



Australian Government

FWPSAW3238 Replace Stellite tips

Release: 1

FWPSAW3238 Replace Stellite tips

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 remove worn Stellite tips from saw blades and to weld, anneal, clean and prepare replacement tips for grinding and return to service.

The unit applies to individuals who replace Stellite tips in a saw technician workshop or sawmill.

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

Sawmilling and Processing (SAW)

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

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Identify, assess and take actions to mitigate risks and hazards associated with replacing Stellite tips 1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency 1.5 Select appropriate tools and equipment, and check for operational effectiveness according to manufacturer recommendations 1.6 Plan replacement process according to work order
2. Prepare tips	2.1 Remove and replace saw blade according to manufacturer instructions 2.2 Clean saw of foreign matter and check for defects 2.3 Assess saw blade and tip cutting edge condition 2.4 Determine tips requiring replacement and compare, check and mark against tolerances 2.5 Clean saw, tip and machine contact surfaces to ensure set-up accuracy and efficient heat flow during silver brazing and welding
3. Replace tips	3.1 Set up saw in brazing jig/tipping machine in line with manufacturer instructions 3.2 Select consumable material and a suitable technique for application and heat control 3.3 Braze or weld one tip into position and check the replacement tip meets enterprise clearance specifications 3.4 Trial braze or weld one tip and make necessary adjustments to confirm new tip has correct height, hook angle and side clearances 3.5 Set manual or automatic feeds according to the number of tips to be welded 3.6 Complete tip replacement and, when required, adjust annealing temperature to the specified range 3.7 Repair damaged tips and dispose of irreparable tips according to environmental protection requirements 3.8 Clean saw blade and tip surface before checking tip tolerances against specifications 3.9 Identify routine processing and equipment faults, and resolve or 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 essential information from operational manuals to determine safe operating procedures for equipment
Writing	Prepares routine written reports using the required format, language and structure
Oral communication	Employs active listening and questioning to clarify content of work orders
Numeracy	- Uses standard units of measurement and symbols for temperature and volume - Uses basic arithmetic skills to determine amount of brazing material required when replacing tips
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
FWPSAW3238 Replace Stellite tips	FWPSAW3219 Replace stellite tips	Revised performance criteria of element 3; clarified performance evidence; minor edits to knowledge evidence; corrected typographical error in the title, and changed unit code 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 FWPSAW3238 Replace Stellite tips

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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:

- followed work order and relevant workplace health and safety and environmental protection procedures
- assessed condition of Stellite tips
- prepared tips for replacement
- removed and replaced Stellite tips, including:
 - brazed or welded new Stellite tips onto the tooth face or tooth seat
 - replaced tips that are broken, missing or worn out
 - rebuilt broken or damaged tips.

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:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - sawtooth configuration
- purpose, features and operation of saw blades that use Stellite tips:
 - band saw blades
 - circular saw blades
- features and names of different parts of saw blades
- purpose, features and operation of tools and equipment used to replace Stellite tips:

- automatic or semi-automatic tipping machines
- brazing equipment and brazing material
- brazing jigs
- methods for:
 - removing saw blades from sawing equipment
 - assessing saw blade condition
 - removing Stellite tips from saw blades
 - brazing and welding new Stellite tipped teeth onto the tooth face or gullet
- annealing processes and temperatures for Stellite tips and saw blades
- appropriate tolerances for weld deposits and replacement tip sizes
- characteristics of metal used in saw blades, and effects of brazing and welding on saw steel
- types of risk and hazards and mitigation measures associated with replacing Stellite tips
- workplace procedures specific to replacing Stellite tips:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices for repairing and maintaining saw blades:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - one or more of the following types of tools and equipment used to replace Stellite tips: automatic or semi-automatic tipping machines, brazing equipment, brazing jigs
 - one or more of the following types of saw blades to be repaired and maintained: band saw blades, circular saw blades
 - Stellite tips
 - brazing material including silver alloy, special shock absorbing shim, flux in the form of a liquid or paste
 - PPE suitable for replacing Stellite tips
- specifications:
 - documents, spreadsheets and proformas for recording processing and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment

- work order for repair and maintenance activities, with specific instructions for replacing Stellite tips in specified equipment
- workplace procedures for replacing Stellite tips.

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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