



Australian Government

Department of Education, Employment and Workplace Relations

FPICOT3215B Swage and shape saw blades

Release: 1

FPICOT3215B Swage and shape saw blades

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to widen then press into shape through a cold forming process, the cutting points of saw teeth to create a block that has the required hook, back, tangential and radial clearance angles needed to provide clearance in the cut for the saw blade to enable sawing efficiency

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 FPICOT3215A Swage and shape saw blades

Application of the Unit

Application of the unit

The unit involves swaging and shaping saw blades 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. Set up equipment	<p>1.1. Applicable <i>occupational health and safety</i> (OHS), <i>environmental</i>, <i>legislative</i> and <i>organisational requirements</i> relevant to swaging and shaping saw blades are identified and followed</p> <p>1.2. Required <i>swage</i> shape and thickness are acquired from existing <i>saws</i> and relevant <i>information</i></p> <p>1.3. Saw, swage and shaping equipment are set up in line with enterprise requirements</p> <p>1.4. <i>Die</i> or <i>swage clamp/vice</i> shape is checked against the required shape, clearances and <i>kerf</i>, and changed where necessary to suit</p> <p>1.5. Saw is secured in a swage clamp/vice or <i>swager</i> with teeth aligned to the swager or vice shape</p> <p>1.6. Anti-scuffing paste is applied to the areas of the saw that will be swaged</p> <p>1.7. <i>Communication</i> with others is established and maintained in line with OHS requirements</p>
2. Swage teeth	<p>2.1. <i>Trial</i> swage is completed and swaging setup checked</p> <p>2.2. Successful trial swage is included in the process and unsuccessful trial swage is dealt with in line with site procedures and environmental requirements</p> <p>2.3. Swage shape and thickness are inspected and <i>measuring equipment</i> is used for tangential and radial, clearance and kerf</p> <p>2.4. Swaging operation is adjusted in line with manufacturer recommendations and job specifications</p> <p>2.5. Dies are checked for wear and adjusted in line with manufacturer recommendations and site procedures</p> <p>2.6. Remaining teeth are swaged in line with job specifications</p>
3. Shape teeth	<p>3.1. Excess material resulting from swaging process is filed and shaped</p> <p>3.2. Trial <i>shape</i> is completed and tooth <i>tolerances</i> are checked and adjusted where necessary</p> <p>3.3. Successful trial shape is included in the process and unsuccessful trial shape is <i>dealt with</i> in line with site procedures and environmental requirements</p> <p>3.4. Shape is assessed and adjustments are made to meet site procedures</p>

ELEMENT**PERFORMANCE CRITERIA**

- 3.5. Remaining teeth are shaped in line with job specifications and tooth alignment is checked
- 3.6. Swaging process and equipment faults are *recorded and reported* to appropriate personnel

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; efficiently and safely swage and shape saw blades
- Communication skills sufficient to use appropriate communication and interpersonal techniques with colleagues and others
- Literacy skills sufficient to 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 swaging and shaping saw blades
- Environmental protection requirements, including the safe disposal of waste material, and the safe use and storage of chemicals
- Organisational and site standards, requirements, policies and procedures for swaging and shaping saw blades
- Environmental risks and hazards
- Saw characteristics
- Swaging and shaping procedures
- Tolerances
- 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 and maintenance
- Appropriate mathematical procedures for estimating and measuring, including

REQUIRED SKILLS AND KNOWLEDGE

- 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 swage and shape the teeth on band, circular or frame saws in line with 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 swaging and shaping saw blades
- following organisational policies and procedures relevant to swaging and shaping saw blades
- inspecting kerf and swage block to assess both as part of the setup procedures for swaging and shaping
- swaging and shaping teeth in line with organisational requirements and specifications

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 undertaking work applicable to this unit
 - specifications and work instructions

Method of assessment

- 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

EVIDENCE GUIDE

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 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

RANGE STATEMENT

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
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures
- ethical standards

RANGE STATEMENT

- recording and reporting requirements
- equipment use, maintenance and storage requirements
- environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)

Swage is the process of cold forming the upper portion of the tooth to leave a concave but broader tooth point

Saws may include:

- circular saws
- band saws
- gang saws

Information may include:

- organisational terminology
- fault reports
- site records
- manufacturer recommendations
- internal memos
- production records
- stock records
- machine data outputs
- accident and incident reports

Die is the eccentric specially hardened rod that is turned against the tooth face under pressure to spread tooth steel sideways

Swage clamp/vice is the mechanical support responsible for setting saw blade height and holding the blade in position during the swaging and shaping processes

Kerf is the width of the uppermost part of a tooth responsible for maintaining clearance for the blade during the sawing process

Swager is the machine or hand-held mechanical item of equipment that produces a swage on the tooth point

Communication may include:

- verbal and non-verbal language
- constructive feedback
- active listening
- questioning to clarify and confirm understanding
- use of positive, confident and cooperative

RANGE STATEMENT

language

- use of language and concepts appropriate to individual social and cultural differences
- control of tone of voice

Trial

is the process of testing the tooth specifications after it has been swaged

Measuring equipment may include:

- wire gauge
- test bar
- rule
- micrometer
- vernier callipers

Shape

is the act of compressing the excess steel formed during swaging to produce the swage block that incorporates the radial and tangential angles

Tolerance

is the allowable upper limit of width for the swage block

Dealing with may include:

- recycling unsuccessful trials
- sending unsuccessful trials to landfill

Records and reports may include:

- saw type
- size
- inspection information
- maintenance outcomes
- common and recurring faults
- malfunctions and damage
- hazards and incidents

and may be:

- manual
- using a computer-based system
- other appropriate organisational communication system

Unit Sector(s)

Not Applicable

Competency field

Competency field

Common Technical