Modification history

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| Release | Comments |
| Release 1 | This version released with FWP Forest and Wood Products Training Package Version 4.0. |

| UNIT CODE | FWPTMM4XXX Construct prototypes and samples for timber structures |
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| Application | This unit of competency describes the skills and knowledge required to construct prototypes and samples of timber structures in a production setting in line with established plans, drawings or other specifications for testing the viability of timber construction methods.  The unit applies to individuals who work as timber fabricators, supervisors and designers of timber structures. They generally demonstrate autonomy, judgement and limited responsibility in known or changing contexts and within established parameters.  All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.  No occupational licensing, legislative or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil. |
| Unit Sector | Timber Manufactured Products  Timber Merchandising |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Prepare for construction of prototypes and samples for timber structures | 1.1 Review the purpose for prototype or sample, work order, prototype construction plans, workplace health and safety requirements, environmental protection practices and emergency procedures and where required clarify requirements with appropriate personnel  1.2 Identify and report hazards and use personal protective equipment (PPE) in line with workplace requirements and health and safety legislation to maintain safe work practices  1.3 Obtain type and quantity of material to be assembled and hardware in line with prototype construction plan and specifications  1.4 Select appropriate tools and equipment and check for operational effectiveness in line with manufacturer recommendations  1.5 Plan and document stages of the prototype construction process |
| 2. Set up equipment and components | 2.1 Select and prepare set-up jigs required for prototype construction  2.2 Select timber components, check for compatibility with specifications and cut in line with the prototype or sample plans  2.3 Position and clamp components in jigs ready for joining with allowable faults, joins and grain in line with construction standards and grading rules  2.4 Identify defective components, incorrect timber cuts and off-cuts and dispose of or recycle in line with environmental protection practices  2.5 Staple components to maintain temporary alignment during assembly |
| 3. Construct and review prototypes and samples | 3.1 Follow prototype construction plan throughout assembly and conduct checks at designated points  3.2 Position and install hardware on joints to prototype specifications  3.3 Nail or staple temporary bracing to product in line with construction standards  3.4 Identify required modifications to designs and plans and document and follow recommended changes  3.5 Correct construction faults in line with recommendations  3.6 Review prototype or sample for effectiveness of purpose and efficiency of timber construction methods  3.7 Record prototype or sample construction processes, problems and recommendations for change and report to appropriate personnel  3.8 Store temporary bracing, prototypes and samples and dispose of when not required in line with environmental protection practices |

| Foundation Skills  This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria. | |
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| Skill | Description |
| Numeracy | * interpret production data from construction plans to: * count quantities of timber and hardware components and select appropriate sizes * complete calculations from plans * accurately measure dimensions and angles |
| Navigate the world of work | * understand main tasks, responsibilities and boundaries of own role |
| Interact with others | * use modes of communication suitable to purpose to confirm and clarify understanding * work as part of a team to develop fit for purpose products and appropriate construction methods |
| Get the work done | * recognise and respond to routine problems * diagnose production problems involving design failures and construction difficulties and resolve by modification and reporting |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| FWPTMM4XXX Construct prototypes and samples for timber structures | FWPTMM4201 Construct prototypes and samples | Updated workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates | Equivalent unit |

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| Links | Companion Volume Implementation Guide - <https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47> |

| TITLE | Assessment requirements for FWPTMM4XXX Construct prototypes and samples for timber structures |
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| Performance Evidence | |
| An individual demonstrating competency must satisfy all of the elements, performance criteria and foundation skills of this unit. There must be evidence that, on at least one occasion, the individual has:   * constructed at least two prototypes or samples in line with an individual work order and construction plan for two or more timber structures including: * roof, wall and floor frames/trusses * staircases * door and window frames * structural beams * specialised pallets or crates * reviewed each prototype or sample for effectiveness of purpose and efficiency of construction methods * completed a detailed and accurate report on construction processes, problems and recommended changes. | |

| Knowledge Evidence |
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| An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:   * health and safety hazards or risks related to constructing prototypes or sample for timber structures as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides * workplace procedures specific to constructing prototypes and samples for timber structures: * health and safety * use of equipment for prototype construction * communication reporting lines * recording and reporting construction processes, problems and recommendations for change * environmental protection practices for forest products factory settings: * reducing water and energy use * cleaning of plant, tools and equipment * disposing of, recycling and reusing timber and other waste * timber species (native and imported), timber grades and treatments * common timber characteristics including defects, products and their uses * construction sequences * construction componentry and construction standards * industry standard cross-sections and lengths * tools, equipment and assembly hardware used to construct prototypes and samples; their purpose, features and operation: * measuring equipment * assembly jigs * nail plate presses * nail and staple guns * compressor or compressed air supply * marking equipment * strapping equipment * nailing plates * gang nails * nail gun nails * staples. |

| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:   * physical conditions: * skills must be demonstrated in an environment that accurately represents workplace conditions * resources, equipment and materials: * measuring equipment * assembly jigs * nail plate presses * staple guns * nail guns * compressor or compressed air supply * marking equipment * strapping equipment * assembly hardware * temporary bracing * personal protective equipment suitable for constructing prototypes and samples * pre-cut sections of timber * specifications: * work order and construction plan with specifications for the assembly of prototypes and samples * template reports for recording construction processes, problems and recommendations for change * workplace procedures for constructing timber prototypes and samples including health and safety and emergency procedures and environmental protection procedures * relationships * relevant personnel for the purposes of communicating information.   Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. |

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| Links | Companion Volumes, including Implementation Guides, are available at VETNet:  <https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47> |