

<b>Title</b>	<b>Operate a machine stress grader</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	People credited with this unit standard are able to: demonstrate knowledge of the operation and operating principles of machine stress graders (MSG); prepare to operate an MSG; and operate an MSG.
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<b>Classification</b>	Solid Wood Manufacturing > Timber Grading
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<b>Available grade</b>	Achieved
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### Guidance Information

- Legislation and references  
 Health and Safety at Work Act 2015.  
 Resource Management Act 1991.  
 The following references are available at Standards New Zealand  
<https://shop.standards.govt.nz/search/ed>:  
 AS/NZS 1748.1:2011 *Timber - Solid - Stress-graded for structural purposes - General requirements*;  
 AS/NZS 1748.2:2011 *Timber - Solid - Stress-graded for structural purposes - Qualification of grading method*;  
 NZS 3622: 2004 *Verification of timber properties*;  
 AS/NZS 4490:2011 *Timber - Solid - Stress-graded for structural purposes - Verification of properties*;  
 AS/NZS 4063.1:2010 *Characterization of structural timber - Test methods*;  
 AS/NZS 4063.2:2010 *Characterization of structural timber - Determination of characteristic values*.
- Definitions  
*Accepted industry practice* – approved codes of practice and standardised procedures accepted by the wider solid 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 industry sector.

- 3 Assessment information  
All activities and evidence must meet workplace procedures and accepted industry practice.
- 4 Recommended unit standard for entry:  
Unit 20754, *Demonstrate knowledge of mechanical stress grading of timber.*
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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of the operation and operating principles of machine stress graders (MSG).

#### Performance criteria

- 1.1 Purpose of the MSG and the operation of a grading machine are described.
- 1.2 Components of the MSG are described.
- Range components may include but are not limited to – in-feed and out-feed rollers, load cylinder(s) and associated air pressure system, transducers, photocells, acoustic hammer, grade branding or spraying system, computer and memory system.
- 1.3 Product downgrading characteristics are listed, and a description of how grading machines determine these characteristics is given.
- Range evidence of four characteristics are required.
- 1.4 The branding requirements for all MSG grades produced by the mill are identified.
- Range species include but are not limited to – Douglas Fir, Radiata Pine; market – export, domestic.
- 1.5 Roles and responsibilities of the MSG operator are described.

### Outcome 2

Prepare to operate an MSG.

#### Performance criteria

- 2.1 Start-up checks, cleaning, and adjustment of components are completed.
- 2.2 The operating schedule is identified and described.

2.3 Hazards associated with operating an MSG are identified and actions to be taken to manage the hazards are described.

Range hazards may include but are not limited to – moving equipment, mobile plant, noise, loose clothing.

### Outcome 3

Operate an MSG.

#### Performance criteria

3.1 Safe work practices associated with operating an MSG are applied.

Range safety practices may include but are not limited to – isolation procedures, lock-outs, emergency stops, machine guarding, wearing of appropriate safety equipment.

3.2 Machine is operated in a production environment.

3.3 Machine parameters are adjusted to meet the requirements of the operating schedule.

3.4 Samples are removed for verification checks and data relating to the samples are recorded.

3.5 Housekeeping procedures are carried out.

<b>Replacement information</b>	This unit standard and unit standard 28117 replaced unit standard 141.
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<b>Planned review date</b>	31 December 2024
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	20 March 2014	N/A
Review	2	23 April 2020	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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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](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.