Title	**Explain technical aspects of tooling and machinery for finger jointing**		
Level	**3**	**Credits**	**10**

Purpose	People credited with this unit standard are able to explain: finger joint profile options; finger joint profile tooling; trim saws and scribing saws used in finger jointing; and the control of the press during finger jointing operations.

Classification	Solid Wood Manufacturing > Finger Jointing

Available grade	Achieved

Guidance Information

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

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.
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 meet workplace procedures and accepted industry practice.

4 Recommended unit standard for entry: Unit 15055, *Demonstrate knowledge of the principles of finger jointing in solid wood manufacturing*.

Outcomes and performance criteria

Outcome 1

Explain finger joint profile options.

Performance criteria

1.1 Parts of a finger joint profile are explained.

Range finger length, pitch, tip, root, tip width.

1.2 Tip gap is adjusted to meet customer's requirements.

Range structural grades, appearance grades.

1.3 The advantages and disadvantages of using a shoulder to improve machining of final product are explained.

1.4 A comparison between longer fingers and shorter fingers is made in terms of waste, reliability, and final product requirements.

1.5 The impact of wood quality, glue surface area, and cutter condition on the strength of a finger joint are explained.

1.6 The influence of different profile cutter parameters on chip loading is explained.

Range profile cutter parameters may include but is not limited to – number of cutters, revs per minute of cutters, diameter of cutters, feed speed.

1.7 Advantages and disadvantages of increasing the number of profile cutters are explained.

Outcome 2

Explain finger joint profile tooling.

Performance criteria

2.1 Cutter head options are explained.

Range face-to-face, edge-to-edge.

2.2 Cutter tooling head options are explained.

Range may include but is not limited to – fixed wing, wing with replaceable cutters, built up heads.

2.3 Cutter options are explained.

Range solid profile, disposable tips, replaceable knives.

2.4 Two differing types of proprietary cutters are explained.

Range types may include but are not limited to – Leitz, Grecon, Dimter, Kanafusa, Ace, Wisconsin.

2.5 Engineering techniques used to increase time between sharpening or replacing of finger joint profile cutters are described.

Outcome 3

Explain trim saws and scribing saws used in finger jointing.

Performance criteria

3.1 The two functions of trim saws in the finger jointing operation are explained.

3.2 Tooth profile options for trim saws used in finger jointing are explained.

3.3 The importance of using sharp trim saws in finger jointing operations is explained.

3.4 The function of scribing saws in the finger jointing operation is explained.

3.5 Conventional cutting is compared to climb cutting in the finger jointing operation.

Outcome 4

Explain the control of the press during finger jointing operations.

Performance criteria

4.1 Press pressure recommended by the manufacturer of profile cutters is identified.

4.2 Effects of excess press pressure on the finger jointing operation are explained.

4.3 Minimum pressing time is explained for the finger jointing operation.

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	18 December 2006	N/A
Review	2	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.