

LVL8 H1.2 & LVL11 H1.2 STUD FRAMING

**Eco
Friendly**

Revolutionary
H1.2 Treatment
Azotek™ by Zelam



Introduction

NelsonPine LVL is an engineered wood composite made from rotary peeled veneers, laid up with parallel grain orientation. One of the main features of LVL is to disperse or remove strength-reducing characteristics of wood. NelsonPine LVL is an engineered, highly predictable, uniform lumber product, because natural defects such as knots, slope of grain and splits have been dispersed throughout the veneer assembly or have been removed altogether. In addition to this, the veneer sheets are placed in a specific sequence and location within the product to maximise the potential of the stiffer and stronger veneer grades. This can be considered as an engineered configuration of the veneers. NelsonPine LVL is dimensionally stable, resists warping and twisting and is machined to consistently uniform sizes.

NelsonPine Design Software

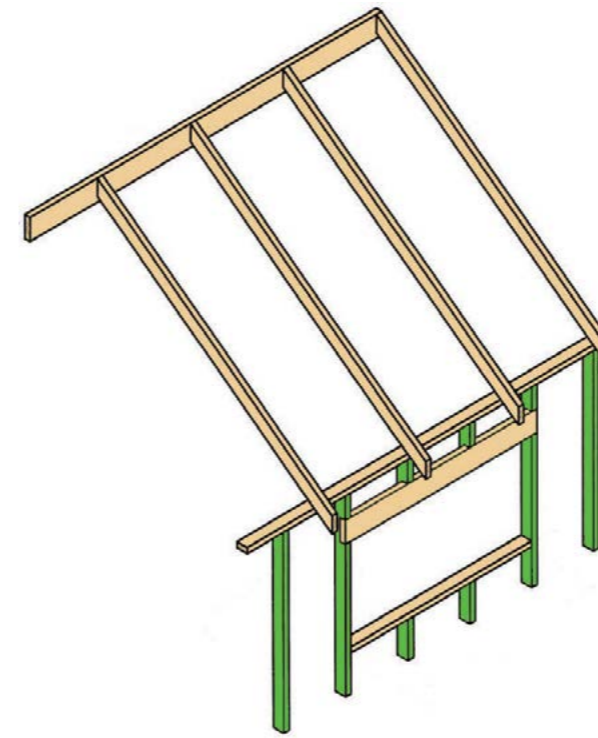
NelsonPine Design software allows for alternative designs of NelsonPine LVL stud frame members for the use in houses and similar buildings in conjunction and within the scope of NZS3604. NelsonPine Design software is free for download by visiting:

<http://www.nelsonpine.co.nz/NelsonPineDesign/NPDv1-Install.zip>

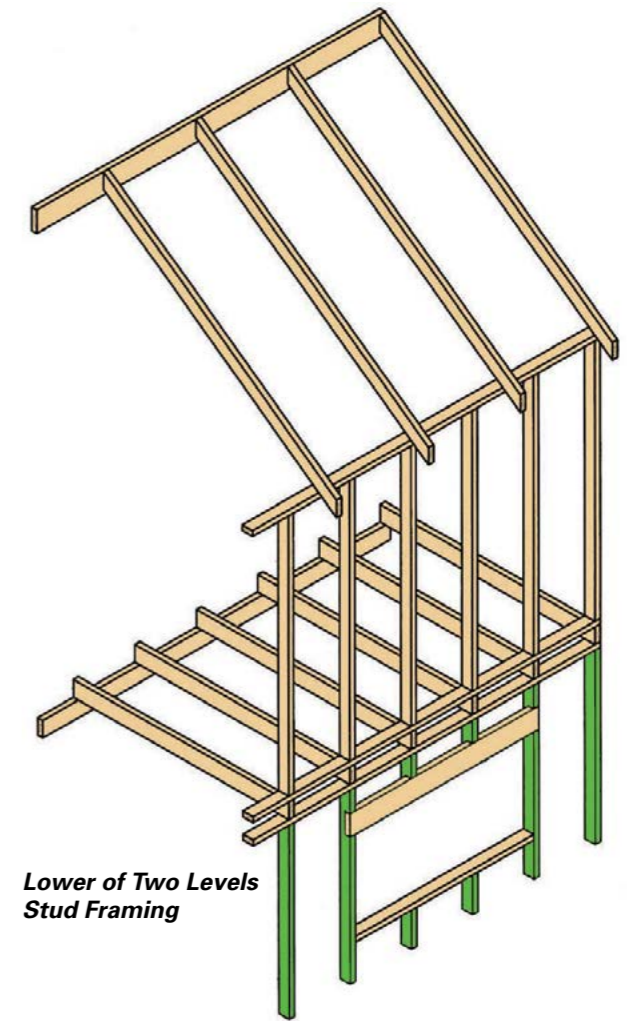


Product Specification

Actual Size:	90x45, 140x45
Timber Species:	Radiata Pine
Adhesive:	Phenolic adhesive producing a Type A marine bond (AS/NZS2098)
Formaldehyde Emission Class:	E ₀ (Table 1 AS/NZS4357)
Branding:	NelsonPine LVL standard ink jet branding on face.
Treatment:	H1.2 Azotek treatment (full penetration) as per NZS3640 and an acceptable solution as per amendment 8 B2/AS1 of the NZ Building Code. The audited Azotek treatment process uses a combination of fungicides and insecticides added to the glue line during manufacture to deliver precisely controlled actives throughout the veneer layup. The process contains no solvents and can be confidently used where H1.2 Boron timber is used. NelsonPine H1.2 can be cut, notched, drilled without any requirement for re-sealing or re-treating the exposed cut surfaces. The actives in the treatment are non corrosive to common timber fasteners.
Weather Exposure:	Exposure of NelsonPine LVL to the weather for a limited time when framed into a structure is acceptable and will not result in any structural damage. However, should NelsonPine LVL be wet on installation it should be allowed to dry out to below 18% equilibrium M.C. prior to covering and lining. Refer to Procedure for testing moisture content of NelsonPine LVL available from our website www.nelsonpine.co.nz .
Storage and Handling:	LVL expands in thickness and depth when allowed to get wet. To ensure the full benefits of NelsonPine LVL as a dry, straight and true material are available at the time of installation, the following recommendations regarding storage are made: <ol style="list-style-type: none"> 1. Stack on evenly spaced level bearers to keep flat and straight 2. Stack well clear of the ground for good ventilation 3. Store under cover to keep dry prior to installation 4. Take care to re-wrap remaining material after opening
Construction Considerations:	NelsonPine LVL has an ex factory moisture content of 10-12% which is consistent with the equilibrium moisture content expected in a modern climate controlled home. When exposed to moisture during construction NelsonPine LVL may swell due to the uptake of moisture. The width of product (90 or 140mm) exhibits reversible swell. i.e. it will return to its original width once the moisture content has returned to original, however the thickness (45mm) exhibits some irreversible swell. This can cause tolerance issues in frames particularly with studs at close centers or longer walls. Dwargs maybe cut and installed on site to overcome this issue.



Single Story Stud Framing



Lower of Two Levels Stud Framing

NelsonPine LVL8 H1.2 & LVL11 H1.2 Framing for use in Timber Framed Construction in New Zealand

NelsonPine LVL8 H1.2 and LVL11 H1.2 are suitable to be substituted in place of No. 1 Framing, SG6 and SG8 sawn timber as ordinary timber in timber framed buildings within New Zealand as per NZS3604 (clause 2.3.9) Timber Framed Buildings, as an acceptable solution. NelsonPine LVL8 H1.2 and LVL11 H1.2 will meet the structural and durability requirements of the NZ Building Codes Clauses B1 and B2 when installed correctly in accordance with NZS 3604 and NZS3602.

NelsonPine LVL8 & LVL11 H1.2 Stud Tables

These specifically engineered charts have been prepared in accordance with clause 2.3.9.6 NZ3604 and have as a minimum been engineered in accordance with B1/VM1.

NelsonPine LVL8 H1.2 and LVL11 H1.2

Limit State Design Characteristic Values

Property		LVL8 H1.2 (MPa)	LVL11 H1.2 (MPa)
Modulus of Elasticity (ave)	MoE	8000	11000
Modulus of Elasticity (lower bound)	MoE	7000	9900
Bending Strength	f _b	30.0	38.0
Tension Parallel to grain	f _t	20.0	26.0
Compression Parallel to grain	f _c	30.0	38.0
Compression Perpendicular to Grain	f _c	7.0	10.0
Shear in Beams	f _s	5.0	5.0

All values are in the edge orientation as a joist

PRODUCER STATEMENT



NELSON PINE INDUSTRIES - LVL STUD TABLES

Tasman Consulting Engineers Limited has been engaged by Nelson Pine Industries to provide design services for the development of the LVL8 and LVL11 stud tables.

The design has been carried out to AS/NZS1170:2002, NZS3603:1993 and the engineering basis of NZS3604:2011 using sound and widely accepted engineering principles for Nelson Pine manufactured LVL.

I believe on reasonable grounds that the stud design will meet the requirements of clauses B1/VM1 of the Building Code Documents.



David King

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For Tasman Consulting Engineers
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NelsonPine LVL and laminate device are registered tradenames and trademarks of Nelson Pine Industries Ltd

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Plantation Grown. All veneers used in the manufacture of NelsonPine LVL are peeled from sustainable plantation grown Pinus Radiata logs.