



Hyne Timber products in above ground weather exposed applications.

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Introduction

The successful performance of timber in weather exposed (external environments) above ground applications is dependent on the designer, builder and owner complying with the recommendations as described below. Furthermore, as durability is not mandatory requirement within the National Construction Code (except Queensland), complying just with the building regulations will not ensure an adequate design life for the Hyne Timber Product. It should be the aim of all parties to design and construct timber structures with durability as the foremost objective in mind.

High durability is achievable through:

1 THE DESIGNER

- The materials used (e.g. durable timber and/or appropriately preservative treated timber and durable fasteners), such as durability Class 2 above ground for hardwood or preservative treated to H3 for pine. (NB: Hardwood for use in QLD above ground must be above ground durability Class 1).
- Good building design and detailing to ensure timber joints do not allow the capture and the retention of water, including good end caps and ventilation.
- Specification of premium quality protective finish (e.g. light coloured pigmented external paint system). In accordance with the coatings manufacturers recommendations and Hyne Technical Data Sheet 8 – *Painting, Sealing or Varnishing Hyne Timber Products for External Applications*
- Specify an inspection and maintenance programme, based on exposure level and the paint manufacturer's specification.
- Surfaces exposed directly to sunlight should be capped or faced and should have inspection and maintenance programme at more frequent intervals.
- Design in accordance with Hyne Technical Data Sheet 9 – *Hyne Timber Products Design for Durability*

2 THE BUILDER

- Keeping the timber dry and in good condition, refer to Hyne Technical Data Sheet 5: *Hyne Timber on Site Handling and Protection*
- Ensuring all new surfaces formed from cuts, notches, drill holes and joints, etc. be resealed with a suitable brushed or sprayed fungal resistant treatment preservative.
- Make good any damage to the paint protection as soon as possible.
- Match fasteners/fixings durability with the design life of the Hyne timber product chosen whilst also considering the type of preservative treatment used.

3 THE OWNER

- Follow an inspection and maintenance programme as specified by the designer, builder or surface finish manufacturer used on the Hyne Timber product.
- Maintenance inspections should be held annually or more frequent if the Hyne Timber product is in direct weather exposed applications. The maintenance inspections should focus on the performance of the finish system, joints, fasteners, end grain, all capping and facing elements, lamination points in the beam and other horizontal surfaces where water can sit.

SUITABLE HYNE TIMBER PRODUCTS FOR WEATHER EXPOSED APPLICATIONS

- Hyne Beam 21 (Spotted Gum, Mixed Species or Forest Red Gum) durability Class 2 – above ground or better, painted, stained, faced with sheeting in sun exposure and end/top capped. (NB: For Queensland coastal regions Durability Class 1 – above ground – hardwoods are required)
- Hyne Beam 15 (Pine – H3) full penetration treatment, painted, faced with sheeting in sun exposure and end/top capped.
- Hyne LGL (Pine – H3) painted, faced with sheeting in sun exposure and end/top capped.

UNSUITABLE HYNE TIMBER PRODUCT FINISHES FOR WEATHER EXPOSED APPLICATIONS

- Non-durable (less than durability Class 2 – above ground) or untreated, less than H3 laminated beams/products.
- Unpainted or unprotected Hyne Beams.
- Nail laminated, screw laminated or bolt laminated Hyne Beams.
- Dark coloured paint systems as they cause surface checking.

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GOOD DESIGN AND DETAILING

Good detailing reduces the timber structure's ongoing dependence on protective finishes. Following are a number of simple detailing and general design practices which will enhance the durability performance of exposed Hyne Timber product timber structures.

1. The use of arrised or round edges on beams to reduce the likelihood of coating failures on sharp edges.
2. The use of drip edges or other devices which provide a path for free moisture flow away from the Hyne timber product.
3. Shielding of the Hyne timber product from free moisture or direct sun.
4. The use of non-compressible metal, fibre cement or plastic shields on the exposed faces or ends of Hyne timber product is required to help maintain the Hyne timber product in an unstressed dry condition. Refer to Diagram 1.
5. Joists and bearers in weather exposed (above ground) decks shall be installed and protected as per Diagram 3.
6. The use of damp proof membranes is also required where the Hyne Timber product may be in contact with moisture through porous masonry or concrete.
7. All beams shall be provided with adequate ventilation so that moisture content within Hyne Timber product will not exceed 15% and moisture gradients across the Hyne Timber product will not occur.

JOINT DETAILING SHOULD, WHEREVER POSSIBLE, COMPLY WITH THE FOLLOWING:

- Keep horizontal contact areas to a minimum, in favour of self-draining vertical surfaces.
- Ventilate joint surfaces by using spacers, wherever possible.
- Always use compatible fasteners which have adequate corrosion protection and do not cause splitting during installation e.g. hot dipped galvanic coatings or stainless steel.

- Ensure any moisture entering a joint is not trapped but can adequately drain away from the joint. Refer to Diagram 2.
- Allow for thermal expansion/contraction in the joint design.
- The use of building overhangs and other structures which protect the Hyne Timber product from excessive moisture movement and sun exposure.

GOOD CONSTRUCTION PRACTICES

It is essential that the Hyne Timber Products range are protected properly prior and during installation. For recommendations on proper storage and handling, refer to Hyne Technical Data Sheet 5: *Hyne Timber on Site Handling and Protection*.

PREMIUM QUALITY PROTECTIVE FINISH

All Hyne Timber product should have a protective finish adequate for the exposure condition they will be installed in. Refer to Hyne Technical Data Sheet 8: *Painting, Sealing or Varnishing Hyne Timber Products For External Applications*.

DISCLAIMER

The recommendation and guidelines of these Hyne Technical Data Sheets are based on current information and industry practices and have been produced in good faith for the general guidance of consumers and trades people. No warranty or assurance can be given that these recommendations will suit every possible situation or particular circumstance.

Hyne accepts no responsibility for the performance in accordance with these recommendations or otherwise. If in doubt Hyne recommends that users obtain independent expert advice.

HYNE PRODUCT INFO SERVICE

Please contact the Hyne Product Information Service for any information regarding the purchasing of Hyne Timber products and their use by emailing info@hyne.com.au

DIAGRAM 1 CAPPING DETAILS

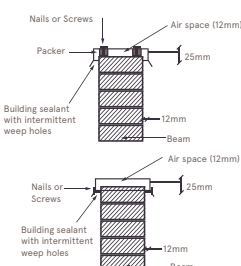


DIAGRAM 2 DETAILING TO AVOID MOISTURE TRAPS

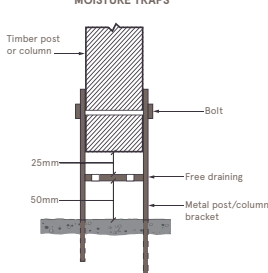


DIAGRAM 3 BEARER AND JOIST IN WEATHER EXPOSED DECK

