



Australian Government

FWPCOT3285 Apply knowledge of wood technology principles to end use applications

Release: 1

FWPCOT3285 Apply knowledge of wood technology principles to end use applications

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to evaluate timber against quality requirements and specifications for use in timber processing and manufacturing operations.

The unit applies to individuals who evaluate and select timber in a timber processing or manufacturing facility.

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 licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

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 timber selection	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	handling techniques 1.3 Identify, assess and take actions to mitigate risks and hazards associated with assessing and selecting timber 1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency 1.5 Review workplace and quality procedures on timber selection 1.6 Conduct visual inspection of timber for suitability 1.7 Review and check timber against product specifications
2. Evaluate timber for selection	2.1 Assess growth and durability of the timber and assess suitability for production requirements 2.2 Assess species, timber structure, features and characteristics of timber and assess suitability for production requirements 2.3 Measure moisture content of selected timber and assess suitability for production requirements 2.4 Identify density and working properties of timber and assess suitability for production requirements 2.5 Identify faults and features in timber and assess suitability for production requirements 2.6 Select sawing patterns that best suit selected timber
3. Finalise timber selection	3.1 Assess timber against quality and specification requirements 3.2 Prepare timber for despatch, ensuring that damage is prevented or minimised 3.3 Record and report on timber selection outcomes and procedures, and identify any problems with the process 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	Extracts key information from industry standards, workplace procedures and quality procedures on criteria for timber selection
Numeracy	Extracts numerical information from graphical and statistical information on timber properties
Navigate the world of work	Understands main tasks, responsibilities and boundaries of own role
Interact with others	Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3285 Apply knowledge of wood technology principles to end use applications	FWPCOT3247 Select timber for forestry operations	Updated unit code and title to clarify task and for compliance	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 FWPCOT3285 Apply knowledge of wood technology principles to end use applications

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- read and clarified work order to determine job requirements
- applied workplace health and safety requirements for assessing and selecting timber
- undertaken visual inspection of timber and identified defects
- evaluated timber characteristics, growth patterns, structure, durability and faults for suitability for end use applications and production purposes
- prepared timber for despatch
- recorded and reported on outcomes of timber selection.

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:

- risks and hazards and mitigation measures associated with timber assessment and selection processes
- workplace procedures for assessing and selecting timber:
 - workplace health and safety, with particular emphasis on the use of personal protection equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting on outcomes of timber selection
- defects in timber and process for visually inspecting timber for defects:
 - contamination
 - timber colours
 - insect attack
 - surface finishes
 - loose surfaces

- bubbles
- holes
- breakages
- machine-caused defects
- methods for assessing timber growth patterns, including make-up of a tree:
 - bark (cortex)
 - phloem
 - cambium layer
 - sapwood (xylem)
 - heartwood (truewood)
 - pith (medulla)
 - medullary rays
 - earlywood
 - latewood
 - growth rings
 - cellulose
 - hemicelluloses
 - lignin extractives
- methods of assessing timber for:
 - durability
 - strength
 - hardness
- rating for end use of timber, classification and measurement
- methods of assessing timber structures:
 - hardwood (pored wood) or softwood (non-pored wood)
 - vessels, fibres, ray cells, pits, tracheids
 - texture
- methods for seasoning timber
- timber characteristics:
 - colour
 - density
 - texture
 - grain
 - figure
 - qualities
 - end uses
- faults and features of timber:
 - bow
 - spring
 - twist

- warp
- wane
- cupping
- shakes
- insect defects
- fungi
- knots
- resin pockets
- wild grain
- sloping grain
- working properties of timber and methods to measure properties:
 - timber shrinkage
 - effects of light
 - density and deterioration of the timber
 - compressive and tensile stresses
 - modulus of elasticity
 - modulus of rupture
 - deformation
 - creep
 - surface hardness
 - moisture content of timber
- sawing patterns and suitability for different timber:
 - live-sawn
 - back sawn
 - quarter sawn.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment used to make timber selection
 - timber for selection and classification
 - PPE for assessing and selecting timber
- specifications:
 - documents, spreadsheets and commonly used template documents
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for timber assessment and selection

- workplace procedures for timber selection.

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

Links

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