

COASTAL STAIRCASES TIMBER POLICY

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INTRODUCTION

The purpose of this document is to provide information about the characteristics of timbers used in the manufacture of timber stairs relating to product quality and workmanship.

Timber Stairs

Timber is a natural, reusable, recyclable and sustainable product. It has a wide range of properties and due to its ready availability is widely used within the building industry. Timber is derived from sustainably managed forests and is an environmentally friendly building material. Of all building products that are readily available, timber requires the least amount of energy to produce.

Timber staircases are special elements in any building design, defining the flow of spaces and movement between different levels.

Coastal Staircases acquire new harvest timbers from accredited and responsible contractors and mills. They follow the strictest of private forest management practices to sustain a viable industry without placing unrealistic demands on our resources.

Client's choices and expectations

Aspects of timber stairs relating to client expectations is of paramount importance as clients rely on the experience of Coastal Staircases when making their decision about a particular timber stair which will often become a focal point of the interior design of their home.

Clients are more aware and have much more access to information than ever before, but they are unlikely to have the same depth of knowledge as those dealing with timber staircases on a day to day basis. It is important to accommodate client's preference. However this should not be to the detriment of the performance of the timber stair, or its final appearance.

Colour variation between showroom samples and the product provided and high levels of sun exposure on the timber stair are areas that necessitate specific discussion with clients.

APPEARANCE

Timbers come in a large range of colour and textures. The harsh Australian environment produces various marks in timber including patterns caused by insects and marks caused by fire. These variations enhance the unique nature of timber.

Colour

A characteristic feature of most timber is the variation in colour between species and within the species. Further colour variations may also occur with use, exposure to light and can be influenced by the application of different finishes.

Grain

Grain broadly describes the timber's appearance referring to the general direction, size arrangement, appearance or quality of the fibres in the wood.

Texture

Timber can be coarse, fine, even or uneven in texture and is dependent on size and arrangement of wood cells.

Figure

Figure refers to the patterns produced on the surface of timber resulting from the nature of the grain, the arrangement and relative dimensions of timber cells and colour variations. Reflection and absorption of light have an influence on figure.

TIMBER PROPERTIES RELATING TO TIMBER STAIRS

Moisture content and movement in stairs

Timber is a natural product that responds to changes in weather conditions. The term 'movement' describes periodic small dimensional changes that occur in seasoned timber due to environmental changes. During periods of consistently high humidity, timber will absorb moisture from the surrounding air causing it to swell or increase in size. Conversely, during drier times when humidity is low, timber will shrink, reducing in size. Unless timber is placed in a permanently controlled environment, it will always move in response to changing environmental conditions. Gaps between individual timber components will occur as the stair shrinks in dry weather.

Localised shrinkage may also occur when areas of stairs are exposed to heat sources such as fireplaces or sunlight through large doors or windows. The overall movement and rate of movement of timber varies depending on timber species. Small moisture content variations in timber at the time of installation and differing conditions within the house (i.e. from sun exposure or fireplaces) will also cause variation in timber movement. Consequently, some gaps between stair components can be expected, Timber stair finishes will not prevent timber movement, but may reduce the rate of response to climatic changes. Applying a finish to the underside of a stair may further assist to reduce seasonal movement.

Hardness

Hardness of timber refers to its resistance to wear, abrasion and to indentation. Damage to timber stairs may occur due to continual heavy foot traffic and in particular to 'stiletto-heel' type loading. If soft timber species are used in a timber stair, indentation can be expected whilst the selection of hard timbers ensures improved resistance to indentation and abrasion. Timber finishes will not significantly improve the hardness of the timber stair.

Grade

The character of the timber stair is influenced by the species characteristics and therefore the grade. Grading is a process that sorts timber according to the number and size of features present (e.g. veins, knots, splits and shakes). There are three main grades of timber, all graded to Australian Standards.

Select Grade is the highest grade with minimal features or marks, creating a sleek and 'unblemished' look. Select grade timber is chosen from the best of the best timber grades and looks great in modern style homes and commercial properties as it offers a more even finish without losing its warm and natural feel. Some gum vein is allowed within select grade timber.

Standard Grade falls in between **select grade** and **feature grade** and is a subtle showcase of the timber's natural features, such as gum veins, splits and holes. Standard grade timber has more diversity than select grade but less than feature grade. Standard grade timber looks great in old period style homes of when a more weathered and natural appearance is required as it displays more of the natural characteristics.

Feature Grade contains imperfections such as knots, gum veins, branch and insect markings, displaying all the natural appeal of the timber.

PRE INSTALLATION REQUIREMENTS

Storage

Timber staircase elements should be protected from moisture during all stages of construction as the timber's moisture content at installation is important. Timber should not be exposed to rain or direct sunlight. Timber needs to be kept away from the ground or newly laid concrete. Ideally all finished timbers should be stored flat in a fully enclosed area this is flat, level, dry, clean, well ventilated and protected from direct sunlight.



Site conditions

Ideally timber staircase elements should not be delivered to site until it can be immediately stored under permanent cover and away from windows and direct sunlight. If this is not achievable, other precautions that are equally effective to prevent moisture uptake and excessive sun exposure will be needed.

ACCEPTABLE APPEARANCE POST INSTALLATION

Uniform timber appearance

Installation and finishing practices are major factors which affect the in-service performance of timber products. The following outlines some problems that affect the surface of the timber and these should not generally occur in timber stairs. However, specific heat sources from appliances or sun exposure through large uncovered windows may induce some cupping of boards in the affected area. Similarly, wide boards or thinner overlay boards may also show some slight cupping in certain house environments.

It should also be recognised that the actions or inaction of owners can contribute or even cause the following to occur:

- Cupping - timber board edges are either higher or lower than the centre of the board. Heat in a specific location or a very dry environment above the stair may result in cupping. Moist sub-stair spaces can also cause timber to cup. Cupping can occur in overlay staircases as well as stairs using standard thickness boards.
- Tenting to landing boards - where the adjoining edge has lifted above the level adjacent landing board. This is often associated with high moisture situations beneath the stair.
- Shrinkage – wider gaps between timber components due to changes in the moisture content.
- Delaminating – is the failure of the bond between laminated stair components. Ultra violet light and moisture can adversely affect timber laminated components.

MAINTENANCE OF A TIMBER STAIR AFTER INSTALLATION

Internal environment

Within a dwelling, a number of different climates can develop, causing areas of stairs to respond differently within the same dwelling. These include large expanses of glass, fireplaces, airconditioners, appliances that vent warm air, the aspect of the house, all of which can have an effect on the dimensional movement of stair components. When timber stairs are exposed to the sun through large glassed areas, protection should be considered before, during and after construction. Evaporative coolers add moisture to the air and raise the relative humidity, resulting in moisture contents in the timber stair that are higher than under ambient conditions. Air conditioners and fireplaces may reduce average moisture contents causing gaps between stair components. Appliances that vent warm air may cause localised shrinkage in that area.

Movement after installation

Shrinkage may occur after installation when air conditioning or heating systems commence use. Some movement usually occurs in timber stairs after installation as the stair adjusts to the climate and although stair finishes may retard moisture content changes, they will not prevent this movement. High density species are extremely strong and those that take up or lose moisture more quickly will also follow seasonal moisture changes more closely than slower responding species.

Newly finished timber stairs

Timber stairs may be finished in several ways:

- Painted
- Carpet and underlay

- Stain and polish

Once the stair is installed, tread protectors will be provided so the customer can protect exotic timber stair treads and will seal laminated components with a single coat of satin polyurethane or some similar product during summer months.

Stairs are generally finished by external trades other than stair builders. Whilst the site environment is not always dust free, the timber stair can be expected to have an even appearance. A minimal level of contaminants, minor sanding marks and small depressions of finished stair components and in nail holes may be visible. A mirror finish is an unachievable and some finishes with yellow with time. A timber stair is subject to heavy wear and although a good quality finish can be expected, the same finish as furniture should not be expected.

Sand or grit on footwear poses a big problem to timber stair finishes. Direct sunlight can also pose a problem contributing to gapping and possible cupping of stair components. It will also cause a chemical reaction resulting in the colour of some finishes to change with time. Some timber finishes are more prone to darken with age and direct sunlight accelerates this process.

External Environment

Other than for aesthetic reasons, the main objective of applying and maintaining finishes on timber used in external application is to minimise the effects of weathering and thus maximise the service life of the timber. Weather exposure leads to wetting and drying and subsequent checking, splitting and distortion.

Unprimed/unstained timber

All surfaces, ends and joints should be primed prior to assembly with a quality solvent based alkyd primer or stain, in accordance with manufacturer's recommendations. Final top coats of exterior paint or stain should then be applied in accordance with manufacturer's recommendations.

Treated timber

All surfaces, ends and joints should be primed prior to assembly with a quality, solvent based alkyd primer. When the primer has dried, apply two full coats of premium 100% acrylic exterior topcoat. Dark coloured paints and stains should be avoided as they heat timber to elevated temperatures, causing greater loss of moisture and subsequent shrinkage and checking. Decay is also more active at higher temperatures. All finishes should be applied and used in accordance with the manufacturers recommendations.

Care and maintenance

Frequent wetting of the staircase should be avoided and cleaning should be limited to sweeping rather than hosing down. Adequate ventilation will facilitate more rapid drying after rain.

Reapplication of finishes will be required at regular intervals, depending on finish type and degree of exposure. Before recoating all stairs should be thoroughly cleaned and debris removed from around steps. Recoating should be carried out in accordance with the manufacturer's recommendations.

QUALITY POLICY FOR CLIENTS

Introduction

There are no standards governing the acceptable appearance of timber stairs. However there are standards that relate to the manufacture and installation of timber stairs, namely the Building Code of Australia.

Stairs constructed of the same timber species can differ markedly in appearance, depending on the timber source, age of the tree, timber board width, the type of finishing used and the lighting in which the timber stair is viewed.

Factors influencing the appearance

- Timber is a natural product that will shrink and swell in response to changes in atmospheric humidity.
- No building environment is the same as another.
- With stained stairs, the sanding and finishing is not undertaken in a dust free factory environment and finishes may darken with time.

Our quality standard

Problems such as tenting, buckling and crowning should not generally occur in timber stairs. However, cupping, shrinkage or expansion may occur if areas of the stair are affected by heat, sun or moisture.

It should also be recognised that the client's actions or inactions can contribute or even cause problems to occur. Stairs exposed to heat sources or moisture after occupancy (e.g. no curtains, operating fireplaces and vents from appliances, and/or houses closed up for extended periods of time or underside of stairs enclosed with no ventilation or exposed to sub floor environments) may cause cupping, shrinking or expansion. Cupping, shrinking or expansion from such sources maybe the owner's responsibility.

Clients can expect:

- Every endeavour will be made to keep variation in timber colour and grain to a minimum, but cannot guarantee that timber used will be exactly the same.
- A timber stair that is free from split boards.
- A small amount of noise when walked on (a stair is often more noisy during drier weather due to loosening at the joints).
- The stair may show some indentations over time depending on the hardness of the species used, volume of traffic and footwear worn.
- Minimal sanding marks in preparation for staining or polishing by others. Complimentary tread protectors will be applied to treads to protect the stair finishing by the owner or builder.

TIMBER STAIR FINISHING RECOMMENDATIONS AND WAIVER

Due to the nature of timber, imperfections are part of the character of timber and Coastal Staircases do not take any responsibility for cracking, movement, splits, timber variation or general deterioration due to regular use.

Once the stair is installed, clients must take reasonable care and responsibility to ensure the stair is not damaged by other trades, and is maintained free of dust created by other trades.

Coastal Staircases recommend that the stair be stained, polished or coated (sealed) within four weeks of an internal installation and within two weeks of an external installation.

ADDITIONAL INFORMATION

If you require any clarification or additional information in regards to this timber policy, please contact us by sending your enquiry by email to Sales@CoastalStaircases.com.au.