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guidelines for **painting**
treated timber

Different building applications and the range of timber treatment options available means that painting recommendations can vary substantially depending on circumstances.

Preservative treatment enhances the durability and utility of wood products by protecting them from biological agents such as decay and termites. Use of surface coatings is also important for maintaining the appearance and physical serviceability of wood, particularly where exposed to the elements. However preservative treatments may have implications on the choice and performance of various surface coating systems. The following discussion details the current recommendations for painting

preservative treated timber in a range of situations.

The first consideration is the broad application in which the timber is to be used: This defines the "treatment level" required which is given an "H" number (as per AS1604.1). H1 or H2 for interior use only or H3, H4 or H5 for outdoor usage. Note that New Zealand interpretation differs from Australia for H1 and H3 (see NZS 3640). Please refer to the treatment level guide below.

treatment level

H1 INSIDE, ABOVE GROUND, DRY

Insect borers (other than termites)

Typical applications: Framing, flooring, furniture etc

H2 INSIDE, ABOVE GROUND, DRY

Insect borers and termites

Typical applications: Framing, flooring, trusses

H3 OUTSIDE, ABOVE GROUND

Moderate Fungal Decay and termites

Typical applications: Decking, fencing, cladding, fascia, window joinery, exterior structural timber

H4 OUTSIDE, IN GROUND

High fungal decay and termites

Typical applications: Fencing, greenhouses, pergola posts, non-structural landscaping timbers, vineyard & rural posts

H5 OUTSIDE, IN GROUND OR FRESH WATER

High fungal decay and termites

Typical applications: Engineered retaining walls, building poles, pilings & cooling tower fill, structural or critical applications

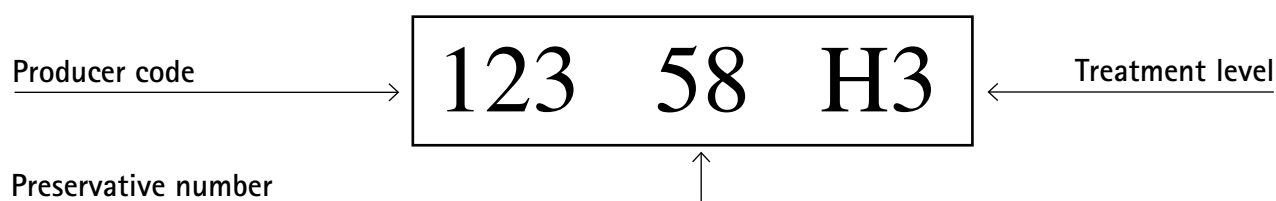
H6 MARINE WATER EXPOSURE

Marine borers

Typical applications: Marine piles, jetty cross-bracing, landing steps, sea walls

timber branding

Treated timbers at the time of supply should bear a brand that identifies the producer, the preservative used and the treatment level (H number). The brand should have the following form (example only);



The producer number (a three digit code) identifies the manufacturer of the treated timber product. Ask your supplier for further details of the producer if required.

The preservative number (a two digit code) identifies the particular treatment chemical used. Some common preservative numbers currently used in Australia and New Zealand are as follows.

01 , 02	CCA (copper chromium arsenate)
11	Boron compounds (borax + boric acid, Timbor)
57	Copper naphthenate (LOSP)
56	TBTO (tributyl tin oxide based LOSP – New Zealand only)
58	Copper azole (Tanalith® E, Ecowood)
62	TBTN (tributyl tin naphthenate based LOSP)
63	IPBC (iodo-propynyl butyl carbamate based LOSP – New Zealand only)
64	Azoles (tebuconazole + propiconazole)
70	Permethrin (based in LOSP)
74	Permethrin (based in oil – Australia only)
90	ACQ (ammoniacal copper quaternary)

Ask your supplier for details of other preservative numbers if not included in this list.

Solvent or oil borne treatments for interior structural timbers

Trade or common names:

Tanalith® T, Vacsol® T, Vacsol® PARWX, LOSP H2, LOSP H1.2, LOSP H3.1

Preservative numbers:

56, 63, 64, 70, 74

Treatment Levels:

H1, H2 (H1.2 and H3.1 NZ only)

Generally the treated timber should be allowed to condition for 7 days in the end use situation before painting.

The carrier solvent or oil and other ingredients used in these treatments may affect the behaviour of paints. In the great majority of cases such as wall frames and trusses, timber is not painted as it is rarely visible in the finished structure and does not require surface protection for this situation. However, dyes or pigments which may be used as treatment markers can bleed through and discolour paint, particularly white and other light colours. If painting of this timber is required the following is recommended:

Interior solid colour acrylic finish

Coat with a shellac based timber sealer or equivalent followed by one or two coats of the interior acrylic finish as required.

Interior solid colour gloss enamel

Coat with a shellac based timber sealer or equivalent followed by one coat of oil based undercoat and one or two coats of the enamel as required.

Interior clear or semi-transparent estapol, varnish, stain or similar

Two coats or as recommended by the manufacturer. The colour of marker dyes or pigments (if used) may affect the resultant colour of these coatings.

indoor timbers

Trade or common names:

Diffusol, Timbor, Framebor, boron, boric, borax

Preservative number:

11

Treatment Levels:

H1, H2, (H1.2 NZ only)

Boron based treatments for interior structural timbers

Boron based preservatives under various trade and common names are used to treat interior structural and framing timbers against borers, decay and even termites. Timber in these structural applications is rarely painted. Boron compounds themselves are colourless. However the producers may add artificial colours (dyes or pigments) to aid in identification. As discussed and outlined above it may be necessary in these cases to take precautions against colour bleed from the marking dye (if used). Otherwise boron

treatment should not interfere with surface coatings and should be suitable for painting providing that the timber is clean and dry.



outdoor timbers

Water borne treatments for outdoor timbers

Water borne treatments such as CCA (copper chromium arsenate), Tanalith® E (copper azole) and ACQ are most commonly used to treat timber for outdoor applications (H3, H4 and H5). While preservative treatment will protect against decay and insect attack for decades, outdoor timber is still subject to the effects of general weathering such as splitting, splintering, warping, fading and surface deterioration. Arch Wood Protection recommends that all timber in weather exposed situations is painted, stained or sealed to maintain best appearance and serviceability. Timber treated with water borne preservatives can be painted or stained like normal timber provided that the surface is dry and clean. A wide range of suitable surface coatings is readily available as discussed on the right



Clear penetrating water repellent oils and sealants

Apply as per manufacturers directions. May require frequent re-application (6–12 months).

Semi-transparent to full colour penetrating exterior timber stains

Apply 2 to 3 coats as per manufacturers directions. These coatings are generally more robust than the above and are ideal for decking and other surfaces that receive traffic wear.

Solid colour exterior acrylic paints

Apply a good quality, long oil based exterior wood primer followed by two coats of premium quality exterior acrylic paint according to the manufacturers recommendations.

Solid colour exterior gloss enamel

Apply a good quality, long oil based exterior wood primer followed by two coats of premium quality exterior gloss enamel paint according to the manufacturers recommendations. Note, generally gloss enamel paints do not provide as long a service life as exterior acrylic paints.

Clear or semi-transparent exterior gloss or varnish

Not recommended

Trade or common names:

CCA, Tanalith®, Tanalised®, Ecowood®, copper azole, ACQ

Preservative numbers:

01, 02, 58, 90

Treatment Levels:

H3, H4, H5

Ensure that the timber is dry, clean and free of any surface residues before painting. Always follow the paint manufacturers' instructions for application and maintenance of the surface coatings.

outdoor timbers

LOSP treatments for outdoor timbers

Trade or common names:

Vacsol® Clear, Vacsol®

Azure, LOSP H3

Preservative numbers:

60, 62, 64

Treatment Level:

H3 (H3.1 NZ only)

LOSP stands for Light Organic Solvent Preservative where a solvent rather than water is used to carry the preservatives into the timber. This type of treatment has advantages for certain types of wood products as it does not affect the moisture content or the dimensions of the timber. LOSP treated

outdoor timbers are supplied either with a factory applied primer coating or as just the natural timber but often with a green tint or dye to indicate the presence of the treatment. The painting recommendations are different for these two forms of product.

Factory primed LOSP treated timbers:

This product can be recognised by light blue, beige or pink primer coating that is pre-applied to the boards. This product is suitable for painting with solid colour paints only. However the quality of the primers used can vary. It is essential that your supplier confirms if the pre-primed timber offered has an architectural quality primer that is fit for direct application of top coats or has a light, holding primer only which may need to be sanded off prior to painting.

Factory primed timber may be suitable for immediate painting providing that the primer coating is dry, clean and in good condition. Note that factory applied primer coatings are not intended to provide long term protection from weathering and are not a substitute for painting.

Solid colour exterior acrylic paints

Apply two coats of premium quality exterior acrylic paint according to the manufacturers recommendations.

Solid colour exterior gloss enamel

Apply two coats of premium quality exterior gloss enamel paint according to the manufacturers recommendations. Note, generally gloss enamel paints do not provide

as long a service life as exterior acrylic paints.

If the original factory applied primer coating is degraded or unsuitable, it should be sanded back and a good quality, long oil based exterior wood primer applied before painting as above.

Natural finish LOSP treated timbers:

These LOSP treated timber products look similar to conventional treated timber and may have a slight green tint. It is strongly recommended that these timbers should be painted for all exterior, weather exposed applications to prevent bleaching, surface deterioration and mould. However the presence of water repellent agents and solvent residues in this type of treated timber may affect the behaviour and performance of some surface coatings. Once the treatment is dry, the timber can be painted like normal untreated timber. Of most importance is allowing for adequate drying time of the solvent. Generally it is recommended to wait for 7 days after installation of the timber before painting or staining. Painting or staining should be completed within 4 weeks. The following options are advised for painting this form of LOSP treated timber:

Clear water repellent sealants and sealants

Not recommended

Semi-transparent, penetrating timber stains

Apply 2 to 3 coats as per manufacturers directions. Higher density or greater opacity of colour will generally mean more robust performances in these cases.

Solid colour exterior acrylic paints

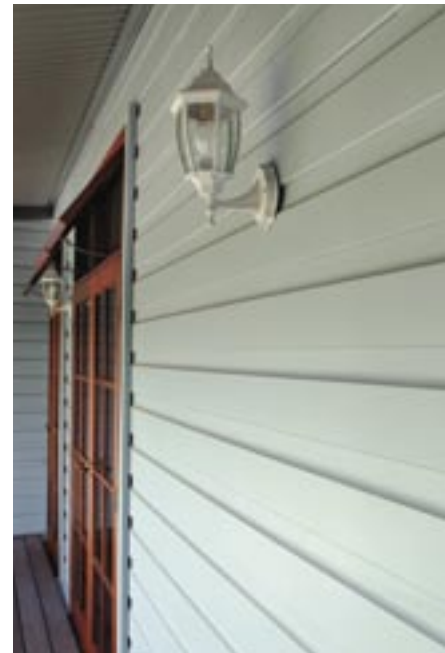
Apply a good quality, long oil based exterior wood primer followed by two coats of premium quality exterior acrylic paint according to the manufacturers recommendations.

Solid colour exterior gloss enamel

Apply a good quality, long oil based exterior wood primer followed by two coats of premium quality exterior gloss enamel paint according to the manufacturers recommendations. Note, generally gloss enamel paints do not provide as long a service life as exterior acrylic paints.

Clear or semi-transparent exterior gloss or varnish

Not recommended



Special considerations for copper naphthenate LOSP

Copper naphthenate is a traditional and highly effective LOSP type timber treatment but due to the strong green colour and waxiness imparted by the treatment, particular care is needed for painting. Most important, the timber should be left to weather in the open or in a well-aired end use situation for at least 7 days before painting. Timber surface must be free of dust, dirt, grease and any other residues before painting. Firmly rubbing the area to be painted with a rag soaked in mineral turpentine may help remove any surface residues. When painting this timber, the following is recommended:

Clear penetrating water repellent oils and sealants

Apply as per manufacturers directions. May require frequent re-application ((6–12 months).

Semi-transparent to full colour penetrating exterior timber stains

Apply 2 to 3 coats as per manufacturers directions. These coatings are generally more robust than the above and are ideal for decking and other surfaces that receive traffic wear.

Solid colour exterior acrylic paints

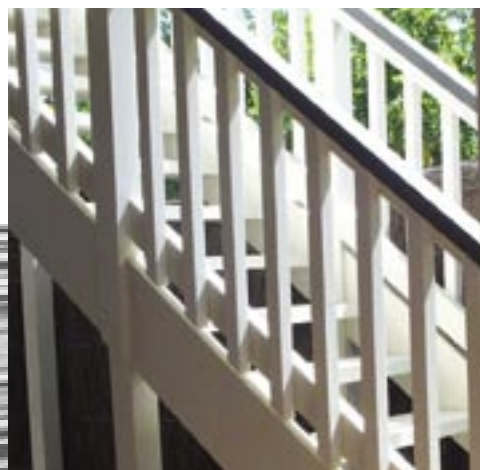
Apply a good quality, long oil based exterior wood primer followed by two coats of premium quality exterior acrylic paint according to the manufacturers recommendations.

Solid colour exterior gloss enamel

Not recommended.

Clear or semi-transparent exterior gloss or varnish

Not recommended



Trade or common names:
Vacsol® Green, Copper Naphthenate

Preservative numbers:
57

Treatment Level:
H3

additional

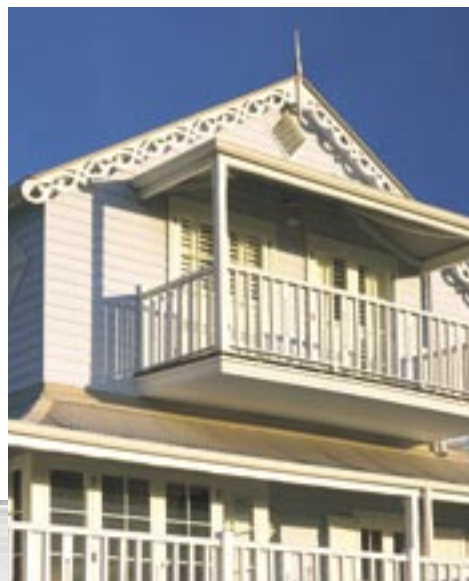
Potential complications Resin or Tannin bleeding

Resin bleeding can occasionally be a problem with softwoods. Resin occurs naturally in softwoods and can be identified as a sticky, clear or white exudation that has a characteristic aromatic odour. It is most commonly encountered around knots or other imperfections in the wood and in places where the tree sustained damage. High temperatures and exposure to direct strong sunlight may increase the risk of resin exudation. Paint or stain will generally be softened and may even be lifted off by a resin bleed.

If resin bleed occurs, the following steps are recommended:

- ◆ Physically remove the exuded resin from the surface.
- ◆ Allow to weather for a few days to ensure that the bleed has ceased.
- ◆ Seal the affected area with a suitable sealant.

Some timbers, particular hardwoods can release tannin when they are new. Tannin is a naturally occurring dark coloured wood extractive that typically discolours water that washes off the timber. This can result in the tannin staining surfaces below the affected timber. Generally it is recommended to allow these timbers to weather for a few weeks or months before painting. Consult your paint supplier about suitable tannin or resin bleed sealers that may be helpful in these cases.



Additional information

Resealing:

Resealing is the application of an 'in-can' timber protective to exposed surfaces on end cuts, notches, rebates and drill holes to ensure that any inner sections of timber that were not originally penetrated by the treatment are coated after working or machining. Generally it is recommended as far as practical to keep machining and cutting to the minimum required for fitting and installation in order to maintain the integrity of the treatment. For all outdoor or moisture prone situations where there is a risk of fungal decay, it is essential that all cuts, holes, notches and other work that broach the treatment zone are resealed.

A range of suitable 'in-can' timber protective products for resealing such as Tanalised Enseal or equivalent are available from most timber and hardware retailers.

Adhesives:

Most adhesives should be suitable once the treatment is dry however, water repellent agents in some treatments may have some effect on water based adhesives. Seek advice from your adhesive supplier if in doubt.

Fillers & Putties:

Common timber fillers and putties should be suitable once the treatment has dried adequately as discussed previously. Follow the manufacturers instructions.

Nails and fixings:

Corrosion resistant nails and metal fittings should be used for all exterior timber construction where exposure to moisture and weather is expected. In most cases hot dipped galvanised steel should be suitable although stainless steel may be preferable in some high corrosion risk situations (such as near the sea). In interior situations where the timber moisture content is expected to be low (< 15%), normal bright steel nails and fixings should be suitable.

Disclaimer and Consumer protection

These recommendations and guidelines are based on current information and industry practices and have been produced in good faith for the general guidance of consumers and trades people applying surface coatings to preservative treated wood products. However, as the range of timber types, surface coatings and end use situations is so great, no warranty or assurance can be given that these recommendations will suit every possible situation or any particular circumstances. Arch Wood Protection accepts no responsibility for the performance of surface coatings applied

according to these recommendations or otherwise. If in doubt Arch Wood Protection recommends that users obtain independent expert advice and seek guidance from the surface coating manufacturer or relevant industry associations. Generally if there is conflict with any of the recommendations or instructions given here, the surface coating manufacturer's instructions should be followed.

guidelines for painting treated timber

	Solvent or oil borne for interior structural timber treatments			Boron based treatments
Common or trade names	Vacsol® T	Tanalith® T	Vacsol® PARWX Framebor	Diffusol, Timbor,
Treatment	Permethrin in LOSP	Permethrin in Oil (Australia only)	IPBC in LOSP (NZ only)	Boron salts and oxides
Preservative No.	70	74	63	11
Hazard Level	H1, H2	H1, H2	H1.2 (NZ only)	H1, H2 (H1.2)
Painting	Unusually not required	Unusually not required	Unusually not required	Usually not required for interior use (see note 3)
Coating Type				
Interior solid colour acrylic finish	Suitable (see note 1)	Suitable (see note 1)	Suitable (see note 1)	Suitable (see note 1)
Interior solid colour oil based enamel	Suitable (see note 1)	Suitable (see note 1)	Suitable (see note 1)	Suitable (see note 1)
Interior clear or semi- transparent oil based estapol or similar	Suitable (see note 2)	Suitable (see note 2)	Suitable (see note 2)	Suitable (see note 2)
Clear penetrating water repellent oils and sealants	Not applicable	Not applicable	Not applicable	Not applicable
Semi-transparent to full colour penetrating exterior timber stains	Not applicable	Not applicable	Not applicable	Not applicable
Exterior solid colour acrylic finish	Not applicable	Not applicable	Not applicable	Not applicable
Solid colour exterior gloss enamel	Not applicable	Not applicable	Not applicable	Not applicable
Clear or semi-transparent exterior gloss or varnish	Not applicable	Not applicable	Not applicable	Not applicable

Note 1: Application of a stain or dye blocking coating such as shellac may be required

Note 2: Pigments or dyes (if used) in the treatment may impact on the final colour of the coating.

Note 3: Boron treatments may be used in New Zealand for non-structural exterior applications providing that a three coat paint system is applied and maintained.

Note 4: These coatings may only provide limited service life and may require frequent re-application

quick reference table

Water borne treatments for outdoor timbers			Solvent borne treatments for outdoor timbers		
Tanalith® CCA	Tanalith® E	Ecwood	Vacsol® Clear (LOSP)	Vacsol® Azure (LOSP)	Vacsol® Green (LOSP)
Copper Chromium Arsenate	Copper Azole		TBTN / TBTO	Mixed azoles	Copper naphthenate
01 or 02	58		60, 62	64	57
H3, H4, H5, H6	H3, H4, H5		H3	H3	H2, H3
Recommended to maintain appearance and serviceability	Recommended to maintain appearance and serviceability		Strongly recommended to maintain appearance and serviceability	Strongly recommended to maintain appearance and serviceability	Recommended to maintain appearance and serviceability
Not applicable	Not applicable		Not applicable	Not applicable	Not applicable
Not applicable	Not applicable		Not applicable	Not applicable	Not applicable
Not applicable	Not applicable		Not applicable	Not applicable	Not applicable
Suitable (see note 4)	Suitable (see note 4)		Not Recommended	Not Recommended	Suitable (see note 4)
Suitable	Suitable		Suitable (greater colour density or opacity is preferred)	Suitable (greater colour density or opacity is preferred)	Suitable
Suitable (see note 5)	Suitable (see note 5)		Suitable (see note 6)	Suitable (see note 6)	Suitable (see note 5)
Suitable (see note 7)	Suitable (see note 7)		Suitable (see note 7)	Suitable (see note 7)	Not recommended
Not recommended	Not recommended		Not recommended	Not recommended	Not recommended

Note 5: Application of a primer is generally recommended before these coatings.

Note 6: As for note 5 except that some timbers may already be pre-coated with a primer by the producer.

Check with your supplier for the details of any factory pre-applied primer.

Note 7: As for notes 5 and 6 respectively. Gloss enamels generally do not perform as well as acrylic coatings.

guidelines for **painting**
treated timber

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