



Australian Government

FWPTMM4208 Construct prototypes and samples for timber structures

Release: 1

FWPTMM4208 Construct prototypes and samples for timber structures

Modification History

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

Application

This unit of competency describes the skills and knowledge required to construct prototypes and samples of timber structures in a production setting according to 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.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Timber Merchandising

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for construction of	1.1 Review the purpose for prototype or sample, work order, prototype construction plans, workplace health and safety requirements,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
prototypes and samples for timber structures	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 according to workplace requirements and health and safety legislation to maintain safe work practices 1.3 Obtain the type and quantity of material to be assembled and hardware according to prototype construction plan and specifications 1.4 Select appropriate tools and equipment and check for operational effectiveness according to 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 according to the prototype or sample plans 2.3 Position and clamp components in jigs ready for joining with allowable faults, joins and grain according to construction standards and grading rules 2.4 Identify defective components, incorrect timber cuts and off-cuts and dispose of or recycle according to 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 the 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 the product according to construction standards 3.4 Identify required modifications to designs and plans, and document and follow recommended changes 3.5 Correct construction faults according to recommendations 3.6 Review prototype or sample for the 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 according to 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.

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 for the 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

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4208 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

Links

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

Assessment Requirements for FWPTMM4208 Construct prototypes and samples for timber structures

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Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- constructed at least two prototypes or samples according to an individual work order and construction plan for two or more of the following types of timber structures:
 - 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

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, including the use of personal protective equipment (PPE)
 - 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 of timber structures; 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

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
 - PPE suitable for constructing prototypes and samples

- pre-cut sections of timber suitable for constructing prototypes and samples for timber structures
- 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.

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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