



Australian Government

Department of Education, Employment and Workplace Relations

CUVOPA206A Cut and polish opal doublets and triplets

Release: 1

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Modification History

Version	Comments
CUVOPA206A	This version first released with <i>CUV11 Visual Arts, Craft and Design Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to cut and polish both opal doublets and triplets.

Application of the Unit

The skills and knowledge covered in this unit apply to a workshop environment and include all phases of the process required to make a finished doublet or triplet from pre-formed materials using various types of opal and trade-accepted backing mediums as well the safe use of the equipment.

Licensing/Regulatory Information

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

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>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.</i>

Elements and Performance Criteria

1. Prepare to cut an opal doublet or triplet	1.1 Identify and obtain consumables required for cutting and polishing an opal doublet or triplet 1.2 Select tools and equipment to be used 1.3 Determine jewellers' cutting angle requirements 1.4 Dop pre-form on appropriate dop stick using wax or adhesive
2. Cut and polish an opal doublet or triplet	2.1 Grind to relevant shape 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. Cut and polish an opal triplet commercial top	3.1 Dop stone on top of triplet top 3.2 Grind backing thickness down to approximately 1mm 3.3 Grind edge of backing at approximately 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. Cut and polish an opal triplet non-commercial top	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 top, undercutting backing 4.8 Sand and polish bottom and setting edge and remove any chipping that may occur around edge of top 4.9 Remove stone from dop and clean

Required Skills and Knowledge

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

Required skills

- planning and organising skills to prepare materials for cutting and polishing
- problem-solving skills to identify and address common cutting and polishing problems
- numeracy skills to use numerical features of machinery
- technical skills to:
 - cut and polish opals using correct technique
 - work safely with opal-cutting equipment and materials.

Required knowledge

- characteristics of opal that make it suitable for use as a doublet or triplet
- general principles of OHS for working in an opal-cutting workshop, including:
 - complying with the safe operating procedures for each machine and materials
 - good housekeeping
 - using personal protective equipment (PPE) where required
- materials used in doublets and triplets
- processes to be used in making a doublet or triplet.

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	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • cut and polish doublets and triplets from a range of types of opal using appropriate consumables and equipment and using commercial and non-commercial triplet tops to accepted industry standards • safely complete the cutting, polishing and cleaning processes, using equipment and consumables safely.
Context of and specific resources for assessment	Assessment must ensure access to an opal-cutting workshop.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • 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 • review of portfolios of evidence • review of third-party workplace reports of on-the-job performance by candidate. 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).
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector workplace and job role is recommended.

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 - silicon carbide sanding paper #180 to #600.
Equipment may include:	- grinding machinery - PPE - polishing machinery - sanding machinery - saw.
Jewellers' cutting angle requirements may include:	10° to 12° side angle - all sharp edges or acute angles be slightly rounded - 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 5 minute adhesive, using aluminium dop sticks - wood glue - hot wax sticks (hot glue gun) - super glues - vacuum dopping - wax (medium to low melting).
Shape may include:	- a variety of other shapes - cabochon - dome – high, medium and 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 and topaz.
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Unit Sector(s)

Opal cutting and polishing