



Australian Government

Department of Education, Employment and Workplace Relations

FPISAW3219B Replace stellite tips

Release: 1

FPISAW3219B Replace stellite tips

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to remove worn stellite tips from saws and to weld, anneal, clean and prepare replacement tips for grinding and return to service

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 FPISAW3219A Replace stellite tips

Application of the Unit

Application of the unit

The unit involves replacing stellite tips 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 replacement	1.1. Applicable Occupational Health and Safety (OHS), environmental, legislative and organisational requirements relevant to replacing stellite tips are identified and followed 1.2. Work order is reviewed and checked with appropriate personnel 1.3. Equipment is selected appropriate to work requirements and checked for operational effectiveness in line with manufacturer's recommendations 1.4. Replacement process is planned in line with site procedures and environmental requirements 1.5. Communication with others is established and maintained in line with OHS requirements
2. Prepare tips	2.1. Saw is cleaned of foreign matter and checked for defects 2.2. Tips requiring replacement are measured and compared to manufacturer's tolerances, checked and marked 2.3. Saw teeth are prepared to provide a suitable surface for replacement 2.4. Saw and tip surfaces are cleaned to provide a good contact surface for brazing or silver soldering
3. Replace tips	3.1. Saw is set up in welding jig in line with manufacturer's instructions 3.2. Brazing material and technique is selected suitable for the material, application and the control of heat 3.3. Replacement tip is selected to meet application specifications and welded into position with tolerances checked 3.4. Trial weld of one tip is conducted and adjusted where necessary, to confirm weld pressure, current temperature and anneal settings against specifications 3.5. Trial weld is included in replacement process or where sub-standard, material is segregated and disposed of in line with site procedures and environmental requirements 3.6. Manual or automatic feeds are set in line with the number of tips to be welded 3.7. Tip replacement is carried out regularly, checking and adjusting annealing process temperatures and

ELEMENT**PERFORMANCE CRITERIA**

- current to ensure staying within the specified range
- 3.8. Tips damaged in the replacement process are repaired/sent for repair and tips that cannot be repaired are disposed of
- 3.9. Surplus brazing material is removed from saw surfaces and tip tolerances checked against specifications
- 3.10. Replacement process and equipment faults are investigated, **recorded and reported** in line with site 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; efficiently and safely replace stellite tip
- 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
- 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 replacing stellite tips
- 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 for replacing stellite tips
- Environmental risks and hazards
- Characteristics of metal and saws
- Stellite tip replacement methods

REQUIRED SKILLS AND KNOWLEDGE

- Saw condition assessment
- 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 can safely and efficiently replace stellite tips 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 replacing stellite tips
- following organisational policies and procedures relevant to replacing stellite tips
- replacing stellite tips in line with the work order and within prescribed organisational requirements
- removing and replacing stellite tips from equipment
- removing and assessing condition of stellite tips in line with standard operating procedures

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
- machine isolation and guarding
- 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

RANGE STATEMENT

- 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)
- Stellite tip replacement** is to include:
- the process of welding and/or silver brazing (soldering) new or replacement stellite tips into the tooth seat
 - replacing tips that are worn out
 - re-building broken or damaged tips
- Work order** is to include:
- instructions for the replacement of stellite tips on saws in designated equipment
- and may also include:
- 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
- Equipment** may include:
- automatic or semi-automatic tipping machines
 - special purpose jigs
 - silver brazing equipment
- 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
 - body language
- Saws** may include:
- band saws
 - circular saws (all types)
 - gang saws

RANGE STATEMENT

and is to include:

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

Tolerances are to include:

- stellite weld deposits or replacement tip sizes that are large enough to allow for side dressing of cutting edges to required hook, back, tangential, and radial clearance angles

Prepare saw teeth may include:

- surface cleaning of all components critical to the welding process
- application of a solution or paste to prevent oxidisation and contamination of all welded or brazed surfaces

Welding jigs

are jigs or machines which securely hold and position saw blades and/or stellite tips to allow accuracy in brazing or welding

Brazing material may include:

- stellite rod
- silver brazing rod
- shim or ribbon
- brazing flux

Disposing of may include:

- recycling sub-standard trial weld/tips that cannot be repaired
- re-using sub-standard trial weld/tips that cannot be repaired

Annealing

- is the process of re-heating the heat affected zone behind the tip to the recommended temperature range and allowing slow cooling of the post-heated zone

Records and reports may include:

- stellite tip replacement
- inspection
- storage locations
- quality outcomes
- hazards
- incidents
- equipment malfunctions

and may be:

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

RANGE STATEMENT

system

Unit Sector(s)

Unit sector No sector assigned

Co-requisite units

Co-requisite units

Competency field

Competency field Sawmilling and Processing