NZS 3622:2004

VERIFICATION OF TIMBER PROPERTIES

AMENDMENT NO.1

March 2005

CORRECTION

EXPLANATORY NOTE

This amendment corrects errors in NZS 3622:2004 (published 29 October 2004).

APPROVAL

Amendment No. 1 was approved on 24 March 2005 by the Standards Council to be an amendment to NZS 3622:2004.

Delete table 5.1 and table 5.2 (page 10) and **substitute:**

Table 5.1 – Minimum target values for visually graded timber

Species	Grade	Bending strength f_b (MPa)	Compression strength f_c (MPa)	Tension strength f_t (MPa)	Modulus of elasticity E (GPa)	Fifth percentile modulus of elasticity (GPa)
Moisture condition – Dry (m/c = 16 %)						
Radiata pine and Douglas fir	VSG10	20.0	20.0	8.0	10.0	6.7
	VSG 8	14.0	18.0	6.0	8.0	5.4
Moisture condition – Green (m/c = 25 %)						
Radiata pine & Douglas fir	G8*	11.7	12.0	4.0	6.5	4.4
* G8 is a visual grade which has been verified in the green condition.						

Table 5.2- – Minimum target values for machine stress graded timber

Moisture condition – Dry (m/c = 16 %)						
Species	**Grade**	**Bending strength** f_b (MPa)	**Compression strength** f_c (MPa)	**Tension strength** f_t (MPa)	**Modulus of elasticity** E(GPa)	**Fifth percentile modulus of elasticity** (GPa)
Radiata pine and Douglas fir	MSG15	41.0	35.0	23.0	15.2	11.5
	MSG12	28.0	25.0	14.0	12.0	9.0
	MSG10	20.0	20.0	8.0	10.0	7.5
	MSG 8	14.0	18.0	6.0	8.0	5.4
	MSG 6	10.0	15.0	4.0	6.0	4.0

(Amendment No.1, March 2005)

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Delete clauses 9.4, 9.4.1 and 9.4.2 (pages 13 – 16) and **substitute:**

9.4 Acceptance criteria

C9.4
In order to demonstrate compliance to this Standard, manufacturers must produce timber that has the following properties:

$E_{mean} \geq E_{target}$

$E_{0.05,\ sample} \geq 0.67\ E_{target}$..... *(VSG 8, VSG 10, G8, MSG 8, MSG 6 grades); or*
$E_{0.05,\ sample} \geq 0.75 E_{target}$ ..... *(MSG 10, MSG 12, MSG 15 grades)*

$f_{0.05,\ sample} \geq f_{target}$

Small exemptions have been granted in order to give producers some protection against occasional rogue test results. It is the intent of this Standard that the exemptions only be used in isolated instances.

9.4.1 *Requirements for batch conformance*

A batch shall be deemed to conform if the following stiffness and bending strength parameters are satisfied:

(a) The mean modulus of elasticity, E_{mean} of the specimens in the sample from grades VSG8, VSG10, G8, MSG8, MSG6 is equal to or greater than E_{target} ($E_{mean} \geq E_{target}$) excepting that if any batch has E_{mean} not less than 0.94 E_{target} then it shall be deemed to conform providing consecutive batches are not below E_{target}. If consecutive batches are below E_{target} then the second batch shall be retested in accordance with 9.5 and action shall be taken to restore average stiffness to above E_{target}.

And

the fifth percentile modulus of elasticity, $E_{0.05,\ sample}$ shall comply with:
$E_{0.05,\ sample} \geq 0.67\ E_{target}$

Excepting that if any batch has $E_{0.05,\ sample}$ not less than 0.625 E_{target}, then it shall be deemed to conform providing that consecutive batches are not below 0.67 E_{target}. If consecutive batches are below 0.67 E_{target} then the second batch shall be retested according to 9.5 and action shall be taken to restore $E_{0.05,\ sample} \geq 0.67\ E_{target}$.

$E_{0.05,\ sample}$ shall be determined by using table 9.1 and the ranked results of the sample testing.

(b) The mean modulus of elasticity, E_{mean} of the specimens in the sample from grades MSG10, MSG12, MSG15 is equal to or greater than E_{target} ($E_{mean} \geq E_{target}$) excepting that if any batch has E_{mean} not less than 0.94 E_{target} then it shall be deemed to conform providing consecutive batches are not below E_{target}. If consecutive batches are below E_{target} then the second batch shall be retested in accordance with 9.5 and action shall be taken to restore average stiffness to above E_{target}.

And

the fifth percentile modulus of elasticity, $E_{0.05,\ sample}$ shall comply with:
$E_{0.05,\ sample} \geq 0.75\ E_{target}$

Excepting that if any batch has $E_{0.05,\ sample}$ not less than 0.70 E_{target}, then it shall be deemed to conform providing that consecutive batches are not below 0.75 E_{target}. If consecutive batches are below 0.75 E_{target} then the second batch shall be retested according to 9.5 and action shall be taken to restore $E_{0.05,\ sample} \geq 0.75\ E_{target}$.

$E_{0.05,\ sample}$ shall be determined by using table 9.1 and the ranked results of the sample testing.

(c) Either:
the fifth percentile of the sample bending strength, $f_{0.05,\ sample}$ shall comply with:
$f_{0.05,\ sample} \geq f_{target}$

Excepting that if any batch has $f_{0.05,\ sample}$ not less 0.9 f_{target} then it shall be deemed to conform provided that consecutive batches are not below f_{target}. If consecutive batches are below f_{target} then the second batch shall be retested according to 9.5 and action shall be take to restore the fifth percentile bending strength to above f_{target}.

The $f_{0.05,\ sample}$ shall be determined by using table 9.1 and the ranked results of the sample testing.

Or

if the pieces sampled are proof loaded to no more than their characteristic strength, then there shall be not more than one failure in that sample and none shall fail at less than 90 % of the characteristic bending strength.

9.4.2 *Requirements for continuously monitored conformance*

Production is deemed to conform if the following stiffness and bending strength parameters are satisfied:

(a) The mean modulus of elasticity, E_{mean} of the last 30 specimens tested from grades VSG8, VSG10, G8, MSG8, MSG6 shall be greater than or equal to E_{target}

$E_{mean} \geq E_{target}$

It shall be permitted in isolated instances for E_{mean} to approach 0.94 E_{target} but when E_{mean} is below E_{target} corrective action must be taken to restore E_{mean} above E_{target}.

And

the fifth percentile modulus of elasticity of the last 30 specimens shall comply with:

$E_{0.05,\ sample} \geq 0.67\ E_{target}$ where $E_{0.05,\ sample}$ is taken as the minimum modulus of elasticity of the last 30 specimens.

It shall be permitted in isolated instances for $E_{0.05,\ sample}$ to approach 0.625 E_{target} but when $E_{0.05,\ sample}$ is below 0.67 E_{target} then corrective active action must be taken to restore $E_{0.05,\ sample} \geq 0.67\ E_{target}$.

(b) The mean modulus of elasticity, E_{mean} of the last 30 specimens tested from grades MSG10, MSG12, MSG15 shall be greater than or equal to E_{target}

$E_{mean} \geq E_{target}$

It shall be permitted in isolated instances for E_{mean} to approach 0.94 E_{target} but when E_{mean} is below E_{target} corrective action must be taken to restore E_{mean} above E_{target}.

And

the fifth percentile modulus of elasticity of the last 30 specimens shall comply with:

$E_{0.05,\ sample} \geq 0.75\ E_{target}$ where $E_{0.05,\ sample}$ is taken as the minimum modulus of elasticity of the last 30 specimens.

It shall be permitted in isolated instances for $E_{0.05,\ sample}$ to approach 0.70 E_{target} but when $E_{0.05,\ sample}$ is below 0.75 E_{target} then corrective active action must be taken to restore $E_{0.05,\ sample} \geq 0.75\ E_{target}$.

(c) Either:

the fifth percentile bending strength of the last 30 specimens, $f_{0.05,\ sample}$ shall comply with $f_{0.05,\ sample}$ where $f_{0.05,\ sample}$ is taken as the minimum bending strength of the last 30 specimens.

It shall be permitted in isolated instances for $f_{0.05,\ sample}$ to approach 0.91 f_{target} but when $f_{0.05,\ sample}$ is below f_{target} corrective action must be taken to restore $f_{0.05,\ sample}$ above f_{target}.

Or

if the pieces sampled are proof loaded up to no more than their characteristic strength, there shall be not more than one failure in that sample and none shall fail at less than 90 % of the characteristic bending strength.

(Amendment No.1, March 2005)
