



Australian Government

MEM19015 Perform jewellery enamelling

Release: 1

MEM19015 Perform jewellery enamelling

Modification History

Release 1. Supersedes and is equivalent to MEM19015B Perform jewellery enamelling

Application

This unit of competency defines the skills and knowledge required to perform enamelling techniques applied to precious metals and some base metals using torch and kiln methods.

This unit does not apply to complex three-dimensional forms and plique-à-jour techniques.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13003	Work safely with industrial chemicals and materials
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools

Competency Field

Jewellery and horological

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| | | 1.3 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, drawings, job sheets or work instructions |
| 2 | Prepare items and materials for enamelling | 2.1 | Assess item materials and construction for enamelling suitability |
| | | 2.2 | Select appropriate enamelling technique and materials for the required outcome |
| | | 2.3 | Prepare enamels for enamelling operation |
| | | 2.4 | Prepare metal surfaces for enamelling |
| | | 2.5 | Carry out additional processing of item prior to enamelling |
| 3 | Enamel jewellery items | 3.1 | Set up equipment and items for firing |
| | | 3.2 | Enamel items to specification and complete firing process |
| 4 | Finish and inspect work | 4.1 | Apply final finishes |
| | | 4.2 | Check product for compliance to specifications |
| | | 4.3 | Identify and rectify faults |
| | | 4.4 | Record relevant job information |

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

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.

Enamelling techniques include one (1) or more of the following:

- torch firing
- kiln firing
- dusting
- cloisonné
- basse-taille
- champlevé

Items include one (1) or more of the following:

- rings
- brooches
- earrings
- pendants
- other small-scale objects

Additional processing includes one (1) or more of the following:

- stamping
- engraving
- saw piercing
- chasing
- oxidising
- roller pressing

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM19015B Perform jewellery enamelling

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 MEM19015 Perform jewellery enamelling

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- assessing items for construction and enamelling requirements
- selecting enamelling technique and materials to suit job specification and design, item properties and construction
- washing and grinding enamels, including cleaning, polishing, burnishing and pre-treating and pickling metals by hand
- applying enamel to achieve required outcome and performing any additional process requirements prior to the firing process
- setting up equipment to the correct temperature and positioning items for firing using appropriate work holding devices, and monitoring and gauging stages
- removing from heat source at appropriate time to avoid over or under firing and applying final treatments and finishes, including final firing polishing, and checking item for conformance to specifications and design requirements
- identifying causes of non-conformance and rectifying faults
- recording job information in accordance with SOPs.

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)
- enamels, base metals and properties relating to enamelling, enamelling techniques, firing techniques and work holding devices, faults and common rectification methods
- factors for determining suitability for enamelling, including available enamelling compositions, firing temperatures, metal type and properties, and item construction
- different enamelling techniques and terms
- enamelling compositions and techniques and related to specific item properties and factors, such as metal type and properties, item construction and firing temperature
- enamels and forms of availability for purchase, including leaded and unleaded, opaque and transparent
- use of enamel colour chart to determine suitable colours

- procedures for preparation of enamel powder
- techniques for washing and grinding enamels and reasons for doing so
- preparation of metal surfaces by hand cleaning, polishing, burnishing, chemical pre-treatment by acid, surface depletion methods and application to different metals
- additional processing techniques, including stamping, engraving, saw piercing, chasing, oxidising and roller pressing
- tools and equipment for processing and their uses
- methods of applying enamels, including wet packing and dry dusting
- melting temperatures of metals and enamels
- work-holding devices
- visual appearance of enamel at different stages of firing process
- counter-enamelling techniques and reasons for doing so
- cleaning and lapping processes between firing
- different finishes and methods for achieving specific effects
- masking out methods and final firing and polishing methods
- features and factors for compliance from original specifications and job requirements
- common enamelling faults, incorrect outcomes and their causes, including oxidation, staining and under or over firing
- actions to rectify faults using standard techniques and methods
- job data to be recorded and procedures to record data.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing jewellery enamelling 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

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