



**Australian Government**

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

# **MEM19047A Set gems in claw and bezel style settings**

**Release: 1**

## **MEM19047A Set gems in claw and bezel style settings**

### **Modification History**

New unit

### **Unit Descriptor**

This unit of competency covers the skills and knowledge required to prepare, seat and set gems into claw and bezel style settings.

### **Application of the Unit**

This unit applies to pre-manufactured jewellery items and must include application of both claw and bezel setting techniques to produce a variety of completed settings. Bezel settings must include set faceted and cabochon gem material. Claw settings must include round or shaped wire.

Work includes use of gem setting equipment and cleaning and inspection of the work produced.

**Band A**  
**Unit Weight 4**

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

Not applicable.

### **Employability Skills Information**

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

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|---|--|---|
| 1 | Prepare for gem setting                                | <p>1.1 Identify and implement occupational health and safety (OHS) and environmental requirements for carrying out the tasks and for the work area</p> <p>1.2 Define the characteristics of bezels, including full and part bezels, along with bezel construction types</p> <p>1.3 Plan gem setting procedure</p> <p>1.4 Obtain and prepare equipment for the task and make modifications as required for work</p> <p>1.5 Identify materials used in bezel and claw settings and their essential characteristics</p> <p>1.6 Handle gem material in a manner which ensures damage is prevented</p> |
| 2 | Prepare various shapes and types of bezels for setting | <p>2.1 Secure the item to be set, in a manner which negates damage to the jewellery piece during the setting process</p> <p>2.2 Adjust the height of the bezel in accordance to the depth of the gem</p> <p>2.3 Cut the bearing by hand or with a burr and seat and secure gem in accordance with industry standards</p> <p>2.4 Shape the top of the bezel wall and bright cut the inner edge as required by the shape</p> <p>2.5 Conduct work in accordance with environmental considerations</p>  |

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- |   |                       |   |
|---|-----------------------|---|
| 3 | Prepare claw settings | 3.1 Describe advantages and disadvantages of 2,4,6,8,12 wire settings and 'V' wire claw settings  |
|   |                       | 3.2 Prepare claw for setting and select the height and depth of the bearing to be cut   |
|   |                       | 3.3 Cut the bearing by hand or with a burr and seat the gem in accordance with industry standards.  |
|   |                       | 3.4 Form the claw to secure the gem in the setting, including finishing the top of the claw to a predetermined shape without damaging the gem |
| 4 | Finish work           | 4.1 Remove any securing compound and clean the jewellery piece for inspection   |
|   |                       | 4.2 Ensure that jewellery piece meets quality standards   |
|   |                       | 4.3 Complete workplace documentation  |
|   |                       | 4.4 Clean up and maintain production environment and equipment according to enterprise procedures   |

## Required Skills and Knowledge

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

### Required skills

Required skills include:

- selecting and preparing tools
- identifying metals
- identifying gem features
- adjusting, sharpening and maintaining tools
- preparing metals
- securing gems
- calculating required material size
- securing the jewellery item to be set without inflicting damage
- selecting the appropriate height and depth at which to cut the bearing on the wire of the claw setting
- seating the gem level and straight in the claw setting
- securing the gem by pushing the claw wire over the gem
- finishing the top of the claw to desired shape
- selecting the appropriate height and depth at which to cut the bearing on the inside of the bezel wall
- seating the gem level and straight in the bezel setting
- securing the gem by pushing the bezel wall over the gem
- finishing the top of the bezel to desired shape
- applying techniques for handling gems safely and minimising stress during setting processes

### Required knowledge

Required knowledge includes:

- setting terminology
- gem features and handling procedures
- maintenance of tools
- setting techniques, processes and procedures
- working properties of materials
- types of gems and their key characteristics
- range of facet cuts used on gems
- qualities, features, limitations and working characteristics of different metals used in

jewellery

- suitability of metal for carving and setting
- essential characteristics of wire claw settings
- essential characteristics of various styles of bezel settings
- various securing techniques for jewellery items to be set
- safe operation all workshop equipment used

## 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	A person who demonstrates competency in this unit must be able to produce a variety of both claw and bezel settings.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors must be satisfied that the candidate can competently and consistently:</p> <ul style="list-style-type: none"> <li>• implement OHS workplace procedures to safely and effectively use gem setting equipment and processes</li> <li>• apply techniques for handling gems safely and minimising stress during setting processes</li> <li>• produce claw and bezel settings according to industry standards.</li> </ul>
Context of and specific resources for assessment	<ul style="list-style-type: none"> <li>• Assessment may occur on the job or in an appropriately simulated environment. Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.</li> <li>• Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</li> <li>• Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.</li> </ul>
Method of assessment	<ul style="list-style-type: none"> <li>• Assessment must satisfy the endorsed Assessment Guidelines of the MEM05 Metal and Engineering Training Package.</li> <li>• Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge.</li> <li>• Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application.</li> <li>• Assessment may be applied under project-related conditions (real or simulated) and require evidence of process.</li> </ul>

	<ul style="list-style-type: none"> <li>• Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.</li> <li>• Assessment may be in conjunction with assessment of other units of competency where required.</li> </ul>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

## 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.

<b>OHS requirements</b>	<p>OHS requirements may include:</p> <ul style="list-style-type: none"> <li>• legislation</li> <li>• personal protective equipment</li> <li>• material safety management systems</li> <li>• hazardous substances and dangerous goods code</li> <li>• local safe operation procedures</li> <li>• awards provisions</li> </ul>
<b>Gem materials</b>	<p>Gem materials may include:</p> <ul style="list-style-type: none"> <li>• gemstones</li> <li>• round brilliant and baguette shaped stones</li> <li>• natural stones</li> <li>• modified and synthetic gems</li> <li>• faceted and cabochon cut gems in either calibrated or free-form shapes</li> <li>• gold</li> <li>• silver</li> <li>• platinum</li> <li>• cast and handmade alloys</li> </ul>
<b>Setting tools and equipment</b>	<p>Setting tools and equipment may include:</p> <ul style="list-style-type: none"> <li>• gravers</li> <li>• grinders</li> </ul>



	<ul style="list-style-type: none"> <li>• micro-motors</li> <li>• polishing machines</li> <li>• sharpening stones and beading tools</li> <li>• setters wax/cement</li> <li>• jewellers burrs/drills</li> <li>• 10X loupe or head set</li> <li>• emery paper</li> <li>• flat and half pliers</li> <li>• needle files</li> <li>• pocket knife</li> <li>• oil</li> <li>• blocks or dowels covered with setters cement</li> <li>• bench mate setters clamp</li> <li>• engravers vice</li> <li>• bench vice</li> </ul>
<b>Environmental requirements</b>	<p>Environmental requirements may relate to:</p> <ul style="list-style-type: none"> <li>• liquid waste</li> <li>• solid waste</li> <li>• gas, fume, vapour, smoke emissions, including fugitive emissions, and dust</li> <li>• excessive energy and water use</li> <li>• excessive noise</li> </ul>

## Unit Sector(s)

Jewellery

## Custom Content Section

Not applicable.