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TECHNICAL DATA SHEET
ISSUED BY TIMBER QUEENSLAND

RECOMMENDATIONS FOR USE OF H3 LOSP TREATED PINE

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RECOMMENDED PRACTICE // MARCH 2014

The satisfactory in-service performance of H3 LOSP treated Pine products is dependent upon the timber, the quality of the LOSP treatment, together with the painting, installation and maintenance practices applied.

This data sheet provides information and advice aimed at improving and ensuring the in-service performance of these products such as beams, cladding, hand rails, posts, newels, mouldings, decking etc. These products may include solid timber, laminated & finger jointed timbers and LVL.

Photo 1: - Avoid premature failure by applying supplementary preservative and oil-based alkyd primers on all cuts, notches, holes etc.

PRODUCT REQUIREMENTS

H3 LOSP treated pine (solid timber, glued laminated timber or LVL) is required to comply with either:-

AS 1604.1 – Specification for preservative treatment – Part 1: Sawn and round timber or,

AS 1604.2 – Specification for preservative treatment – Part 4: Laminated veneer lumber (LVL) or,

AS 1604.5 – Specification for preservative treatment – Part 5: Glued laminated timber products.

AS 1604.1 defines the H3 Hazard. See Table 1.

TABLE 1 - H3 HAZARD DEFINITION

Hazard Class	Exposure	Specific Service Conditions	Biological Hazard	Specific Uses
H3	Outside, above ground	Subject to periodic moderate wetting and leaching	Moderate decay, borers and termites	Weatherboard, fascia, pergolas, window joinery, framing and decking

Implicit within the above definition is that wetting is 'periodic' and that the timber can dry relatively quickly if it becomes wet, that is, well ventilated and free draining. If, due to the installation practices, or where a higher hazard exists that will trap moisture for prolonged periods, then a product treated to a higher Hazard (H4) or with a timber preservative more suited to a higher hazard such as CCA (not hand rails or decking), ACQ or Copper azole, should be used.

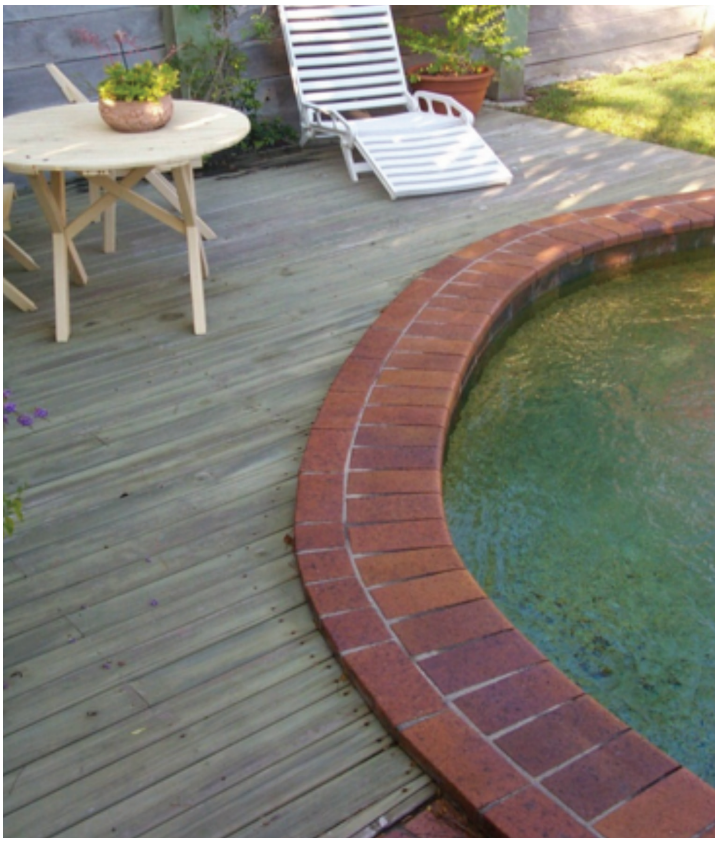

Photo 2: Timber Deck on the Ground - H4 (min) Hazard

The efficacy and suitability of a timber preservative system will be dependent upon both the penetration of the preservative into the timber and the retention of the active constituents in the timber. As an example, for H3 LOSP treated pine , AS 1604.1 specifies for solid timber (different penetration requirements for LVL and glued-laminated timber) that the penetration shall be in all of the sapwood and,

(A) where the lesser cross-sectional dimension is greater than 35 mm, the penetration shall be not less than 8 mm from any surface. Where the lesser cross-sectional dimension is equal to or less than 35 mm, the penetration shall be not less than 5 mm from any surface;

OR

(B) un-penetrated heartwood shall be permitted, provided that it comprises less than 20% of the cross-section of the piece AND does not extend more than halfway through the piece from one surface to the opposite surface AND does not exceed 50% of the width of the surface on which it occurs.

As can be noted from the above penetration requirements, it is permissible under AS 1604.1 for solid timber for there to be a reasonable percentage of the cross-section allowed in untreated low durability timber.

For glued-laminated and LVL members, the glue lines can also act as a barrier that inhibits penetration of the treatment solution and this can also impact upon obtaining satisfactory penetration through the cross-section.

The retention requirements of the AS 1604 series relate to achieving a satisfactory concentration of the active preservatives throughout the penetration zone. The AS 1604 series prescribe minimum levels of preservative retention, which vary depending upon the type of preservative. For LOSP treatment systems, the most common actives used today are the 'azoles' (tebuconazole + propaconazole) combined with an approved insecticide. For all intents and purpose, the organic azoles have replaced earlier LOSP's that were tin based, albeit these are still permitted by the Standard.

BRANDING

All LOSP treated timber should be branded according to the AS1604 standard. A brand will include three separate parts;

- A treatment plant number e.g. 123
- A Preservative number e.g. 65 (for tebuconazole + propiconazole)
- The Hazard Class the timber is treated to withstand e.g. H3

The brand may appear on the end or along the length of a piece of treated wood. Thin treated products such as battens or mouldings may be pack branded.

A brand is your only indicator of treatment quality as it is a claim of compliance by the producer/manufacturer and should be recorded/retained in case there are issues with the quality of treatment. You can not assume the timber is properly treated if it is not branded.

SUPPLEMENTARY TREATMENT, PAINTING & INSTALLATION

H3 LOSP treated products are available in both a pre-primed form or un-primed.

Irrespective, it is recommended by most manufacturers that all H3 LOSP treated products be primed all round with a quality alkyd (oil) based primer and finished with a high quality top coat.

For pre-primed product, the quality of the primer may vary from a high quality solvent (alkyd) based primer to lesser quality finishes that just offer temporary protection. The exact nature of the pre-prime should be established from the manufacturer to determine the additional finishing requirements which may include sanding and re-priming with a quality alkyd based primer.

If the primer appears loose (check by 'X' hatching with a blade and applying 'gaffer' tape to check adhesion) or chalky, sand these areas as required and re-prime with a quality oil based primer.

Ensure that the primed timber is free from any dirt, oil or any other surface contaminants. Remove thoroughly by wiping clean or lightly sanding.

PRIOR TO INSTALLATION

Treat all cut ends, notches, check-outs, bolt holes, etc with a site applied supplementary timber preservative and prime all these areas as above. Supplementary preservatives include products such as copper and zinc based (usually with a wax or water repellent additive etc.) products in white spirit or similar. Examples of these products include:- Osmose Protim Solignum "XJ Clear" and Tanalized "Ecoseal" and "Enseal Clear".

Supplementary treatments containing water repellents and/or waxes may affect water based primers.

Fill any knot or nail holes etc. with wood putty and spot prime. Sand lightly to an even finish once dry.

Apply two topcoats of either quality acrylic or solvent based paint to the prepared product. In harsher environments high gloss paints are recommended.

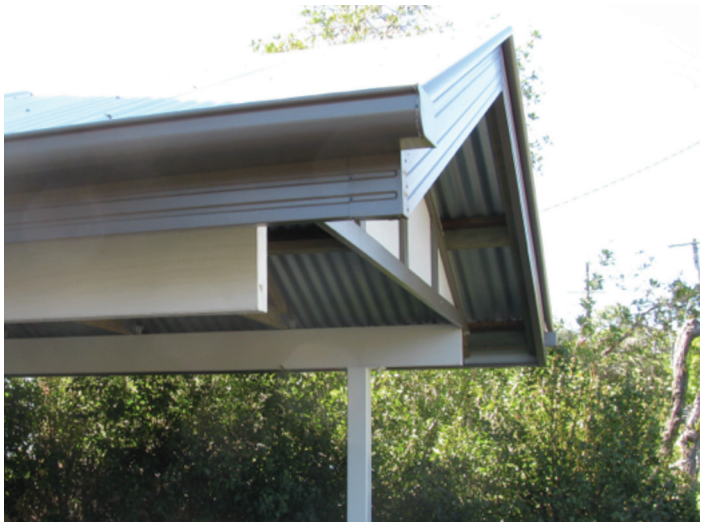

Photo 3: Adequate overhang and quality pale coloured paint system provide good protection to end grain and sun exposure.

The finishing coat system should be maintained in accordance with the paint manufacturer's instructions and it is important that these instructions are given to owners who will be responsible for ongoing maintenance.

Manufacturers may also have very specific installation recommendations for H3 LOSP treated products which if not followed may void the manufacturer's warranty for these products. In addition to the painting and finishing requirements above, these recommendations typically include:-

- Installation of a damp proof flashing ('joist strip') to the tops of beams
- Caps over exposed end grain
- Avoiding built in moisture traps
- Protecting sun exposed surfaces and
- Use of light coloured paint finishes

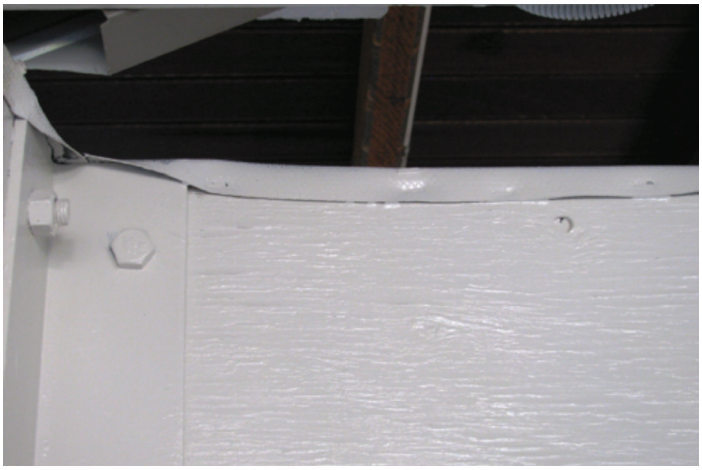

Photo 4: Flashing installed over H3 LVL beam under a deck.

PRODUCT CERTIFICATION AND QUALITY CONTROL

Some manufacturers of H3 LOSP treated timber participate in independent 3rd party quality assessment and certification schemes. Purchasers of H3 LOSP treated timber should assure themselves of the product's compliance with the relevant standards.

CHECKLIST FOR BUILDERS, CONTRACTORS AND OTHER USERS

- ✓ Before commencing any constructions, undertake a risk based assessment of the proposed work. If outside above ground constructions are proposed consider whether the constructions will be subject to greater than periodic, moderate wetting or leaching (e.g. protracted wet weather conditions, very high humidity levels, poor ventilation, construction close to or on the ground, high vegetation/dirt build up etc). If these environmental conditions are possible, timber treated to H4 level or greater, more suitable timber preservative treatments, or durability Class 1 hardwood timbers may be more appropriate.
- ✓ If constructing a water proof deck, will the waterproofing system be effective for the life of the structure (50 years)? If not, follow the advice in this Advisory Note for weather exposed construction.
- ✓ Ensure construction practices are appropriate, do not trap or hold moisture against the timber, and that all cut ends, notches, bolt holes etc are treated with a site applied supplementary preservative treatment as recommended by the product manufacturer.
- ✓ Ensure the product is treated in accordance with the relevant Australian Standards by either checking that the product is branded in accordance with the relevant standard or by having samples tested by an appropriately qualified testing laboratory.
- ✓ Ensure the product manufacturer's installation instructions for the type of product being used and the anticipated environmental conditions are strictly followed.
- ✓ Ensure all timber is primed with a quality alkyd based primer or quality solvent alkyd based primer (pre-primed timbers) and finished with two quality acrylic or solvent based top coats.
- ✓ If work is undertaken for a client, ensure the client is advised in writing of ongoing maintenance requirements associated with the constructions and type of product used. Retain a copy of this advice for future reference.
- ✓ Maintain records of supplier's invoices, jobs, treatment brands, end labels etc., as well as photographs of site installation practices and details.

SAFE WORKING

Working with timber produces dust particles. Protection of the eyes, nose and mouth when sanding, sawing and planing is highly recommended. Refer to tool manufacturers for safe working recommendations for particular items of equipment.

DISPOSAL OF OFFCUTS AND WASTE

As with all treated timber, do not burn offcuts or sawdust. Preservative treated offcuts and sawdust should be disposed of by approved local authority methods.

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