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Treated Timber User Guide

Tanalith® E and Tanatone®

Tanalith® E
PRESSURE TREATED TIMBER

Tanatone®
PRESSURE TREATED TIMBER
WITH BUILT-IN COLOUR

Wood Protection



Tanalith E pressure treated timber is timber which has been impregnated with Tanalith E wood preservative under controlled conditions in a vacuum pressure timber impregnation plant.

Tanalith E is a water based wood preservative that contains copper and proven organic biocides. When impregnated into the timber the preservative components bond with the wood structure and cannot easily be removed.

Tanalith E pressure treated timber has a long term protection against fungal and insect attack, including termites, for both in and out of ground contact, interior and exterior applications when treated to the correct end use specification.

Tanalith E pressure treated timber has an initial natural green colouration. Upon external exposure, the green colour slowly weathers to a warm, honey brown and in the longer term becomes a natural silver grey. This weathering process does not indicate any loss of preservative protection.

Tanalith E pressure treated timber is also available with built-in brown colour (Tanatone). Tanatone treated timber has a brown colouration as opposed to the traditional Tanalith E green. It is ideal for rough sawn timber fencing and landscaping applications.

Recommendations provided for Tanalith E pressure treated timber apply equally to Tanatone pressure treated timber, unless otherwise stated.

Tanalith E Wood Preservatives

Tanalith E wood preservatives are approved for use by the relevant regulatory authorities in the markets it is used. The biocides contained in Tanalith E wood preservatives are being supported under the Biocidal Products Regulation.

Treatment Specifications

Tanalith E treatment process parameters can be varied, taking into account timber species, desired service life and to match the end use (Use Class) of the timber. It is therefore extremely important that the end use and species of the timber are clearly stated within the treatment specification. Use Classes are defined in EN 335:2013 but can be summarised as follows:

- Use Class 1 - internal building timbers - no risk of wetting.
- Use Class 2 - internal building timbers - risk of wetting.
- Use Class 3 coated - external timbers used above ground contact and coated.
- Use Class 3 uncoated - external timbers used above ground contact and uncoated.
- Use Class 4 - external timbers used in ground or fresh water† contact.

In accordance with EN 335:2013 Use Class 3 can also be sub-classified as 3.1 and 3.2 respectively. The interpretation of these sub-classes may vary from country to country.

Tanalith E pressure treated timbers can be produced for any above Use Classes. The specific end use suitability of ready treated Tanalith E timbers should be confirmed by the supplier of the treated timber.

Treated Timber Appearance

Colour variations of Tanalith E treated timber may occur due to the natural variability of the relative proportions of heartwood and sapwood and darkening of some hardwoods may occur. Upon external exposure, the initial green colour of Tanalith E treated timber slowly weathers to a warm, honey brown and in the longer term becomes a natural silver grey. This weathering process does not indicate any loss of preservative protection.

If required, the green colour of Tanalith E treated timber can be refreshed at any stage using a suitable coating product. Always follow the coating manufacturer's instructions in these situations.

Tanatone pressure treated timber with built-in colour has a brown appearance. Tanatone will not hide or mask wood grain nor will it totally mask discolouration caused by weathering or dirt, fungal staining or wood defects. In addition, some resinous softwoods, eg. redwood, may exhibit resin flecking or resin bloom around knots if treated when the timber is still fresh/unseasoned. This can occur with both Tanatone and Tanalith E pressure treated timber, but may be accentuated by Tanatone.

As with all colour applications to timber, the brown colour of Tanatone treatment will fade with time. If required, the colour can be refreshed with a suitable brush-on colour product. Always follow the coating manufacturer's instructions.

Enhanced protection against the weather can be obtained by using a suitable brush applied water repellent coating. These are particularly effective when applied as a regular maintenance product to the surface of Tanalith E pressure treated timber. Always follow the coating manufacturer's instructions.

Note that timber is a variable and natural product. Occasionally timber containing high or mobile resin levels can give a blue colouration at the point of treatment. Upon weathering this fades rapidly into the overall colouration of the treated timber.

†Contact us for latest specification details.

Post-Treatment Machining

As far as possible all cutting, machining, notching and boring is to be carried out prior to treatment.

Where cutting, machining, notching and boring has to be carried out to treated timber, the area of timber revealed by the cross cuts, holes or notches must be liberally brushed with a suitable end grain preservative in accordance with the manufacturer's instructions to maintain the integrity of the preservative protection.

Pieces which are rip sawn, thicknessed, equalised or planed must be returned to the supplier of the treated timber for re-treatment.

On no account are fence posts to be pointed after treatment. The shortening of posts and columns should be avoided if possible, but in any event cross cutting must be restricted to the top of the post or column and the cross cut surface must liberally brushed with a suitable end grain preservative in accordance with instructions on the product label.

For more information on end grain preservatives contact our Advisory Service.

Gluing

Tanalith E pressure treated timber dried to less than 20% moisture content and in equilibrium or within 5% of its expected in-service moisture content, may be glued with most commonly available adhesives.

Tanalith E pressure treated timber may be glued after cleaning off any surface deposits or dirt with a wire brush, or after a light sanding.

In consultation with the adhesive manufacturer, select an adhesive appropriate to the in-service exposure condition and appropriate for load bearing or non-load bearing requirements. Consult the glue manufacturer on the suitability and use of their particular product and follow the directions of the appropriate regional standards.

For load bearing constructions, phenol resorcinol formaldehyde, resorcinol formaldehyde, phenol formaldehyde, melamine urea formaldehyde, melamine formaldehyde, urea formaldehyde, emulsion polymer isocyanate glues are generally used.

For non-load bearing constructions, emulsion polymer isocyanate, polyurethane, polyvinyl acetate, urea formaldehyde, melamine urea formaldehyde, melamine formaldehyde and phenol resorcinol formaldehyde glues are generally used.

For exterior or damp conditions, phenol resorcinol formaldehyde, resorcinol formaldehyde or phenol formaldehyde glues are generally used.

For internal dry conditions, resorcinol formaldehyde, phenol formaldehyde, melamine urea formaldehyde casein, polyvinyl acetate, urea formaldehyde, emulsion polymer isocyanate glues are generally used.

Surface Coatings

Tanalith E pressure treated timber does not have to be painted or stained to maintain its preservative properties.

Many coating products are available on the market. Always consult the coating manufacturer's recommendations before applying a coating product to Tanalith E pressure treated timber.

If Tanalith E pressure treated timber is to be painted, stained or varnished, the timber should be dried throughout the cross section. Always follow the coating manufacturer's instructions, taking note of the recommended maximum moisture content prior to application.

The preservative treatment is not a substitute for sealing of knots, base coating or priming.

If waterbased coatings are applied, some discolouration may occur in exceptional circumstances. If this happens, allow the coating to dry completely. Then apply an additional coat of product, preferably one with a high build, high solids content. It is NOT recommended to apply opaque paint systems to Tanatone pressure treated timber.

Metal Fixings & Fittings

General Advice

It is important to follow the recommendations of the manufacturer of any metal products used for specific advice regarding suitability, desired service life expectations and particular exposure conditions.

Tanalith E pressure treated timber has a long life expectancy and it is appropriate to use metal fixings and fastenings that will have a comparable length of life.

- Performance of metal fixings is influenced by the environmental conditions including moisture content, temperature, atmospheric pollution, proximity to coastal locations, timber species, as well as the thickness of any galvanising.
- For exterior use, where the timber is likely to become wet and a long service life is required, greater corrosion resistance will be achieved with use of austenitic grade 316 stainless steel, silicone bronze or copper in preference to other types of fittings.
- Galvanising provides a sacrificial zinc barrier. It is important that the specifier/end user is aware that there are many thicknesses of galvanised coating available and the thicker the galvanised coating the longer the expected service life. The level of galvanising should be commensurate with the end use (eg. BS EN 1461). The use of an automated nail gun may break the galvanised layer in lower grade metal fixings and compromise their performance at the outset.
- Electroplated metals only provide a thin coating and are unsuitable for exterior applications.
- It is good practice to drill pilot holes for fixings, in particular when screwing near the edge or end of a piece of timber.
- Attach connectors, fasteners and fittings after preservative treatment and only after the timber has re-dried to less than 20% moisture content.

- In addition to the above, for internal building timbers, e.g. trussed rafters, it is recommended to re-dry the timber to a moisture content of 22% or less before assembly and to maintain the timber in this condition during storage and delivery to site.
- To prevent bimetallic corrosion between fastener and connector components it is important not to mix metals in the same connection. DO NOT mix galvanised and stainless steel components.
- Refer to local guidelines for slating and tiling. Nails for use with slates should be of copper, phosphor or silicon bronze. Nails for use with tiles should be austenitic stainless steel, copper, phosphor or silicon bronze.
- The use of aluminium and galvanised steel nails is NOT recommended.
- Eurocode 5 (EN 1995-1-1: 2004) gives minimum specifications for material protection against corrosion for fasteners and fixings used in internal building, low hazard situations (Use Classes 1 and 2) where the moisture content of the treated timber will not exceed 20% throughout its service life.
- Direct contact with aluminium should be avoided where the moisture content will exceed 18% or where condensation is possible.
- Where the use of aluminium is unavoidable in situations where moisture content will exceed 18%, it must be separated from the timber using a bituminous, epoxy or other impervious barrier or electrically insulating coating. The use of nylon/plastic washers is recommended.
- Fixings and fastenings used on safety critical and load bearing components should be inspected regularly and replaced if necessary.
- Specialist advice should be obtained in the selection of connectors for use in swimming pool buildings. Detailed advice is contained in the Nickel Development Institute document Stainless Steel in Swimming Pool Buildings 1995.

Typical Applications

It is advisable to consult with us using the contact details given in this document if in doubt about any particular area of application or compliance with other relevant standards or specifications.

This list below, which is not totally exhaustive, gives an indication of the range of timbers and timber based products which can be treated with Tanalith E wood preservative. The treatment process parameters are varied to match the end use of the timber and its species. It is therefore extremely important that you make sure that the timber has been treated to the correct specification.

Building

Structural elements and general timbers in domestic, commercial and public buildings, such as wall frames, sole plates, beams, joists, subfloors, roof timbers, external joinery, battens, cladding, roof shingles.

Garden & Landscaping

Decking systems, pergolas, gazebos, bridges†, summer houses, soil retaining walls, timbers around fish ponds (but not in direct contact with the water or over water)†, playground equipment, lawn edging, fencing, picnic benches and tables, way signs and litter bins. For certain applications, particularly with thin cladding type timbers, it may be appropriate to use a brush-on water repellent.

Agricultural & Horticultural

Earth retaining vegetable beds (use of pressure treated timber does not affect organic status), fruit tree stakes, hop poles, vine stakes.

Enclosures/Fencing

Natural round, machine turned and square sawn fence posts, rails, droppers, gates and gate posts, stiles, highway, farm and security fencing

Transport

Floors and other timbers for railway and road vehicles, container floors and linings, packing cases, cable drums and hatch covers. For treatments to meet Australian Quarantine Regulations (AQIS) contact us directly for the latest information.

Engineering

Transmission poles, decking, shells, gantries, bridges† and bridge decks†, handrails, cable ducting and sound barriers.

End Use Considerations

Tanalith E pressure treated timber can be used in internal and external building applications and outdoors, both in ground contact and above the ground, without any need for further protection.

Tanalith E pressure treated timber is treated to meet the requirements of a particular end use.

When using timber for exterior situations, either treated or untreated, consideration should be given to the propensity of the material to stain light coloured adjacent faces, such as render, paving flags, swimming pool tiles or coated timber surfaces, with its natural extractives during the weathering process. This staining effect can be highlighted where Tanatone treated timber has been selected, although the potential for this to occur does reduce with time.

Where used in this external environment, it is highly recommended that contact between the timber and these surfaces is eliminated by design, in order to prevent surface discolouration.

Where close tolerance work is involved it is advisable to pre-machine the timber at the in-service equilibrium moisture content prior to treatment. Consultation with the treatment supplier is advised in these situations.

When used in construction applications it is always best practice for preservative treated timbers to be dried down to the in-service moisture content prior to fabrication.

Treated timber should not be used where it may come into contact with drinking water or for food preparation surfaces/structures or containers for storage.

† Contact us for latest specification details.

When considering the use of Tanalith E pressure treated timber around fishponds, please contact us for advice.

If supplying timber for treatment it is best practice to prepare the timber as fully as possible prior to treatment to ensure best results.

If any cutting, notching or drilling is made to the treated timber following treatment, any exposed surfaces should be liberally swabbed with an appropriate end grain preservative to maintain the integrity of the treatment.

Handling Precautions

You should have received the treated timber in a drip-free condition with no sign of preservative fluid on the surface. If this is not the case, the timber should be stored open stacked under ventilated conditions and protected from rain and snow to dry before use.

When working with timber, wear gloves to protect the skin against abrasions and splinters. Any cuts and abrasions should be protected by a waterproof dressing.

When power-sawing and machining, wear goggles to protect the eyes from flying particles. Wear a dust mask and, whenever possible, perform these operations outdoors to avoid accumulations of airborne sawdust or use a suitable dust extraction system around any mechanical saw or planing machine. Avoid frequent or prolonged inhalation of sawdust. Consult local regulatory authorities for further information on workplace exposure limits for wood dust.

In order to prevent injury, care should be taken when lifting or moving timber. These handling precautions equally apply to untreated and treated timber.

Personal Hygiene

After handling or working with treated timber, all exposed skin should be washed before commencing other activities, especially eating, drinking, smoking or going to the toilet.

If sawdust accumulates on clothes, clean them before re-use.

Launder heavily soiled clothes separately from other household wash items.

On-Site Precautions

All sawdust and construction debris should be cleaned up and disposed following local regulations.

Waste Disposal

For detailed waste classification of Tanalith E pressure treated timbers please contact us for advice. Local market regulations should be referred to.

Tanalith E treated timber and post treatment processing wastes, such as sawdust and offcuts, must not be used for animal litter or bedding or for fuel in barbecues, cooking stoves or grates.

Domestic end users should dispose of any waste treated timber, sawdust or ash through the ordinary waste collection service or at a local authority amenity/disposal site.

Any waste timber, sawdust or redundant timber from commercial or industrial use (e.g. construction sites) should preferably be recycled by re-use, or disposed of to an authorised landfill or to a correctly controlled and approved waste incinerator.

Further Information

For further information with respect to Tanalith E and Tanatone treated timbers please contact us using the details overleaf.







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Use wood preservatives safely. Always read the label and product information before use.

All product information corresponds to Arxada's knowledge on the subject at the date of publication, but Arxada makes no warranty as to its accuracy or completeness and Arxada assumes no obligation to update it. Product information is intended for use by recipients experienced and knowledgeable in the field, who are capable of and responsible for independently determining the suitability of ingredients for intended uses and to ensure their compliance with applicable law. Proper use of this information is the sole responsibility of the recipient. This information relates solely to the product as an industrially applied, high pressure wood preservative. It may not be applicable, complete or suitable for the recipient's finished product or application; therefore republication of such information or related statements is prohibited. Information provided by Arxada is not intended and should not be construed as a license to operate under or a recommendation to infringe any patent or other intellectual property right. No claims are made herein for any specific intermediate or end-use application. All trademarks belong to Arxada or its affiliates or to their respective third parties and are used here only for informational purposes. © 2022 Arxada

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