



Australian Government

Department of Education, Employment and Workplace Relations

MEM19011B Perform wax injection of moulds for lost wax casting process

Release: 1

MEM19011B Perform wax injection of moulds for lost wax casting process

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers injecting materials under pressure for investment and burn-out aspects within 'lost wax' casting procedures.
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Application of the Unit

Application of the unit	<p>This unit applies primarily to organic/synthetic wax injection, but may include resin and plastic materials injected under pressure for investment and burn-out aspects within 'lost wax' casting procedures.</p> <p>Band: A</p> <p>Unit Weight: 2</p>
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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. Perform wax injection of moulds	1.1. Appropriate wax material is selected for given task. 1.2. Injection equipment/tools are prepared. 1.3. Moulds are prepared correctly. 1.4. Wax injection procedures are carried out correctly.
2. Remove and inspect patterns	2.1. Wax pattern is removed without damage. 2.2. Wax pattern is inspected and stored as required. 2.3. Work area is secured and cleaned.

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 wax type according to wax/model/cavity specifications
- preparing moulds
- rectifying inappropriate mould features
- completing injection
- removing duplicated wax pattern
- checking duplicate for compliance with master/specifications and irregularities
- reporting/recording irregularities
- 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:

- wax types and characteristics
- procedures for wax injection equipment/processes for the given values of time, temperature, pressure

REQUIRED SKILLS AND KNOWLEDGE

- mould conditions
- injection procedures
- minor variations and adjustments to processes/ equipment situations
- undamaged wax duplicate removal techniques for a range of situations
- procedures for wax duplicate inspection
- common irregularities
- causes of imperfections
- remedies for imperfections
- safe storage procedures
- procedures for safe cleaning, disposal, and storage
- hazards and control measures associated with working with hot wax, including housekeeping
- use and application of personal protective equipment
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	<p>A person who demonstrates competency in this unit must be able to perform wax injection of moulds for 'lost wax' casting process.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>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.</p>
Context of and specific resources for assessment	<p>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.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing wax injection of moulds for 'lost wax' casting process or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
Method of assessment	<p>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.</p>
Guidance information for	

EVIDENCE GUIDE**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.

Wax material

Type of wax according to design specification requirements

Inspected

For missing elements, alignment of rubber mould, air bubbles, shrinkage or distortion

Unit Sector(s)**Unit sector****Co-requisite units****Co-requisite units**

Competency field

Competency field	Jewellery and horological
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