



Australian Government

Department of Education, Employment and Workplace Relations

CPC CST3007A Turn stone

Release: 1

CPCST3007A Turn stone

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit specifies the outcomes required to turn stone to produce a designed finished product. It includes preparing stone, operating a lathe, dressing stone and finishing a surface.

Application of the Unit

Application of the unit This unit of competency supports the achievement of skills and knowledge to turn stone products, 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
--------------	--

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. Stone quality identified, selected and prepared for turning. 1.8. Environmental requirements are identified for the project in accordance with environmental plans and statutory and regulatory authority requirements, and are applied.
2. Construct templates.	2.1. Appropriate template material is selected and template prepared and cut to required shape or design using appropriate tools. 2.2. Template is applied to stone for basic roughing out procedure as required by design, and appropriate tools and machines are selected consistent with job requirements.
3. Identify applications of lathe work to stonemasonry.	3.1. Specific features of lathe applications and methods of handling and holding work applicable to lathe operation are identified and used. 3.2. Machine operations, including pre-service checks, are identified and machine speeds and feed rates are calculated.
4. Operate lathe and turn stone.	4.1. Job sheet is prepared as service record of lathe operation where applicable, and correct lathe cutting tools are selected and prepared for use. 4.2. Correct alignment of talkstock is accurately performed.

ELEMENT	PERFORMANCE CRITERIA
	4.3. Pre-service checks are correctly performed in accordance with manufacturer specifications and machine working speeds and feed rates.
	4.4. Roughing and finishing areas are set by calculations from operations sheet specifications.
	4.5. Holding devices are correctly applied to work piece and lathe is operated through a dry run check before lathe start-up procedure is applied.
	4.6. Lathe operation is performed to turn stone to match contour of template.
5. Finish and seal stone.	5.1. Correct contour conformity to template is checked, stone is turned and surface is finished to specification.
	5.2. Completed stonemasonry work is removed from lathe and prepared for sealant application as specified.
	5.3. Sealing solutions and compounds are applied to manufacturer specifications.
6. Clean up.	6.1. Debris and waste materials are removed on completion of process.
	6.2. Re-usable and recyclable materials are salvaged and stored.
	6.3. Lathe accessories are removed and 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
 - follow instructions
 - read and interpret drawings and specifications

REQUIRED SKILLS AND KNOWLEDGE

- 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 mental abilities.

Required knowledge

Required knowledge for this unit is:

- interpretation of drawings and specifications
- job safety analysis (JSA) and safe work method statements
- measurement techniques relative to design shapes in stone
- processes and techniques for finishing stone surfaces
- processes for preparation of stone
- techniques for operating a lathe
- techniques for safe handling of material relevant to stonemasonry work
- techniques for turning and shaping stone
- types and uses of templates for lathe work
- types and uses of cutting tools associated with turning stone
- types and uses of hand tools and equipment relevant to setting up and turning stone
- 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 prepare and turn stone and produce two different finished, turned products using at least two of the stone material types listed in the range statement, providing evidence of the ability to:

- comply with OHS regulations applicable to workplace operations
- comply with organisational policies and procedures, including quality assurance requirements within the context of producing turned stone
- demonstrate safe and effective operational use of tools and equipment with processes
- adopt and use correct procedures to handle and place material
- demonstrate sound techniques to accurately produce template to designed profile
- demonstrate sound and safe procedures to dress stone to requirements in preparation for turning
- display sound understanding of turning work applications and selection of appropriate cutting tools
- demonstrate sound techniques to set up and prepare material and lathe for lathe operation
- display sound and safe techniques to cut, dress and finish stone to shape and specifications
- communicate with others to ensure safe and effective workplace operations.

EVIDENCE GUIDE

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:

- materials relative to the activity
- hand tools, machinery and equipment appropriate to activity
- suitable work area
- drawings and documentation relevant to activity.

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

EVIDENCE GUIDE

- 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

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

RANGE STATEMENT

Planning and preparation include:

Safety (OHS) is to be in accordance with state and territory legislation and regulations and project safety plan and may include:

- 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.
 - assessment of conditions and hazards
 - determination of work requirements and safety plans and policies
 - equipment defect identification
 - work site inspection.
 - 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
 - workplace environmental requirements and safety.
- Tools and equipment*** include:
- abrasive heads
 - abrasive sheets
 - dividers and calipers
 - grinders

RANGE STATEMENT

	• measuring tapes and rules • range of cutting chisels • scribes • spirit levels • squares • straight edge.
Quality requirements include:	• attention to specifications of work • quality of materials • relevant regulations, including: • Australian standards • internal company quality policy and standards • manufacturer specifications where specified • workplace operations and procedures • use and maintenance of machinery.
Materials include:	• granite • limestone • marble • sandstone.
Preparing stone for turning operations includes:	• boring • cutting • dressing • milling • shaping.
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.
Template may be made of:	• aluminium sheet • cardboard • plastic sheet • plywood • zinalume sheet.
Operations with turning stone include:	• boring • cutting • shaping to parallel

RANGE STATEMENT

- shaping to taper
- shaping to template.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area