Title	**Demonstrate knowledge of wood preservation**		
Level	**2**	**Credits**	**5**

Purpose	People credited with this unit standard are able to: identify reasons for wood preservation and explain natural durability; demonstrate knowledge of wood preservation processes; and demonstrate knowledge of storage and handling of treated product.

Classification	Wood Manufacturing - Generic Skills > Wood Manufacturing Foundation Skills

Available grade	Achieved

Guidance Information

1 References
Competence in this unit standard requires knowledge of the following:
NZS 3640:2003 *Chemical preservation of round and sawn timber.*
New Zealand Timber Preservation Council, *Timber Preservation Quality Manual* (Wellington, 2005). This is referred to below as the 'TPQM'.
Best Practice Guideline for the Safe Use of Timber Preservatives & Anti-sapstain Chemicals (Wellington, 2005). This is referred to below as the 'Guideline'. These last two references are available through the New Zealand Timber Preservation Council, Wellington or online at http://www.nztpc.co.nz.

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 standards for entry: Unit 736, *Demonstrate knowledge of physical characteristics of wood*; and Unit 159, *Demonstrate knowledge of environmental issues in wood manufacturing industries*.

Outcomes and performance criteria

Outcome 1

Identify reasons for wood preservation and explain natural durability.

Performance criteria

1.1 Reasons for wood preservation are identified.

Range insect attack, fungal attack, marine borer.

1.2 The natural durability of Radiata pine is compared with Douglas fir, Macrocarpa, Rimu, and Tawa.

1.3 Examples of fungi and insects that attack wood in New Zealand are identified.

Range fungi – sapstain, peniophora, mould;
insects – anobium, huhu, two tooth longhorn;
marine borers – teredo, gribble.

Outcome 2

Demonstrate knowledge of wood preservation processes.

Performance criteria

2.1 Methods of antisapstain treatment are identified in terms of application method.

Range spray, dip, pressure;
evidence of two is required.

2.2 Other wood preservation processes are described in terms of process stages in accordance with TPQM.

Range pressure, dip diffusion, vacuum.

2.3 Requirements for wood condition prior to treatment are matched with treatment processes in accordance with TPQM.

Range conditions – raw or final form, sapstain, moisture content;
treatment – pressure, dip diffusion, vacuum.

2.4 Reasons for machining prior to treatment are explained in accordance with TPQM.

2.5 Problems associated with incorrect packet build are described.

Range problems – stability, fillet positioning, dimensions, effect on further processes and final product quality.

2.6 The product standard which covers preservation in New Zealand is identified in terms of its title and scope.

2.7 The body responsible for standards of wood preservation in New Zealand is identified.

Outcome 3

Demonstrate knowledge of storage and handling of treated product.

Performance criteria

3.1 The Guideline which covers safety in New Zealand wood treatment is identified in terms of its title and purpose.

3.2 Reasons for safe handling and disposal of treated timber and residue are identified in terms of personal safety and environmental concerns.

3.3 Storage requirements for the maintenance of product quality are matched with treatment processes.

Range storage requirements may include but is not limited to– off ground, stacked, out of rain, drip free;
treatments mat include but is not limited to – copper azole (Tan E), copper chrome arsenic (CCA), boron compounds, light organic solvent preservatives (LOSP), ammoniacal copper quarternary (ACQ).

3.4 Required condition of timber prior to removal from the drip-pad is described.

3.5 First aid data relating to wood preservatives are interpreted from Material Safety Data Sheets.

Range swallowing, inhaling, splashing into eye or onto skin.

Planned review date	31 December 2024

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	10 February 1999	31 December 2012
Revision	2	12 December 2000	31 December 2012
Review	3	18 December 2006	31 December 2012
Rollover and Revision	4	15 April 2011	31 December 2015
Review	5	20 March 2014	N/A
Review	6	28 May 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.