



Australian Government

MEM04034 Develop and manufacture wooden wheel patterns

Release: 1

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Modification History

Release 1. Supersedes but is not equivalent to MEM04010 Develop and manufacture wood patterns.

Application

This unit of competency defines the skills and knowledge required to develop and manufacture wooden wheel patterns and pattern component parts, including general engineering and master patterns.

It applies to wooden patterns created for the manufacture of wheel castings, timber or timber laminate may be used to construct the patterns. A combination of pattern types may be combine to achieve the required specification.

Where the selection and use of precision measurement is required, unit MEM12003 Perform precision mechanical measurement should also be selected.

This unit should not be selected when unit MEM18014 Manufacture press tools and gauges has already been selected.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM04018 Perform general woodworking machine operations

MEM09002 Interpret technical drawing

MEM11011 Undertake manual handling

MEM12006 Mark off/out (general engineering)

MEM12023 Perform engineering measurements

MEM12024 Perform computations

MEM12026 Perform advanced trade calculations in a manufacturing, engineering or related environment

MEM13015 Work safely and effectively in manufacturing and engineering

MEM14006 Plan work activities

MEM16006 Organise and communicate information

MEM18001 Use hand tools

MEM18002 Use power tools/hand held operations

Competency Field

Casting and moulding

Elements and Performance Criteria

| Elements | Performance Criteria |
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| <i>Elements describe the essential outcomes.</i> | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i> |
| 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 |
| 2. Develop and lay out wheel patterns | 2.1 Determine type of wood pattern required through application of moulding and/or casting techniques and foundry processes 2.2 Select appropriate timber or timber composites to meet specification 2.3 Calculate pattern parameters based on specifications 2.4 Lay out pattern to specifications, showing tapers, machining allowances, core prints and method of construction 2.5 Develop and manufacture jigs or fixtures that aid wood pattern manufacture |
| 3. Manufacture wheel patterns | 3.1 Mark out materials and develop construction to specifications 3.2 Produce pattern or pattern component parts to size and shape using wood patternmaking techniques, tools, equipment and procedures 3.3 Check pattern or pattern component parts for compliance with specifications 3.4 Join and fix pattern component parts to specifications 3.5 Colour code, mark or label pattern in accordance with SOPs |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

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| 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. | |
| Specifications include one or more of the following: | <ul style="list-style-type: none"> • drawings • job sheets • work instructions. |
| Master patterns include one or more of the following: | <ul style="list-style-type: none"> • multiple contraction • skeleton • frame and strickle • wheels. |
| Timber or timber composites include one or more of the following: | <ul style="list-style-type: none"> • hardwood • softwood • laminates • plywood • veneers • bonded fibreboard. |
| Joining and fixing includes one or more of the following: | <ul style="list-style-type: none"> • glued • screwed • nailed • stapled. |

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>