

File: 11-0307  
Date: 13 September 2011

**Attn: Wyn Bromiley**  
**Email: [wyn@woodtecaustralia.com.au](mailto:wyn@woodtecaustralia.com.au)**

Ref: E12 LVL Formwork Characteristic Values - 2011

Dear Wyn,

Please find below the table of values as assessed for the Formwork LVL as proposed. These values are based on the test data assessment by LP, and checked by myself, and are in accordance with the following codes:

- AS/NZS 4357.2 – 2006 “Structural laminated veneer lumber (LVL ) Part 2: Determination of structural properties – Test methods”
- AS/NZS 4357.3 – 2006 “Structural laminated veneer lumber (LVL ) Part 3: Determination of structural properties – Evaluation Methods”
- AS/NZS 4063.2 – 2010 “Characterization of structural timber - Determination of characteristic values”
- AS1720.1 – 2010 “Timber structures - Design methods”
- ASTM D 5456-07 “Standard Specification for Evaluation of Structural Composite Lumber Products” (US Code)

Table: Australian Characteristic Structural Properties of LP LVL for grades E12 (1.7E US product)

Grade	Edge					Flat				Axial	
	$f_b^1$	$f_s$	$f_{c,perp}$	E	G	$f_b^3$	$f_s$	$f_{c,perp}$	E	$f_c$	$f_t^2$
	MPa	MPa	MPa	GPa	MPa	MPa	MPa	MPa	GPa	MPa	MPa
<b>E12</b>	34.6	5.3	12.0	11.9	595	33.4	3.05	7.4	11.6	30.6	20.6

- 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.

This work has been carried out by my staff, and under my supervision, and I am satisfied that the resulting LVL characteristic values are in accordance with all relevant requirements for Australia, and are suitable for use in all forms of construction in accordance with the Building Code of Australia.

If you require inspections of any aspects during the remedial works, please ring our office. Should you require any further information, please do not hesitate to contact my office.

**Yours faithfully,**  
**HR DESIGN GROUP Pty Ltd**




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