



**Australian Government**

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

# **MEM19037A Plan and implement cheniier fabrication process**

**Release: 1**

## **MEM19037A Plan and implement chenier fabrication process**

### **Modification History**

Not applicable.

### **Unit Descriptor**

This unit of competency covers the skills and knowledge required to fabricate chenier items and basic hinges.

### **Application of the Unit**

This unit applies to enterprises where jewellery and objects are designed, made or repaired.

**Band A**

**Unit Weight 2**

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

Not applicable.

### **Employability Skills Information**

This unit contains employability skills.

### **Elements and Performance Criteria Pre-Content**

Not applicable.

### **Elements and Performance Criteria**

- |                             |   |
|-----------------------------|---|
| 1 Plan and prepare for work | 1.1 Identify and implement occupational health and safety (OHS) and environmental requirements for carrying out the tasks and for the work area |
|                             | 1.2 Establish resource requirements and specifications from source documentation and/or appropriate persons, as required                        |

- 1.3 Establish, plan and organise stages, materials and tools/equipment for the fabrication process
  - 1.4 Calculate required material
- 2 Draw chenier materials to size
  - 2.1 Cut materials, establishing wall thickness and diameter, swage or form, if applicable, to required size
  - 2.2 Anneal materials to relieve stress
  - 2.3 Draw materials to specified tolerance using appropriate equipment
  - 2.4 Carry out finishing processes, such as soldering, to specification
- 3 Produce items from cheniers
  - 3.1 Follow OHS requirements for carrying out the work
  - 3.2 Solder seams free from pin holes, inclusions and excess flooding
  - 3.3 Ensure cheniers have a smooth, blemish-free surface
  - 3.4 Conduct quality assurance during construction to maintain finish consistency and ensure items are produced to all specified dimensions
- 4 Fabricate hinges
  - 4.1 Follow OHS requirements for carrying out the work
  - 4.2 Produce knuckles and bearer wires or sheets
  - 4.3 Ensure items are gapped to size and specification
  - 4.4 Ensure knuckles are cut, filed and placed according to item requirement
  - 4.5 Ensure solder is flushed and drawn under knuckles
  - 4.6 Ensure pin fits comfortably through knuckles of adjoining sides

## Required Skills and Knowledge

Required knowledge includes:

- uses of cheniers
- safety requirements for drawing of cheniers
- use of rolling equipment and techniques for rolling
- calculations and measurements
- procedure to anneal material and reasons why this is needed
- equipment and techniques for drawing chenier
- procedure to swage, draw and solder chenier
- use of pickling solution and safe use of solution
- procedure to fit and solder knuckles
- safe use of polishing machine
- selection and use of mops, wheels and compounds

Required skills include:

- calculating required material size
- cutting materials
- rolling materials to size and thickness
- annealing materials
- drawing materials to size
- swaging or forming materials
- soldering materials/items
- pickling, filing and finishing items
- polishing jewellery items

## Evidence Guide

<b>Overview of assessment</b>	<p>A person who demonstrates competency in this unit must be able to apply techniques to fabricate chenier and basic hinge according to specification.</p>
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<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</li> <li>• draw chenier materials to size</li> <li>• produce items using chenier</li> <li>• fabricate sample cheniers and hinges to specification.</li> </ul>
<b>Context of and specific resources for assessment</b>	<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>
<b>Method of assessment</b>	<ul style="list-style-type: none"> <li>• Assessment must satisfy the endorsed Assessment Guidelines of the MEM05 Metal and Engineering Training Package.</li> <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</li> </ul>

	of other units of competency where required.
<b>Guidance information for assessment</b>	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

## Range Statement

<b>Appropriate personnel</b>	<p>Appropriate personnel may include:</p> <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>OHS requirements</b>	<p>OHS requirements may include:</p> <ul style="list-style-type: none"> <li>• legislation</li> <li>• protective equipment</li> <li>• material safety management systems</li> <li>• hazardous substances and dangerous goods code</li> <li>• local safe operation procedures</li> <li>• awards provisions</li> </ul>
<b>Environmental requirements</b>	<p>Environmental requirements may relate to:</p> <ul style="list-style-type: none"> <li>• liquid waste</li> <li>• solid waste</li> <li>• gas, fumes, 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>	<p>Enterprise procedures may include:</p> <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>
<b>Material</b>	<p>Material may include:</p> <ul style="list-style-type: none"> <li>• various thickness sheets</li> <li>• silver, gilding, nickel silverhard and medium solder</li> </ul>
<b>Equipment</b>	<p>Equipment may include:</p> <ul style="list-style-type: none"> <li>• jewellery bench</li> <li>• soldering torch and equipment</li> <li>• adjustable chair</li> <li>• pickle bath and heater</li> </ul>

	<ul style="list-style-type: none"> <li>• flexible drive and drill bits</li> <li>• swage blocks</li> <li>• hand tools</li> <li>• measuring and marking out equipment</li> <li>• abrasives</li> <li>• draw bench and various drawplates</li> <li>• polishing motor with extraction, mops, brushes and various polishing compounds</li> <li>• protective clothing and equipment</li> </ul>
<b>Finished/polished</b>	<p>Finished/polished may include:</p> <ul style="list-style-type: none"> <li>• finishing by files and emery</li> <li>• polishing on a polishing motor using appropriate mops and compounds</li> </ul>

## Unit Sector(s)

Jewellery and horological

## Custom Content Section

Not applicable.