



Australian Government

MEM19010 Produce rubber moulds for lost wax casting process

Release: 1

MEM19010 Produce rubber moulds for lost wax casting process

Modification History

Release 1. Supersedes and is equivalent to MEM19010B Produce rubber moulds for lost wax casting process

Application

This unit of competency defines the skills and knowledge required to prepare flexible moulds for the purpose of replicating an original model.

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

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

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.

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, job sheets or work instructions

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|--------------------------------------|-----|--|
| 2 | Prepare and pack mould frame | 2.1 | Select mould frame and rubber for style of master and job requirements |
| | | 2.2 | Prepare rubber and pack mould frame |
| 3 | Cure rubber and release mould | 3.1 | Select appropriate curing system |
| | | 3.2 | Cure, cool and remove assembled mould |
| | | 3.3 | Select tools and procedures for the release of the master pattern |
| | | 3.4 | Release master pattern |

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.

Mould frame includes one (1) or more of the following:

- solid systems
- component systems

Rubber includes one (1) or more of the following:

- silicon
- natural rubber

Curing system includes one (1) or more of the following:

- vulcaniser
- room temperature vulcaniser (RTV)

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following:

- standard heat and pressure combinations

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

- scalpel
- vice

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM19010B Produce rubber moulds for lost wax casting process

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 MEM19010 Produce rubber moulds for lost wax casting process

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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, job sheets or work instructions in producing rubber moulds for lost wax casting process
- selecting appropriate frame including various shapes and sizes, solid or component systems and preparing master frame
- cutting rubber using appropriate measurements, packing into frames and selecting variables of time, temperature and pressure for the appropriate curing system
- selecting and using appropriate tools and methods for the release of master without damage.

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)
- SOPs
- procedures for assessing frame system
- specific master requirements
- features and working limitations of rubber, including shrinkage and transparency, and procedures for assessing rubber and master suitability and compatibility
- packing techniques for a range of situations
- methods for establishing the appropriate time, temperature and pressure settings for the selected process
- stages in the process for mould curing, removal and cooling
- application of tools
- sequence of procedures for release of master
- placement of mould and vent lines.

Assessment Conditions

- Assessors must:
 - have vocational competency in producing rubber moulds for lost wax casting process 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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