



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MEM19054A Fabricate platinum jewellery items**

**Release: 1**

## **MEM19054A Fabricate platinum jewellery items**

### **Modification History**

New unit

### **Unit Descriptor**

This unit of competency covers the skills and knowledge required to design and create platinum jewellery objects applying a range of jewellery techniques. It includes assessing the application of the design brief in the final outcome.

### **Application of the Unit**

This unit applies to work conducted in enterprises which produce platinum jewellery items. It requires the application of production processes, such as fusing and soldering, use of OHS equipment and practices, and emery and finishing operations, in a manner that addresses the specialised needs and conditions relevant to working with platinum.

**Band A**  
**Unit Weight 4**

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

Not applicable.

### **Employability Skills Information**

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

- |   |                                                  |      |                                                                                                                                            |
|---|--------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Design and develop a concept from a design brief | 1.1  | Identify and implement occupational health and safety (OHS) and environmental requirements for carrying out the work and for the work area |
|   |                                                  | 1.2  | Determine requirements from the design brief, research and discussions with appropriate personnel, if required                             |
|   |                                                  | 1.3  | Evaluate relevant research information, references and resources to the design process are evaluated                                       |
|   |                                                  | 1.4  | Record concept development through a range of drawings, notations and design options                                                       |
|   |                                                  | 1.5  | Prepare production plans for selected design solution and refine design, as appropriate                                                    |
|   |                                                  | 1.6  | Determine and obtain resources and equipment to undertake the task                                                                         |
| 2 | Join platinum items using fusing techniques      | 2.1  | Implement OHS requirements for carrying out the work                                                                                       |
|   |                                                  | 2.2  | Determine appropriate jewellery techniques and equipment through testing and experimenting, if required                                    |
|   |                                                  | 2.3  | Identify properties, visual and working characteristics, and safety considerations of platinum                                             |
|   |                                                  | 2.4  | Determine suitability of using platinum in a range of jewellery items                                                                      |
|   |                                                  | 2.5  | Select and apply fusing techniques and processes to commence production of a platinum item                                                 |
| 3 | Apply soldering techniques                       | 3.1  | Determine the soldering sequence that is required for production                                                                           |
|   |                                                  | 3.2  | Select and apply the appropriate solders to produce the platinum item                                                                      |
|   |                                                  | 3.10 |                                                                                                                                            |

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| 4 | Construct and finish platinum items          | 4.1 | Select and apply suitable jewellery techniques in constructing the item                              |
|   |                                              | 4.2 | Apply emery operations and surface finishing techniques which are specific to platinum items         |
|   |                                              | 4.3 | Apply materials and process knowledge to identify and address production problems or inconsistencies |
|   |                                              |     |                                                                                                      |
| 5 | Evaluate object for meeting the design brief | 5.1 | Implement OHS requirements for finishing the work                                                    |
|   |                                              | 5.2 | Test object for function against the design brief, if required                                       |
|   |                                              | 5.3 | Evaluate and document design processes                                                               |
|   |                                              | 5.4 | Clean up and maintain production environment                                                         |
|   |                                              | 5.5 | Apply appropriate control measures to hazardous substances according to environmental requirements   |

## Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

### Required skills

Required skills include:

- researching information
- sketching and interpreting drawings
- generating ideas and concepts
- working with platinum as a major component material
- applying OHS requirements for working with platinum
- applying fusing and soldering techniques for platinum
- using relevant tools and equipment for producing objects
- preparing and maintaining jewellery tools and equipment (e.g. hammers, stakes, files and vices)
- working effectively with others
- communicating effectively

### Required knowledge

Required knowledge includes:

- concept development techniques
- purpose, function and maintenance of jewellery equipment
- characteristics and chemical properties of platinum
- OHS considerations and requirements when working with platinum
- emery requirements for platinum
- pre-polish and finishing options suitable for platinum items
- acids used in platinum work
- chemical and visual differences of platinum with other commonly used metals
- contamination risks for platinum
- heating and cooling techniques for platinum
- techniques/manufacturing methods and tools for platinum production
- fusing and soldering techniques for platinum jewellery
- surface finishing aspects specific to platinum jewellery production
- binding and locating techniques

## 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.

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Overview of assessment                                                                       | A person who demonstrates competency in this unit must be able to apply specific safety requirements for working with platinum and apply jewellery production and surface techniques relevant to this material.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 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:</p> <ul style="list-style-type: none"> <li>• implement OHS workplace procedures and practices, including the use of risk control measures specific to platinum production</li> <li>• demonstrate the creation and production of platinum jewellery items on more than one occasion and in different contexts. This includes: <ul style="list-style-type: none"> <li>• development of a sketchbook of drawings and notations that record: <ul style="list-style-type: none"> <li>• ideas and design options generated</li> <li>• concept development</li> <li>• relevant research</li> <li>• plans for production solutions</li> </ul> </li> <li>• production of tests and experiments, where appropriate</li> <li>• fusing and soldering techniques for platinum.</li> </ul> </li> </ul> |
| Context of and specific resources for assessment                                             | <ul style="list-style-type: none"> <li>• Assessment may occur on the job or in an appropriately simulated environment. Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.</li> <li>• Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</li> <li>• Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.</li> </ul>                                                                                                                                                                    |
| Method of assessment                                                                         | <ul style="list-style-type: none"> <li>• Assessment must satisfy the endorsed Assessment Guidelines of the MEM05 Metal and Engineering Training Package.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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|  | <ul style="list-style-type: none"><li>• Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge.</li><li>• Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application.</li><li>• Assessment may be applied under project-related conditions (real or simulated) and require evidence of process.</li><li>• Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.</li><li>• Assessment may be in conjunction with assessment of other units of competency where required.</li></ul> |
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| Guidance information for assessment | Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed. |
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## 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.

|                                     |                                                                                                                                                                                                                            |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appropriate personnel</b>        | Appropriate personnel may include: <ul style="list-style-type: none"><li>• supervisor</li><li>• manager</li><li>• trainer</li><li>• mentor</li><li>• teacher</li><li>• team member</li><li>• client</li></ul>              |
| <b>Jewellery production</b>         | Production may include: <ul style="list-style-type: none"><li>• soldering</li><li>• fusing</li><li>• crimping</li><li>• folding</li><li>• forging</li><li>• hinge making</li><li>• fabricating</li><li>• forming</li></ul> |
| <b>Surface finishing techniques</b> | Surface finishing techniques may include: <ul style="list-style-type: none"><li>• electroplating</li><li>• emery finishes</li><li>• planishing</li><li>• polishing</li><li>• burnishing</li></ul>                          |
| <b>OHS requirements</b>             | OHS requirements may include: <ul style="list-style-type: none"><li>• legislation</li><li>• personal protective equipment</li></ul>                                                                                        |

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|                                   | <ul style="list-style-type: none"><li>• material safety management systems</li><li>• hazardous substances and dangerous goods code</li><li>• local safe operation procedures</li><li>• awards provisions</li><li>• use of welding goggles</li><li>• safe use of chemicals</li></ul>                                       |
| <b>Environmental requirements</b> | Environmental requirements may relate to: <ul style="list-style-type: none"><li>• liquid waste</li><li>• solid waste</li><li>• gas, fume, vapour, smoke emissions, including fugitive emissions, and dust</li><li>• excessive energy and water use</li><li>• excessive noise</li></ul>                                    |
| <b>Enterprise procedures</b>      | Enterprise procedures may include: <ul style="list-style-type: none"><li>• the use of tools and equipment</li><li>• instructions, including job sheets, cutting lists, plans, drawings and designs</li><li>• reporting and communication</li><li>• manufacturer specifications</li><li>• operational procedures</li></ul> |

## Unit Sector(s)

Jewellery

## Custom Content Section

Not applicable.