



Australian Government

CPCPCM2047A Carry out levelling

Release: 1

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Modification History

Prerequisite unit updated

Changes to performance criteria, required skills and knowledge, range statement and critical aspects

Not equivalent to CPCPCM2027A

Unit Descriptor

This unit of competency specifies the outcomes required to plan and use levelling equipment to establish, record and apply those levels to the plumbing and services industry.

Application of the Unit

This unit of competency supports skills to undertake levelling operations for application in the plumbing and services industry.

Site location for work application may be either domestic or commercial and may be a new work site or an existing structure being renovated, extended, restored or maintained.

Licensing/Regulatory Information

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Pre-Requisites

CPCPCM2043A Carry out WHS requirements

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 | Prepare for work. | 1.1 | Requirements of the job are determined and various levels are obtained. |
| | | 1.2 | <i>Work health and safety</i> (WHS) and environmental requirements associated with levelling activities are adhered to throughout the work. |
| | | 1.3 | <i>Quality assurance requirements</i> are identified and adhered to according to workplace requirements. |
| | | 1.4 | <i>Tools and equipment</i> , including personal protective equipment, are selected and checked for serviceability. |
| 2 | Perform levelling. | 2.1 | Height to be transferred is identified from drawings, plans or instructions. |
| | | 2.2 | <i>Levelling equipment</i> is set up and operated according to manufacturer instructions, workplace procedures and relevant Australian standards. |
| | | 2.3 | Levels are taken, recorded and marked according to job requirements and workplace procedures within the required tolerance and specifications. |
| | | 2.4 | <i>Sustainability principles and concepts</i> are observed when preparing for and undertaking work process. |
| 3 | Clean up. | 3.1 | Work area is cleared and materials are disposed of, reused or recycled according to legislation, regulations, codes of practice and job specification. |
| | | 3.2 | Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations |

and workplace procedures.

- 3.3 **Information** is accessed and documentation completed according to workplace requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - determine requirements, follow instructions and access information
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication, such as hand signals
- initiative and enterprise skills to identify and report to appropriate personnel any faults in tools, equipment or materials
- literacy skills to:
 - complete workplace documentation
 - read and interpret:
 - plans and specifications
 - documentation from a variety of sources
- numeracy skills to apply measurements and calculations
- planning and organising skills to plan and set out work
- technical skills to operate levelling equipment to read, record, establish and check:
 - levels: horizontal, vertical and at gradient used for the placement of plumbing and services
 - recording levels at specific points along a set out
 - recording and checking levels in drainage and sanitary excavations and plumbing services
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technology skills to:
 - access and understand site-specific instructions in a variety of media
 - use mobile communication technology

Required knowledge

- different types of levelling equipment, their applications and their method of operation
- how to access relevant information, including codes and technical standards
- job safety analysis (JSA) and safe work method statements (SWMS)
- process of establishing, recording and checking levels and alignment
- relevant statutory requirements related to establishing, recording and checking levels

- simple calculations relating to carrying out levelling
- SI system of measurements
- workplace and equipment safety requirements

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 This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit A person who demonstrates competency in this unit must be able to provide evidence of:

- locating, interpreting and applying relevant information, standards and specifications for the establishment, recording and checking of levels
- applying safety requirements throughout the work sequence, including electrical safety requirements and the use of personal protective clothing and equipment
- using either a pipe laser, rotary laser or automatic level and either boning rods or string line
- grading a pipe (or equivalent) over 10 metres on a grade to a tolerance of + or - 5mm, ensuring:
 - applying sustainability principles and concepts
 - correctly identifying, recording and checking level
 - correctly selecting and using appropriate processes, tools and equipment
 - completing all work to specification
 - complying with regulations, standards and organisational quality procedures and processes
 - communicating and working effectively and safely with others.

Context of and specific resources for assessment This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the minimum task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry-related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of

the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

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.

Work health and safety is to be according to commonwealth, state and territory legislation and regulations and may include:

- handling of materials
- hazard control, including of electrical hazards
- hazardous materials and substances
- personal protective clothing and equipment prescribed under legislation, regulations and workplace policies and practices
- use of firefighting equipment
- use of first aid equipment
- use of tools and equipment
- workplace environment and safety.

Quality assurance requirements may include:

- environmental policy
- Environment Protection Authority (EPA)
- internal company quality assurance policy and risk management strategy
- International Standards Organisation
- relevant Australian standards
- site safety plan
- workplace operations and procedures.

Tools and equipment may include:

- hand tools
- measuring equipment
- string line.

Levelling equipment may include:

- boning rods
- rotating laser level

- pipe laser level
- spirit level
- water level.

Sustainability principles and concepts:

- cover the social, economic and environmental use of resources to meet current and future needs
- may include:
 - efficient use and recycling of tools and equipment
 - disposing of waste material to ensure minimal environmental impact
 - energy efficiency
 - water efficiency.

Information may include:

- building codes
- charts and hand drawings
- instructions issued by authorised organisational or external personnel
- job drawings
- manufacturer specifications and instructions
- material safety data sheets (MSDS)
- memos
- WHS and environmental requirements
- organisation work specifications and requirements
- plans and sketches
- regulatory and legislative requirements, particularly those pertaining to plumbing and gasfitting authority regulations
- relevant Australian standards
- safe work procedures relating to handling and storing levelling equipment
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

Unit Sector(s)

Functional area

Unit sector Plumbing and services

Custom Content Section

Not applicable.