UNIT CODE	CPCCST3006
UNIT TITLE	Machine stone
APPLICATION	This unit specifies the skills and knowledge required to machine stone. It includes operating static machines to carry out machining of stone. This unit applies to stonemasons who work independently, in a team or under supervision and operate machinery relating to stone work in a workshop setting, on a new site or an existing structure. Completion of the general construction induction training program specified by the model Code of Practice for Construction Work is required for any person who is to carry out construction work. Achievement of *CPCCWHS1001 Prepare to work safely in the construction industry* meets this requirement. No licensing, legislative or certification requirements apply to this unit at the time of publication.
PREREQUISITE UNIT	CPCCWHS2001 Apply WHS requirements, policies and procedures in the construction industry
ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe what needs to be done to demonstrate achievement of the element.
1. Plan the work.	1.1 Source and read machine stone requirements from specification, standards and codes. 1.2 Follow requirements in workplace safety and environmental documentation and workplace procedures relevant to work activity. 1.3 Determine job priorities and sequence job tasks in consultation with others on site. 1.4 Identify potential hazards and determine and implement control measures. 1.5 Select and check condition of plant, equipment and tools and report damage or malfunction to relevant personnel. 1.6 Check conformity of materials against the job requirements.
2. Prepare machinery for use.	2.1 Select, fit correctly and use personal protective equipment (PPE) appropriate for job.

	2.2 Check guards, guides, clamps and sliding tables are fitted correctly and are operational. 2.3 Check electrical leads are tagged, and hoses and cables are not damaged 2.4 Conduct a pre-operation check and test emergency shut down switch is working. 2.5 Clean work area and remove any hazards.
3. Operate static diamond saw.	3.1 Locate, secure and stabilise stone on sliding table and align to blade for cutting. 3.2 Adjust depth of cut to suit stone hardness and blade cutting capacity. 3.3 Start saw and turn on water. 3.4 Slide stone through blade at an efficient rate avoiding strain on the machine and maintaining design. 3.5 Repeat process until depth of cut is achieved.
4. Operate a travelling beam saw.	4.1 Locate, align and secure stone on sliding table. 4.2 Enter setting into digital panel for width and depth of stone and limits of blade. 4.3 Switch on and operate automatic machine.
5. Operate multi-function cutter, grinder and polisher.	5.1 Select, fix and secure head/plate to operating spindle. 5.2 Locate and secure stone on cutting table. 5.3 Set template into position for profile work, cutting, and moulding operations. 5.4 Set cutting heads for initial cut and align with template as part of the operating process. 5.5 Carry out machine operations to complete the process of machining stone.
6. Carry out grinding and polishing.	6.1 Select and fit grinding plate appropriate to stone surface to be cut and polished. 6.2 Set up and operate machine for grinding and polishing process changing grit abrasive pads for type of stone and finish. 6.3 Monitor and maintain water flow to the polishing application.

7. Shut down machine operations.	7.1 Shut down machine and remove stone. 7.2 Remove, clean, check for wear and store clamps, wedges and supporting materials. 7.3 Clean machine, check for wear and tear or damage. 7.4 Report any malfunctions or damage to appropriate person.
8. Clean up.	8.1 Clear the work area, and dispose of, reuse or recycle materials following workplace and environmental requirements. 8.2 Clean tools and equipment, check for serviceability and report damage or faults. 8.3 Store and secure tools and equipment following workplace procedures.
FOUNDATION SKILLS Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.	
UNIT MAPPING INFORMATION	Supersedes and is equivalent to CPCCST3006A Machine stone
LINKS	Companion volumes to this training package are available at the VETNet website: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad

TITLE	Assessment requirements for CPCCST3006 Machine stone

PERFORMANCE EVIDENCE

To demonstrate competency in this unit, a candidate must meet the performance criteria of this unit by machining one soft stone and one hard stone to a size of 190 mm x 190 mm x 190 mm.

In doing this, the candidate must:

- use a static diamond saw to cut one stone, and
- use a travelling beam saw to cut the other stone
- cut, grind and polish two sides and a face of one hard stone shape using a multi-function machine.

KNOWLEDGE EVIDENCE

To be competent in this unit, a person must demonstrate knowledge of:

- types of natural and manufactured stone:
  - basalt (blue stone)
  - granite
  - limestone
  - marble
  - sandstone
  - carborundum
  - diamond
- terminology relating to machining stone
- functional and operational features of plant, equipment and hand and power tools:
  - static diamond saws
  - travelling beam saws
  - multi-function cutting, grinding and polishing machines
  - battery operated tools
- workplace safety:
  - job safety and environmental analysis (JSEA)
  - exposure to silica dust
  - hazardous manual tasks
  - exposure to loud noise
  - electrical safety
- workplace processes and procedures
- stonemasonry regulations, standards and codes
- Mohs scale of mineral hardness
- environmental requirements for workplace processes and waste disposal
- key features of sketches, plans and specifications.

ASSESSMENT CONDITIONS	
Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations. This unit must be assessed in the workplace or a close simulation reflecting workplace conditions and standards, materials, equipment, activities, responsibilities, procedures, safety requirements and environmental considerations.	
LINKS	Companion volumes to this training package are available at the VETNet website: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad