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Louisiana Pacific Corporation
No 2000 - 414 Union Street
NASHVILLE, TN, USA 37219

Ref 1376: Report on structural review of LVL for New Zealand market.

I have structurally reviewed the data and methodology for deriving the structural properties for Louisiana Pacific Laminated Veneer Lumber, grades E13 and E14. The derivation of the properties has been performed by H R Design Group Ltd, Queensland, Australia and has been done in accordance with the following standards:

- AS/NZS 4357.2 – 2006 "Structural laminated veneer lumber (LVL) Part 2: Determination of structural properties – Test methods" and "Part 3: Determination of structural properties – Evaluation Methods"
- AS/NZS 4063 – 1992 "Timber – Stress-graded – In-grade strength and stiffness evaluation"
- ASTM D 5456-07 "Standard Specification for Evaluation of Structural Composite Lumber Products"

Table 1: Characteristic Structural Properties of LP LVL for grades E13 and E14

Grade	Edge					Flat					Axial	
	f_b [1]	f_s	$f_{c.perp}$	E	G	f_b [3]	f_s	$f_{c.perp}$	E	G	f_c	f_t [2]
	MPa	MPa	MPa	GPa	MPa	MPa	MPa	MPa	GPa	MPa	MPa	MPa
E13	40.2	5.3	12.0	13.2	660	38.0	3.1	7.4	12.3	615	32.3	23.7
E14	44.8	5.3	12.0	14.0	700	43.2	3.1	7.4	13.7	685	43.9	26.7

1) The edge bending strength shown is normalised for 300mm deep section. For other depths, adjust the bending strength by multiplying by the size factor (300/d)^0.143 (not to exceed 1.19), where d = depth of section considered

2) The tension strength shown is normalised for 150mm deep section. For deeper sections, adjust the tension strength by multiplying by the size factor (150/d)^0.167, where d = depth of the section considered.

3) The flat bending strength shown is normalised to the standard LVL section widths. Flatwise bending strength does not need to be adjusted for size factor.

The structural properties shown in Table 1 are consistent with the requirements of the NZ Building Code, B1 Structure and may be used for the specific design of timber components utilising NZS 3603:1993 Timber Structures Standard. Connections may be designed using NZS3603:1993 J4 joint group properties.

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