



Australian Government

MEM19048 Develop and apply complex borders and decorations for hand engraving

Release: 1

MEM19048 Develop and apply complex borders and decorations for hand engraving

Modification History

Release 1. Supersedes and is equivalent to MEM19048A Develop and apply complex borders and decorations for hand engraving.

Application

This unit of competency defines the skills and knowledge required to engrave complex borders and ornate decorations and designs on metal surfaces.

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

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

Band: B

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 Determine client requirements for border designs and decorations

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. Develop designs to meet client requirements	2.1 Develop designs for borders and decorations to predetermined dimensions and client requirements 2.2 Use computer-based tools to explore and develop borders and decorative designs to predetermined dimensions and client requirements
3. Mark out border and decorative layouts on metal surface	3.1 Identify and use techniques to reduce or enlarge designs to predetermined dimensions according to client requirements 3.2 Mark out lettering or monogram and cipher layouts on metal surfaces to be engraved using predetermined reference and datum points
4. Perform hand engraving	4.1 Perform engraving of borders to meet specifications 4.2 Perform engraving of decorative layouts to meet specifications 4.3 Perform work in a manner that minimises waste and complies with environmental requirements
5. Finish work	5.1 Check engraving against quality and client requirements, and rectify any deficiencies 5.2 Clean item and prepare for presentation to client 5.3 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.

Border designs include one or more of the following:	• floral patterns • geometric patterns.
Decorations include one or more of the following:	• floral panels • geometric shapes • logos, crests or ciphers.
Metal surfaces include one or more of the following:	• gold • silver • platinum • alloys.
Computer-based tools include one or more of the following:	• computer-generated fonts • word processing applications • vector based and bitmap drawing applications • desktop publishing applications • printing.
Elements and principles of design include one or more of the following:	• line, direction, shape and size • texture, colour and value • harmony, contrast and dominance • repetition, gradation and radiation • unity, proportion, alternation and balance.
Environmental requirements include one or more of the following:	• liquid waste • solid waste • emissions (gas, fume, vapour, smoke, fugitive emissions or dust) • excessive noise • excessive energy and water use.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM19048A Develop and apply complex borders and decorations for hand engraving.

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 MEM19048 Develop and apply complex borders and decorations for hand engraving

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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 and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- determining customer requirements including those related to repair or restoration
- identifying the engraving sequence and using computer-based tools
- drawing decorative borders and other design work to required dimensions using datum lines and points representing appropriate fine line detail and shading
- laying out and transferring designs onto metal surfaces
- producing decorative design work, demonstrating application of the elements and principles of design on at least two occasions
- selecting and using tools and engraving with appropriate spacing and height of borders and decorative design work
- completing and presenting design and layout work that is clean, accurate and meets with client approval and commercial standards on at least two occasions
- machining and sharpening graver shape and cutting angles and maintain points, cutting edges and polished faces in accordance with procedures on at least two occasions.

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)
- engraving terminology
- decorative drawing styles for engraving
- border and decorative design types
- methods used to determine customer requirements
- sources of task-related information
- historic and cultural sources for complex borders and decorative design styles
- design research techniques
- computer-based engraving aids

- elements and principles of design as applied to border and surface decoration design
- characteristics and responses of metals for engraving purposes
- securing methods and limitations
- different gravers, scorers and other tools and their applications
- techniques for producing and maintaining cutting edges
- equipment used for maintaining gravers and tool maintenance
- required industry standards
- hand engraving techniques
- environmental considerations when engraving.
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Assessment Conditions

- Assessors must:
 - have vocational competency in developing and applying complex borders and decorations for hand engraving 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.
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