



**Australian Government**

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

# **MEM08010B Manually finish/polish materials**

**Release: 1**

## MEM08010B Manually finish/polish materials

### Modification History

Not Applicable

### Unit Descriptor

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| <b>Unit descriptor</b> | This unit covers finishing and polishing materials using a range of media and equipment. |
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### Application of the Unit

|                                |   |
|--------------------------------|---|
| <b>Application of the unit</b> | <p>This unit applies to the finishing of a wide range of products made from metals and plastics. This unit is not intended to apply to touch-up finishing related to maintenance or assembly activities. Examples of applications are pre-decorative and post decorative plating, jewellery production, component manufacture and machining and marine vessel construction.</p> <p><b>Band: A</b><br/><b>Unit Weight: 6</b></p> |
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### Licensing/Regulatory Information

Not Applicable

### Pre-Requisites

|                           |           |                |
|---------------------------|-----------|----------------|
| <b>Prerequisite units</b> |           |                |
| <b>Path 1</b>             | MEM18001C | Use hand tools |
|                           |           |                |

## Employability Skills Information

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| <b>Employability skills</b> | This unit contains employability skills. |
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## Elements and Performance Criteria Pre-Content

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| 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. Select appropriate finishing/polishing procedure                    | <p>1.1. Surface finish specifications are understood and appropriate finishing/polishing method/technique is selected for the work requirements.</p> <p>1.2. Appropriate finishing/polishing equipment/media is selected for the work material and work requirements.</p>                      |
| 2. Install and set up grinding and polishing devices                   | <p>2.1. Endless belt liners are fitted according to standard operating procedures.</p> <p>2.2. Grinding wheels and mops are fitted and dressed according to standard operating procedures.</p> <p>2.3. Polishing mops are installed and set up according to standard operating procedures.</p> |
| 3. Identify job materials  | 3.1. Common metals, alloys and non-metals are identified.  |
| 4. Identify job surface condition                                      | 4.1. Common surface imperfections are identified.  |
| 5. Assess processing hazards associated with work piece size and shape | <p>5.1. Hazards are correctly identified.</p> <p>5.2. Correct safe working procedures are followed.</p>  |
| 6. Grind, finish, brush and/or polish job                              | 6.1. Job surface is finished to specification according to standard operating procedures.  |

## Required Skills and Knowledge

| REQUIRED SKILLS AND KNOWLEDGE   |
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| This section describes the skills and knowledge required for this unit.   |
| <b>Required skills</b>  |
| <p>Look for evidence that confirms skills in:</p> <ul style="list-style-type: none"> <li>• reading and following information on standard operating procedures</li> <li>• checking and clarifying task-related information</li> <li>• selecting appropriate polishing/finishing method to suit work requirements</li> <li>• fitting and adjusting endless belts on finishing machines</li> <li>• fitting and dressing grinding wheels and mops on pedestal grinders</li> </ul> |

**REQUIRED SKILLS AND KNOWLEDGE**

- installing and setting up polishing mops in polishing machines
- producing surface finishes to specification
- identifying surface imperfections
- assessing processing hazards

**Required knowledge**

Look for evidence that confirms knowledge of:

- typical surface finish specifications within the scope of this unit
- procedures, tools and techniques for fitting and adjusting endless belts on finishing machines
- procedures, tools and techniques required to fit and dress grinding wheels and mops
- procedures tools and techniques for installing and setting up polishing mops
- characteristics of common metals, alloys and non-metals
- appropriate polishing media to be used in finishing/polishing for different types of materials
- effect of different types and grades of polishing media on the surface finish
- finishing and polishing methods/techniques
- reasons for selecting a specific method/technique
- common surface imperfections/defects
- surface imperfections/defects that can be removed/repaired by manual finishing/polishing procedures
- procedures for handling components with surface imperfections/defects that cannot be removed/repaired
- methods and techniques to check for conformance to specifications
- hazards associated with the manual finishing/polishing process
- personal protective clothing and 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 manually finish/polish materials. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

#### 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 manually finishing/polishing materials 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.

**EVIDENCE GUIDE**

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| <b>Guidance information for assessment</b> |  |
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**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.

|                                      |  |
|--------------------------------------|--|
| <b>Finish</b>                        | Brightness, texture, roughness comparison  |
| <b>Finishing/polishing equipment</b> | Endless belt grinders; table finishers; pedestal grinders and polishers; felt wheels, fabric mops and brushes with underhand and overhand techniques; flexible drive appliances; buffing compounds; cutting compounds and abrasive belts |
| <b>Finishing/polishing media</b>     | Solid and liquid compositions containing alumina, silicon carbide, diamond dust, tripoli, calcium oxide and iron oxides  |
| <b>Material</b>                      | Cast iron, steel, zinc and its alloys, copper, aluminium and its alloys, bronzes, sterling silver, gold and plastics   |
| <b>Common surface imperfections</b>  | Pitted surface, machining lines, scale, rust   |
| <b>Hazards</b>                       | Airborne dust inhalation, unsecured components   |

**Unit Sector(s)**

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|--------------------|--|
| <b>Unit sector</b> |  |
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## Co-requisite units

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| <b>Co-requisite units</b> |  |  |
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## Competency field

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| <b>Competency field</b> |  |
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