



Australian Government

FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications

Release: 2

FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 4.0.
Release 1	This version replaces equivalent unit FPITMM5203B Generate and transfer complex computer-aided drawings and specifications, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2.

Application

This unit of competency describes the skills and knowledge required to prepare complex drawings using computer-aided techniques and capabilities including three-dimensional (3-D) modelling and exploded assembly drawings. Work involves the conversion of drawings for computer numerical control (CNC) applications in an engineered wood or timber product manufacturing facility.

The unit applies to individuals who work as timber product designers and production managers. They generally demonstrate autonomy, judgement and defined responsibility in known or changing contexts and within broad but established parameters.

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

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 drawing	1.1 Identify type of drawings to be created with computer-aided design (CAD) systems and clarify where required with appropriate personnel 1.2 Select appropriate equipment and check for operational effectiveness according to manufacturer recommendations 1.3 Plan CAD process according to workplace procedures
2. Create exploded assembly drawings	2.1 Obtain and complete drawing preparations 2.2 Prepare 3-D models for all components 2.3 Create a perspective view of the model according to drawing specifications 2.4 Explode model, so all components are visible 2.5 Label all individual components according to workplace format 2.6 Complete quality checks to ensure the accuracy of outcomes 2.7 Store drawings according to workplace procedures
3. Create job sheets	3.1 Select and complete job sheet preparations 3.2 Set up job sheet template according to workplace formats 3.3 Create orthographic views and incorporate dimensions 3.4 Specify sequencing of machine operations and operator requirements 3.5 Prepare, review and test draft job sheets and amend as required 3.6 Store job sheets according to workplace procedures
4. Convert drawings for CNC applications	4.1 Identify and check conversion requirements from CNC machine specifications 4.2 Create layers and obtain additional information required for final conversion 4.3 Assign drawing entities to relevant layers 4.4 Convert drawings to the required file type 4.5 Store converted file according to workplace procedures 4.6 Record generation process and any equipment faults and report to appropriate personnel

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
Reading	- Interpret detailed familiar and unfamiliar: - workplace procedures for computer drawing activities - templates - CNC machine specifications
Writing	Incorporate unambiguous notes, labels and instructions within drawings
Numeracy	Calculate dimensions for product components and represent these in drawings
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
Get the work done	- Use a computer, keyboard and the system capabilities of CAD system software to generate and transfer complex drawings - Recognise and respond to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications Release 2	FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications Release 1	Clarified intent of unit in application; updated foundation skills.	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 FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 4.0.
Release 1	This version replaces equivalent unit FPITMM5203B Generate and transfer complex computer-aided drawings and specifications, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2.

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:

- generated and transferred the following types of complex computer-aided design (CAD) drawings:
 - three-dimensional (3-D) models
 - one-, two- and three-point perspective drawings
 - orthographic and exploded views
 - plans
 - diagrams
 - charts
 - elevations
- incorporated the following drawing entities into four types of complex CAD drawings:
 - lines
 - arcs
 - circles
 - text
 - hatch
 - dimensions
 - labels
- converted each complex CAD drawing for use in computer numerical control (CNC) machining centres
- created a job sheet for each complex CAD drawing

- completed a basic report on drawing processes and equipment faults for each complex CAD drawing.

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:

- common products for which computer-aided drawings are produced, their features, use and standard material sizes
- ways in which computer-aided drawings are applied to CNC machines
- CNC specifications and sequencing of machine operations for the production of common products
- the drawing software:
 - available drawing types
 - system functions and capabilities
- methods to input and amend design factors and other data
- methods to:
 - prepare 3-D models
 - prepare perspective view
 - prepare orthographic view and incorporate dimensions
 - explode models
 - label components
 - convert drawings for CNC applications
 - store and retrieve drawings and job sheets
- formats for and inclusions of job sheets
- workplace procedures specific to producing drawings and documents using computers:
 - producing job sheets
 - filing computerised drawings and documentation.

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:
 - computers, keyboards and current software programs used to produce computer-aided drawings and job sheets
- specifications:
 - CNC machinery specifications
 - template job sheets
 - workplace procedures for producing drawings and documents using computers.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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