



Australian Government

MEM19012 Produce jewellery wax model

Release: 1

MEM19012 Produce jewellery wax model

Modification History

Release 1. Supersedes and is equivalent to MEM19012B Produce jewellery wax model

Application

This unit of competency defines the skills and knowledge required to produce one-off wax models.

This unit is not intended to include fine wire filigree work.

Where the use of computer aided equipment for modelling is required unit MEM09009 Create 2-D drawings using computer-aided design system and unit MEM09010 Create 3-D models using computer-aided design system, should also be selected as appropriate.

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
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18003	Use tools for precision work

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.

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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 appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Prepare materials for production of wax model	2.1	Select waxes and tools
		2.2	Cut stock materials
3	Produce and finish wax models	3.1	Optimise material use and production time
		3.2	Sculpt wax to specifications
		3.3	Minimise imperfections in final wax model
		3.4	Apply surface finishes
4	Assess suitability of final wax product	4.1	Inspect product for compliance with specifications
		4.2	Modify final product, as necessary

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.

Wax models include one (1) or more of the following:

- carved forms
- structural forms
- free-form carving

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

- heat irons
- wax guns
- saws
- carving tools
- wax files
- flaming torch

Surface finishes include one (1) or more of the following:

- fine emery
- Shellite
- high polishes

Stock materials include variety in one (1) or more of the following:

- colour
- hardness
- properties
- length

Inspection includes checking one (1) or more of the following:

- tolerances
- allowance for casting shrinkage
- allowance for finishing processes

Unit Mapping Information

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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 MEM19012 Produce jewellery wax model

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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
- identifying and interpreting specifications, drawings, job sheets or work instructions and select appropriate method for construction of wax model for the supplied specifications
- selecting wax to suit construction method and required finish and roughing out and sculpting shapes with minimal wastage, effort and time
- fusing joints to achieve optimum strength and quality
- conducting required measurements
- applying texture finishing and inspecting and modifying product to achieve compliance with specifications.

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)
- factors affecting construction of wax model, including type of wax, hand tools, method of construction, final finish and weight of finished product
- variations in end product and the relationship with wax type
- techniques in controlling melting wax and knowledge of effects of toxic fumes
- tools for preparing and producing wax for specific wax types and constructions
- importance of minimising material wastage and time taken during roughing and finishing and methods to be used to produce the required outcome to specifications with minimise waste
- key features and datum points for model
- purpose and requirements for selected surface finish
- evaluation of product by weight formulation
- effects of casting shrinkage and finishing processes.

Assessment Conditions

- Assessors must:

- have vocational competency in producing jewellery wax model 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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