



## HYNE ETP IN WEATHER EXPOSED APPLICATIONS

TDS6

### INTRODUCTION

The successful performance of timber in weather exposed (external environments) is totally dependent on the designer, builder and owner complying with the recommendations as described below. It should be the aim of all designers and builders 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 for hardwood or H3 for pine.
- Good design detailing (e.g. end caps, good drainage and ventilation).
- Specification of premium quality protective finish (e.g. light coloured pigmented external paint system).
- Specify an inspection and maintenance programme, based on exposure level and the paint manufacturer's specification.
- Design in accordance with TDS 9

#### 2 The Builder

- Keeping the timber dry and in good condition (refer also Technical Data Sheet 5: *Hyne ETP On Site Handling and Protection*)
- Ensuring all edges, faces, notches, drill holes and joints etc. are protected with treatment (if pine) and primer painted.
- Any damage to the paint protection made good as soon as possible.
- Match nail or fastener type with bracket fastener (eg. galvanised screw with galvanised bracket).

#### 3 The Owner

- Follow an inspection and maintenance programme as specified by builder, designer and paint manufacturer.
- Maintenance inspections should focus on the performance of the finish system, joints, fasteners end grain, lamination points in the beam and horizontal surfaces where water can sit. Surfaces exposed directly to sunlight should be capped or faced and should also be closely examined.

### SUITABLE ENGINEERED TIMBERS

#### (FOR WEATHER EXPOSED APPLICATIONS)

- The use of engineered timber products listed hereunder in external applications is acceptable if attention is paid to the recommendations of this data sheet and that they are fully maintained.
- Hyne Beam 21C (Spotted Gum, Mixed Species or Forest Red Gum) durability Class 2 or better, painted, faced with sheeting in sun exposure and end/top capped.
- Hyne Beam 17C (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.
- Hyne LVL (Pine - H3) painted, faced with sheeting in sun exposure and end/top capped. The LVL surface CANNOT be exposed horizontally to the weather and water entrapments are NOT permitted.

### UNSUITABLE ENGINEERED TIMBERS

#### (FOR WEATHER EXPOSED APPLICATIONS)

- Non durable (less than durability class 2) or untreated, less than H3 laminated beams/products.
- Unpainted or unprotected Hyne Beams, Hyne LGL and Hyne LVL.
- Hyne I-Beams.
- Hyne LVL if surface is exposed horizontally to the weather and water entrapment can occur.
- Nail laminated, screw laminated or bolt laminated Hyne Beams, Hyne LGL and Hyne LVL.

#### Disclaimer

The recommendation and guidelines of these 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.



**GOOD DESIGN AND DETAILING**

Good detailing reduces the 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 glue laminated timber structures.

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

- 7 Joint detailing should, wherever possible, comply with the following:
  - Keep horizontal contact areas to a minimum, in favour of 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 eg. 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.
- 8 The use of building overhangs and other structures which protect the beams from excessive moisture movement and sun exposure.

**GOOD CONSTRUCTION PRACTICES**

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

**PREMIUM QUALITY PROTECTIVE FINISH**

Refer to Technical Data Sheet 8: *Sealing, Painting or Varnishing Hyne ETP*

