



Australian Government

Department of Education, Employment and Workplace Relations

CPC CST3002A Shape solid stone

Release: 1

CPCST3002A Shape solid stone

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit specifies the outcomes required to shape stone using a range of methods for shaping to provide stone to required specifications.

Application of the Unit

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

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units

CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry
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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. Use various hand working methods for shaping dimensional stone.	2.1. Stone is dressed using each tool according to correct application and in appropriate sequence to specification. 2.2. Soft stone is cut accurately to squared sizes as required by job. 2.3. Hard stone is dressed using hammers and axes.
3. Use various power-assisted hand tools for shaping dimensional stone.	3.1. Range of percussion hammers and chisels is used to shape stone at different stages of processing as required by job. 3.2. Rotary, chain and/or oscillating saws are used to cut stone to size and shape as required by job. 3.3. Abrasive machines are used to dress stone surfaces as required by job. 3.4. Equipment is operated in conjunction with jigs and guides for repetitive and fine tolerance work as required by job. 3.5. Adjustments are made to machinery, as required, in accordance with stone and application processes.
4. Set up and operate static machinery for shaping dimensional stone.	4.1. Circular diamond saws are operated to cut squared blocks and operated with rise and fall functions for cutting to profiles as required by job. 4.2. Stone is shaped on lathes both between centres and facework as required by job. 4.3. Core drilling machinery is operated as required by job. 4.4. Moulded sections are shaped on planing machines as required by job.

ELEMENT	PERFORMANCE CRITERIA
5. Clean up work.	4.5. Water-jet cutting machinery is operated as required by job. 5.1. Work is cleaned on completion with fresh water and brushes if necessary. 5.2. Waste materials are disposed of in an appropriate manner and in accordance with Environment Protection Authority (EPA) requirements. 5.3. Finished stone surfaces are protected as required by job specification.

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
 - follow instructions
 - read and interpret:
 - drawings and specifications
 - plans
 - schedules
 - 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 and calculations
- planning and organisational skills to identify requirements, apply relevant resources and sequence tasks
- 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

REQUIRED SKILLS AND KNOWLEDGE

mental abilities.

Required knowledge

Required knowledge for this unit is:

- interpretation of drawings and specifications
- job safety analysis (JSA) and safe work method statements
- measuring and marking techniques used in stonemasonry work
- methods of shaping stone
- regulations related to safe waste disposal and dust suppression
- types of stone and their characteristics
- 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 shape one hard and one soft stone type to design specifications, providing evidence of the ability to:

- comply with OHS regulations applicable to workplace operations
- apply organisational quality procedures and processes within the context of shaping stone
- select and use appropriate processes, tools and equipment to carry out required tasks
- adopt and use sound and safe techniques in handling and manoeuvring stone
- sound and accurate techniques used to set out stone for shaping processes
- display effective and sound procedures to control dust, noise and hazards
- demonstrate sound and safe application techniques to use equipment and shape stone.

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:

- hand tools and equipment appropriate to tasks
- stone materials applicable to required activities
- suitable work area appropriate to application

EVIDENCE GUIDE

tasks

- work drawings 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 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

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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
- work schedules, plans and specifications.

Planning and preparation include:

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

RANGE STATEMENT

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)
 - control of dust and noise
 - 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
- workplace environmental requirements and safety.

Tools and equipment used to shape stone include:

- axes
- bush hammers
- chisels
- patent axes
- poky
- spalling hammers.

Quality requirements include:

- attention to specifications of work
- control of handling procedures
- relevant regulations, including:
 - Australian standards
 - internal company quality policy and standards
 - manufacturer specifications where specified
 - workplace operations and procedures
- use and maintenance of equipment.

RANGE STATEMENT

Materials include both hard and soft stones, such as:

- basalt (blue stone)
- granite
- limestone
- sandstone.

Environmental requirements include:

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

Statutory and regulatory authority includes:

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

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area