



Australian Government

Department of Education, Employment and Workplace Relations

FPITMM3202B Manufacture using joinery machines

Release: 1

FPITMM3202B Manufacture using joinery machines

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit describes the outcomes required to prepare, cut and drill machined joints in timber using mortise and tenon machines, borers and routers

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication

This unit replaces FPITMM3202A Manufacture using joinery machines

Application of the Unit

Application of the unit This unit involves using joinery machines to manufacture material in a forest products factory setting

The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units

Employability Skills Information

Employability skills This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for profiling	1.1. Applicable Occupational Health and Safety (OHS), environmental, legislative and organisational requirements relevant to manufacturing machined joints are identified and followed 1.2. Work order is reviewed and checked with appropriate personnel 1.3. Type and quantity of material to be machined is selected from the storage location 1.4. Equipment is selected appropriate to work requirements and checked for operational effectiveness in line with manufacturer's recommendations 1.5. Material to be manufactured and process to be used are identified and cutting blades or drills selected 1.6. Communication with others is established and maintained in line with OHS requirements
2. Set up profiling equipment	2.1. Pre start-up checks are carried out on equipment in line with site requirements 2.2. Machine guides are selected and attached to the machinery 2.3. Cutting blades or drills are installed in the selected machinery 2.4. Depth and width of cut or hole are set in line with the required process and to minimise waste 2.5. Material stack is positioned in close proximity to maximise ease of machine feeding 2.6. Equipment set-up is checked and adjusted by testing a piece of timber to set depth and width
3. Cut material to profile	3.1. Material is fed into the machine at the feed rate prescribed by organisational requirements 3.2. Equipment and machinery are used in line with organisational procedures, manufacturer's instructions and environmental protection requirements 3.3. Manufacturing sequence is followed, maintained and adjusted to produce the required quantity and maximise the feed rate 3.4. Manufacturing process is regularly checked and adjusted to maintain the desired depth and width 3.5. Material with defects is rejected and disposed of in

ELEMENT**PERFORMANCE CRITERIA**

	line with site procedures
	3.6. Processing and equipment faults are reported to the appropriate personnel
	3.7. Material is safely stacked in a designated location in line with work order requirements
	3.8. Records and reports are accurately completed, processed and maintained in line with workplace procedures
4. Conduct operator maintenance	4.1. Equipment lock-out procedures are followed in line with OHS legislation and site procedures
	4.2. Cutting blades or drills are checked for blunt or damaged condition in line with site procedures
	4.3. Cutting blades or drills are removed and replaced in line with manufacturer's recommendations
	4.4. Machine area is kept clear of dust and debris in line with OHS requirements

Required Skills and Knowledge**REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level required for this unit.

Required skills

- Technical skills sufficient to use and maintain relevant tools, machinery and equipment and safely manufacture using joinery machines
- Communication skills and interpersonal techniques sufficient to interact appropriately with colleagues and others in the workplace
- Literacy skills sufficient to accurately record and report workplace information and maintain documentation
- Numeracy skills sufficient to estimate, measure and calculate time required to complete a task and to calculate length, angle, depth and width including basic addition and subtraction
- Problem solving skills sufficient to identify problems and equipment faults and demonstrate appropriate response procedures

Required knowledge

- Applicable Commonwealth, State or Territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for manufacture using joinery machines

REQUIRED SKILLS AND KNOWLEDGE

- Environmental protection requirements, including the safe disposal of waste material, minimising carbon emissions and the cleaning of plant, tools and equipment
- Organisational and site standards, requirements, policies and procedures relevant to manufacture using joinery machines
- Environmental risks and hazards
- Types of machined joints
- Characteristics of timber and timber defects
- Cutting processes, feed rates and finish
- Established communication channels and protocols
- Problem identification and resolution strategies and common fault finding techniques
- Types of tools and equipment and procedures for their safe use, operation and maintenance
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace information

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they safely and efficiently manufacture material using joinery machines within organisational requirements

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements of this unit and include demonstration of:

- following applicable Commonwealth, State or Territory legislative and regulatory requirements and codes of practice relevant to manufacturing material using joinery machines
- following organisational policies and procedures relevant to manufacturing material using joinery machines
- effectively communicating and following safe working practices
- cutting and drilling machined joints in line with the work order and within prescribed organisational specifications
- conducting operator maintenance on joinery machine equipment
- stacking batches of cut material in line with organisational requirements and OHS regulations
- Competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to follow relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to

Context of and specific resources for assessment

EVIDENCE GUIDE

Method of assessment

- undertaking work applicable to this unit
 - specifications and work instructions
- Assessment must satisfy the endorsed Assessment Guidelines of the FPI11 Training Package
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge
- Assessment must be by direct observation of tasks, with questioning on required knowledge and it must also reinforce the integration of employability skills
- Assessment methods must confirm the ability to access and correctly interpret and apply the required knowledge
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency
- The assessment environment should not disadvantage the candidate
- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work

RANGE STATEMENT

situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

OHS requirements:

are to be in line with applicable Commonwealth, State or Territory legislation and regulations, and organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- safe forest practices including required actions relating to forest fire
- manual handling including shifting, lifting and carrying

Legislative requirements:

are to be in line with applicable Commonwealth, State or Territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care

Environmental requirements may include:

- legislation
- organisational policies and procedures
- workplace practices

Organisational requirements may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance

RANGE STATEMENT

- procedural manuals
 - quality and continuous improvement processes and standards
 - OHS, emergency and evacuation procedures
 - ethical standards
 - recording and reporting requirements
 - equipment use and maintenance and storage requirements
 - environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)
- Machined joints** may include:
- grooves - square u-shape slots of varying depth and width which run with the grain along the length of the board, generally used for joining or receiving another piece of timber
 - rebates - vary in depth and width and occur at the edge or end of boards to accept another piece of timber to fit flush with the end or edge
 - bevels - angles of varying degree cut on the edge or end of boards at the full thickness of the board for joining or decorative purposes
 - trenches - cut across the grain and board at varying depths and widths to join and receive other timber components
 - mortises - square or rectangular slots cut through timber or cut to a depth to receive a timber tenon
 - tenons - cut at the end of a piece of timber at both edges and one or both flats to form a pin which can in turn fit a mortise, for joining purposes
 - holes - drilled or bored completely through or stopped blind to accept dowels or metal joining hardware
- Work order** is to include
- instructions for the cutting or drilling and despatch of timber and timber products from the work site
- and may include:
- machining process
 - type
 - size

RANGE STATEMENT

- length
- width
- thickness
- quantity
- grade
- instructions for the environmental monitoring of work and procedures
- environmental care requirements relevant to the work

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers

Material may include:

- native timber species
- imported timber species
- dressed timber
- in-the-rough timber
- stress and non-stress graded timber
- preservative treated timber
- medium density fibreboard
- laminated veneer
- chipboard
- fibreboard and other manufactured board
- coated and/or treated timber products
- beams or laminated beams

Machining is to include:

- drilling
- boring
- mortising
- tenoning
- trenching
- grooving
- rebating
- bevelling
- routing

Storage locations may include:

- storage racks
- storage bays
- bins
- stacks
- pallet boxes

RANGE STATEMENT

- modularised storage components
- temporary stacking bays (stand, frame or ground)

and may be divided into:

- standard product classification
- product designation
- size
- dimension
- stack number
- weight
- grade
- shelf life
- stock rotation position

Equipment may include:

- measuring equipment
- saws
- routing machines
- single or double end tenoners
- mortisers
- borers
- multi-borers
- drill presses

and is to include:

- procedures for machine lock-out, i.e. protecting operators and co-workers from accidental injury by isolating the machine from the power source

Cutting blades and drills may include:

- router cutting bits which cut square or angular
- drills in varying sizes
- mortising chisels
- tenoning saws or chains
- trenching heads

Communication may include:

- verbal and non-verbal language
- constructive feedback
- active listening
- questioning to clarify and confirm understanding
- use of positive, confident and cooperative language
- use of language and concepts appropriate to individual social and cultural differences

RANGE STATEMENT

Pre start-up checks

- control of tone of voice and body language

are conducted to ensure:

- machine has been set-up correctly
- cutters or drills are installed accurately
- machinery is operating to optimum performance

Machine guides may include:

- machine manufacturer produced guides located strategically on the machine to maintain timber in straight feed and ensure consistency of cut
- enterprise produced guides
- jigs to maintain consistency of timber against cutting blades or drills

Feed rate is to include:

- the rate of speed at which the material is passed through the machine affecting the sharpness of the cutting blades
- the finish of the material
- the production output

Defects may include:

- warp
- wane
- cupping
- shakes
- insect defects
- knots
- resin pockets

Disposing of may include:

- recycling material with defects
- re-using material with defects

Stacking may include:

- preparing for transport
- categorising in machining process
- common size, length and angle
- marking lots in line with work order and site requirements
- locating so as not to block access or passage

Records and reports may include:

- product type
- size
- process
- inspection
- grading and labelling outcomes
- storage locations
- quality outcomes

RANGE STATEMENT

- hazards
- incidents or equipment malfunctions
- and may be: manual
- using a computer-based system or another appropriate organisational communication system

Unit Sector(s)

Unit sector No sector assigned

Co-requisite units

Co-requisite units

Competency field

Competency field Timber Manufactured Products and Timber Merchandising