

Field Manufacturing**Review, revision and rollover of *Manufacturing* unit standards**

Subfield	Domain	ID
Solid Wood Manufacturing	Finger Jointing	4546, 22987
	Laminated Veneer Lumber and Plywood Manufacturing	729
	Saw Doctoring	653, 654, 667, 672-674, 5844, 15758-15760, 15762, 15763 , 16241
	Sawmilling	8007, 15764 , 15766, 20751, 23440 , 24777
	Timber Drying and Treatment	146, 8339 , 21760, 21761
	Timber Grading	139, 5846, 5852, 8003, 8004, 15770, 15771, 20754 , 20755, 20756
	Timber Machining	676, 678, 681, 682, 684, 685, 688-690, 8010, 15775, 19719, 23105
	Wood Product Manufacturing Skills	17963, 17964 , 18963, 21498, 24607
Wood Fibre Manufacturing	Composite Wood Panel Manufacturing	719, 21476
Wood Handling and Distribution	Timber Yarding	8005, 20757, 20758, 24776
	Wood Preparation	130, 739, 740 , 20760, 21497
Wood Manufacturing - Generic Skills	Wood Manufacturing Coordination	22979
	Wood Manufacturing Foundation Skills	155, 156, 159 , 157, 162 , 668, 736, 8002, 9774, 16244, 20766 , 22971, 22972, 22976, 22977 , 22978
	Wood Panel Manufacturing Skills	700, 16247

The Forest Industries Training and Education Council (FITEC) has completed the review of the unit standards listed above. The unit standards highlighted in **bold** have not been reviewed but revised and rolled over to extend their currency until they can be reviewed in 2013.

Date new versions published

April 2011

Planned review date for revised and rolled over standards
Planned review date for reviewed standards

December 2013
December 2015

Summary for reviewed unit standards

These unit standards were reviewed at the same time as FITEC's qualifications in the *Solid Wood Manufacturing*, *Wood Fibre Manufacturing*, *Wood Handling and Distribution*, and *Wood Manufacturing - Generic Skills* subfields.

The changes made to the unit standards were a result of changes in technology, analysis of unit standard usage, overlap identified during the review process, and also feedback from industry gathered through assessment and moderation. Industry advisory groups (IAGs) were consulted regarding the proposed amendments to the unit standards and the final drafts of the unit standards were endorsed by the IAGs.

Main changes resulting from the review

- Unit standards 139, 146, 157, 668, 5846, 5852, 8002, 8003, 8004, 15760, 15766, 15770, 15771, 16241, 17963, 18963, 20755, 20756, 21497, and 22971 were designated expiring and will not be replaced because they cover skills and knowledge which are no longer required by industry or are covered in other existing unit standards.
- The titles of unit standards 155, 162, 653, 678, 719, 729, 736, 15775, 22972, 22976, 22977, 22978, and 24777 were updated to better reflect the outcome statements.
- The credit values of unit standards 130, 653, 654, 667, 672, 673, 674, 5844, and 21476 were reduced to better reflect the training and assessment required for competency.
- The credit values of unit standards 155, 15758, 15759, 20760, 21760, 21761, and 24777 were increased due to the introduction of additional outcomes and to better reflect the requirements of the unit standards.
- The level of unit standard 155 increased from 2 to 3 to better reflect the skill and knowledge requirements.
- The level of unit standard 21476 increased from 3 to 4 to reflect changes made to the outcomes in the standard.
- Unit standard 8007 was replaced by newly developed unit standard 27068 that reflects the change from practical to theoretical evidence requirements.
- Unit standard 9774 was replaced by newly developed unit standard 27074 that reflects the removal of some content, and new evidence requirements.
- Unit standard 22979 was replaced by newly developed unit standard 27073 that has an increased emphasis on leadership in the evidence requirements.
- New unit standards 27067, 27069, 27070, 27071, and 27072 were developed to cover skills and knowledge required by industry.
- Explanatory notes were updated for clarity and consistency.

Summary for revised unit standards

FITEC records and investigates feedback from worksites, assessors, and providers who use FITEC unit standards on an annual basis. Industry subject matter experts are then consulted on this feedback.

As a result of this feedback and consultation, FITEC updated some of the unit standards. These updates do not have a major impact on the outcomes of the unit standards. For example, in some of the unit standards, the explanatory notes were standardised to meet FITEC's Unit Standard Writing Guidelines.

These unit standards were also rolled over, and their planned review date extended to December 2013, to maintain their currency until they are reviewed in 2012.

Main changes resulting from the revision

- Explanatory notes were updated to improve clarity and consistency.
- Outcome statements, evidence requirements, and range statements were updated to improve clarity, relevance, and consistency.

Category C and D unit standards will expire at the end of December 2014

Impact on existing accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	ID	Level	Nature of accreditation	ID	Level
Subfield	Wood Manufacturing - Generic Skills	2	Standard	155	3
Subfield	Wood Fibre Manufacturing	3	Standard	21476	4
Domain	Wood Manufacturing Foundation Skills	2	Standard	155	3
Domain	Laminated Veneer Lumber and Plywood Manufacturing	2	Standard	729	2
Standard	9774	2	Standard	27074	2
Standard	22979	4	Standard	27073	4

Impact on registered qualifications

Key to type of impact	
Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following FITEC qualifications are impacted by the outcomes of this review and will be updated when they are revised or reviewed 2011 or 2012. The unit standards that generated the status *Affected* are listed in **bold**.

Ref	Qualification Title	ID
0810	National Certificate in Saw Doctoring (Saw and Tool Maintenance) (Level 3)	667, 668, 5844, 15758, 15759, 15760, 16241, 22977
0811	National Certificate in Saw Doctoring (Level 4)	653, 654, 736, 5844, 15758, 15759
0813	National Certificate in Timber Machining (Level 4)	15775
0908	National Certificate in Forest Produce Inspection	736, 9774
1304	National Certificate in Wood Manufacturing - Generic Skills (Workplace Safety and Operations) (Level 2)	162, 9774, 22977

1305	National Certificate in Wood Manufacturing Foundation Skills (Level 2) with strands in Solid Wood Manufacturing, Sliced Veneer Operations, Technical Awareness, Wood Handling and Distribution, Wood Panel Manufacturing, and Wood Product Manufacturing	146, 162, 678, 729, 736, 9774, 17963, 18963, 20760, 21497, 22976, 22978
1306	National Certificate in Solid Wood Manufacturing (Level 3) with strands in Engineered Wood Product Operations, Laminated Veneer Lumber (LVL) and Plywood Operations, Planer Operations, Pole and Post Operations, Saw Centre Operations, Timber Drying Operations, Timber Grading Operations, Timber Treatment Operations, Veneer Preparation, Wood Product Operations, and Wood Process Operations	139, 155, 157, 5852, 8002, 8004, 8007, 20755, 21760, 21761, 22971, 22972, 24777
1307	National Certificate in Solid Wood Manufacturing (Advanced) with strands in Laminated Veneer Lumber (LVL) and Plywood Manufacturing, Sawmilling, Timber Drying, Timber Grading, and Timber Treatment	5846, 8003, 15766, 15770, 15771, 20756, 22979
1308	National Certificate in Wood Handling and Distribution (Level 3) with strands in Log Yard and Wood Preparation, and Timber Yarding and Despatch	130, 9774, 20760, 22971, 22972, 22978
1309	National Certificate in Wood Fibre Manufacturing (Wood Panels) (Level 3) with strands in Composite Panel Preparation, Composite Panel Forming and Pressing, Composite Panel Finishing, and Overlay Bonding Operations	719, 21476, 22971, 22972
1310	National Certificate in Wood Fibre Manufacturing (Wood Panels) (Level 4) with strands in Composite Panel Manufacturing, and Overlay Bonding	22979
1311	National Certificate in Finger Jointing (Level 4)	15775
1312	National Certificate in Solid Wood Manufacturing (Advanced Technical Plant Operations) (Level 5)	674

Revisions with changes to unit standard details

All changes are in **bold**.

Manufacturing > Solid Wood Manufacturing > Finger Jointing

ID	Title	Level	Credit
4546	Feed and tail out finger jointer	3	5
22987	Evaluate finger jointer performance variables	5	35

Manufacturing > Solid Wood Manufacturing > Saw Doctoring

ID	Title	Level	Credit
15762	Demonstrate knowledge of the alignment of bandsaw and circular rip saw centres	3	5
15763	Demonstrate knowledge of the grinding of bandwheels	3	5

Manufacturing > Solid Wood Manufacturing > Sawmilling

ID	Title	Level	Credit
15764	Demonstrate knowledge of sawmill operations	3	15
20751	Operate cross cut saw centre	3	5
23440	Optimise docking and trimming timber for fibre and grade recovery	4	15

Manufacturing > Solid Wood Manufacturing > Timber Drying and Treatment

ID	Title	Level	Credit
8339	Demonstrate knowledge of the principles of wood preservation and antisapstain treatment	3	10

Manufacturing > Solid Wood Manufacturing > Timber Grading

ID	Title	Level	Credit
20754	Demonstrate knowledge of mechanical stress grading of timber	2	5

Manufacturing > Solid Wood Manufacturing > Wood Product Manufacturing Skills

ID	Title	Level	Credit
17964	Demonstrate knowledge of the wood product manufacturing industry	2	5
21498	Wrap wood products using a product wrapping line	3	5
24607	Wrap wood products manually	3	3

Manufacturing > Wood Handling and Distribution > Timber Yarding

ID	Title	Level	Credit
8005	Operate a mechanical timber stacking system	3	5
20757	Operate a mechanical timber handling system	3	5
24776	Inspect export forest produce for phytosanitary contamination as a site inspector	4	6

Manufacturing > Wood Handling and Distribution > Wood Preparation

ID	Title	Level	Credit
739	Operate a wood slabber	3	3
740	Operate a wood chipper	3	3

Manufacturing > Wood Manufacturing – Generic Skills > Wood Manufacturing Foundation Skills

ID	Title	Level	Credit
156	Demonstrate knowledge of phytosanitary standards in the wood manufacturing industry	2	3
159	Demonstrate knowledge of environmental issues in wood manufacturing industries	2	5
162	Describe the principles of wood drying Demonstrate knowledge of the principles of wood drying	2	5
16244	Demonstrate knowledge of wood preservation	2	5
22977	Identify and describe workplace risks in a wood manufacturing operation Demonstrate knowledge of workplace risks in a wood manufacturing operation	2	5

Review categories and changes to classification, title, level, and credits

All changes are in **bold**.

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Manufacturing > Solid Wood Manufacturing > Laminated Veneer Lumber and Plywood Manufacturing

Manufacturing > Wood Manufacturing - Generic Skills > Wood Manufacturing Foundation Skills

ID	Title	Level	Credit	Review Category
729	Measure moisture content of veneers, laminated veneer lumber and plywood panels Measure moisture content of wood products	2	5	B

Manufacturing > Solid Wood Manufacturing > Saw Doctoring

ID	Title	Level	Credit	Review Category
653	Bench bandsaws and frame saws Bench bandsaws	4	30 20	B
654	Bench circular saws	4	30 20	B
667	Maintain household and handyperson cutting tools	3	10 5	B
672	Maintain and align bandsaw centre	4	35 20	B
673	Maintain and align circular saw centre	4	30 20	B
674	Grind bandwheels	4	15 10	B
5844	Tip circular saw teeth and profile circular saw tips	4	25 15	B
15758	Sharpen bandsaws	3	10 15	B
15759	Sharpen circular saws	3	10 15	B
15760	Tooth circular saws	3	5	D
16241	Maintain router bits and drill bits	3	10	D
27067	Set up and maintain guides	4	10	New

Manufacturing > Solid Wood Manufacturing > Sawmilling

ID	Title	Level	Credit	Review Category
8007 27068	Implement a saw centre size control programme Demonstrate knowledge of developing and monitoring a saw centre size control programme	4 4	5 5	C
15766	Break down logs using automatic systems with manual over-ride and centre line log feed system	4	15	D
24777	Operate scanning and optimising systems for a wood sawing machine Operate scanning and optimising systems for a machine centre	3	5 10	B

Manufacturing > Solid Wood Manufacturing > Timber Drying and Treatment

ID	Title	Level	Credit	Review Category
146	Determine wood moisture content using a moisture meter	3	3	D
21760	Treat wood by the diffusion process	4	5 10	B
21761	Treat wood with antisapstain chemicals	3	5 10	B

Manufacturing > Solid Wood Manufacturing > Timber Grading

ID	Title	Level	Credit	Review Category
139	Grade timber to NZS 3631:1988 Group III rules at 80% accuracy	3	20	D
5846	Grade timber to AS 2858-2004: structural rules	4	15	D
5852	Grade timber to AS 2858-2004: structural rules at 80% accuracy	3	10	D
8003	Grade lumber to United States of America grading rules	4	20	D
8004	Grade lumber to United States of America grading rules at 80% accuracy	3	15	D
15770	Grade timber to NZS 3631 Group III structural rules	4	10	D
15771	Grade timber to NZS 3631 Group III appearance and cuttings rules	4	15	D
20755	Grade timber using customer specific grading rules at 80% accuracy	3	10	D
20756	Grade timber using customer specific grading rules	4	15	D
27069	Apply company grade specifications for timber grading	3	10	New
27070	Demonstrate knowledge of specifications for timber grading	3	15	New
27071	Grade structural timber to company grade specifications at a minimum 95% accuracy	4	10	New
27072	Grade appearance and cuttings to company grade specifications at a minimum 95% accuracy	4	10	New

Manufacturing > Solid Wood Manufacturing > Timber Machining

ID	Title	Level	Credit	Review Category
676	Set up timber planer for profile	4	30	B
678	Feed and tail out planer Feed and tail out a planer, and monitor planer performance	3	5	B
681	Joint straight cutters	3	5	B
682	Joint profile cutters	3	5	B
684	Grind and hone straight cutters	3	5	B
685	Grind and hone straight cutters in-head	3	3	B
688	Make profile cutter templates	3	15	B
689	Set cutters into cutterheads	3	10	B
690	Make straight cutters	2	3	B
8010	Set cutterhead spindle positions using data from a calibrated measuring device	4	5	B
15775	Inspect and maintain a wood forming machine and a grinding machine Inspect and maintain a wood forming machine	3	15	B
19719	Identify, diagnose and rectify machined product defects	4	25	B
23105	Develop profile, and grind and hone profile cutters in-head	4	25	B

Manufacturing > Solid Wood Manufacturing > Wood Product Manufacturing Skills

ID	Title	Level	Credit	Review Category
17963	Use and maintain hand and portable power tools in a wood manufacturing plant	3	5	D
18963	Manually assemble wood packaging products	2	3	D

Manufacturing > Wood Fibre Manufacturing > Composite Wood Panel Manufacturing

ID	Title	Level	Credit	Review Category
719	Recover wood chips and prepare raw material Operate and monitor the performance of a chip washer for wood chip recovery	4	5	B
21476	Explain preparation of materials for composite wood panel manufacture	3 4	15 10	B

Manufacturing > Wood Handling and Distribution > Wood Preparation

ID	Title	Level	Credit	Review Category
130	Control log yard operations	4	15 10	B
20760	Monitor and control contamination in wood chip and wood fibre materials	2	5 7	B
21497	Describe wood chip and wood fibre material quality requirements	2	3	D

Manufacturing > Wood Manufacturing – Generic Skills > Wood Manufacturing
 Coordination

ID	Title	Level	Credit	Review Category
22979	Guide a group investigation into wood manufacturing production issues	4	15	C
27073	Lead an investigation into wood manufacturing production issues	4	15	

 Manufacturing > Wood Manufacturing – Generic Skills > Wood Manufacturing Foundation
 Skills

ID	Title	Level	Credit	Review Category
155	Demonstrate knowledge of the characteristics of wood Demonstrate knowledge of the properties of wood	2 3	8 10	B
157	Demonstrate knowledge of the principles of New Zealand timber grading	2	10	D
668	Demonstrate knowledge of the principles of saw doctoring	2	5	D
736	Demonstrate knowledge of tree growth and physical characteristics of wood Demonstrate knowledge of physical characteristics of wood	2	5	B
8002	Demonstrate knowledge of the principles of grading lumber for the United States of America market	2	5	D
9774 27074	Demonstrate knowledge of timber grading Demonstrate knowledge of timber grading	2 2	5 5	C
22971	Demonstrate knowledge of systems and techniques used to work efficiently in a wood manufacturing operation	3	10	D
22972	Describe process techniques used on a wood manufacturing worksite Describe techniques used on a wood manufacturing worksite to monitor and control product quality	3	8	B
22976	Describe wood fibre raw material resources and their use in wood fibre manufacturing Demonstrate knowledge of raw material resources used in wood fibre manufacturing	2	5	B
22978	Demonstrate knowledge required for determining wood product quality Demonstrate knowledge of wood product quality	2	5	B

Manufacturing > Wood Manufacturing – Generic Skills > Wood Panel Manufacturing Skills

ID	Title	Level	Credit	Review Category
700	Grade wood panels visually	4	5	B
16247	Manage technical aspects of gluing operations for wood panels manufacturing	5	20	B