Title	**Perform basic calculations for the operation of wood forming machines and grinders**		
Level	**2**	**Credits**	**5**

Purpose	People credited with this unit standard are able to perform basic calculations required: in the operation of a wood forming machine; and a grinder used in a wood forming operation.

Classification	Solid Wood Manufacturing > Timber Machining

Available grade	Achieved

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.
SMPM refers to surface metres per minute and is applied to rim or cutting or surface speed.
Wood forming machine refers to a planer, finger-jointer, or sander.
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 Range
Evidence is required of one wood forming machine.

3 Assessment information
a The candidate is expected to be able to use given formulae and to be able to transpose formulae to complete calculations.
b All activities and evidence must meet workplace procedures and accepted industry practice.

4 Recommended unit standards for entry: Unit 15774, *Demonstrate knowledge of timber machining*; and Unit 15055, *Demonstrate knowledge of the principles of finger jointing in solid wood manufacturing*.

Outcomes and performance criteria

Outcome 1

Perform basic calculations required in the operation of a wood forming machine.

Range calculations may include but are not limited to – feed speed, cutting speed, motor speed, pulley sizes and ratios, output in cubic and lineal metres.

Performance criteria

1.1 Formulae are transposed in accordance with mathematical principles.

1.2 Wood forming machine data are interpreted and entered into the formulae correctly.

1.3 Calculations are completed accurately to provide the required values.

1.4 Accuracy of the calculated values is verified against industry standards.

Outcome 2

Perform basic calculations required in the operation of a grinder used in a wood forming operation.

Range calculations may include but are not limited to – SMPM, grinder revolutions per minute, pulley sizes and ratios.

Performance criteria

2.1 Formulae are transposed in accordance with mathematical principles.

2.2 Grinder data are interpreted and entered into the formulae correctly.

2.3 Calculations are completed accurately to provide the required values.

2.4 Accuracy of the calculated values is verified against industry standards.

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	25 November 2000	31 December 2020
Review	2	18 December 2006	N/A
Review	3	25 June 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.