Title	**Demonstrate knowledge of sawmill operations**		
Level	**3**	**Credits**	**15**

Purpose	People credited with this unit standard are able to: describe sawmill equipment and its operation; demonstrate knowledge of sawmill products and processes; describe cutting patterns and schedules used in sawmill operations; and explain legislative requirements relating to sawmill operations.

Classification	Solid Wood Manufacturing > Sawmilling

Available grade	Achieved

Guidance Information

1 Legislation
Health and Safety at Work Act 2015.
Resource Management Act 1991.

2 Definitions
Accepted industry practice – approved codes of practice and standardised procedures accepted by the wider wood manufacturing industry as examples of best practice.
Workplace procedures refer to documented policies and procedures set by the organisation carrying out the work, and to documented or other directions provided to staff, and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the industry sector.

3 Assessment information
All activities and evidence must meet workplace procedures and accepted industry practice.

4 Recommended unit standards for entry:
Unit 160, *Demonstrate knowledge of the principles of sawmilling*.
Unit 5847, *Demonstrate knowledge of timber yard operations*.
Unit 166, *Confirm log grades and scale logs*.

Outcomes and performance criteria

Outcome 1

Describe sawmill equipment and its operation.

Performance criteria

1.1 Saw centre specifications are described.

Range saw centre – circular, band;
specifications – maximum and minimum input sizes, kerf, and feed speeds.

1.2 Specification requirements for saw orientation are described.

1.3 Debarker specifications are described.

Range specifications include but is not limited to – allowable bark in chip, issues relating to chip quality, and maximum and minimum input sizes.

1.4 Types of log transport system are described.

Range types may include but is not limited – carriage, sharp chain, end dogging;
description – operating principles, advantages, and disadvantages.

1.5 Types of secondary saw centre are described.

Range types may include but is not limited to – twin frame, quad, single circular, horizontal, line bar band resaw, centre line band resaw, edger, gang edger, breast bench, docking;
description – operating principles, roles, and limitations.
evidence is required for five types.

1.6 The role and benefits of automated equipment are described.

Range automated equipment may include but is not limited to – scanners, board trimmers, cameras, setworks, slabbers, bin sorters, docking systems, log positioning or turning equipment.

1.7 Chipper types are described.

Range chip size and quality, maximum and minimum input sizes.

Outcome 2

Demonstrate knowledge of sawmill products and processes.

Performance criteria

2.1 Grade, finish, and value of timber products are described.

Range types of timber products may include – finger jointed timber, structural timber, clears, decorative;
evidence is required for five different products.

2.2 Differences in nominal and target sizes of timber are identified.

2.3 Monitoring requirements and aims for timber products are outlined.

Range monitoring – operator and downstream.

2.4 Data collection and its application to size control in sawmilling are described.

Range data collection – manual, computerised.

2.5 Application methods for antisapstain are identified and described.

Range methods – dip, spray.

2.6 The impacts of kerf in sawmilling operations are explained.

Range impacts may include but not limited to – recovery, conversion, production, saw life, maintenance.

2.7 Packet build and packaging requirements are interpreted.

Range requirements – fillet placement, number of boards across, height.

Outcome 3

Describe cutting patterns and schedules used in sawmill operations.

Performance criteria

3.1 The use of cutting patterns and cutting schedules to maximise grade recovery or volume, and production value are described.

3.2 Log types are matched with cutting schedules.

Range pruned butt logs, unpruned saw logs.

3.3 The effects of alterations to cutting patterns on product quality and mill flow are described.

3.4 Options for use of defect cores are identified.

3.5 The concept of best opening face is described.

Range description includes reference to – best sellable size, best face first, and best face last.

Outcome 4

Explain legislative requirements relating to sawmill operations.

Performance criteria

4.1 Occupational health and safety matters relating to sawmill operations are explained.

Range may include but is not limited to – induction and training requirements, maximum work hours, accident and incident requirements, hazard identification, emergency procedures, safety committee operation, safety representatives.

4.2 Environmental matters relating to sawmill operations are explained.

Range may include but is not limited to– disposal and use of log and wood residues, restrictions on site operations, storage and disposal of chemicals and chemically treated product, chemical spillage procedures.

Planned review date	31 December 2024

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	10 February 1999	31 December 2012
Review	2	18 December 2006	31 December 2012
Rollover and Revision	3	15 April 2011	N/A
Review	4	23 April 2020	N/A

Consent and Moderation Requirements (CMR) reference	0013

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.