NelsonPine®
Laminated Veneer Lumber LVL

LVL CARE AND PROTECTION GUIDE

V5.0 SEPTEMBER 2025

Introduction to NelsonPine LVL

NELSON PINE INDUSTRIES LIMITED – LVL CARE AND PROTECTION GUIDE

This guide sets out recommendations for protecting Nelson Pine Industries Limited (NPIL) LVL hereafter referred to as either LVL or timber.

Successful erection and completion of an LVL project require careful handling of the LVL and prevention of moisture contact with the LVL.

This guide should be used by those tasked with handling the LVL and those taking responsibility for the installation either before the building is closed in or after.

This guide is split into three sections.

- Handling and Storage,
- During Construction, and
- After Completion.

WHY LVL REQUIRES CAREFUL HANDLING

LVL products are constructed from Radiata Pine veneer and structural adhesive.

LVL moisture levels should be less than 18%.

LVL could be a source of fuel for any fire. During construction, the site should be evaluated in terms of ignition sources and site security.

WHY LVL REQUIRES WEATHER PROTECTION

Timber absorbs water faster than it releases when it dries.

Timber absorbs water much faster via the end grain than the side grain.

Timber dries in the right conditions: low air humidity, air circulation, heat and protection from rain / moisture, undercover air circulation provides the best means to dry timber. Force drying can create more issues.

Moisture related movement in timber can cause major quality problems.

Mould grows under certain conditions; sustained high humidity levels, warm temperature, nutrients, conducive pH, UV light, spores.

Mould grows on the surface of timber; however, most often does not effect its strength.

Dirt on the LVL increases risk of mould growth, since it can contain spores and may retain moisture.

Mould growth can be a precursor for other more serious attacks.

Fungal decay develops at constant and sustained high moisture levels and will break down the strength of timber.

Painted surfaces may slow moisture uptake and extend the drying out process, but shouldn't be relied on as the only form of defense against moisture.

PRODUCT CERTIFIED
tested STRUCTURAL LAMINATED VENEER LUMBER
paa ENGINEERED WOOD
A Bond E_0 Mill 919

Part One - Handling and Storage

HANDLING CARE

LVL are timber products which can be damaged by mis-handling and have a particular vulnerability to point load damage. Before unloading any LVL careful consideration must be made of the following to ensure a plan is in place to prevent any damage or harm coming to the product.

When loading, moving, relocating or transporting surface protection must be used to prevent damage to the product. NPIL recommend using corner protection in webbing slings. If using forklifts, strops, chains or wire ropes protection will be required. Unless it is unavoidable the LVL should be lifted on its edge to align it with its final position.

Use spreaders on long members and position slings to ensure a well-balanced load and support. During transport and erection take care not to over-stress the LVL.

LVL should never be dropped, jarred or dragged.

It is recommended that when unloading with a forklift that a suitability qualified and well briefed spotter is employed with the express authority to call a stop if any possible damaging scenario looks like it may occur.

KEEP IT DRY

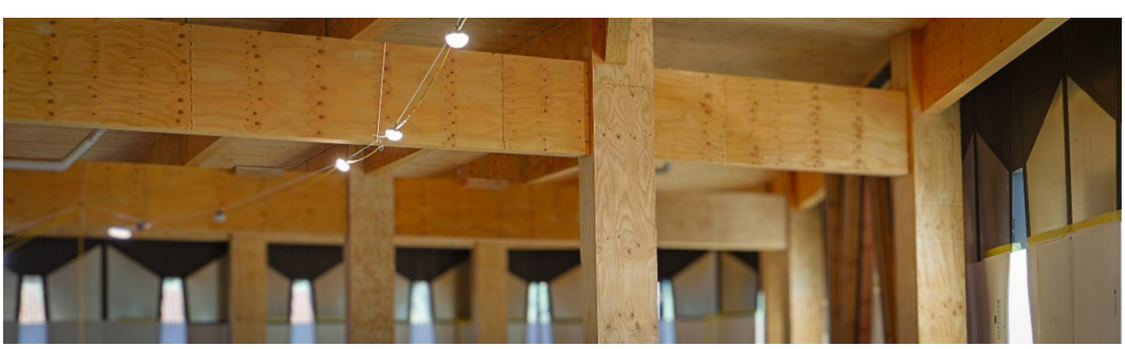
LVL can withstand some rain wetting but for ideal results should remain dry at all times prior to enclosing the building.

Before delivery of any LVL consideration should be given to inside storage for the LVL product. If inside storage cannot be arranged the following should be carefully followed.

Store on bearers at least 150mm above the ground and support every meter of length.

If exposure to any weather is a possibility in storage it is recommended that the LVL is protected behind a partial enclosure, tarpaulin or scaffold with a breathable plastic wrap.

Monitor weather protection or any plastic wrap to ensure hidden damage and penetrations are not present. It is recommended that periodic inspections be planned, carried out and recorded during any storage period.



Part Two - During Construction

ERECTION OF LVL

Before the erection of any LVL a plan should be made on how the LVL will be protected from the weather and damage during erection. Consider how much protection is needed, what protection type is ideal, what LVL will be exposed during construction and what LVL is going to get wet.

Monitor weather conditions to ensure an appropriate weather window is available and remain aware of any weather changes that may require a pause or deferment of the work.

Before any placement look for standing water on surfaces, slabs or adjacent surfaces of areas that could hold standing water where conditions change. All standing water where the LVL is to be installed must be removed prior to installing the LVL. Carefully consider if a physical or mechanical barrier to the LVL is appropriate to prevent the LVL being exposed to standing water. Bear in mind that barriers that prevent LVL breathing or could hold water against the LVL must be avoided.

Examine any LVL exposed to sunlight. UV damage will be first obvious from fading of the seal coat. If fading is evident protect immediately.

Once erected immediately install timber plugs over lifting, screw holes and any services penetrations that may trap moisture.

ERECTED NOT ENCLOSED AND / OR ENCLOSED BUT NOT HANDED OVER

If exposure to any weather is a possibility before the structure is fully enclosed it is recommended that the LVL is protected behind some form of partial enclosure, tarpaulin or scaffold with plastic wrap.

Consider applying a physical or mechanical barrier against any likely standing water.

Monitor weather conditions and remain aware of any change in the weather which could result in LVL becoming exposed to moisture.

Where any exposure to the weather or sunlight is no longer a risk you should consider if some remediation touch up is appropriate.

If remedial touch up is an appropriate plan do not commence until you have carefully considered the following:

- Be careful not to over-sand. Sanding though a layer of veneer may expose a glue layer within the LVL resulting in an unredeemable defect in the LVL;
- Mould remediation should carefully consider how this might be effected. Often the mould damage is light and shallow where a light sand may be the most effective remediation;
- Aquence™ is usually compatible with most finishing systems. Refer to architects specifications.

Part Three - After Completion

Monitor LVL for any fading of the seal coat. Any fading is the first sign of UV damage and should be addressed to prevent further damage.

Plan for periodic monitoring for any moisture and ensure inspections are recorded and details kept.

FURTHER CONSIDERATIONS

Developing a comprehensive moisture risk management plan for large construction projects or multi-story developments is recommended.

The LVL is coated with 1 layer of Aquence™[1] which supplies short term protection for up to 3 months. If the LVL does require additional coating to the end grain on site options include products similar to Fortitude 150[2] bearing in mind visual aspects and the architectural specifications.

[1] Distributed by Henkel www.henkel-adhesives.com/nz

[2] Distributed by Build Anatomy www.buildanatomy.com/products-2/fortitude-150-mass-timber-sealant