



Australian Government

Department of Education, Employment and Workplace Relations

MEM19015B Perform jewellery enamelling

Release: 1

MEM19015B Perform jewellery enamelling

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing most jewellery-scale and some larger-scale enamelling techniques applied to precious metals and some base metals, using torch and kiln methods.
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Application of the Unit

Application of the unit	<p>Work is undertaken autonomously or within a team environment using predetermined standards of quality, safety, workplace procedures and accepted workplace techniques/methods. It does not apply to complex three-dimensional forms and plique-a-jour techniques.</p> <p>Band: A</p> <p>Unit Weight: 4</p>
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM13003B	Work safely with industrial chemicals and materials
	MEM18001C	MEM18001C

Employability Skills Information

Employability skills	This unit contains employability skills.
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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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify enamelling requirements	1.1. Enamelling requirements are identified from workplace documentation and customer requirements. 1.2. Item materials and construction are assessed for enamelling suitability. 1.3. Appropriate enamelling technique and materials are selected for the required outcome.
2. Prepare items and materials for enamelling	2.1. Enamels are prepared for enamelling operation. 2.2. Metal surfaces are prepared for enamelling. 2.3. Additional processing of item is carried out prior to enamelling.
3. Enamel jewellery items	3.1. Equipment and items are set up for firing. 3.2. Items are enamelled to specification. 3.3. Items are fired correctly.
4. Finish and inspect work	4.1. Final finishes are applied. 4.2. Product is checked for compliance to specifications. 4.3. Faults are rectified. 4.4. Relevant job information is recorded.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: <ul style="list-style-type: none"> • interpreting instructions and job requirements from job packets, verbal or written instructions/diagrams • checking and clarifying task-related information • analysing item features/properties/construction for enamelling suitability • selecting colour appropriate to job specification/design • selecting enamelling technique/materials to suit job specification/design, item properties and construction • washing and/or grinding enamels • cleaning, polishing/burnishing and pre-treating and pickling metals by hand

REQUIRED SKILLS AND KNOWLEDGE

- performing additional processing requirements
- applying enamel to achieve desired outcome
- setting equipment to correct temperature
- positioning items for firing using appropriate work holding devices
- monitoring and gauging stages
- removing from heat source at appropriate time to avoid over/under firing
- applying different firing techniques and final treatments/finishes
- masking out
- final firing polishing
- checking for conformance to specifications/ design requirements
- identifying causes of non-conformances
- rectifying faults
- entering information onto proformas and other workplace forms

Required knowledge

Look for evidence that confirms knowledge of:

- 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, item construction
- different enamelling techniques and terms
- enamelling compositions and techniques and related to specific item properties and factors such as metal type/properties, item construction, firing temperature
- enamels and forms of availability for purchase including leaded/unleaded, opaque/transparent
- terms applied to various enamelling techniques
- use of enamel colour chart to determine suitable colours
- correct working procedures during the preparation of enamel powder
- techniques for washing and grinding enamels, when required, 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
- hazards and safety measures relating to pre-treatment of metals and preparation of enamels/metals
- additional processing, including stamping, engraving, saw piercing, chasing, oxidising, roller pressing
- tools and equipment for processing and their uses
- methods of applying enamels including wet packing, dry dusting
- melting temperatures of metals and enamels

REQUIRED SKILLS AND KNOWLEDGE

- 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
- final firing and polishing methods
- features and factors for compliance from original specifications and/or job requirements
- common enamelling faults/incorrect outcomes and their causes, including oxidation, staining, under/over firing
- actions to rectify faults using standard techniques/methods
- job data to be recorded
- procedures to record data
- hazards and control measures, including housekeeping
- use and application of personal protective equipment
- safe work practices and procedures

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.

Overview of assessment

A person who demonstrates competency in this unit must be able to perform jewellery enamelling on a range of materials. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

Context of and specific resources for assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing jewellery enamelling or other units requiring the exercise of the skills and knowledge covered by this unit.

Method of assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

EVIDENCE GUIDE

Guidance information for assessment	
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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.

Enamelling technique	Torch and kiln firing and would include dusting, cloisonne, basse-taille and champleve
Item	Rings, brooches, earrings, pendants and other small-scale objects

Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units	

Competency field

Competency field	Jewellery and horological
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