



Australian Government

Assessment Requirements for MEM04035 Develop and manufacture pipe patterns

Release: 1

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Modification History

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

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications to develop pipe patterns
- determining type of pipe pattern required through application of moulding and/or casting techniques and selecting the appropriate timber or timber composites to meet requirements
- preparing patterns for manufacture using the appropriate mathematical calculations for angles, tapers, clearances and determination of contraction rates
- laying out pattern to specifications on at least two occasions showing tapers, machining allowances, core prints and method of construction
- designing and manufacturing required jigs and fixtures
- marking out and manufacturing pipe wood patterns and pattern component parts on at least two occasions, using appropriate hand and power tools
- joining and fixing pattern components on at least two occasions and checking compliance with specifications
- identifying pattern in accordance with SOPs.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- timber products including features, characteristics and applications
- moulding and casting techniques
- tooling required for casting and moulding
- methoding techniques
- use and application of jigs and fixtures
- methods of constructing pipe wood patterns

- formulae and mathematical techniques required for necessary manufacturing of patterns or core boxes including those related to contraction, taper, clearances and machining allowances
- identification coding and numbering
- pattern checking techniques
- mouldability including surface finish, face taper, convex or concave perspectives and undercuts.
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Assessment Conditions

- Assessors must:
 - have vocational competency in the development and manufacture of pipe wood patterns at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the Standards for Registered Training Organisations 2015 or its replacement and comply with the National Vocational Education and Training Regulator Act 2011, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
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Links

Companion Volume implementation guides are found in VETNet -

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