



Australian Government

FWPTMM4201 Construct prototypes and samples

Release: 1

FWPTMM4201 Construct prototypes and samples

Modification History

Release	Comment
1	Replaces equivalent unit FPITMM4201B Construct prototypes and samples, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.

Application

This unit of competency describes the outcomes required to construct prototypes and samples in a production setting, in line with established plans, drawings or other specifications for the purpose of testing the viability of construction methods. Work involves making recommendations for changing designs and methods of construction.

The unit applies to timber fabricators, supervisors and designers of timber structures, including timber trusses and frames

No licensing, legislative, regulatory, 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

<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Prepare for construction	1.1 Review prototype or sample purpose, work order and construction plans and where required clarify requirements with appropriate personnel. 1.2 Obtain type and quantity of material to be assembled and

	hardware in line with prototype construction plan and specifications. 1.3 Select appropriate tools and equipment and check for operational effectiveness in line with manufacturer's recommendations. 1.4 Plan and document stages of the construction process.
2. Set up components	2.1 Follow workplace health and safety procedures throughout production activities. 2.2 Select and prepare set-up jigs required for construction. 2.3 Select timber components, check for compatibility with specifications and cut in line with the prototype or sample plans. 2.4 Position and clamp components in jigs ready for joining with allowable faults, joints and grain in line with construction standards and grading rules. 2.5 Identify defective components, incorrect timber cuts and off-cuts; dispose of or recycle in line with environmental protection practices. 2.6 Staple components to maintain temporary alignment during assembly.
3. Construct and review prototypes and samples	3.1 Follow 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; 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 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; dispose of when not required in line with environmental protection practices.

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	- 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.
Oral communication skills to:	ask open and closed probe questions and actively listen to clarify purpose of product and contents of constructions plans.
Reading skills to:	- interpret detailed familiar and unfamiliar: - WHS and other organisational procedures, construction standards and grading rules - construction plans - manufacturer's instructions.
Writing skills to:	- complete detailed and accurate reports on construction processes and problems - clearly represent details of and rationale for recommended changes to designs and construction plans.
Planning and organising skills to:	plan and organise own construction activities in line with plan and complete assembly in a logical sequence.
Problem-solving skills to:	diagnose production problems involving design failures and construction difficulties and resolve by modification and reporting.
Teamwork skills to:	work as part of a team to develop fit for purpose products and appropriate construction methods.
Technology skills to:	select and use appropriate machinery, tools and personal protective equipment used to assemble the product.

Range of Conditions

Not Applicable

Unit Mapping Information

FPITMM4201B Construct prototypes and samples

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4201 Construct prototypes and samples

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1	Replaces equivalent unit FPITMM4201B Construct prototypes and samples, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format. Assessment requirements now specify the performance and knowledge evidence, as well as assessment conditions for this unit of competency. These sections simplify and replace components used in the previous unit format, including Required Skills and Knowledge, Evidence Guide and Range Statement

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- construct at least two prototypes or samples, in line with an individual work order and construction plan for each including:
 - roof, wall and floor frames/trusses
 - staircases
 - door and window frames
 - structural beams
 - specialised pallets or crates
- review each prototype or sample for effectiveness of purpose and efficiency of construction methods and complete a detailed and accurate report on construction processes, problems and recommended changes.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- 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

- rough and dressed timber native and imported species, timber grades and treatments, boards and board products, laminated beams
- common timber defects
- products and their use
- construction sequences
- construction componentry and construction standards
- industry standard cross-sections and lengths
- tools, equipment and 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
- organisational procedures specific to constructing prototypes and samples:
 - workplace health and safety
 - use of equipment
 - communication reporting lines
 - recording and reporting construction processes, problems and recommendations for change.

Assessment Conditions

The following resources must be made available:

- tools and equipment used to construct prototypes and samples:
 - measuring equipment
 - assembly jigs
 - nail plate presses
 - staple guns
 - nail guns
 - compressor or compressed air supply
 - marking equipment
 - strapping equipment
- assembly hardware:
 - nailing plates
 - gang nails
 - nail gun nails
 - staples
 - temporary bracing

- personal protective equipment suitable for constructing prototypes and samples
- pre-cut sections of timber
- 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
- relevant personnel for the purposes of communicating information
- organisational procedures for constructing prototypes and samples

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.
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