



Australian Government

CPCPCM2046A Use plumbing hand and power tools

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 CPCPCM2026A

Unit Descriptor

This unit of competency specifies the outcomes required to use commonly used hand and power tools in plumbing work applications.

Application of the Unit

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

- | | | |
|---|--------------------------------|--|
| 1 | Identify hand and power tools. | <p>1.1 <i>Work health and safety (WHS) and environmental requirements</i> associated with the use of plumbing hand and power tools are adhered to throughout the work.</p> <p>1.2 <i>Quality assurance requirements</i> for company operations are identified and adhered to.</p> <p>1.3 Types of hand and power tools and their functions are identified.</p> <p>1.4 Power sources and access to power supply are identified.</p> |
| 2 | Select appropriate hand tools. | <p>2.1 Appropriate personal protective equipment is selected, fitted and used.</p> <p>2.2 <i>Hand tools</i> are selected consistent with the needs of the job.</p> <p>2.3 Hand tools are checked for serviceability and safety and any faults reported to supervisor according to workplace requirements.</p> <p>2.4 Equipment is selected to secure, position or support material for hand tools application.</p> |
| 3 | Use appropriate hand tools. | <p>3.1 Material is located and secured in position for hand tool application.</p> <p>3.2 Hand tools are safely and effectively used according to their intended use.</p> <p>3.3 Hand tools are safely located when not in immediate</p> |

- use.
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|---|---------------------------------|-----|--|
| 4 | Select appropriate power tools. | 4.1 | Appropriate personal protective equipment is selected, correctly fitted and used. |
| | | 4.2 | Power tools are selected consistent with the needs of the job according to conventional work practice. |
| | | 4.3 | Power tools are visually checked for tags, serviceability and safety according to WHS requirements and any faults are reported to supervisor according to enterprise procedures. |
| | | 4.4 | Equipment is selected to secure, position or support materials for power tool application. |
| 5 | Use appropriate power tools. | 5.1 | Material is located and secured in position for power tool application. |
| | | 5.2 | Power tools are safely and effectively used in application processes. |
| | | 5.3 | Power tools are safely located when not in use. |
| | | 5.4 | Sustainability principles and concepts are observed when preparing for and undertaking work process. |
| 6 | Clean up work area | 6.1 | Work area is cleared and materials disposed of, reused or recycled according to legislation, regulation, codes of practice and job specification. |
| | | 6.2 | Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations and workplace procedures. |
| | | 6.3 | 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:
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - report faults and follow instructions
 - 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
 - identify, correctly apply and effectively operate tools
- literacy skills to:
 - complete workplace documentation
 - read and interpret documentation from a variety of sources
- planning and organising skills to plan and set out work
- 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

- function and purpose of hand and power tools used in plumbing applications
- job safety analysis (JSA) and safe work method statements (SWMS)
- workplace safety requirements and WHS legislation

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:

- demonstrating compliance with WHS regulations applicable to workplace operations
- adopting and carrying out correct procedures prior to, during and after use of hand and power tools
- applying safety requirements throughout the work sequence, including electrical safety requirements and the use of personal protective clothing and equipment
- safely operating ten different hand tools and five different power tools for their appropriate application
- carrying out the above work, ensuring:
 - there is no damage to materials, tools or equipment
 - all work is completed to specification
 - compliance with regulations, standards and organisational quality procedures and processes
 - communicating and working effectively and safely with others
 - application of sustainability principles and concepts.

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.

Environmental requirements may include:

- air pollution precautions
- clean-up protection
- noise pollution precautions
- water course protection
- waste management.

Quality assurance requirements

may include:

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

Appropriate plumbing *hand tools*

may include:

- caulking guns
- copper tube cutters
- copper tube expanders
- customised tools to meet manufacturer specifications
- files and rasps
- hacksaws
- ladders
- other specialist tools for water services
- oxy-acetylene
- pipe benders
- pipe dies
- pipe wrenches
- pop riveters
- screwdrivers
- spirit levels
- squares
- tin snips
- tube benders
- tube flaring tools
- wood saws.

Appropriate plumbing *power tools*

may include:

- compactor (wacker)
- compressed air tools
- drop saw
- electric dies (up to 100mm)
- electric drills
- electric nibbler
- generator

- grinder
- hydraulic tools and equipment
- large rotary drills
- petrol diamond saws
- power saws.

Sustainability principles and concepts:

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

Information may include:

- charts and hand drawings
- instructions issued by authorised organisational or external personnel
- job drawings
- manufacturer specifications and instructions
- material safety data sheets (MSDS)
- memos
- relevant Australian standards
- safe work procedures relating to operating hand and power tools, and disposing of waste
- 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.