



# NeXTimber® Glue Laminated Timber Durability Technical Notes



# Introduction

NeXTimber® GL13 – H3 may be used where Hazard Class H3 timber or less is permitted and is not suitable where higher durability or hazard classes are required.

AS 1720.1 states;

***“The structure and its structural elements (including timber, metal, adhesives, and any other structural material) shall be designed. Any assumed maintenance program shall be specified in order to satisfy strength, stability and serviceability requirements, for the design life of the structure. Due consideration shall be given to environmental conditions, such as the thermal, physical, chemical, mechanical, and biological agents that may act on the structure to reduce its performance characteristics.”***

...making designers and users of NeXTimber® products responsible for how these products are designed, specified, used and maintained. However, it should be the collective goal of all involved parties to prioritise durability in the design and construction of timber structures.

The durability of timber in above-ground outdoor settings relies on input by the designers, builders, and owners as well as undertaking regular maintenance. NeXTimber® has compiled the following list of recommendations and guidance to assist in achieving the expected durability and longevity when using our products.

## Recommendations for NeXTimber® products for weather-exposed applications

When using NeXTimber® GL13 H3 externally, it is recommended to ensure that it is adequately painted and sealed, clad and protected from direct sun exposure, and installed with top/end-capping to deflect rainwater.

It is also recommended to avoid nail, screw or bolt laminated NeXTimber® beams or columns in applications where moisture could potentially get trapped.

## Tips for the Designer

- Implementing sound building design to prevent water retention in timber joints, including using good end caps and ensuring proper ventilation.
- Specifying high-quality protective finishes, such as light-coloured pigmented external paint systems, following coating manufacturers' recommendations and NeXTimber® Technical Data Sheets.
- Establishing an inspection and maintenance plan based on exposure levels and paint manufacturer specifications. Surfaces directly exposed to sunlight should have more frequent inspection and maintenance.
- Detailing timber to allow it to drain and allow it to naturally dry.
- Follow recommendations in the Standards Australia Handbook 108-2013.

## Tips for the Builder

- Maintaining timber dryness and quality according to NeXTimber® Technical Data Sheets including information on site handling and protection.
- Resealing all newly formed surfaces from cuts, notches, drill holes, and joints with a suitable fungal-resistant treatment preservative.
- Promptly repairing any damage to the paint protection.
- Matching the durability of fasteners/fixings with the chosen NeXTimber® product projects design life and considering the preservative treatment used.

## Tips for the Owner

- Routinely following an inspection and maintenance program as specified by the designer, builder, or surface finish manufacturer applied to the NeXTimber® product.
- Conducting maintenance inspections annually or more frequently for timber in direct weather-exposed applications. These inspections should focus on the performance of the finish system, joints, fasteners, end grain, capping, facing elements, beam lamination points, and other water-prone horizontal surfaces.

## Tips for Good Design and Detailing Practices

Effective design and detailed planning play a crucial role in reducing the reliance on protective finishes for timber structures. Here are some design practices that can enhance the durability of exposed NeXTimber® products:

- Having arrised or rounded edges on beams to minimise coating failures on sharp edges.
- Using drip edges or similar details to facilitate moisture flow away from the NeXTimber® product.
- Shielding the NeXTimber® product from direct sun exposure or excess moisture.
- Applying non-compressible shields made of metal, fibre cement, or plastic on exposed faces or ends to maintain dry state. (Refer to Diagram below.)
- Protecting joists and bearers in weather-exposed decks. (Refer to Diagram below.)
- Incorporating damp-proof membranes where the timber might contact moisture via porous masonry or concrete.
- Ensuring adequate ventilation for all NeXTimber® elements to prevent moisture content from exceeding 15% and to avoid moisture gradients across the timber.

Regarding joint detailing, adherence to the following guidelines is recommended:

- Minimising horizontal contact areas in favour of self-draining inclined surfaces.
- Providing ventilation between surfaces using spacers where feasible.
- Detailing flashing to allow water to drain away.
- Using compatible fasteners with sufficient corrosion protection, predrill such as hot-dipped galvanic coatings or stainless steel.
- Allowing adequate drainage for any moisture entering a joint (refer to Diagram).
- Accounting for thermal expansion/contraction in joint design.
- Using building overhangs or structures to shield the timber from excessive moisture and sun exposure.

During construction, it's important to protect NeXTimber® products before and during installation with temporary covers and/or coatings. Refer to NeXTimber® storage and handling for further recommendations on appropriate storage and handling.

Additionally, ensuring all NeXTimber® products have a well maintained protective finish suitable for their intended exposure conditions is important. When selecting and applying coatings, follow the directions and recommendations of the coating system manufacturer.

These guidelines are based on current information and industry practices and are provided in good faith for general guidance. NeXTimber® does not provide a warranty or assurance that these recommendations will suit every circumstance.

In cases of uncertainty, seek independent expert advice.

For inquiries relating to NeXTimber® products and their usage, contact [info@nextimber.com.au](mailto:info@nextimber.com.au)



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