

INTRODUCTION

Clear finishes and stains are applied where the natural colour of the timber is to be retained but a degree of weather protection is required. They won't stop the timber weathering process but will slow it down, with the rate dependent on the water repellency and the transparency or amount of UV-blocking pigment contained in the finish. Generally, the more pigment the less the transparency and the greater the protection given.

It is important that the decision to use clear finishes and stains is an informed one because of the limited life and increased maintenance associated with their use. Also with film forming products, preparation for recoating after the coating has reached the end of its life is a difficult and time-consuming task.

This guide takes you through the basic steps to achieve a quality stained finish on timber.

PLANNING & BUILDING CONSENTS

A building consent is not required when staining but local planning rules may place limitations on the colours that can be used - check with your local council.



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SUITABLE TIMBERS FOR STAINING

TIMBERS GENERALLY CONSIDERED SUITABLE FOR EXTERNAL USE WHEN STAINED OR CLEAR FINISHED ARE:

- radiata pine H3 treated - readily accepts stains and clear finishes but resin bleed maybe a problem. Knots may shrink and loosen. Premature coating of LOSP-treated timber can prevent coatings drying (LOSP treatment is maybe based on tributyl tin oxide (TBTO) as the active ingredient which, although effective as a preservative, is not very effective in preventing growth of mildew on timber so clear finishing TBTO-treated radiata pine may not be successful)
- redwood - accepts clear finishes readily
- western red cedar - treated or untreated it accepts clear finishes readily. Must be coated before or immediately after exposure to the weather
- macrocarpa - resins in the timber may give a patchy finish

STAINING OPTIONS

There are a range of stain types each with their own recoating requirements.

Generally stains do not last as long as paint finishes and frequent recoating is required to maintain the appearance. So choosing the correct stain is essential.

Stain failure occurs as an initial loss of adhesion due to sunlight weathering the surface of the timber behind the coating, leading to film rupture, and entry of moisture to the timber surface. This in turn allows the growth of mildew which further detracts from the appearance of the timber. Localised physical breakdown of the timber surface will also occur if the film is left without maintenance.

OPTIONS ARE:

- water repellents usually consist of waxes and fungicides in water and form a very thin film on the surface of the timber. They provide limited protection to the timber and typically require recoating at 6 to 12 monthly intervals
- penetrating wood finishes are usually solvent-borne available in a range of formulations from clear coatings to those with a medium pigment content (to add colour). They are designed to penetrate the timber without forming a film on the surface. They will show the texture and grain pattern of the wood, the amount depending on how much pigment (depth of colour) is used. Expected coating life is 2 - 4 years with the coating eroding over time
- film-forming stains (sometimes described as solid colour stains) are available in solvent or water borne formulations and come in a range of options from clear to almost opaque (little or no timber colour shows through). Water-borne (acrylic) film forming stains (when compared with solvent-borne formulations) are more opaque, faster drying and are more likely to show lap marks. Water-borne film forming stains behave more like dilute paints but are not recommended for high wear areas
- oils which penetrate the timber and require regular recoating as they will weather. Linseed oil is not recommended as it will promote mould growth on the timber

Note: LOSP & CCA treated timber should be left 1-2 weeks before staining, this will allow the timber to dry so the surface can then be prepared accordingly before the application of the stain.

TOOLS NEEDED

- Brushes
- Dust mask
- Hand scraper
- Ladder
- Power sander
- Putty knife
- Sugar soap
- Rags
- Water blaster
- Sanding block

MATERIALS NEEDED

- Timber stain
- Filler/putty
- Masking tape
- Sandpaper
- Proprietary wood restorer

DISCLAIMER

Please Note: Whilst the advice and recommendations contained in this brochure have been produced with proper care, they are offered only with the object of assisting those interested in home improvement projects and ITM does not accept responsibility for the advice, recommendations, etc, contained herein.

If you have any queries please contact your local ITM store for further advice.

Note: A Building Consent may be required.



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THE RIGHT WAY

TO STAIN EXTERIOR TIMBER



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CHOOSING A CLEAR FINISH OR STAIN

GENERAL SELECTION CONSIDERATIONS ARE:

- rough-sawn timber is best coated with low-build penetrating stains
- pigmented finishes last longer than clear finishes
- use a finish with greater flexibility to allow it to accommodate the seasonal movement in the timber
- narrower boards reduce the amount of stress placed on the coating system
- don't apply to discoloured timber as the discolouration may show through the coating
- the design of the building, as these types of finish will weather unevenly. Areas regularly rainwashed or exposed to the sun will weather more quickly, giving variations in colour across the coated surface e.g. roof overlying
- final finish is dependent on profile, age and species of timber and the spreading rate of the finish / stain. It is recommended that the finish / stain is used on a test area of timber before the project commences

PREPARING TIMBER

All end grain of timber must be sealed with two coats of stain prior to installation to prevent moisture getting in and causing a rapid failure by destroying the coating adhesion.

Remove all visible resin from the surface. Soft resin may be able to be removed by wiping with a suitable solvent (e.g. mineral turpentine) followed by scraping. If the resin has hardened the best solution may be to leave any action until the next recoat and then to try to scrape the resin away before sanding and refinishing.

New timber should be coated as soon as possible as leaving timber uncoated over summer may be sufficient to affect the adhesion of clear finishes and stains. One option is to seal the timber with the first clear finish coat prior to the timber being fixed to provide the initial moisture protection. Where the timber has weathered all of the weathered material must be removed by sanding before coating.

Dressed timber must be allowed to weather for 2 weeks in order for the polished surface to fade.

OTHER ESSENTIAL PREPARATION TASKS ARE:

- rounding sharp edges to a 3 mm or larger radius
- not using steel wool or wire brushes to sand surfaces prior to coating application because small iron particles left behind can react with chemicals in the timber or ingredients in the stain and cause unsightly discolouration
- removing surface dirt, dust, loose fibres
- ensuring that the timber has a moisture content in the range of 12-18% before finishing
- hand or machine sanding the surface, including all sound areas with 120 grit paper



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DECIDING WHEN TO RESTAIN

The first failure that occurs with stains and finishes is usually a weakening of the bond between the coating and the timber due to the effect of sunlight on the timber. It is usually visible as an area of discolouration. Once this occurs the coating will crack followed by water entry behind the coating, staining, mould growth and flaking of the film.

Where a coating has failed there may still be areas, particularly where exposure to UV is limited such as under the eaves, where the coating remains well adhered to the timber. Removing the existing coating from these areas may be difficult.

Penetrating stains are often the most appropriate coating for recoating work because they are better able to tolerate rough surfaces and splits in the wood surface than film-forming products.

RECOATING RECOMMENDATIONS ARE:

- recoat finishes before failure occurs. When the coating is sound clean with a dilute (non-ammonia-based) detergent/bleach solution, rinse with clean water and allow the wood to dry before recoating
- penetrating stains are relatively easy to re-finish since excessive sanding or scraping is generally not required. The usual method of failure of these products is by erosion of the film
- water repellents require maintenance when the timber surface shows signs of discolouration or when water repellency has been lost from the wood surface

PREPARING PREVIOUSLY STAINED TIMBER

The aim with preparation for stains is to remove all mildew and weathered timber before restaining. Just removing the loose material and spot coating is not likely to lead to successful recoating unless low-build stains are used.

For penetrating stains clean down the surface to remove mould and dirt before recoating.

Low pressure water blasting should remove dirt and flaking stain - don't force the water into gaps or cracks. Alternatively, scrub the surface with a soft bristled broom and wash down with the garden hose. Soft timbers such as cedar and redwood can be easily damaged by excess water pressure.

Replace rotten or split timber, corroded flashings or cracked putty before starting preparation.

To remove mildew growth use the following solution to scrub the surface:

- non-ammonia household detergent 1/3 cup, plus
- bleach solution (5%) 1.0 litre, plus
- warm water 3.5 litres

This mixture should be handled with care (as with all products containing bleach) and should under no circumstances be mixed with products containing ammonia as toxic gases can then be released. Timber surfaces should be rinsed after scrubbing with water before refinishing. The solution can also be used to remove mildew from unfinished timber.

REMOVING WEATHERED WOOD SURFACE

Weathered wood surface can be removed by using a proprietary timber cleaning solution and/or sand the wood back to as-new appearance to remove all weathered fibres which may promote poor adhesion. An alternative to sanding the boards after stripping is to apply a low-build penetrating stain which will be more tolerant of weathered surfaces.

Hand or machine sand the surface, including all sound areas with 120 grit paper.



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STAIN APPLICATION

Sealing of the surface where required is done with a thinned coat of stain - refer to the instructions on the can to obtain the amount of thinning required.

Seal immediately after sanding (and dust removal) because bare timber can absorb moisture if left uncoated.

WHEN STAINING:

- do not apply the stain when the temperature is below 10°C or when rain is likely
- do not apply stain immediately prior to, during or after dewfall
- avoid staining during the hot part of the day particularly when using acrylics
- avoid staining in direct sunlight
- thoroughly mix the stain and regularly remix during application
- do not apply stain to a cold surface soon to be heated by the sun
- use clean equipment and keep it clean
- wipe down surfaces before staining
- ensure previous coats are dry
- do not over apply the finish / stain. Excessive application of stain can create a varnished look that may lead to premature failure.

WHEN BRUSHING:

- use the biggest long bristled brush that can be comfortably handled
- use small, easily handled brushes for cutting in work
- decant into a smaller container enough stain for half an hour to an hours painting
- load the brush with stain, remove excess stain by running it across the container edge to reduce the risk of stain dripping from the brush
- use a firm pressure to apply the stain to the surface ensuring it is well worked into the surface, particularly with rough sawn timber
- brush towards the last area stained (wet edge)
- at corners brush out from the corner to meet the new stain
- do not decant solvent-borne products into plastic containers, only use clean dry metal ones