Title	**Demonstrate knowledge of the principles of finger jointing in solid wood manufacturing**		
Level	**2**	**Credits**	**5**

Purpose	People credited with this unit standard are able to demonstrate knowledge of: finger jointing; the finger jointing processes and product end uses; glues and safe handling of glues; and quality control in finger jointing.

Classification	Solid Wood Manufacturing > Finger Jointing

Available grade	Achieved

Guidance Information

1 References
AUS/NZS 1491:1996 *Finger jointed structural timber*.
Other specifications are defined for specific purposes, for example, Japanese Agricultural Standards (JAS), American Standard Test Methods (ASTM).

2 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.
Rip out refers to when fingers are torn out (removal of fingers in centre of the profiled board).
Shook refers to the feedstock for the finger jointer, (normally docked and/or defected dressed four side timber).
Tear out refers to when timber is broken off trailing edge of shook during profiling step (excessive splintering and chipping of the wood surface that the tool is exiting).
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
a Process, minimum and maximum shook length, and structural and non-structural finger lengths are to be identified for an on-site finger jointer or a finger jointer at a local operation.

b All activities and evidence must meet workplace procedures and accepted industry practice.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of finger jointing.

Performance criteria

1.1 Advantages and disadvantages of finger jointed timber over solid timber are identified.

Range evidence of three advantages and one disadvantage are required.

1.2 Shook requirements for finger jointing are identified.

Range evidence of three requirements required.

1.3 Effect of moisture content on stability and bond strength in the finger jointing process is described.

Outcome 2

Demonstrate knowledge of the finger jointing processes and product end uses.

Performance criteria

2.1 Product end uses are identified for structural and non-structural finger jointed product.

Range two examples are required of each type of product.

2.2 Steps in finger jointing are identified in process order.

Range evidence of a minimum of five steps is required.

2.3 Joint types are matched with common end-use.

Range types – edge-to-edge, face-to-face;
end use – structural, non-structural.

2.4 Advantages of micro joints compared to longer joints are identified.

2.5 Requirements for a reliable strong bond are identified.

Range evidence of four requirements.

2.6 Curing methods are identified.

Range evidence of three methods.

Outcome 3

Demonstrate knowledge of glues and safe handling of glues.

Performance criteria

3.1 Glues are identified in terms of exposure category and end-use of product.

Range minimum of one each for – exterior, interior, structural, non-structural.

3.2 Handling, storage, first aid, and environmental requirements are identified from Safety Data Sheets and product specification.

Outcome 4

Demonstrate knowledge of quality control in finger jointing.

Performance criteria

4.1 Operational quality checks are identified.

Range may include but is not limited to – input shook, profile shape, glue spread, alignment, pressure, press time.

4.2 Finger jointing defects are identified from samples.

Range overlap (miss-match), stepping, open joints, short fingers, tear out, rip out, pin holes.

4.3 A key bond strength test is described.

4.4 A key bond durability test is described.

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 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	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.