



Australian Government

CPC CST3016A Build solid stonemasonry walls

Release 1

CPCCST3016A Build solid stonemasonry walls

Modification History

New unit based on superseded unit BCF3059A Cavity and solid construction
This version first released with CPC08 Construction, Plumbing and Services Training Package Version 9.
Not equivalent to superseded BCF unit

Unit Descriptor

This unit of competency specifies the outcomes required to construct solid stone walls, including installing door and window frames, lintels, sills and other specified requirements such as damp-proofing.

Application of the Unit

This unit of competency supports the work of stonemasons who build solid stone walls of various types according to detailed job drawings and specifications. The work may be completed individually or in a team.

Licensing/Regulatory Information

Check with relevant state and territory licensing and regulatory authorities. State and territory jurisdictions may have different regulatory requirements for work carried out on heritage structures.

Pre-Requisites

CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry
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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 required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

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| 1 | Plan and prepare. | 1.1 | Work instructions are obtained using relevant <i>information</i> , confirmed and applied for <i>planning and preparation</i> purposes. |
| | | 1.2 | <i>Work health and safety (WHS) requirements</i> are followed according to safety plans and policies. |
| | | 1.3 | Signage and barricade requirements are identified and implemented. |
| | | 1.4 | <i>Tools and equipment</i> selected to carry out tasks are consistent with job requirements, checked for serviceability, and faults are rectified and reported before work begins. |
| | | 1.5 | Material quantity requirements are identified and calculated according to plans, specifications and <i>quality requirements</i> . |
| | | 1.6 | <i>Materials</i> appropriate to the work application are obtained, prepared, safely handled and located ready for use. |
| | | 1.7 | <i>Environmental requirements</i> are identified for the project according to environmental plans and <i>statutory and regulatory authority</i> requirements, and are applied. |
| | | 1.8 | Scaffolding is erected as required according to job requirements, WHS regulations and relevant standards. |

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| 2 | Set out stonework for walls. | 2.1 | Location and structural details of required stonework are determined from drawings and specifications. |
| | | 2.2 | Datum or level line is established according to job drawings and specifications. |
| | | 2.3 | Base stonework, below floor construction, is set out according to job drawings and specifications. |
| | | 2.4 | Load bearing stonework and piers are set out according to job drawings and specifications. |
| | | 2.5 | Stone walls are set out according to job drawings and specifications. |
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| 3 | Construct base stonework for walls. | 3.1 | Mortar is mixed according to specifications and relevant standards. |
| | | 3.2 | Base stones are laid to set out, and constructed according to specifications and relevant standards. |
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| 4 | Construct solid stone walls. | 4.1 | Stonework gauge is determined and set out using gauging rod to confirm correct course height. |
| | | 4.2 | Solid walls are constructed straight and true in plumb, line and level within set tolerance, according to job drawings and specifications and relevant standards. |
| | | 4.3 | Damp-proof courses are built in according to job drawings and specifications and relevant standards. |
| | | 4.4 | Openings are constructed and flashing installed according to job drawings and specifications. |
| | | 4.5 | Lintels are installed according to job drawings and specifications. |
| | | 4.6 | Expansion joints are formed according to locations specified on job drawings and requirements of relevant standards. |
| | | 4.7 | Weepholes, reinforcing, vermin proofing and wall flashings are built in, where required, according to job drawings and specifications. |

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| | | 4.8 | Sills are cut where required and laid to line according to job drawings and specifications. |
| 5 | Position door and window frames in walls. | 5.1 | Windows are located and built into walls according to job drawings and specifications and protected from mortar droppings during construction. |
| | | 5.2 | Door jambs are located, built in and fixed to walls according to job drawings and specifications. |
| 6 | Finish stonework. | 6.1 | Joints to laid stonework are raked or ruled to correct depth according to job specifications. |
| | | 6.2 | Stonework is brushed down prior to drying using appropriate brushing tool. |
| 7 | Clean up. | 7.1 | Work area is cleared according to job requirements and specifications. |
| | | 7.2 | Tools and equipment are cleaned, maintained and stored. |
| | | 7.3 | Working platform or scaffolding is dismantled according to WHS regulations and relevant standards. |
| | | 7.4 | Unused materials are stored and waste material removed and disposed of according to environmental and 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
 - use questioning to identify and confirm requirements
 - share information
 - follow instructions
 - use and interpret non-verbal communication
 - use language and concepts appropriate to cultural differences
- innovation skills to select appropriate tools and equipment, respond to workplace challenges and put ideas into action
- numeracy skills to apply measurements when setting out and calculating material requirements
- planning and organising skills to identify requirements, apply relevant resources and sequence tasks
- problem-solving skills to recognise and take action to rectify minor faults and problems
- reading skills to read and interpret drawings and specifications
- self-management skills to work safely, including safely handling materials
- teamwork skills to work with others to action tasks
- technical skills to:
 - erect scaffolding
 - identify and select materials specific to requirements
 - select and use appropriate plant, equipment, hand and power tools

Required knowledge

- Australian standards as they relate to the construction of stonemasonry walls, including:
 - AS1316 Masonry cement
 - AS1684 National Timber Framing Code
 - AS2699 Wall ties for masonry construction
 - AS2904 Damp-proof courses and flashings
 - AS3700 Masonry structures
- mortar mix composition for different types of stone
- National Construction Code as it applies to the construction of stonemasonry walls
- procedures for the safe use of scaffolding
- processes for measuring, levelling and calculations

- range and application of mortar additives
- safe operation of tools, plant and equipment relevant to stonemasonry walls
- types and characteristics of stone
- types and safe operation of relevant lifting equipment
- workplace and equipment safety requirements, including relevant statutory regulations, codes and standards
- worksite communication protocols

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 simulated workplace setting. Assessment shall be while tasks are undertaken either individually or as part of a team under limited supervision.

Critical aspects for assessment and evidence required to demonstrate competency in this unit A person should demonstrate the ability to select and use the appropriate materials, tools and equipment to set out and lay a solid stonemasonry wall with one corner and one opening containing a window or door with flashing over the openings. This solid stonemasonry structure must:

- be a minimum of 6 metres in total length
- be a minimum of 1.7 metres high
- include a brick sill that is a minimum of 600 mm wide
- incorporate base masonry work, including bearer piers and one stopped end.

The candidate must also provide evidence of:

- applying organisational quality procedures and processes within the context of cavity and solid construction
- applying safe handling practices when moving and placing stone
- complying with WHS regulations applicable to workplace operations
- complying with organisational policies and procedures
- establishing and maintaining cavity between external and internal stone walls
- identifying typical faults and problems that occur and taking necessary action to rectify them
- communicating with others to ensure safe and effective workplace operations
- giving particular attention to fixing stone to position and structure
- using safe and effective procedures to lay a stone wall to alignment and plumb
- selecting and using appropriate processes, tools and equipment to carry out tasks
- selecting stone consistent with specification for material and colour
- fixing stone to line, level and plumb.

Context of and specific resources for assessment

Assessment of this unit:

- must be in the context of the work environment
- may be conducted in an off-site context, provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills
- must meet relevant compliance requirements.

Resource implications for assessment may include:

- construction materials relevant to proposed activity
- documentation relevant to task
- tools, plant and equipment appropriate to installation processes
- work location for stone construction activity.

Method of assessment

Assessment for this unit must verify the practical application of the required skills and knowledge, using one or more of the following methods:

- direct observation of tasks in real or simulated work conditions
- questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- review of relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Guidance information for assessment

This unit could be assessed on its own or in combination with other units relevant to the job function.

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.

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.

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.

Information may include:

- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- memos
- regulatory and legislative requirements
- current Australian standards relating to building solid stonemasonry walls
- safe work procedures
- safety data sheets (SDS)
- signage
- verbal, written and graphical instructions, including manufacturer specifications and instructions where specified
- work bulletins
- work schedules, plans and specifications.

Planning and preparation may include:

- assessing conditions and hazards
- determining work requirements and safety plans and policies
- identifying equipment defects
- inspecting work sites.

Work health and safety requirements must comply with state and territory legislation and regulations and project safety plan and may include:

- emergency procedures, including extinguishing fires, organisational first aid requirements, and evacuation procedures
- hazard control
- hazardous materials and substances
- personal protective equipment (PPE) prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including operational risk assessment and treatments associated with:
 - concealed services (water, power and gas)
 - lighting
 - restricted access barriers
 - traffic control
 - working at heights
 - work site visitors and the public
 - working in proximity to others
- use of firefighting equipment
- use of tools and equipment
- workplace environmental requirements and safety.
- air compressor and hoses
- chalk line

Tools and equipment may include:

- concrete mixer
- elevated work platforms (EWPs)
- gin poles
- hammers
- jointing tools
- material hoists
- measuring rules or tapes
- mortar boards
- power drills, including impact
- power grinders
- power leads
- rollers
- rubber mallets
- scaffolding
- screw cramp and wedges
- shear legs
- shovels
- spanners
- spirit levels
- squares
- string lines
- trowels.

Quality requirements
may include:

- attention to specifications of work
- control of handling procedures
- finishing of stone surfaces
- quality of materials
- relevant regulations, including:
 - Australian standards
 - internal organisational quality policy and standards
 - manufacturer specifications where specified
 - workplace operations and procedures.

Materials:

- may include:
 - cultured artificial stone
 - Hebel
 - limestone
 - sandstone
- may be:
 - regular
 - random regular
 - coursed
 - uncoursed.

Environmental requirements may include:

- clean-up management
- dust and noise control
- vibration management
- waste management.

Statutory and regulatory authority includes:

- federal, state and local authorities administering applicable Acts, regulations and codes of practice.

Unit Sector(s)

Construction

Custom Content Section

Not applicable.