
The New Zealand qualifications in solid wood manufacturing[®]

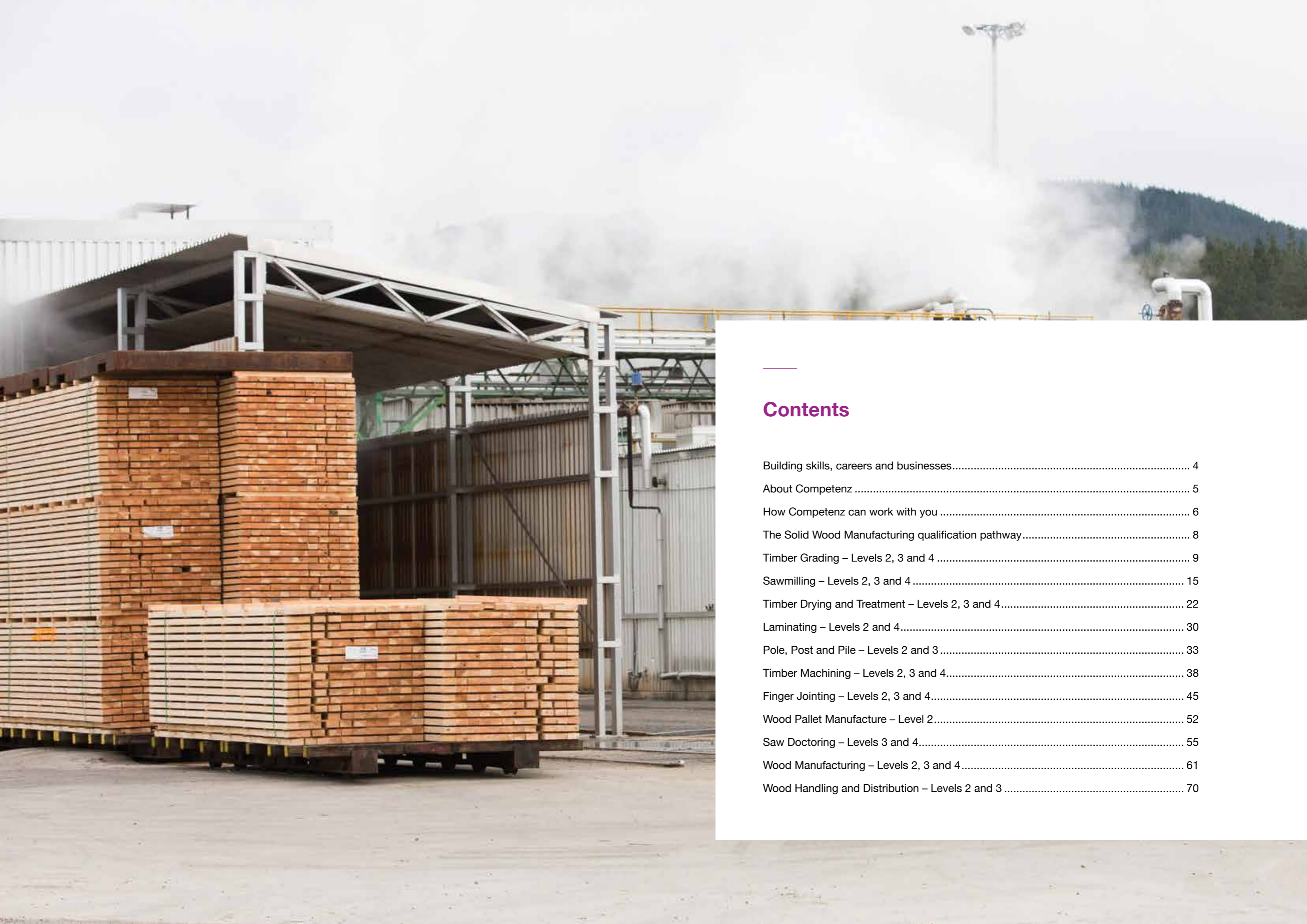
Programme handbook

First edition



Competenz

Skills for industry



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Building skills, careers and businesses

If you're reading this booklet, it's likely you're about to make a big decision. You may be a company investing in your people and your business by building skills in the workplace, or a learner embarking on a career in the solid wood manufacturing industry.

In both cases, the New Zealand Certificates and apprenticeships in solid wood manufacturing will help make your decision a wise one.

That's because members of your industry have designed these qualifications. They understand the skills employers and employees need to work productively and safely. They also understand that, as a learner, you're looking to gain skills that will help you build a rewarding career.

The resulting qualifications are flexible, practical, and designed with the future in mind. Read on to understand the skills and knowledge these qualifications deliver, the training options available to study towards them, and how Competenz will help you build skills, careers and businesses in solid wood manufacturing.

About Competenz

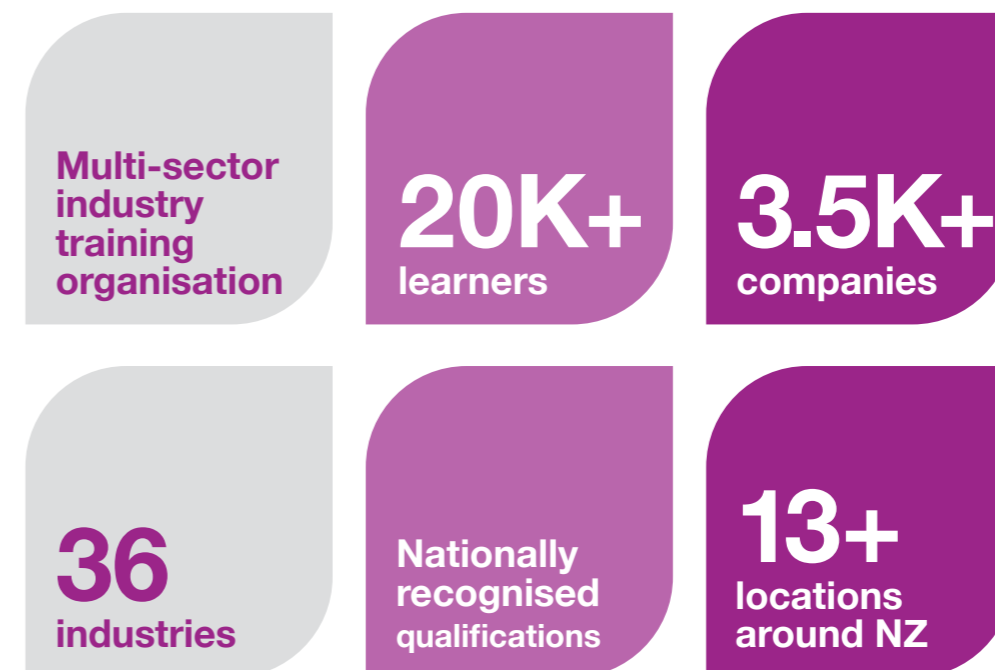
Competenz is a multi-sector industry training organisation. We help grow skills, careers and businesses – and therefore a more competitive New Zealand economy across 36 different industries. We arrange and manage training for over 3,500 organisations and we are helping more than 20,000 people develop their skills on the job.

We are passionate about up skilling the New Zealand workforce and we do this by:

- » Working with industry like yours to determine skill demands, now and in the future
- » Designing qualifications to deliver these skills and set the standards for measuring competency
- » Managing internal or external training with private training companies, for industry specific organisations.

Industry training is funded by industry and government via an industry training organisation (ITO) like Competenz. We're able to pass on this investment to businesses we work with, such as engineering and manufacturing industries, to support our biggest focus, your learners.

We help 36 Kiwi industries grow skills, careers and businesses.



How Competenz can work with you

Competenz has a range of business growth opportunities beyond industry programmes. From bite-sized microlearning opportunities through to scalable workforce development solutions and recruitment solutions.

Talk to us about the business improvements you want to see and let us tailor the ideal training solution for you.

Microlearning

Our bite-sized microlearning programmes are ideal to build skills across your business and don't require commitment to a longer term programme. Microlearning will help you stay up-to-date with the skills you need to stay competitive.

We have online courses and workshops available. Visit www.competenz.org.nz/microlearning or email micro.learning@competenz.org.nz for more information.

Literacy and numeracy support

When employees can't read, write, add numbers or measure correctly, it can cost your business. The costs come from higher accident rates, higher staff turnover rates, missed deadlines, unnecessary wastage and mistakes. But there is good news. A well-trained, literate and numerate workforce will help your business be more productive.

How can you tell if your employees have poor literacy and numeracy skills? Literacy and numeracy issues are often hard to identify, but when you know what to look for the skills gaps will become obvious.

Contact your Competenz Training Advisor if you would like us to help you identify any issues and access support to improve the literacy and numeracy skill levels of your employees. You may even be eligible to access funded literacy and numeracy specialist support tailored to your workplace.

Workforce development

In an increasingly competitive world, on-the-job training is the single most effective way to build your organisation's skills.

Beyond apprenticeship qualifications we are able to tailor other qualifications to meet your on-the-job training needs. We partner with you to identify your business needs and skill gaps in your workforce. Employees are up skilled while doing their job and that benefits your business and employees.

Dedicated funding is available for you and your industry. Our services deliver best practice efficiencies across industry – giving you the competitive advantages you need.

Your people can:

- » Learn in your workplace – so they are there when you need them
- » Use your equipment and processes – so the learning is tailored to your business
- » Gain skills that meet industry standards – so you can be confident their learning is current.

We can facilitate three kinds of on-the-job training:

- » Apprenticeships
- » Traineeships for technical skills
- » Traineeships for business growth.

To grow your business talk to Competenz today.

Contact our Customer Services Team

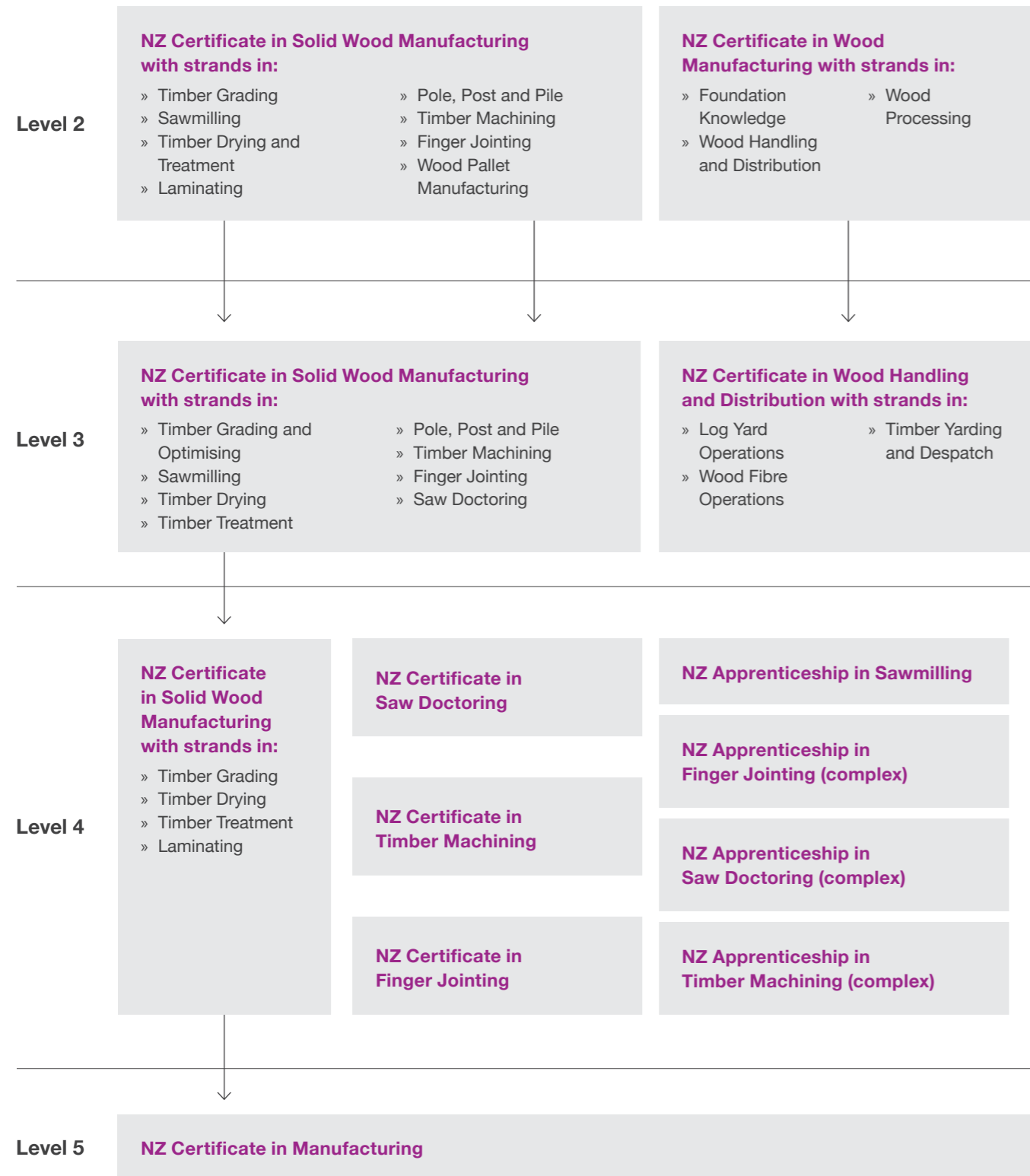
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Solid wood manufacturing qualification pathway



Timber Grading

Levels 2, 3 and 4

New Zealand Certificate in Solid Wood Manufacturing – Timber Grading – Level 2

Credits: 58

Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Explain employee responsibilities, training needs, workplace risks, and collaboration and teamwork within a solid wood manufacturing environment 25 credits	Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
	Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10
	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
Explain physical characteristics of wood 5 credits	Demonstrate knowledge of physical characteristics of wood	736	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Explain the solid wood manufacturing industry, timber grades, grading, defects, and apply basic measurement and calculations used in solid wood manufacturing 18 credits	Demonstrate knowledge of timber grading	27074	2	5
	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Measure moisture content	729	2	5
Explain and apply skills and knowledge of processes within a timber grading operation that support progression into 10 credits	Learners must complete at least 10 credits from			
	Operate cross cut saw centre	20751	3	5
	Operate a mechanical timber stacking system	8005	2	5
	Wrap wood products manually	24607	2	3
	Tally timber	164	2	3
	Handle, sort and stack timber	165	2	3
	Tally random width timber	17961	2	3
	Demonstrate knowledge of mechanical stress grading of timber	20754	2	5
	Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3

New Zealand Certificate in Solid Wood Manufacturing – Timber Grading and Optimising – Level 3

Credits: 74
Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Learners must complete at least 8 credits from			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10

Strand

Outcome	Unit title	Unit	Level	Credits
Understand permeability, density, moisture content in wood, and defects and size tolerances in relation to timber grades 15 credits	Demonstrate knowledge of timber grading	27074	2	5
	Demonstrate knowledge of the properties of wood	155	3	10
Understand and apply company specifications for grading timber, measure defects, and calculate the value of timber 25 credits	Apply company grade specifications for timber grading	27069	3	10
	Demonstrate knowledge of specifications for timber grading	27070	3	15
Use machinery, equipment and technical processes to carry out tasks specific to timber grading and optimising 15 credits	Learners must complete at least 15 credits from the following, of which 10 credits must be at Level 3			
	Operate a wide belt sanding machine to sand wooden furniture components	15764	3	15
	Operate a four sider to produce wooden furniture components	20751	3	5
	Operate a Computer Numerical Controlled (CNC) machine to produce furniture components	20757	3	5
	Operate a multi-borer to bore furniture components	24605	2	10
	Operate ripping saw centre	20752	3	5
	Demonstrate knowledge of saws and knives used in wood manufacturing	20767	2	5
	Confirm log grades and scale logs	166	3	10
	Operate a mechanical stress grading machine to grade timber	28116	3	10
	Inspect export forest produce for insects and fungal infection as a site inspector	5703	3	5
	Operate scanning and optimising systems for a machine centre	24777	3	10
	Operate interlinked mechanical timber handling systems simultaneously	20758	3	10

New Zealand Certificate in Solid Wood Manufacturing – Timber Grading – Level 4

Credits: 50
Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Lead an investigation into production issues or understand cost factors in a solid wood manufacturing operation 15 credits	Lead an investigation into wood manufacturing production issues	27073	4	15

Strand

Outcome	Unit title	Unit	Level	Credits
Manage the quality requirements of a timber grading operation 20 credits	Explain wood manufacturing cost factors	17970	4	15
	Learners must complete at least 10 credits from			
	Grade structural timber to company grade specifications at a minimum 95% accuracy	27071	4	10
	Grade appearance and cuttings to company grade specifications at a minimum 95% accuracy	27072	4	10
Manage the quality requirements of a timber grading operation 15 credits	Learners must complete at least 15 credits from			
	Monitor performance of a mechanical stress grading machine	28117	4	10
	Audit timber grading operations	5848	4	10
	Analyse customers' complaints and take corrective actions in wood manufacturing	22981	4	10
	Optimise timber for fibre and grade recovery	23440	4	15
	Verify structural timber, analyse test data and complete despatch procedures	24606	4	20

Sawmilling

Levels 2, 3 and 4

New Zealand Certificate in Solid Wood Manufacturing – Sawmilling – Level 2

Credits: 53

Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Explain employee responsibilities, training needs, workplace risks, and collaboration and teamwork within a solid wood manufacturing environment 25 credits	Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
	Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10
	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
Explain physical characteristics of wood 5 credits	Demonstrate knowledge of physical characteristics of wood	736	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Explain the solid wood manufacturing industry and sawmilling processes, and apply basic measurement and calculations used in solid wood manufacturing 13 credits	Demonstrate knowledge of the principles of sawmilling	160	2	7
	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
Process, handle and sort timber products under general supervision in a sawmilling operation 10 credits	Learners must complete at least 8 credits from			
	Fillet timber for further processing	143	2	3
	Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3
	Tally timber	164	2	3
	Handle, sort and stack timber	165	2	3
	Operate a mechanical timber stacking system	8005	2	3
	Tally random width timber	17961	2	3
	Operate ripping saw centre	20752	2	5
	Operate a mechanical timber handling system	20757	3	5
	Demonstrate knowledge of timber grading	27074	2	5
Describe wood chip and wood fibre material quality requirements	21497	2	3	

New Zealand Certificate in Solid Wood Manufacturing – Sawmilling – Level 3

Credits: 49

Duration: 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	2	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Learners must complete at least 8 credits from			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10

Strand

Outcome	Unit title	Unit	Level	Credits
Understand operation of sawmilling equipment, sawmill products and processes, cutting patterns and schedules, and legislation relevant to sawmilling operations 15 credits	Demonstrate knowledge of sawmill operations	15764	3	15
	Learners must complete at least 15 credits from			
Use machinery, equipment and technical processes to carry out tasks specific to sawmilling operations 15 credits	Operate ripping saw centre	20752	3	5
	Treat wood with antisapstain chemicals	21761	3	10
	Operate scanning and optimising systems for a machine centre	24777	3	10
	Operate a debarker	134	3	5
	Confirm log grades and scale logs	166	3	10
	Interpret wood chip and/or wood fibre material test results and take corrective actions	20763	3	5
	Apply company grade specifications for timber grading	27069	3	10

New Zealand Apprenticeship in Sawmilling – Level 4

Credits: 120
Duration: 24 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply knowledge of saw centre size control programme development and monitoring, to optimise timber and grade recovery 50 credits	Demonstrate knowledge of sawmill operations	15764	3	15
	Optimise timber for fibre and grade recovery	23440	4	15
	Demonstrate knowledge of developing and monitoring a saw centre size control programme	27068	4	5
	Select one from the following (5 credits)			
	Operate a debarker	134	3	5
	Operate ripping saw centre	20752	3	5
	Interpret wood chip and/or wood fibre material test results and take corrective actions	20763	3	5
	Select one from the following (10 credits)			
	Confirm log grades and scale logs	166	3	10
	Operate scanning and optimising systems for a machine centre	24777	3	10
Apply company grade specifications for timber grading	27069	3	10	

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply knowledge of investigative and costing skills in an advanced operational or technical role in solid wood manufacturing 45 credits	Apply wood manufacturing cost factors	17970	4	15
	Lead an investigation into wood manufacturing production issues	27073	4	15
Select a minimum of 15 credits from the below				
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
Maximise timber recovery during breakdown operations using automated, manual or semi-automated breakdown systems 25 credits	Select one from the following			
	Maximise timber recovery	8006	5	25
	Break down logs in a sawmilling operation	28473	4	30

Timber Drying and Treatment

Levels 2, 3 and 4

New Zealand Certificate in Solid Wood Manufacturing – Timber Drying and Treatment – Level 2

Credits: 45
Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Explain employee responsibilities, training needs, workplace risks, and collaboration and teamwork within a solid wood manufacturing environment 25 credits	Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
	Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10
	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
Explain physical characteristics of wood 5 credits	Demonstrate knowledge of physical characteristics of wood	736	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Measure moisture content in wood, and explain methods of drying wood or wood preservation in solid wood manufacturing 15 credits	Measure moisture content of wood products	729	2	5
	Learners must complete at least 10 credits from			
	Demonstrate knowledge of the principles of wood drying	162	2	5
	Demonstrate knowledge of wood preservation	16244	2	5
	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5

New Zealand Certificate in Solid Wood Manufacturing – Timber Drying – Level 3

Credits: 57

Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Learners must complete at least 8 credits from			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10

Strand

Outcome	Unit title	Unit	Level	Credits
Understand physical properties of wood, contamination and biological attack on wood, and phyto-sanitary standards in wood manufacturing 13 credits	Demonstrate knowledge of the properties of wood	155	3	10
	Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3
Explain factors that affect wood drying, factors that cause defects when drying, and establish correction factor for a moisture meter 10 credits	Explain wood drying, determine wood moisture content and establish equipment correction factor	21758	3	10
Monitor and maintain timber kiln plant and equipment for a specific wood manufacturing site 10 credits	Monitor, lubricate, and maintain timber kiln components	23437	4	15

New Zealand Certificate in Solid Wood Manufacturing – Timber Treatment – Level 3

Credits: 67
Duration: 18 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Learners must complete at least 8 credits from			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10

Strand

Outcome	Unit title	Unit	Level	Credits
Understand physical properties of wood, contamination and biological attack on wood, and phyto-sanitary standards in wood manufacturing 13 credits	Demonstrate knowledge of the properties of wood	155	3	10
	Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3
Understand antisapstain treatment as a method of wood preservation and the legislative and compliance requirements relating to wood preservation operations 20 credits	Demonstrate knowledge of the principles of wood preservation and antisapstain treatment	8339	3	10
	Interpret legislative requirements and workplace compliance relating to wood preservation operations	16240	3	10
Operate, monitor and maintain wood preservation plant and equipment 15 credits	Operate timber treatment plant	28015	3	15

New Zealand Certificate in Solid Wood Manufacturing – Timber Drying – Level 4

Credits: 45
Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Lead an investigation into production issues or understand cost factors in a solid wood manufacturing operation 15 credits	Learners must complete at least 15 credits from			
	Lead an investigation into wood manufacturing production issues	27073	4	15
	Explain wood manufacturing cost factors	17970	4	15

Strand

Outcome	Unit title	Unit	Level	Credits
Manage the operation, performance, and maintenance requirements of a timber kiln operation 25 credits	Kiln dry timber	738	4	25
	Explain production planning and production control processes in a wood manufacturing operation 5 credits	Explain production planning and control procedures used in a wood manufacturing operation	22980	4

New Zealand Certificate in Solid Wood Manufacturing – Timber Treatment – Level 4

Credits: 55
Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Lead an investigation into production issues or understand cost factors in a solid wood manufacturing operation 15 credits	Learners must complete at least 15 credits from			
	Lead an investigation into wood manufacturing production issues	27073	4	15
	Explain wood manufacturing cost factors	17970	4	15

Strand

Outcome	Unit title	Unit	Level	Credits
Understand production planning and production control processes in a wood manufacturing operation 5 credits	Explain production planning and control procedures used in a wood manufacturing operation	22980	4	5
	Manage the operation, performance and maintenance requirements of a wood preservation plant 35 credits	Manage a timber treatment operation	28016	4

New Zealand Certificate in Solid Wood Manufacturing – Laminating – Level 2

Credits: 55
Duration: 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Explain employee responsibilities, training needs, workplace risks, and collaboration and teamwork within a solid wood manufacturing environment 25 credits	Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
	Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10
	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
Understand the physical characteristics of wood in relation to timber product quality 5 credits	Demonstrate knowledge of physical characteristics of wood	736	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Explain key performance indicators, markets and quality requirements in wood product manufacturing operations 10 credits	Demonstrate knowledge of the wood product manufacturing industry	17964	2	5
	Demonstrate knowledge of wood product quality	22978	2	5
Operate and monitor the performance of a laminator and cross cut saw centre under general supervision in a solid wood manufacturing environment 15 credits	Demonstrate knowledge of the principles of laminating in wood product manufacturing	15056	2	5
	Measure moisture content of wood products	729	2	5
	Operate cross cut saw centre	20751	3	5

Laminating

Levels 2 and 4

New Zealand Certificate in Solid Wood Manufacturing – Laminating – Level 4

Credits: 48
Duration: 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Lead an investigation into production issues or understand cost factors in a solid wood manufacturing operation 15 credits	Learners must complete at least 15 credits from			
	Lead an investigation into wood manufacturing production issues	27073	4	15
	Explain wood manufacturing cost factors	17970	4	15

Strand

Outcome	Unit title	Unit	Level	Credits
Apply knowledge of adhesives and gluing procedures used in wood lamination processes in solid wood manufacturing 15 credits	Control glue systems for wood product manufacturing	20769	4	15
	Learners must complete at least 18 credits from			
Apply technical knowledge to carry out processes used in lamination of wood products specific to a solid wood manufacturing site 18 credits	Test laminated product in wood product manufacturing	15059	4	10
	Laminate curved products for wood product manufacturing	20771	4	10
	Develop patterns and construct jigs for curved laminate products in wood product manufacturing	20770	4	10
	Laminate straight timber for wood product manufacturing	4548	3	8

Pole, Post and Pile

Levels 2 and 3

New Zealand Certificate in Solid Wood Manufacturing – Pole, Post and Pile – Level 2

Credits: 74
Duration: 14 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Explain employee responsibilities, training needs, workplace risks, and collaboration and teamwork within a solid wood manufacturing environment 25 credits	Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
	Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10
	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
Explain physical characteristics of wood 5 credits	Demonstrate knowledge of physical characteristics of wood	736	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Operate machinery and equipment, and grade, sort and stack timber products in a pole, post and pile operation 21 credits	Grade roundwood products	20022	3	5
	Operate cross cut saw centre	20751	3	5
	Handle, sort and stack timber	165	2	3
	Demonstrate basic chainsaw operation	6917	2	8
Explain log yard and log making operations, compliance relevant to chainsaw use, and phyto-sanitary requirements in solid wood manufacturing 23 credits	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5
	Demonstrate knowledge of log making	1252	3	5
	Demonstrate knowledge of the Approved Code of Practice relating to chainsaw use	6916	2	5
	Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3
	Demonstrate knowledge of log yard operations	8008	2	5

New Zealand Certificate in Solid Wood Manufacturing – Pole, Post and Pile – Level 3

Credits: 62

Duration: 18 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Learners must complete at least 8 credits from			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10

Strand

Outcome	Unit title	Unit	Level	Credits
Grade, tally, package, and optimise conversion of roundwood products 23 credits	Optimise conversion of roundwood products	20020	4	15
	Grade wooden poles	20023	3	5
	Tally and package wooden poles and roundwood products	20025	3	3
Use machinery, equipment and technical processes to carry out production tasks specific to pole, post and pile manufacturing 20 credits	Learners must complete at least 20 credits from			
	Store and handle workplace chemicals	21467	3	8
	Operate a peeler to produce roundwood products	20021	3	10
	Produce pointed roundwood products	20024	3	2
	Operate ripping saw centre	20752	3	5
	Air dry timber or round wood	20759	3	3
	Interpret wood product specifications and establish worksite implementation	20027	4	10
	Operate a wheeled loader in the wood manufacturing industry	15825	3	5
	Measure moisture content of wood products	729	2	5
	Operate a powered industrial lift truck (forklift)	10851	3	7
	Confirm log grades and scale logs	166	3	10

Timber Machining

Levels 2, 3 and 4

New Zealand Certificate in Solid Wood Manufacturing – Timber Machining – Level 2

Credits: 53
Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Explain employee responsibilities, training needs, workplace risks, and collaboration and teamwork within a solid wood manufacturing environment 25 credits	Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
	Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10
	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
Explain physical characteristics of wood 5 credits	Demonstrate knowledge of physical characteristics of wood	736	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Operate and monitor the performance of a planing system, and explain factors affecting the finished quality of machined timber 20 credits	Demonstrate knowledge of timber machining	15774	2	5
	Demonstrate knowledge of wood product quality	22978	2	5
	Demonstrate knowledge of the wood product manufacturing industry	17964	2	5
Feed in and tail out a planer, and monitor planer performance within a solid wood manufacturing operation 8 credits	Feed and tail out a planer, and monitor planer performance	678	3	5
	Learners must complete at least 3 credits from			
	Measure moisture content of wood products	729	2	5
	Tally timber	164	2	3
	Wrap wood products manually	24607	2	3
	Operate a mechanical timber handling system	20757	3	5
	Demonstrate knowledge of the principles of wood drying	162	2	5

New Zealand Certificate in Solid Wood Manufacturing – Timber Machining – Level 3

Credits: 79

Duration: 18 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Learners must complete at least 8 credits from			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10

Strand

Outcome	Unit title	Unit	Level	Credits
Operate and monitor the performance of a planing system, and explain factors affecting the finished quality of machined timber 20 credits	Operate a planing system in wood manufacturing	22989	3	15
	Demonstrate knowledge of timber machining	15774	2	5
Set up a timber planer for dress four sides 20 credits	Set up a timber planer for dress four sides	675	3	20
Set cutters into cutter heads and joint straight cutters on a planing system in a timber machining operation 20 credits	Joint straight cutters	681	3	5
	Set cutters into cutterheads	689	3	10
	Perform basic calculations for the operation of wood forming machines and grinders	17960	2	5

New Zealand Certificate in Timber Machining – Level 4

Credits: 160

Duration: 30 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Understand mechanical engineering systems used in solid wood manufacturing 10 credits	Demonstrate knowledge of mechanical engineering systems used in wood manufacturing industries	17862	3	10
Make, grind and hone cutters in a timber machining operation 16 credits	Demonstrate knowledge of grinding wheels and fluids	669	2	5
	Grind and hone straight cutters	684	2	5
	Grind and hone straight cutters in-head	685	3	3
	Make straight cutters	690	2	3
Make profile cutter templates in preparation for profile grinding operations 15 credits	Make profile cutter templates	688	4	15
Develop profile, and grind and hone profile cutters in-head in preparation for machine set-up 25 credits	Develop profile, and grind and hone profile cutters in-head	23105	4	25
Apply calculations for operating and maintaining timber machining equipment 14 credits	Explain and calculate costing of timber machining operations	8009	4	4
	Apply calculations for operating and maintaining timber machining equipment	17959	4	10
Set cutterhead spindle positions and joint profile cutters 10 credits	Joint profile cutters	682	3	5
	Set cutterhead spindle positions using data from a calibrated measuring device	8010	4	5

Continued on the next page

New Zealand Apprenticeship in Timber Machining (complex) – Level 4

Credits: 239

Duration: 42 – 48 months

Core compulsory units to be completed

Unit title	Unit code	Level	Credits
Set up a timber planer for profile			
Set up timber planer for profile	676	4	30
30 credits			
Carry out timber machining maintenance and troubleshoot product defects			
Inspect and maintain a wood forming machine	15775	3	15
Identify, diagnose and rectify machined product defects	19719	4	25
40 credits			

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	At least 8 credits are required from the following			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10
Operate and monitor the performance of a planing system, and explain factors affecting the finished quality of machined timber	Operate a planing system in wood manufacturing	22989	3	15
	Demonstrate knowledge of timber machining	15774	2	5
Set up a timber planer for dress four sides	Set up a timber planer for dress four sides	675	3	20
Set cutters into cutter heads and joint straight cutters on a planing system in a timber machining operation	Joint straight cutters	681	3	5
	Set cutters into cutterheads	689	3	10
	Perform basic calculations for the operation of wood forming machines and grinders	17960	2	5

Continued on the next page

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Understand mechanical engineering systems used in solid wood manufacturing 10 credits	Demonstrate knowledge of mechanical engineering systems used in wood manufacturing industries	17862	3	10
Make, grind and hone cutters in a timber machining operation 16 credits	Demonstrate knowledge of grinding wheels and fluids	669	2	5
	Grind and hone straight cutters	684	3	5
	Grind and hone straight cutters in-head	685	3	3
	Make straight cutters	690	2	3
Make profile cutter templates in preparation for profile grinding operations 15 credits	Make profile cutter templates	688	4	15
Develop profile, and grind and hone profile cutters in-head in preparation for machine set-up 25 credits	Develop profile, and grind and hone profile cutters in-head	23105	4	25
Apply calculations for operating and maintaining timber machining equipment 14 credits	Explain and calculate costing of timber machining operations	8009	4	4
	Apply calculations for operating and maintaining timber machining equipment	17959	4	10
Set cutterhead spindle positions and joint profile cutters 10 credits	Joint profile cutters	682	3	5
	Set cutterhead spindle positions using data from a calibrated measuring device	8010	4	5
Set up a timber planer for profile 30 credits	Set up timber planer for profile	676	4	30
Carry out timber machining maintenance and troubleshoot product defects 40 credits	Inspect and maintain a wood forming machine	15775	3	15
	Identify, diagnose and rectify machined product defects	19719	4	25

Finger Jointing

Levels 2, 3 and 4

New Zealand Certificate in Solid Wood Manufacturing – Finger Jointing – Level 2

Credits: 53

Duration: 13 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Explain employee responsibilities, training needs, workplace risks, and collaboration and teamwork within a solid wood manufacturing environment 25 credits	Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
	Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10
	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
Explain physical characteristics of wood 5 credits	Demonstrate knowledge of physical characteristics of wood	736	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Explain finger jointing processes, glue use, key performance indicators, markets and quality requirements in wood product manufacturing operations 15 credits	Demonstrate knowledge of the wood product manufacturing industry	17964	2	5
	Demonstrate knowledge of wood product quality	22978	2	5
	Demonstrate knowledge of the principles of finger jointing in solid wood manufacturing	15055	2	5
Measure moisture content of wood products and clean engineered wood product equipment 8 credits	Measure moisture content of wood products	729	2	5
	Clean engineered wood product equipment	4544	2	3

New Zealand Certificate in Solid Wood Manufacturing – Finger Jointing – Level 3

Credits: 78

Duration: 18 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits	
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6	
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5	
	Learners must complete at least 8 credits from				
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5	
	Take and record measurements and make calculations in wood manufacturing	22969	2	3	
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8	
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10	

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New Zealand Certificate in Finger Jointing – Level 4

Credits: 120
Duration: 24 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Grind and maintain a finger jointing cutterhead 25 credits	Grind finger jointer cutterhead in solid wood manufacturing	15061	4	15
	Maintain finger jointer cutterhead in solid wood manufacturing	15060	4	10
Apply knowledge of calculations and the technical aspects of tooling and machinery relevant to operating a finger jointing machine 20 credits	Apply calculations for operating and maintaining timber machining equipment	17959	4	10
	Explain technical aspects of tooling and machinery for finger jointing	22985	3	10
Inspect and maintain a finger jointing machine 15 credits	Inspect and maintain a wood forming machine	15775	3	15
Set up an edge-to-edge or face-to-face finger jointing machine 15 credits	Learners must complete at least 15 credits from			
	Set up edge-to-edge finger jointer for solid wood manufacturing	21763	4	15
	Set up face-to-face finger jointer for solid wood manufacturing	20772	4	15
Coordinate in-feed, out-feed, production volume and shook quality for a finger jointing operation 20 credits	Coordinate finger jointer operations in solid wood manufacturing	4547	4	20
Diagnose product and joint defects and implement corrective actions to meet production and quality requirements of a finger jointing operation 25 credits	Identify, diagnose and rectify finger jointed product defects	22986	4	25

Strand

Outcome	Unit title	Unit	Level	Credits
Set up, maintain and identify performance issues for basic finger jointer and saw centre operation under limited supervision 13 credits	Set up finger-jointer for wood product manufacturing	28115	3	8
	Demonstrate knowledge of saws and knives used in wood manufacturing	20767	2	5
Explain and apply knowledge of grinding wheels and fluids and perform calculations for operating wood forming machines and grinders 10 credits	Demonstrate knowledge of grinding wheels and fluids	669	2	5
	Perform basic calculations for the operation of wood forming machines and grinders	17960	2	5
Apply knowledge of adhesives, gluing procedures, and glue testing to control automatic gluing application systems used in wood finger jointing operations 25 credits	Control glue systems for wood product manufacturing	20769	4	15
	Test finger jointed product in solid wood manufacturing	15058	3	10
Operate and monitor the performance of a finger jointer and cross cut saw centre solid wood manufacturing operation 11 credits	Feed and tail out finger jointer	4546	3	6
	Operate cross cut saw centre	20751	3	5

New Zealand Apprenticeship in Finger Jointing (complex) – Level 4

Credits: 198
Duration: 42 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	At least 8 credits are required from the following			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
Set up, maintain and identify performance issues for basic finger jointer and saw centre operation under limited supervision 13 credits	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10
	Set up finger-jointer for wood product manufacturing	28115	3	8
Explain and apply knowledge of grinding wheels and fluids and perform calculations for operating wood forming machines and grinders 10 credits	Demonstrate knowledge of saws and knives used in wood manufacturing	20767	2	5
	Demonstrate knowledge of grinding wheels and fluids	669	2	5
Apply knowledge of adhesives, gluing procedures, and glue testing to control automatic gluing application systems used in wood finger jointing operations 25 credits	Perform basic calculations for the operation of wood forming machines and grinders	17960	2	5
	Control glue systems for wood product manufacturing	20769	4	15
	Test finger jointed product in solid wood manufacturing	15058	3	10

Outcome	Unit title	Unit	Level	Credits
Operate and monitor the performance of a finger jointer and cross cut saw centre under limited supervision in a solid wood manufacturing operation 11 credits	Feed and tail out finger jointer	4546	3	6
	Operate cross cut saw centre	20751	3	5
Grind and maintain a finger jointing cutterhead 25 credits	Grind finger jointer cutterhead in solid wood manufacturing	15061	4	15
	Maintain finger jointer cutterhead in solid wood manufacturing	15060	4	10
Apply knowledge of calculations and the technical aspects of tooling and machinery relevant to operating a finger jointing machine 20 credits	Apply calculations for operating and maintaining timber machining equipment	17959	4	10
	Explain technical aspects of tooling and machinery for finger jointing	22985	3	10
Inspect and maintain a finger jointing machine 15 credits	Inspect and maintain a wood forming machine	15775	3	15
Set up an edge-to-edge or face-to-face finger jointing machine 15 credits	At least 15 credits are required from the following			
	Set up edge-to-edge finger jointer for solid wood manufacturing	21763	4	15
	Set up face-to-face finger jointer for solid wood manufacturing	20772	4	15
Coordinate in-feed, out-feed, production volume and shook quality for a finger jointing operation 20 credits	Coordinate finger jointer operations in solid wood manufacturing	4547	4	20
Diagnose product and joint defects and implement corrective actions to meet production and quality requirements of a finger jointing operation 25 credits	Identify, diagnose and rectify finger jointed product defects	22986	4	25

Wood Pallet Manufacture

Level 2

New Zealand Certificate in Solid Wood Manufacturing – Wood Pallet Manufacture – Level 2

Credits: 58

Duration: 8 – 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Explain employee responsibilities, training needs, workplace risks, and collaboration and teamwork within a solid wood manufacturing environment	Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
	Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10
25 credits	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
Explain physical characteristics of wood	Demonstrate knowledge of physical characteristics of wood	736	2	5
5 credits				

Continued on the next page

Strand

Outcome	Unit title	Unit	Level	Credits
Explain construction and job specifications, quality requirements and key performance indicators, and environmental and waste issues in wood pallet manufacturing 15 credits	Demonstrate knowledge of the wood pallet manufacturing industry	28156	2	15
	Learners must complete at least 13 credits, of which 7 credits must be at Level 2			
Carry out practical tasks relevant to working in a wood pallet manufacturing environment under supervision 13 credits	Use and maintain portable nail or staple guns in the manufacture of wood products	18967	2	3
	Construct wooden jigs for wood packaging products	18966	3	3
	Carry out automated assembly of wood packaging products	18964	3	5
	Manually assemble wood packaging products	18963	2	3
	Repair and maintain wood packaging products	18965	3	5
	Apply 5S procedures in a competitive manufacturing organisation	21508	3	5
	Apply Just in Time (JIT) procedures in a competitive manufacturing organisation	21505	2	5
	Paint wood products using conventional spray techniques	18968	2	3
	Operate cross cut saw centre	20751	3	5
	Operate ripping saw centre	20752	3	5
	Measure moisture content of wood products	729	2	5
	Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3

Saw Doctoring

Levels 3 and 4

New Zealand Certificate in Solid Wood Manufacturing – Saw Doctoring – Level 3

Credits: 77

Duration: 16 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Learners must complete at least 8 credits from			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10

Strand

Outcome	Unit title	Unit	Level	Credits
Understand the principles of sawmilling and the physical characteristics of wood as a raw material 10 credits	Demonstrate knowledge of the principles of sawmilling	160	2	7
	Demonstrate knowledge of physical characteristics of wood	736	2	5
Understand theoretical concepts that relate to grinding, profiles, saw design, wood quality and basic saw doctoring calculations 20 credits	Demonstrate knowledge of grinding wheels and fluids	669	2	5
	Demonstrate knowledge of saw grinder application and operation	17967	3	5
	Demonstrate knowledge of saw tooth profiles in saw doctoring	17962	3	5
	Perform basic saw doctoring calculations	17969	2	5
Grind straight knives and anvils, and set, sharpen and tooth circular saws 28 credits	Set circular saws	656	2	3
	Grind and hone straight knives and anvils	662	3	5
	Sharpen circular saws	15759	3	15
	Tooth circular saws	15760	3	5

New Zealand Certificate in Saw Doctoring – Level 4

Credits: 125
Duration: 24 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Level and tension bandsaws and circular saws used in wood manufacturing operations, and calibrate saw benching machinery 40 credits	Bench bandsaws	653	4	20
	Bench circular saws	654	4	20
Tip and profile circular saws used in wood manufacturing operations with and without satellite or high speed steel 25 credits	Tip circular saw teeth and profile circular saw tips	5844	4	15
	Tip saw teeth with stellite or high speed steel	8337	4	10
Swage, shape, sharpen and weld saws used in wood manufacturing operations 40 credits	Swage and shape a saw	655	4	10
	Sharpen bandsaws	15758	3	15
	Weld wide bandsaws	652	4	15
Apply knowledge of advanced calculations used in saw doctoring and the requirements for alignment of saw centres and grinding of bandwheels used in wood manufacturing operations 20 credits	Demonstrate knowledge of the alignment of bandsaw and circular rip saw centres	15762	3	5
	Demonstrate knowledge of the grinding of bandwheels	15763	3	5
	Apply advanced calculations for saw doctoring	17968	4	10

New Zealand Apprenticeship in Saw Doctoring (complex) – Level 4

Credits: 202
Duration: 40 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply skills and knowledge of workplace health and safety, environmental, and quality requirements relevant to solid wood manufacturing operational roles 19 credits	Apply workplace health and safety in a wood manufacturing operation	27917	3	6
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	At least 8 credits are required from the following			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Participate, with technical support, in the investigation of wood manufacturing production issues	22974	3	10
Understand the principles of sawmilling and the physical characteristics of wood as a raw material 10 credits	Demonstrate knowledge of the principles of sawmilling	160	2	5
	Demonstrate knowledge of physical characteristics of wood	736	2	5
Understand theoretical concepts that relate to grinding, profiles, saw design, wood quality and basic saw doctoring calculations 20 credits	Demonstrate knowledge of grinding wheels and fluids	669	2	5
	Demonstrate knowledge of saw grinder application and operation	17967	3	5
	Demonstrate knowledge of saw tooth profiles in saw doctoring	17962	3	5
	Describe and apply basic skills and knowledge required to work at a surface extraction site	17969	2	5
Grind straight knives and anvils, and set, sharpen and tooth circular saws 28 credits	Set circular saws	656	2	3
	Grind and hone straight knives and anvils	662	3	5
	Sharpen circular saws	15759	3	15
	Tooth circular saws	15760	3	5

Continued on the next page

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Level and tension bandsaws and circular saws used in wood manufacturing operations, and calibrate saw benching machinery 40 credits	Bench bandsaws	653	4	20
	Bench circular saws	654	4	20
Tip and profile circular saws used in wood manufacturing operations with and without satellite or high speed steel 25 credits	Tip circular saw teeth and profile circular saw tips	5844	4	15
	Tip saw teeth with stellite or high speed steel	8337	4	10
Swage, shape, sharpen and weld saws used in wood manufacturing operations 40 credits	Swage and shape a saw	655	4	10
	Sharpen bandsaws	15758	3	15
	Weld wide bandsaws	652	4	15
Apply knowledge of advanced calculations used in saw doctoring and the requirements for alignment of saw centres and grinding of bandwheels used in wood manufacturing operations 20 credits	Demonstrate knowledge of the alignment of bandsaw and circular rip saw centres	15762	3	5
	Demonstrate knowledge of the grinding of bandwheels	15763	3	5
	Apply advanced calculations for saw doctoring	17968	4	10

Wood Manufacturing

Levels 2, 3 and 4

New Zealand Certificate in Wood Manufacturing – Foundation Knowledge – Level 2

Credits: 40
Duration: 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Understand basic health and safety requirements and environmental issues related to the wood manufacturing industry 10 credits	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Understand the wood manufacturing industry and wood products made within the industry 10 credits	Learners must complete at least 5 credits from			
	Demonstrate knowledge of physical characteristics of wood	736	2	5
	Demonstrate knowledge of timber grading	27074	2	5
	Demonstrate knowledge of wood product quality	22978	2	5
	Learners must complete at least 5 credits from			
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5
Demonstrate knowledge of the wood product manufacturing industry	17964	2	5	

Understand operational requirements that impact on people and processes in different operational areas within the wood manufacturing industry
20 credits

Learners must complete at least 20 credits from

Demonstrate knowledge of timber machining	15774	2	5
Demonstrate knowledge of the principles of wood drying	162	2	5
Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3
Tally timber	164	2	3
Measure moisture content of wood products	729	2	5
Demonstrate knowledge of the principles of sawmilling	160	2	7
Demonstrate knowledge of wood preservation	16244	2	5
Demonstrate knowledge of log yard operations	8008	2	5
Demonstrate knowledge of timber yard operations	5847	2	5
Demonstrate knowledge of the principles of finger jointing in solid wood manufacturing	15055	2	5
Demonstrate knowledge of the principles of laminating in wood product manufacturing	15056	2	5
Demonstrate knowledge of workplace health and safety requirements	497	1	3
Take and record measurements and make calculations in wood manufacturing	22969	2	3
Demonstrate employment and interrelationship foundation skills in a wood manufacturing operation	22970	2	10
Demonstrate knowledge of factors that affect the performance of wood manufacturing workers	22973	2	10

New Zealand Certificate in Wood Manufacturing – Wood Handling and Distribution – Level 2

Credits: 40
Duration: 9 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Understand basic health and safety requirements and environmental issues relating to the wood manufacturing industry 10 credits	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Understand processes used in log yard or timber yard operations in wood manufacturing 5 credits	Learners must complete at least 5 credits from			
	Demonstrate knowledge of log yard operations	8008	2	5
	Demonstrate knowledge of timber yard operations	5847	2	5
Apply skills and knowledge fundamental to the varied processes and requirements of entry-level roles in log or timber yard operations 25 credits	Learners must complete at least 25 credits from			
	Tally timber	164	2	3
	Monitor inventory of goods and/or materials at a manufacturing or industrial site	17249	3	8
	Demonstrate knowledge of timber grading	27074	2	5
	Handle, sort and stack timber	165	2	3
	Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3
	Demonstrate knowledge of physical characteristics of wood	736	2	5
	Operate a wheeled loader in the wood manufacturing industry	15825	3	5
	Demonstrate knowledge of the Approved Code of Practice relating to chainsaw use	6916	2	5
	Demonstrate basic chainsaw operation	6917	2	8
	Maintain a chainsaw	43	3	10
	Demonstrate knowledge and skills for driving a forklift on a road for endorsement F (forklifts)	18496	3	2
	Provide customer service	57	2	2
	Demonstrate knowledge of Sawmilling	160	2	7
Demonstrate knowledge of storage and materials handling at a manufacturing or industrial site	17241	2	4	
Issue goods and/or materials from internal stock at a manufacturing or industrial site	17246	2	4	

New Zealand Certificate in Wood Manufacturing – Wood Processing – Level 2

Credits: 40
Duration: 9 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Understand basic health and safety requirements and environmental issues relating to the wood manufacturing industry 10 credits	Demonstrate knowledge of workplace risks in a wood manufacturing operation	22977	2	5
	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Understand wood manufacturing products and processes, measurement, and the physical characteristics of wood 13 credits	Demonstrate knowledge of physical characteristics of wood	736	2	5
	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5
	Take and record measurements and make calculations in wood manufacturing	22969	2	3

Outcome	Unit title	Unit	Level	Credits
Safely complete basic practical tasks that are required in a range of operational work areas in a wood manufacturing environment 18 credits	Learners must complete at least 18 credits, of which 13 must be at Level 2			
	Demonstrate knowledge of timber grading	27074	2	5
	Operate cross cut saw centre	20751	3	5
	Feed and tail out finger jointer	4546	3	6
	Use and maintain hand and portable power tools in a wood manufacturing plant	17963	3	5
	Tally timber	164	2	3
	Handle, sort and stack timber	165	2	3
	Use and maintain portable nail or staple guns in the manufacture of wood products	18967	2	3
	Feed and tail out a planer, and monitor planer performance	678	3	5
	Wrap wood products manually	24607	2	3
	Fillet timber for further processing	143	2	3
	Operate a mechanical timber stacking system	8005	2	5
	Operate ripping saw centre	20752	3	5
	Tally random width timber	17961	2	3
	Demonstrate knowledge of the properties of wood	155	3	10
	Apply company grade specifications for timber grading	27069	3	10
	Demonstrate knowledge of saws and knives used in wood manufacturing	20767	2	5
Dispatch goods within an agreed timeframe in a retail or distribution environment	11963	2	4	

New Zealand Certificate in Wood Handling and Distribution – Log Yard Operations – Level 3

Credits: 53
Duration: 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply workplace health and safety in a wood handling and distribution operation 6 credits	Apply workplace health and safety in the wood manufacturing industries	27917	3	6
	Learners must complete at least 5 credits from			
Understand environmental, business or operational requirements in wood manufacturing 5 credits	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Understand work processes used in log yard operations 12 credits	Learners must complete at least 12 credits from			
	Demonstrate knowledge of the principles of wood preservation and antisapstain treatment	8339	3	10
	Demonstrate knowledge of phyto-sanitary standards in the wood manufacturing industry	156	2	3
	Demonstrate knowledge of log making	1252	3	5
	Demonstrate knowledge of log grades and log scaling methods	17770	3	4
Use machinery and equipment to carry out practical tasks specific to log yard operational roles 30 credits	Learners must complete at least 30 credits, of which 20 credits must be at Level 3			
	Control log yard operations	130	4	10
	Confirm log grades and scale logs	166	3	10
	Operate a debarker	134	3	5
	Control a log reception deck	3539	3	5
	Operate a radio remote or pendant controlled overhead crane and lift and place regular loads	3800	3	10
	Inspect export forest produce for insects and fungal infection as a site inspector	5703	3	8
	Handle logs for further processing	12898	3	10
	Sort and load logs onto a log deck for further processing	12899	3	5
	Inspect export forest produce for phyto-sanitary contamination as a site inspector	24776	4	6
	Treat wood with antisapstain chemicals	21761	3	10
Operate a wheeled loader in the wood manufacturing industry	15825	3	5	

Wood Handling and Distribution

Levels 2 and 3

New Zealand Certificate in Wood Handling and Distribution – Wood Fibre Operations – Level 3

Credits: 55
Duration: 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply workplace health and safety in a wood handling and distribution operation 6 credits	Apply workplace health and safety in the wood manufacturing industries	27917	3	6
	Learners must complete at least 5 credits from			
Understand environmental, business or operational requirements in wood manufacturing 5 credits	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5

New Zealand Certificate in Wood Handling and Distribution – Timber Yarding and Despatch – Level 3

Credits: 50
Duration: 12 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits
Apply workplace health and safety in a wood handling and distribution operation 6 credits	Apply workplace health and safety in the wood manufacturing industries	27917	3	6
	Learners must complete at least 5 credits from			
Understand environmental, business or operational requirements in wood manufacturing 5 credits	Demonstrate knowledge of environmental issues in wood manufacturing industries	159	2	5
	Demonstrate knowledge of business basics in the wood manufacturing industry	19794	3	5
	Demonstrate knowledge of the solid wood manufacturing industry	17971	2	5

Strand

Outcome	Unit title	Unit	Level	Credits
Use machinery, equipment and processes to carry out production tasks specific to wood chipping operations 21 credits	Operate a wood chipper	740	3	3
	Operate wood chip and waste storage systems	3538	3	5
	Screen wood chips for further processing	3561	3	3
	Learners must complete 10 credits from			
	Describe techniques used on a wood manufacturing worksite to monitor and control product quality	22972	3	8
	Take and record measurements and make calculations in wood manufacturing	22969	2	3
	Operate a debarker	134	3	5
	Operate a wood slabber	739	3	3
	Control a log reception deck	3539	3	5
	Reclaim and convey wood chips	3541	3	5
Collect and test wood chip samples, and interpret results to maintain the quality requirements of wood chip and wood fibre as a bi-product in wood manufacturing 23 credits	Collect wood fibre material samples, and assess and report wood fibre material quality	20762	3	5
	Demonstrate knowledge of log yard operations	8008	2	5
	Monitor and control contamination in wood chip and wood fibre materials	20760	3	7
	Collect wood chip samples	20761	3	3
	Interpret wood chip and/or wood fibre material test results and take corrective actions	20763	3	5
Test and report wood chip quality	20765	3	5	
Describe wood chip and wood fibre material quality requirements	21497	2	3	

New Zealand Certificate in Manufacturing – Level 5

Credits: 65
Duration: 9 months

Core compulsory units to be completed

Outcome	Unit title	Unit	Level	Credits		
Apply knowledge of audit processes and compliance standards relevant to manufacturing sites to manage technical and quality requirements to maintain product specifications and customer expectations 15 credits	Audit performance against relevant manufacturing standards and recommend improvements for a manufacturing operation	29278	5	15		
	Apply knowledge of company KPIs to manage and improve quality and production in a manufacturing operation 15 credits	Apply knowledge of key performance indicators to improve production and quality in a manufacturing operation	29279	5	15	
		Analyse data and information, and use problem-solving techniques, to identify and troubleshoot manufacturing production and quality issues, and implement actions to resolve issues 20 credits	Gather and analyse manufacturing data to resolve production and quality issues in a manufacturing operation	29280	5	20
	Apply analytical and innovative thinking to develop new ideas to improve production efficiency and product quality 15 credits		Generate, evaluate, scope, and present new ideas for improvement in a manufacturing operation	29281	5	15

Strand

Outcome	Unit title	Unit	Level	Credits
Follow processes or procedures to move and monitor manufactured wood product inventory 27 credits	Learners must complete at least 27 credits from			
	Process inwards goods and/or materials at a manufacturing or industrial site	17243	3	6
	Process returned goods and/or materials at a manufacturing or industrial site	17245	3	6
	Dispatch goods and/or materials from a manufacturing or industrial site	17248	3	6
	Monitor inventory of goods and/or materials at a manufacturing or industrial site	17249	3	8
	Manage quality assurance procedures for materials management at a manufacturing or industrial site	17250	4	7
Use machinery, equipment, or processes to carry out practical tasks specific to timber yard or despatch operational roles 12 credits	Learners must complete at least 12 credits, of which 7 credits must be at Level 3			
	Operate a wheeled loader in the wood manufacturing industry	15825	3	5
	Demonstrate knowledge and skills for driving a forklift on a road for endorsement F (forklifts)	18496	3	2
	Operate a powered industrial lift truck (forklift)	10851	3	7
	Fillet timber for further processing	143	2	3
	Handle, sort and stack timber	165	2	3
	Tally timber	164	2	3
	Tally random width timber	17961	2	3
	Wrap wood products manually	24607	2	3
	Operate cross cut saw centre	20751	3	5
	Demonstrate knowledge and phyto-sanitary standards in the wood manufacturing industry	156	2	3
	Inspect export forest produce for insects and fungal infection as a site inspector	5703	3	8
	Inspect export forest produce for phyto-sanitary contamination as a site inspector	24776	4	6

Competenz is a multi-sector industry training organisation (ITO).
We help Kiwi industry grow skills, careers and businesses.

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