



Australian Government

Department of Education, Employment and Workplace Relations

CUVOPA08B Production cut and polish opal

Release: 1

CUVOPA08B Production cut and polish opal

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit covers the skills and knowledge to cut and polish opal to meet trade requirements so that the operation is completed within minimum time.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit requires the application of knowledge and skills to cut and polish opals on a continuous basis producing pieces that comply with trade requirements. The cutting must be done in such a way that the cutting business is viable and the stone meets trade requirements. The skill is applied in a workshop environment and includes stock control and record keeping. A major application of this competency is in the manufacture of triplets.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units

This unit may be assessed on its own or it may be assessed with other units that cover related skills and knowledge.

Evidence is most relevant when provided through an integrated activity which combines the Elements of competency for the unit, or a cluster of units of competency.

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 Select the machinery and consumables for production cutting opal.	1.1 Select the <i>machinery</i>. 1.2 Select the <i>consumables and adhesives</i>. 1.3 Select the lighting equipment for UV sensitive adhesives. 1.4 Obtain Materials Safety Data Sheets for all materials used.
2 Identify sources of rough opal and consumables and obtain supplies.	2.1 Determine sources and cost of rough opal and obtain supplies. 2.2 Determine sources and cost of consumables including <i>backing material</i> and triplet tops and obtain supplies. 2.3 Record information about suppliers and costs. 2.4 Set up <i>stock management system</i>.
3 Review the layout of the workshop and set up machinery and equipment for production cutting.	3.1 Review the layout in relation to production cutting and make adjustments to facilitate workflow where required. 3.2 Set up multi-blade saw to manufacturers' specifications. 3.3 Set up grinder, sander, polisher and lighting equipment. 3.4 Set up dopping rack and other racks and containers as needed.
4 Cut and polish opal to industry requirements within the time constraints of the production process.	4.1 Cut and polish opals to trade requirements within the predetermined time constraints. 4.2 Use appropriate <i>dopping techniques</i> for production work. 4.3 Ensure opals satisfy trade requirements for <i>standard millimetre sizes</i> for particular applications. 4.4 Follow all OHS requirements for machinery, equipment and consumables.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills:

- set up and use production equipment
- source materials
- cost materials
- follow the procedures for stock management
- servicing and testing of equipment.

Required knowledge:

- differentiate between standard and production cutting
- knowledge of the procedures and equipment used in production cutting
- where to locate and cost materials for production cutting
- knowledge of stock management 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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

To achieve competency in this unit, a person must be able to cut opal in a production environment meeting standards of quality and working with commercial constraints.

The assessment must confirm the ability to select machinery and consumables; to organise the workshop for production cutting and cut opals to industry standards within commercial constraints. All OHS issues must be handled appropriately.

Competence in this unit must be assessed over a period

EVIDENCE GUIDE

of time in order to ensure consistency of performance over the range of variables and contexts applicable to the work environment.

Context of and specific resources for assessment

This unit may be assessed in a work environment, in a simulated work environment or in a combination of these situations.

Method of assessment

For valid and reliable assessment of this unit, evidence should be gathered through a range of methods to indicate consistent performance.

Assessment of this unit of competence will usually include observation of processes and procedures, oral and/or written questioning on underpinning knowledge and skills and other methods as required.

Assessment methods should closely reflect workplace demands (e.g. literacy) and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties such as speakers of languages other than English, remote communities and those with interrupted schooling).

Assessment of this competency requires access to:

- production cutting and polishing equipment, tools and consumables
- a qualified workplace assessor or assessment team.

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.

Machinery may include:

- cabochon cutting machine
- cabochon pre-former
- diamond sintered wheel grinder
- faceting unit pre-former
- high speed sanding unit
- multi bade trim saw
- pumice pre-polishing unit
- soft diamond wheel sanding and polishing unit
- spongy wheel sanding unit
- triplet slicing machine
- UV light box
- vibro tumbler.

Consumables and adhesives may include:

- #400 acid treated silicon-carbide powder
- backing material
- blackening agent
- dopping wax or adhesive
- epoxy adhesive
- grinding wheels
- polishing powder (cerium oxide)
- polishing wheels (diamond or felt)
- red sealing wax
- rough opal
- sanding wheels (diamond or spongy)
- trim saw blades
- triplet slicing blades, 120, 140, 160,180.
- triplet tops
- UV adhesive
- water and electricity.

RANGE STATEMENT

Backing materials may include:

- black jade
- black potch (best)
- boulder iron stone
- clear or transparent potch
- dark grey potch
- glass (triplet only)
- obsidian (black)
- vitrolite (triplet only).

Stock management system may include:

- avoiding cutting irregular sizes or shapes to minimise slow stock
- maintenance of rough opal and consumables supplies
- regular checks with suppliers for continuity of consumables
- stock popular sizes to meet new markets.

Dopping techniques may include:

- 5-minute epoxy glue
- aluminium or wooden dop-sticks
- collapsible rack for holding dop-sticks
- green or red sealing wax
- vacuum dopping
- wood glues.

Standard millimetre sizes may require:

- consistent accurate sizes
- no grinding marks or sanding marks on surface
- very high polish required
- when shaping, keep the setting into jewellery in mind.

Unit Sector(s)

Not Applicable

Competency field

Competency field Opal cutting and polishing