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| Title | Demonstrate knowledge of the principles of sawmilling | | |
| Level | 2 | Credits | 7 |

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| Purpose | People credited with this unit standard are able to demonstrate knowledge of: economic factors impacting on sawmilling operations; processes used in sawmilling operations; the concepts of timber conversion and grade recovery; and quality requirements of the sawmilling operations. They are also able to identify safety procedures required in sawmills. |
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| Classification | Wood Manufacturing - Generic Skills > Wood Manufacturing Foundation Skills |
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| Available grade | Achieved |
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Guidance Information

1 Definitions

Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider wood manufacturing industry as examples of best practice.

The term *conversion* is synonymous with the term *recovery*.

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 wood manufacturing sector.

2 Assessment information

- a For candidates employed in a sawmill, knowledge must be demonstrated in relation to the sawmill at which they are employed. For other candidates, knowledge must be demonstrated in relation to a typical New Zealand sawmill.
- b All activities and evidence must meet workplace procedures and accepted industry practice.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of economic factors impacting on sawmilling operations.

Performance criteria

- 1.1 Reasons for matching timber product requirements to log size and quality are described.
- 1.2 Economic drivers for sawmill operations are described.
- Range evidence of three economic drivers is required.
- 1.3 Cost components of sawmilling are identified.
- Range evidence of six cost components is required.
- 1.4 Key operational factors in the sawmilling process that impact on operational costs are identified.
- Range evidence of four factors is required.
- 1.5 Commercial uses and comparative values of sawn product and by-products are identified.

Outcome 2

Demonstrate knowledge of processes used in sawmilling operations.

Performance criteria

- 2.1 Reasons for sawmilling are explained.
- 2.2 The progress of a log through sawmill machine centres is described.
- 2.3 Saw types used in different machine centres are identified.
- 2.4 The differences between production (volume) sawing, grade (value) sawing, and combinations of both are explained.
- 2.5 Further processing steps in the production of green sawn timber are identified.
- 2.6 Further processing options post sawmill are identified.
- Range evidence is required of four.

Outcome 3

Demonstrate knowledge of the concepts of timber conversion and grade recovery.

Performance criteria

- 3.1 Cutting patterns are drawn, and advantages and limitations of each are identified in terms of volume and grade recovery.
- Range round and round sawing, live sawing (through and through), and cant sawing.
- 3.2 Advantages and limitations of taper sawing are identified.
- Range evidence is required of any two.
- 3.3 Quarter sawn, flat sawn, and rift sawn timber are differentiated from samples and advantages and limitations of each are listed.
- 3.4 Timber conversion is defined and calculated, within five percent, from log volume and volume of timber produced.
- Range evidence of five calculations is required.

Outcome 4

Demonstrate knowledge of quality requirements of the sawmilling operations.

Performance criteria

- 4.1 The impacts of poor quality on customers, profitability and conformance are explained.
- 4.2 Specifications for a work centre are explained for one product.
- 4.3 The purpose and process for recording of quality data is explained.
- Range quality data includes not limited to – graphs, checksheets, non-conformance reports.
- 4.4 A work centre quality control process is identified.

Outcome 5

Identify safety procedures required in sawmills.

Performance criteria

- 5.1 Safety procedures required of personnel in sawmills are identified.
- 5.2 Consequences of not following the safety procedures are identified.

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| Planned review date | 31 December 2024 |
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Status information and last date for assessment for superseded versions

| Process | Version | Date | Last Date for Assessment |
|--------------|---------|------------------|--------------------------|
| Registration | 1 | 5 July 1993 | 31 December 2014 |
| Review | 2 | 24 October 1996 | 31 December 2014 |
| Review | 3 | 10 February 1999 | 31 December 2014 |
| Revision | 4 | 12 December 2000 | 31 December 2014 |
| Review | 5 | 18 December 2006 | 31 December 2014 |
| Review | 6 | 18 April 2013 | N/A |
| Review | 7 | 28 May 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.