



Australian Government

Department of Education, Employment and Workplace Relations

MEM19012B Produce jewellery wax model

Release: 1

MEM19012B Produce jewellery wax model

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers producing one-off wax models in simple to moderate carved forms and simple to moderate structural forms.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to the production of wax models for a range of jewellery products, simple to moderate carved forms, simple to moderate structural forms. Processes may include free-form carving moderate detail with some fine detail. This unit is not intended to include fine wire filigree work. Appropriate awareness of occupational health and safety issues and measures, including the use of protective equipment is applied, including control of melting wax, knowledge of effects of toxic fumes.</p> <p>For modelling with the use of computer aided equipment, Units MEM09009C (Create 2D drawings using computer aided design system) and Units MEM09010C (Create 3D models using computer aided design system) should be considered.</p> <p>Band: A</p> <p>Unit Weight: 4</p>
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations
	MEM18003C	Use tools for precision work

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

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.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine master requirements	1.1. Customer specifications are identified.
2. Prepare materials for production of wax model	2.1. Appropriate waxes are selected. 2.2. Stock materials are cut to appropriate length. 2.3. Appropriate tools are selected and used.
3. Produce wax models	3.1. Material use and production time are optimised. 3.2. Wax is sculpted to specifications.
4. Finish wax models	4.1. Imperfections in final wax model are minimised. 4.2. Surface finishes are applied.
5. Assess suitability of final wax product	5.1. Product is inspected for compliance with specifications. 5.2. Final product is modified as necessary.

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:

- clarifying customer specifications
- selecting appropriate method for construction of wax model for the supplied specifications
- selecting wax to suit construction method and required finish
- roughing out shapes with minimal wastage, effort/time in final finishing
- fusing joints to achieve optimum strength and quality
- applying texture finishing, high polishes, etc.
- using protective safety equipment
- inspecting product for correct tolerances, allowance for casting shrinkage and finishing processes
- modifying original product to meet required tolerances and finishes
- reading and interpreting routine information on written job instructions, specifications and standard operating procedures. May include drawings
- using measurement skills needed to meet the requirements of this unit
- entering routine and familiar information onto proformas and standard workplace

REQUIRED SKILLS AND KNOWLEDGE

forms

- planning, sequencing operations

Required knowledge

Look for evidence that confirms knowledge of:

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

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.

Materials

Materials	Materials may include those of different colours/hardness/properties
Tools	Electric and hand held tools, e.g. heat irons, wax guns, saws, carving tools, wax files, flaming torch
Surface finishes	Fine emery, Shellite

Tools**Surface finishes****Unit Sector(s)**

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	Jewellery and horological
------------------	---------------------------