

Title	Test laminated product in wood product manufacturing		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: demonstrate knowledge of laminating requirements in wood product manufacturing; demonstrate knowledge of and test glue spread; carry out selection, labelling, testing, and analysis of test samples; carry out calibration of test equipment and explain calibration records.
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Classification	Solid Wood Manufacturing > Wood Product Manufacturing Skills
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Available grade	Achieved
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Guidance Information

- Legislation and references

Health and Safety at Work Act 2015.
Hazardous Substances and New Organisms Act 1996.
Resource Management Act 1991.
AS/NZS 1328.2:1998 *Glued laminated structural timber – Guidelines for AS/NZS 1328: Part 1 for the selection, production and installation of glued laminated structural timber.*
AS 5067-2003: *Timber – Non-structural glued laminated – Performance and production requirements.*
Some worksites also refer to NZS 3606:1987 *Specification for the manufacture of glue laminated timber.*
Other specifications are defined for specific purposes, for example, Japanese Agricultural Standards (JAS), or American Standard Test Methods (ASTM).
- 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.
MOE refers to the Modulus of Elasticity that is a measure of stiffness.
MOR refers to the Modulus of Rupture that is a measure of bending strength.
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.

- 3 Assessment information
All activities and evidence must be in accordance with workplace procedures and accepted industry practice.
- 4 Recommended unit standard for entry: Unit 15056, *Demonstrate knowledge of the principles of laminating in wood product manufacturing.*

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of laminating requirements in wood product manufacturing.

Performance criteria

- 1.1 Lamination feedstock requirements are identified and justified in accordance with AS/NZS 1328.2:1998 and/or customer requirements.

Range moisture content, dressing tolerance, grade, time since sawing or dressing, surface finish.
- 1.2 Laminating requirements are identified and justified in accordance with manufacturer's recommendations.

Range may include but is not limited to – glue storage, glue mix, glue spread, assembly time, clamp (press) time and pressure.
- 1.3 Cure requirements are described in accordance with manufacturer's recommendations.

Range temperature, time, post-cure time.
- 1.4 Influences on glue bond durability and strength are described in accordance with manufacturer's recommendations.

Range adhesive storage, adhesive mixing, adhesive spread, adhesive cure.
- 1.5 Tests are described in accordance with AS/NZS 1328.2:1998 and customer requirements.

Range glue spread test, shear test, durability test.

Outcome 2

Demonstrate knowledge of and test glue spread.

Range tests may include but are not limited to – paper in process, collection cup under applicator method, special test board; evidence is required of one test.

Performance criteria

- 2.1 Glue spread requirements are explained in accordance with manufacturer's recommendations.
- 2.2 Effects of over and under glue spread on bond strength are explained.
- 2.3 Frequency of glue spread tests are identified.
- 2.4 Glue spread tests are performed and application rates are calculated.
- 2.5 Glue spread rate is monitored and remedial action is taken.

Outcome 3

Carry out selection, labelling, testing, and analysis of test samples.

Performance criteria

- 3.1 Hazards associated with selection, labelling, physical testing, and analysis of test samples of laminated product are identified and actions to be taken to manage the hazards are described.

Range hazards may include but are not limited to – moving equipment, flying debris, rotating saw blades.
- 3.2 Safe work practices associated with selection, labelling, and physical testing of laminated product are identified and applied.

Range practices may include but are not limited to – isolation procedures, lock outs, emergency stops, machine guarding, the wearing of appropriate safety equipment.
- 3.3 Samples are selected, labelled, and stored in a controlled temperature environment.
- 3.4 Samples are tested in accordance with AS/NZS 1328.2:1998.

Range shear test, durability test.

- 3.5 Test results are analysed and recorded, and remedial action is taken.
- Range test results include but are not limited to – glue failure, shallow wood fibre failure, wood fibre failure, sustainable load, breaking load or MOE and MOR as required.
- 3.6 Action is taken to control out-of-specification-product.
- 3.7 Test samples are stored.

Outcome 4

Carry out calibration of test equipment and explain calibration records.

Performance criteria

- 4.1 Equipment is set up for testing in accordance with AS/NZS 1328:2:1998.
- 4.2 Test equipment is calibrated in accordance with AS/NZS 1328.2:1998 or customer requirements.
- 4.3 Calibration records are explained.

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	10 February 1999	31 December 2020
Revision	2	14 March 2000	31 December 2020
Revision	3	15 December 2000	31 December 2020
Review	4	18 December 2006	N/A
Review	5	22 October 2020	N/A

Consent and Moderation Requirements (CMR) reference	0013
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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.