

## e-beam and e-beam+[F17] used Internally and Externally in Residential Housing

### Introduction

Wesbeam's e-beam and e-beam+[F17] laminated veneer lumber (LVL), can be used in all structural applications where traditional sawn timber has been used. Being engineered timber products, e-beam and e-beam+[F17] are manufactured to meet the specific needs of the residential building industry and are available as both untreated as well as treated products to enhance their durability.

The benefits of LVL are due to its reliability, dimensional consistency and long length availability that have seen it now used widely in residential housing from bearers and joists through to roof battens. Technically, this wide spread market acceptance has been due to its uniformity of engineering properties, high strength to weight ratio and reliable performance.

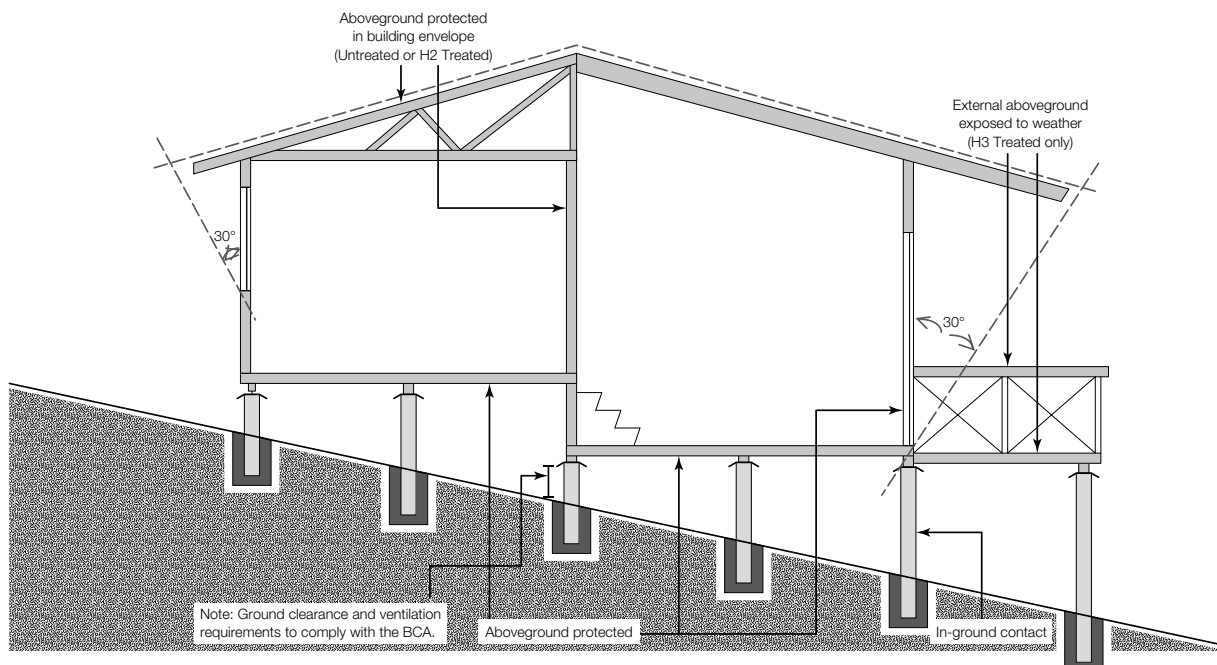
### e-beam and e-beam+[F17] Engineered Timber Products

e-beam and e-beam+[F17] are manufactured by laminating Maritime Pine and/or Radiata Pine veneer, using phenolic adhesive, in a continuous assembly in which the grain direction of all veneers runs longitudinally. The grade of veneers used complies with the requirements of AS/NZS 2269 Plywood – Structural Part 0 Specifications which allows a range of characteristics, including filled knot holes, sound knots, filled splits and tight gum veins, to be present in veneers. They are pressed as a 1.2 m nominal width continuous billets in various standard thicknesses (35mm, 45mm, 63mm and 75mm), cut to standard widths and any specified length for use as structural beams and other framing components. e-beam and e-beam+[F17] conform with the requirements of AS/NZS 4357 Structural Laminated Veneer Lumber and are manufactured from plantation timbers, making them environmentally sustainable products.

### e-beam and e-beam+[F17] Options

#### (1) Untreated e-beam and e-beam+[F17]

Wesbeam's e-beam and e-beam+[F17] are predominately manufactured from Maritime pine (*Pinus pinaster*) that has an above ground natural durability Class 4; but the heartwood of Maritime pine also has a natural resistance to termite attack. It can readily be used within a covered house frame as illustrated below or fully protected from the weather under a roofed structure such as a carport.



*(2) Treated e-beam and e-beam+[F17]*

If a preservative treatment is desired to enhance the durability of Wesbeam's e-beam and e-beam+[F17], they can be treated in accordance with AS1604 Specification for preservative treatment Part 4: Laminated veneer lumber (LVL) to meet the intended durability as described below.

*H2 Exposure* (Inside, protected from wetting, above ground)

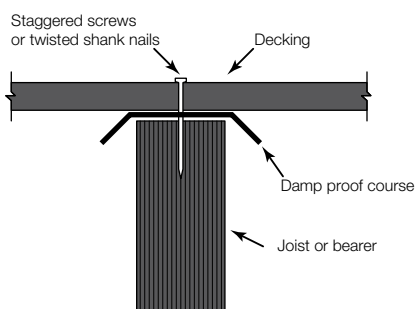
Being manufactured products, Wesbeam's e-beam and e-beam+[F17] can be readily treated to resist termite attack. e-beam and e-beam+[F17] products treated to a H2 level can be used anywhere in Australia while a H2S level can only be used in locations South of the Tropic of Capricorn to provide protection against termite attack. H2 and H2S treated products should only be used undercover within a house frame (as shown above) or fully protected from the weather under a roofed structure such as a carport.

*H3 Exposure* (Outside, fully exposed, above ground)

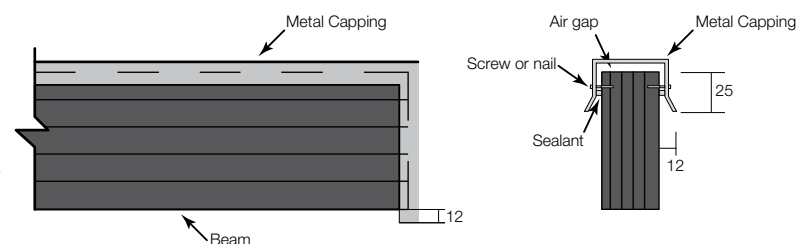
Wesbeam's e-beam and e-beam+[F17] products are also available as H3 Light Organic Solvent Preservative (LOSP) treated products enabling them to be used in outside, fully exposed environments. But as with any timber product, additional protective measures (refer Figure 1 & 2 below) should be employed to stop water from ponding on exposed surfaces that can lead to decay as well as using acrylic paint finishes helping protect timber surfaces from UV sunlight and general weather exposure.

Note: Copper Chrome Arsenic (CCA) treatment cannot be used to treat e-beam and e-beam+[F17] LVL products.

**Figure 1 – Use of DPC**



**Figure 2 – Beam capping / end flashing**



**Fasteners**

Fasteners used in external environments should have an adequate protective coating (e.g. hot dipped galvanised, stainless steel or monel metal) to guard against corrosion and combat the elements. Fasteners should also be selected to minimise the chance of splitting timber during installation.