



Australian Government

MEM19047 Set gems in claw and bezel style settings

Release: 1

MEM19047 Set gems in claw and bezel style settings

Modification History

Release 1. Supersedes and is equivalent to MEM19047A Set gems in claw and bezel style settings.

Application

This unit of competency defines the skills and knowledge required to prepare, seat and set gems into claw and bezel style settings. It applies to pre-manufactured jewellery items.

This unit applies to individuals involved in jewellery manufacture in a small or large-scale production context. They use and adapt technical skills and knowledge to produce work that meets pre-determined design and production requirements.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

Competency Field

Jewellery

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Use personal protective equipment (PPE) in accordance with SOPs 1.4 Identify job requirements from specifications

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Prepare for gem setting	2.1 Plan gem setting procedure and associated materials and equipment based on job requirements 2.2 Obtain and prepare equipment for the task 2.3 Identify materials used in bezel and claw settings and their essential characteristics 2.4 Handle gem material in a manner that ensures damage is prevented
3. Prepare shapes and bezels for setting	3.1 Secure the item to be set, in a manner which prevents damage to the jewellery piece during the setting process 3.2 Adjust the height of the bezel according to the depth of the gem 3.3 Cut the bearing to size by hand or with a burr and seat and secure gem in accordance with industry standards 3.4 Shape the top of the bezel wall and bright cut the inner edge as required by the shape 3.5 Conduct work in accordance with environmental considerations
4. Prepare claw settings	4.1 Prepare claw for setting and select the height and depth of the bearing to be cut 4.2 Cut the bearing by hand or with a burr and seat the gem in accordance with industry standards 4.3 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
5. Finish work	5.1 Remove any securing compound and clean the jewellery piece for inspection 5.2 Check jewellery piece against quality and client requirements and rectify any deficiencies 5.3 Complete documentation in accordance with workplace procedures 5.4 Clean up and maintain production environment and equipment in accordance with SOPs

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Specifications include one or more of the following:	• drawings • job sheets • work instructions.
Bezel settings include the following:	• set faceted and cabochon gem material.
Claw settings include one or more of the following:	• round wire • shaped wire.
Gem materials include one or more of the following:	• gemstones • round brilliant stones • baguette shaped stones • natural stones • modified and synthetic gems • faceted and cabochon cut gems in either calibrated or free-form shapes • gold • silver • platinum • cast and handmade alloys.
Setting tools and equipment include one or more of the following:	• gravers • grinders • micro-motors • polishing machines • sharpening stones and beading tools • setters wax or cement • jewellers burrs and drills • 10x loupe or headset • emery paper • flat and half pliers • needle files

	• pocketknife • oil • blocks or dowels covered with setters cement • bench mate setters clamp • engravers vice • bench vice.
--	--

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM19047A Set gems in claw and bezel style settings.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM19047 Set gems in claw and bezel style settings

Modification History

Release 1. Supersedes and is equivalent to MEM19047A Set gems in claw and bezel style settings.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying metals and gems
- applying techniques for handling gems safely and minimising stress during setting processes
- producing claw and bezel settings according to industry standards on at least two occasions using setting tools and equipment
- 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 on at least two occasions
- 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 the desired shape on at least two occasions
- selecting the appropriate height and depth at which to cut the bearing on the inside of the bezel wall on at least two occasions
- 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 the desired shape on at least two occasions
- completing workplace documentation in accordance with procedures.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- setting types and terminology
- bezel characteristics, including full and part bezels, along with bezel construction types

- advantages and disadvantages of 2,4,6,8, and 12 wire settings and ‘V’ wire claw settings
- gem materials, features and handling procedures
- setting tools and equipment
- maintenance requirements 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 different styles of bezel settings
- various securing techniques for jewellery items to be set.
-

Assessment Conditions

- Assessors must:
 - have vocational competency in setting gems in claw and bezel style settings at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
-

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>