



Australian Government

Department of Education, Employment and Workplace Relations

FPICOT3213B Manufacture cutting tools

Release: 1

FPICOT3213B Manufacture cutting tools

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to manufacture cutting tools. The unit involves selecting the correct material and machining blanks to correct profiles

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 FPICOT3213A Manufacture cutting tools

Application of the Unit

Application of the unit

The unit involves manufacturing cutting tools 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

Not Applicable

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. Select required material	<p>1.1. Applicable <i>occupational health and safety</i> (OHS), <i>environmental</i>, <i>legislative</i> and <i>organisational requirements</i> relevant to manufacturing cutting tools are identified and followed</p> <p>1.2. <i>Communication</i> with others involved in this work is established and maintained in line with OHS and organisational requirements</p> <p>1.3. <i>Work order</i> is reviewed to determine <i>cutting tool</i> dimensions in line with site procedures</p> <p>1.4. <i>Information</i> about timber and equipment is obtained and reviewed to determine preferred material type</p> <p>1.5. <i>Material</i> is selected and cut to suitable lengths for machining cutting tool blank in line with site procedures</p>
2. Machine blank	<p>2.1. <i>Processes</i> to produce blank are determined in line with site requirements and job specifications</p> <p>2.2. Blank dimensions and <i>tolerances</i> are determined in line with work order and associated information</p> <p>2.3. Machining equipment and <i>setups</i> are performed in line with manufacturer recommendations and industry practices</p> <p>2.4. Blank is machined to required dimensions and tolerances using the selected processes</p> <p>2.5. <i>Checking procedures</i> are performed on blank surface finish and dimensions to ensure job requirements are met</p>
3. Machine required profiles	<p>3.1. Blank is positioned in suitable attachments in preparation for machining of tooth profiles</p> <p>3.2. Setups are performed in line with job requirements and site procedures</p> <p>3.3. Machining procedures are followed to ensure each tooth profile and dimension meets required dimensions and tolerance in line with site procedures and job requirements</p> <p>3.4. Checking procedures are performed on profile surface finish and dimensions to ensure job requirements are met</p> <p>3.5. Sub-standard cutting tools are <i>dealt with</i> in line with site procedures, manufacturer recommendations and environmental requirements</p> <p>3.6. Routine checks and maintenance procedures are</p>

ELEMENT**PERFORMANCE CRITERIA**

conducted on cutting tools in line with manufacturer recommendations and site procedures

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; operate equipment and material over the full range of processes for manufacturing cutting tools; machine tool profiles and blanks using safe workplace practices and procedures; machine blanks to technical requirements
- Communication skills sufficient to use appropriate interpersonal techniques and communication methods with colleagues and others
- Literacy skills sufficient to locate, interpret and apply relevant information and specifications in written, diagrammatic and verbal form; interpret and apply common industry terminology; convey information in written, sketch and verbal form; record and report workplace information; maintain documentation
- Numeracy skills sufficient to measure, estimate and calculate time required to complete a task
- Problem solving skills sufficient to identify problems and equipment faults; 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 manufacturing cutting tools
- Environmental protection requirements, including the safe disposal of waste material, and the cleaning of plant, tools and equipment
- Organisational and site standards, requirements, policies and procedures for manufacturing cutting tools
- Operational principles and limitations of relevant machinery and equipment
- Environmental risks and hazards
- Using energy effectively and efficiently
- Machining processes
- Procedures for determining cutting tool dimensions
- Established communication channels and protocols
- Problem identification and resolution strategies, and common fault finding techniques

REQUIRED SKILLS AND KNOWLEDGE

- Types of tools and equipment, and procedures for their safe use 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 can safely and efficiently manufacture cutting tools demonstrating the correct selection of material and equipment, and determine and perform the necessary processes in machining blanks and profiles

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 cutting tools
- following organisational policies and procedures relevant to manufacturing cutting tools
- safely manufacturing cutting tools that meet industry standards and technical requirements
- applying communication techniques and safe work practices in the work area
- interpreting and applying specifications in written, diagrammatic and verbal form
- applying mathematical procedures, such as estimation and measurement

Context of and specific resources for assessment

- 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

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. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating

RANGE STATEMENT

conditions that may be present with training and assessment (depending on the work 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
- legislation
- organisational policies and procedures
- workplace practices

Environmental requirements may include:

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

Organisational requirements may include:

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

RANGE STATEMENT

- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures
- ethical standards
- recording and reporting requirements
- equipment use, maintenance and storage requirements
- environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)

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
- control of tone of voice

Work order may include:

- drawings
- plans
- technical diagrams
- references
- instructions for the environmental monitoring of work and procedures
- environmental care requirements relevant to the work

Cutting tools may include a range of:

- diameters
- profiles
- angles
- tolerances

Information may include:

- timber characteristics such as:
 - splits
 - bows
 - knots
 - twists
 - warp
 - wane

RANGE STATEMENT

- cupping
- shakes
- insect defects
- knots
- resin pockets
- equipment data, such as:
 - organisation terminology
 - fault reports
 - consumption reports
 - internal memos
 - production records
 - stock records
 - machine data outputs
 - time sheets
 - accident and incident reports

Material

may be selected from stock or procured to minimise wastage and machining operations

Processes may include:

- manufacturing from long blank lengths
- and are determined in line with:

- available machinery
- materials
- tools
- equipment
- diameters
- widths
- lengths
- angles
- inter-tooth variations

Tolerances may include:

- feeds and speeds set appropriate to material, equipment, blank, attachments and tooth profiles
- material temperatures kept within specified limits through appropriate use of machining coolants

Setups may include:

- use of measuring equipment, such as:
 - vernier callipers
 - micrometers
 - rules

Checking procedures may include:

RANGE STATEMENT**Dealing with** may include:

- recycling sub-standard cutting tools
- sending sub-standard cutting tools to landfill

Unit Sector(s)

Not Applicable

Competency field**Competency field** Common Technical