.4 | Potential hazards to personnel and other building components at the installation site are identified and prevention and/or control measures are selected in accordance with the work plan |
| | | 1.5 | Individual's roles and responsibilities within the installation team are identified, and where required, assisted with provision of on-the-job training for the tasks |
| 2 | Use laser devices to make measurements | 2.1 | Measurements are taken accurately, interpreted and recorded correctly to standard operating procedures |
| | | 2.2 | Laser levelling devices are operated to manufacturer specifications or standard operating procedures |
| | | 2.3 | Datum point is set up or located |
| | | 2.4 | Readings are taken to datum and at nominated or selected stations, to project specifications |
| 3 | Perform levelling | 3.1 | Levelling realignment calculations are performed using correct and appropriate method for the installation levelling/alignment application |
| | | 3.2 | Glass window and door components are levelled and aligned to specifications using correct and appropriate techniques, and adjustments made to ensure compliance with manufacturer specifications and the work plan |
| | | 3.3 | Glass components are temporarily fixed in the assigned installation positions prior to final measurement |
| | | 3.4 | Final level and alignment inspections are undertaken, any adjustments made and glass components fixed to the building using appropriate fasteners |
| 4 | Complete work | 4.1 | Glass installation rating compliance certificate is completed |
| | | 4.2 | Levelling equipment is closed own and appropriate personnel notified of completed installation in accordance with enterprise requirements |
| | | 4.3 | Work area is cleared of waste, cleaned, restored and secured in accordance with site/enterprise procedures |
| | | 4.4 | Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures |

- 4.5 Work completion details are finalised in accordance with enterprise procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

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| Unit scope includes: | <ul style="list-style-type: none">• implementation of procedures and techniques for the safe, effective and efficient management of laser levelling equipment used in installing glass windows and doors• the identification of viable options and the selection of options that best meet the required outcomes• working with others to undertake and complete the application of precise laser levelling during glass component installation in buildings |
| Work health and safety (WHS) requirements include: | <ul style="list-style-type: none">• Commonwealth, state or territory legislation and regulations• organisational safety policies and procedures• the use of personal protective equipment and clothing• firefighting equipment• first aid equipment• hazard and risk control and elimination of hazardous materials and substances• manual handling, including lifting and carrying |
| Procedures include: | <ul style="list-style-type: none">• work instructions• standard operating procedures• written, verbal or computer-based procedures |
| Organisational requirements include: | <ul style="list-style-type: none">• legal, organisational and site guidelines, policies and procedures relating to own role and responsibility• quality assurance• procedural manuals• quality and continuous improvement processes and |

	standards
	• ethical standards • recording and reporting • access and equity principles and practices • equipment use, maintenance and storage • environmental management (waste disposal, recycling and re-use guidelines)
Equipment and tools include:	• dumpy/optical level • rotating laser level • line and dot level • dual beam level • laser square level • other associated levelling and aligning equipment
Levelling and/or alignment procedures include:	• face and rim, reverse indicator, use of jacking bolts and shimming material, and use of levelling equipment

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFGG4004 Perform laser measurement and levelling for glass windows and doors in buildings

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Release 1 - New unit of competency

Performance Evidence

- Accurately select, set and use laser levelling devices to obtain and interpret specified measurements
- Maintain and store laser levelling devices
- Read, interpret and follow information on standard operating procedures, manufacturer recommendations, drawings and other applicable reference documents
- Set up levelling equipment and take levelling measurements and perform necessary calculations
- Confirm accuracy of the readings taken, including set up and movement of laser levelling device in two locations
- Level and align a range of glass window and door components for installation in buildings
- Confirm work requirements and specifications and the report work outcomes and problems and follow safety procedures
- Avoid backtracking, work flow interruptions or wastage
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- AS 2047-2014 Windows in buildings - Selection and Installation
- AS1288-2006 Glass in buildings - Selection and Installation
 - *Note, wherever Australia Standards are listed they apply at the time of publication, but the most current version (including amendments) or replacement versions are to be used.*
- Terminology and concepts relating to electrical/electronic measurement
- Specifications of a range of commonly used laser levelling devices and their features for application in the glass industry
- Settings and the correct scale for each setting on laser levelling devices and procedures for obtaining accurate measurements
- Levelling device types, characteristics, technical capabilities and limitations
- Maintenance and storage requirements for a range of laser levelling devices
- Principles of levelling and alignment and numerical operations, geometry and calculations/formulae for levelling

- Effects on installed glass window and door components if not correctly levelled and aligned
- Techniques, tools, equipment and procedures to carry out levelling and installation of glass components in buildings
- Hazards and control measures associated with levelling and alignment and relevant safe work practices and procedures
- Use and application of personal protective equipment
- Relevant environmental, WHS legislation and regulations
- Technical drawings and manufacturers manuals
- Shimming and packing materials
- Glass product specifications and tolerances
- Hierarchy of control and basis of control for glass plant/s
- Communication protocols (e.g. radio, phone, computer and paper, permissions/authorities)

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
 - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to laser levelling equipment, glass window and door components, work instructions, manufacturer documentation and organisational guidelines.

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