



Australian Government

Department of Education, Employment and Workplace Relations

MEM19010B Produce rubber moulds for lost wax casting process

Release: 1

MEM19010B Produce rubber moulds for lost wax casting process

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers preparing flexible moulds for the purpose of replicating an original model.
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Application of the Unit

Application of the unit	This unit applies to the preparation of flexible moulds to replicate an original model. Types of rubber material used may include natural and silicon varieties of differing working specifications such as shrinkage and transparency. Vulcanisation may include RTV as well as standard heat and pressure combinations. Band: A Unit Weight: 2
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	
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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. Prepare and pack mould frame/systems	1.1. Appropriate mould frame/moulding system is selected for given job. 1.2. Appropriate rubber is selected for style of master. 1.3. Rubber is prepared and packed correctly.
2. Vulcanise/cure rubber	2.1. Appropriate curing system is selected. 2.2. Assembled mould is cured, cooled, removed.
3. Release mould	3.1. Appropriate tools and procedure for the release of master pattern are selected. 3.2. Master pattern is released correctly.

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:

- following work procedures
- selecting appropriate frame/system to suit master requirements
- preparing/packing master, frame/system
- selecting variables of time, temperature, and pressure
- cutting rubber
- selecting and using tools/methods for release of master
- safely releasing master without damage
- 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 forms
- planning, sequencing operations

Required knowledge

Look for evidence that confirms knowledge of:

- work procedures
- procedures for assessing frame/system

REQUIRED SKILLS AND KNOWLEDGE

- the specific master requirements
- procedures for assessing rubber/ master suitability/compatibility
- working limitations of rubber
- procedures for correct packing technique
- packing variations for a range of situations
- methods for establishing the appropriate time, temperature and pressure settings for the selected process
- the stages in the process for mould curing, removal and cooling
- correct selection of tools/procedures
- sequence of procedures for release of master
- the placement of mould/vent lines
- 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 rubber moulds for 'lost wax' process.
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 rubber moulds for 'lost wax' process 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.
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.

Mould frame/moulding system	Various shapes and sizes, solid or component systems
Rubber	Silicon, natural rubber
Curing system	Vulcaniser
Tools	Scalpel, vice

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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