



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **CUVOPA06B Cut and polish an opal doublet/triplet**

**Release: 1**

## **CUVOPA06B Cut and polish an opal doublet/triplet**

### **Modification History**

Not Applicable

### **Unit Descriptor**

**Unit descriptor** This unit covers skills and knowledge required for the cutting and polishing of both opal doublets and triplets.

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

### **Application of the Unit**

**Application of the unit** The unit covers the skills needed to make a finished doublet or triplet from preformed materials. The skills and knowledge covered by this unit are applied in a workshop environment and include all phases of the process, using various types of opal and trade accepted backing mediums and the safe use of the equipment. Jewellers setting requirements are adhered to and industry standards maintained.

### **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 <b>Prepare to cut an opal doublet.</b>	1.1 Identify and obtain <i>consumables</i> required for cutting and polishing an opal doublet or triplet. 1.2 Identify <i>equipment</i> to be used. 1.3 Determine <i>jewellers' cutting angle</i> requirements. 1.4 Dop preform on appropriate dop stick using <i>wax or adhesive</i> .
2 <b>Cut and polish an opal doublet.</b>	2.1 Grind to relevant <i>shape</i> using colour pattern and play as a guide. 2.2 Grind to shape incorporating jewellers side angles, including backing into shape. 2.3 Dome the top of doublet, leaving a minimum of 1mm above join at side angle. 2.4 Sand and polish top and sides of opal doublet. 2.5 Turn stone over and re-dop. 2.6 Grind, sand and polish backing at jewellers angles. 2.7 Remove stone from dop and clean.
3 <b>Cut and polish an opal triplet (<i>commercial top</i>).</b>	3.1 Dop stone on top of <i>triplet top</i> . 3.2 Grind backing thickness down to approximately 1mm. 3.3 Grind edge of backing at approx. 30° until the edge of the triplet top is met. 3.4 Sand and polish backing. 3.5 Remove stone from dop and clean.
4 <b>Cut and polish an opal triplet (<i>non commercial top</i>).</b>	4.1 Dop pre-form with glass/quartz on top. 4.2 Shape stone like high domed doublet on grinder. 4.3 Transform opal colour optically into whole of dome. 4.4 Sand and polish top and sides of stone. 4.5 Turn stone over and re-dop on top surface. 4.6 Grind backing thickness to 1mm. 4.7 Grind setting edge angle at 30°, until 1mm into

**ELEMENT****PERFORMANCE CRITERIA**

- |   |                                                                                          |                                                                                                                                                                                                                                                                                           |
|---|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 | <p><b>Follow OHS principles when operating opal cutting and polishing equipment.</b></p> | <p>top, under- cutting backing.</p> <p>4.8 Sand and polish bottom and setting edge and remove any chipping that may occur around edge of top.</p> <p>4.9 Remove stone from dop and clean.</p> <p>5.1 Follow <i>general principles of OHS</i> for working in an opal cutting workshop.</p> |
|---|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Required Skills and Knowledge****REQUIRED SKILLS AND KNOWLEDGE**

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

**Required skills:**

- safe use of appropriate equipment
- grinding, sanding and polishing skills
- Opal Cutting and Polishing

**Required knowledge:**

- the characteristics of opal that make it suitable for use as a doublet or triplet
- knowledge of the materials used in doublets and triplets
- processes to be used in making a doublet or triplet.

**Evidence Guide****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 and polish doublets and triplets from a range of types of opal using appropriate consumables and equipment.

Assessment must confirm knowledge of the use of appropriate consumables and equipment to produce opal doublets and triplets using commercial and non-commercial triplet tops to accepted industry standards. Assessment must confirm the safe completion of the cutting, polishing and cleaning processes and safe use of the equipment and consumables.

Competence in this unit must be assessed over a period 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 or 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, evaluation of the final product 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).

## **EVIDENCE GUIDE**

Assessment of this competency requires access to:

- an opal cutting workshop
- 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.

***Consumables*** may include:

- cerium or tin oxide
- cleaning spirit
- diamond or silicon-carbide wheels #220 or #360
- diamond polishing compound #2400 to #100000
- diamond polishing wheels #3000 to #50000
- diamond sanding wheels #280 to #1200
- felt or leather buffs
- personal protective equipment
- silicon-carbide sanding paper #180 to #600.

***Equipment*** may include:

- grinding machinery
- polishing machinery
- sanding machinery
- saw.

***Jewellers' cutting angle*** requirements may include:

- 10° to 12° side angle (from setting edge to start of dome)
- all sharp edges or acute angles be slightly rounded (optional)
- flat or domed back
- high overall polish and free of defects
- sanded or polished back
- setting edge to be straight and parallel to back
- tolerance for standard millimetre sizes, 0.2mil. + or -

***Wax or adhesives*** for dopping may include:

- any 5min. adhesive, using aluminium dop-sticks
- AQUADERE wood glue



## RANGE STATEMENT

- hot wax sticks (hot glue gun)
- super glues
- vacuum dopping
- wax (medium to low melting)

Note: stone should be kept cool - heat may damage opal.

*Shape* may include:

- a variety of other shapes
- cabochon
- dome - high, medium, low
- free form
- rectangles.

*Triplet top materials* may include:

- clear quartz
- commercial standards size triplet tops
- glass, plain or plate
- lead crystal glass
- material of the triplet top should be disclosed
- synthetic spinel, corundum, topaz.

*General OHS principles and Safe Operating Procedures* may include:

- complying with the safe operating procedures for each machine and materials
- good housekeeping
- using personal protection equipment where required.

## Unit Sector(s)

Not Applicable

## **Competency field**

**Competency field**            Opal cutting and polishing