



Australian Government

Department of Education, Employment and Workplace Relations

CPCCST2004A Lay stone

Release: 1

CPC CST2004A Lay stone

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit specifies the outcomes required to prepare and lay stone to construct stone structures using a variety of stone.

The stone covers the range of stone used in freestanding and garden walls, load bearing structural walls and veneer facing.

Application of the Unit

Application of the unit

This unit of competency supports the achievement of skills and knowledge to lay stone products, which may include working with others and as a member of a team.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units

CPC COHS2001A

Apply OHS requirements, policies and procedures in the construction industry

Employability Skills Information

Employability skills 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

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare.	1.1. Work instructions and operational details are obtained using relevant information, confirmed and applied for planning and preparation purposes. 1.2. Safety (OHS) requirements are followed in accordance with safety plans and policies. 1.3. Signage and barricade requirements are identified and implemented. 1.4. Tools and equipment selected to carry out tasks are consistent with job requirements, checked for serviceability and any faults are rectified or reported prior to commencement. 1.5. Material quantity requirements are calculated in accordance with plans, specifications and quality requirements. 1.6. Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use. 1.7. Environmental requirements are identified for the project in accordance with environmental plans and statutory and regulatory authority requirements, and are applied.
2. Bed stone into mortar.	2.1. Prepared stone is selected appropriate to the job and mortar is prepared to designed mix, including any required mortar admixtures, and spread or screeded to form a bed as required. 2.2. Mechanical ties, fixtures and reinforcing are placed as required and stones are laid to line and in sequence as required by job. 2.3. Packers, wedges, mortar consistency, propping, shoring and forming structures are used to ensure correct joint size, plumb, level and shape. 2.4. Backing materials are used in a manner consistent with job requirements, with cavities maintained as required or specified.
3. Dry bed stone and grout.	3.1. Prepared stone appropriate to job is set in place dry and supported as required by wedges, packers and props. 3.2. Joints are prepared and grout is poured gradually as required to fill voids.
4. Dry stone construction.	4.1. Stone is prepared or selected in a manner appropriate to job and laid to achieve maximum stability using

ELEMENT	PERFORMANCE CRITERIA
	chips, flat faces and battered angles, on stones, earth sods and clay.
	4.2. Capping stone is laid as required by job.
	4.3. Walling is laid in a manner that maximises the force of gravity as a stabilising element in structure.
5. Fix slab stone using metal ties and adhesives.	5.1. Prepared stone slabs are fixed to metal or masonry surfaces using adhesives, cement mortar or plaster.
	5.2. Metal ties and dowels are used to secure stone slabs as required.
	5.3. Dowel cavity is filled with grout or slurry as required in job specification.
6. Finish stone surfaces and joints.	6.1. Stone surfaces are finished as required by job specifications.
	6.2. Joints are cleaned and/or raked as required to achieve either final appearance or as preparation for pointing.
	6.3. Pointing mortars or adhesives are applied to joints as required by job specifications.
7. Clean up.	7.1. Surfaces are cleaned as required by job.
	7.2. Waste materials are disposed of in an appropriate manner and in accordance with Environment Protection Authority (EPA) requirements.
	7.3. Tools and equipment are cleaned, maintained and stored.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Required skills for this unit are:

- ability to recognise procedures, respond to change and contribute to workplace responsibilities, such as current work site environmental or sustainability frameworks or management systems
- communication skills to:
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand

REQUIRED SKILLS AND KNOWLEDGE

- follow instructions
- read and interpret:
 - drawings and specifications
 - material safety data sheets
- 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 calculate measurement requirements related to lengths and allowances
- problem solving skills to recognise and take action to rectify minor faults and problems
- teamwork skills to be able to work with others to action tasks and relate to people from a range of cultural, social, ethnic backgrounds and with varying physical and mental abilities.

Required knowledge

Required knowledge for this unit is:

- AS3700 Masonry in buildings
- Building Code of Australia (BCA) requirements relevant to stonemasonry work
- common finishes used for mortar in masonry
- commonly used range of mortar additives, including plasticisers and their application
- interpretation of work drawings and specifications
- job safety analysis (JSA) and safe work method statements
- measuring and levelling processes relevant to stonemasonry work
- mortar mix types and composition
- techniques for laying and securing stone
- types of stone and their characteristics
- types of stone wall construction
- workplace and equipment safety requirements.

Evidence Guide

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, provided that simulated or project-based assessment techniques fully replicate construction 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 construct three stone walls using different types of stone materials listed in the range statement, providing evidence of the ability to:

- comply with OHS regulations applicable to workplace operations
- display compliance with organisational policies and procedures, including quality assurance requirements within the context of laying stone
- select and use appropriate processes, tools and equipment to carry out tasks
- demonstrate sound techniques in preparing mortar
- display sound and safe application methods to handle stone
- demonstrate sound techniques in laying stone to line, level, plumb or to designed alignment
- select and use sound techniques to finish stone face to specification
- communicate with others to ensure safe and effective workplace operations.

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

EVIDENCE GUIDE

or Australian standards' requirements.

Resource implications for assessment include:

- workplace location
- appropriate tools, plant and equipment
- scaffolding where applicable
- materials suitable to the task
- relevant drawings, specifications and documentation.

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 a reasonable inference that competency is not only verified under the particular assessment circumstance, but is 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 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

EVIDENCE GUIDE

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

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 includes:

- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions, where specified
- material safety data sheets (MSDS)
- memos
- regulatory and legislative requirements pertaining to handling stone
- relevant Australian standards
- safe work procedures relating to handling stone
- signage
- verbal, written and graphical instructions
- work bulletins

RANGE STATEMENT

Planning and preparation include:

- work schedules, plans and specifications.
- assessment of conditions and hazards
- determination of work requirements and safety plans and policies
- equipment defect identification
- work site inspection.

Safety (OHS) is to be in accordance 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
- hazard control
- hazardous materials and substances
- organisational first aid
- PPE prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
 - concealed services (water, power and gas)
 - lighting
 - restricted access barriers
 - traffic control
 - work site visitors and the public
 - working at heights
 - working in confined spaces
 - working in proximity to others
- use of firefighting equipment
- use of tools and equipment
- working platforms and scaffolding
- workplace environmental requirements and safety.

Tools and equipment include:

- angle grinders
- bolsters
- hammers
- jointing tools
- measuring tapes and rules
- screed boards
- shovels
- spirit levels
- trowels
- wheelbarrows.

RANGE STATEMENT

Quality requirements include:

- control of handling procedures
- control of quality of stone
- relevant regulations, including:
 - AS3700 Masonry in buildings
 - internal company quality policy and standards
 - manufacturer specifications where specified
 - workplace operations and procedures
- specification of mix
- specified finish
- use and maintenance of equipment.

Materials include:

- basalt
- granite
- marble
- sandstone
- other natural or manufactured stone material.

Environmental requirements include:

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

Statutory and regulatory authority include:

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

Mortar admixtures include:

- plasticisers
- setting retardants
- waterproofers.

Reinforcing includes:

- mechanical ties and fixtures
- steel rods
- welded wire fabric
- wire strands.

Unit Sector(s)

Unit sector

Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area