



Australian Government

MSFGG4012 Perform laser measurement and levelling for glass windows and doors in buildings

Release: 1

MSFGG4012 Perform laser measurement and levelling for glass windows and doors in buildings

Modification History

Release 1. Supersedes and is equivalent to MSFGG4004 Perform laser measurement and levelling for glass windows and doors in buildings.

Application

This unit describes the skills and knowledge required to plan for work, take accurate measurements, make alignment calculations and complete the levelling and alignment of glass windows and doors prior to installation.

This unit applies to individuals in glass and glazing enterprises who perform specialist or leadership functions.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

N/A

Unit Sector

Glass and Glazing.

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for glass laser measurement and levelling	1.1 Determine task requirements through review of documentation and inspection of windows and doors to be installed 1.2 Select laser levelling equipment suitable for the installation and set up to manufacturer recommendations 1.3 Plan levelling in detail including sequencing, and prioritise tasks and system requirements 1.4 Identify and mitigate potential site hazards for personnel and property and/or select control measures in accordance with the work plan
2. Use laser devices to	2.1 Take accurate measurements using laser levelling devices, and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
make measurements	correctly interpret and record in accordance with standard operating procedures 2.2 Locate or set up datum point from measurements 2.3 Take readings to datum and at nominated or selected stations, to project specifications
3. Perform levelling	3.1 Make levelling realignment calculations using correct and appropriate methods for the installation levelling and/or alignment application 3.2 Level and align glass window and door components to specifications using correct and appropriate techniques, and make adjustments to ensure compliance with manufacturer specifications and the work plan 3.3 Temporarily fix glass components in the assigned installation positions prior to final measurement 3.4 Undertake final level and alignment inspections, make any adjustments and fix glass components to the building using appropriate fasteners
4. Complete work	4.1 Close down levelling equipment and notify appropriate personnel of completed installation in accordance with workplace requirements 4.2 Clear, clean, restore and secure work area of waste, in accordance with site and/or workplace procedures 4.3 Maintain plant, tools and equipment and store in accordance with site and/or workplace procedures 4.4 Finalise and document completion details in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to MSFGG4004 Perform laser measurement and levelling for glass windows and doors in buildings.

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 MSFGG4012 Perform laser measurement and levelling for glass windows and doors in buildings

Modification History

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- levelled and aligned the following, either sub-frame or sub-channel, for installation in buildings:
 - door
 - shopfront
 - balustrade
- confirmed accuracy of the readings taken, including set up and movement of laser levelling device in two locations.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- key aspects of state or territory work health and safety legislation and regulations, including individual rights and obligations
- role of a laser safety officer
- key aspects of the following Australian Standards:
 - AS 2047-2014 Windows in buildings - Selection and Installation
- hazards and control measures associated with levelling and alignment
- workplace safety system for laser measurement and levelling, including personal protective equipment
- documentation that informs planning for laser measurement and levelling and how to interpret technical drawings
- effects on installed glass window and door components if not correctly levelled and aligned
- principles of levelling and alignment and numerical operations, geometry and calculations and/or formulae for levelling, including Reduced Level (RL)
- levelling device types, characteristics, technical capabilities and limitations, including:
 - rotating laser level
 - line and dot level
 - dual beam level

- laser square level
- glass product specifications and tolerances plus or minus 1mm and size over a distance
- hierarchy of control and basis of control for glass plant/s
- communication protocols for radio, phone, computer and paper, including permissions and/or authorities
- role and use of manufacturer manuals
- types, characteristics, uses and limitations of shimming and packing materials
- settings and the correct scale for each setting on laser levelling devices and procedures for obtaining accurate measurements
- techniques, tools, equipment and procedures to carry out levelling and installation of glass components in buildings, including:
 - use of jacking bolts and shimming material
 - use of levelling equipment
- maintenance and storage requirements for laser levelling devices
- procedures for the recording, reporting and maintenance of workplace records and information.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - laser levelling equipment
 - glass window and door components
 - manufacturer documentation
 - work orders
 - workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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