

Considerations

Solid Timber Floors, just like all quality products, must be handled, stored, installed and maintained to ensure excellent service.

The following text answers many of the most asked questions about Tongue and Groove natural Timber Floors and highlights important precautions and considerations which you should discuss with your chosen flooring supplier / installer before you proceed.

Natural Shrinkage and Expansion

It is most important to understand that Tongue and Groove Timber Floors are not synthetic or man made, but are a completely natural material which is sawn, seasoned and machined to a suitable profile.

Natural Timber is hygroscopic; that is, it continually takes up and gives off moisture to keep in balance with its surroundings. This results in a process of natural shrinkage and expansion.

Because of this, a 'perfect' (continuous mirror finish) is not practically achievable and gaps between boards are inevitable as they accommodate the seasonal change.

Depending on the timber species chosen, visible shrinkage and / or expansion may take a day, a week or even months, resulting in the gaps between floor boards opening and closing depending upon the weather, the season and local influences.

To reduce the degree of shrinkage and expansion, today's Timber Flooring should be seasoned for stabilization and kiln dried to average moisture content between 9% and 14%.

This is considered to be a good starting point for the majority of installations, but as you will read later, many other factors influence the atmospheric content around and in your home and therefore affect your floor.

Which Timber to Choose

Choosing the right floor for your home will probably be the most difficult step, only because of the huge selection from which you can choose.

The following information will assist you to understand the alternatives and help you ask the right questions when discussing the various options with your supplier.

Timber Colour

This is purely a personal and aesthetic choice. The timber species will determine the general color, however, even within one species there will be natural variations. Some species exhibit only small variations while others vary greatly in color and feature.

Remember timber is a natural product and no matter how big a sample you have seen your floor will be different from the sample and completely unique. The true colour of the floor will only become evident after it has been sanded and coated with your chosen finish. Darker timber could make the room appear darker, and may therefore require more available daylight and/or artificial light sources. Appearance of coated floors will mature with age.

Timber Hardness

You may also consider the hardness of the timber if you expect exceptionally heavy traffic or stiletto heels. Our Australian species that we supply vary from 4.0 to 16.3 on the scale.



Common Name	Botanical Name	Janka Hardness Rating
Brushbox	<i>Tristania Conferta</i>	9.5
Spotted Gum	<i>Corymbia Maculata</i>	11.0
Stringy Bark	<i>Eucalyptus Spp</i>	8.5
Grey Box	<i>Eucalyptus Microcarpa</i>	15.0
Grey Iron Bark	<i>Eucalyptus Paniculata</i>	16.3
Blackbutt	<i>Eucalyptus Gummifera</i>	9.1
Tallowood	<i>Eucalyptus Microcorys</i>	8.6
White Mahogany	<i>Eucalyptus Acmenoides</i>	10.0
Rosegum	<i>Eucalyptus Grandis</i>	7.5
Turpentine	<i>Syncarpia Glomerifera</i>	12.0
Sydney Blue Gum	<i>Eucalyptus Saligna</i>	9.0
Red Iron Bark	<i>Eucalyptus Sideroxylon</i>	11.9
Marri	<i>Corymbia Calophylla</i>	7.1
Messmate	<i>Eucalyptus Obliqua</i>	7.4
Karri	<i>Eucalyptus Diversicolor</i>	9.0
Merbau	<i>Intsia Bijuga</i>	8.8
Victoria Ash	<i>Eucalyptus Delegatensis</i>	4.9
Tasmanian Blackwood	<i>Acacia Melanoxylon</i>	5.9
Jarrah	<i>Eucalyptus Marginata</i>	8.5
Nyatoh	<i>Palaquium Spp</i>	4.0
American White Oak	<i>Quercus Alba</i>	6.0
Tasmanian Oak	<i>Eucalyptus Regnans</i>	4.9
Cypress Pine	<i>Callitris Glauca</i>	6.5
Rosewood	<i>Pterocarpus Indicus</i>	4.7
Tasmanian Myrtle	<i>Nothofagus Cunninghamii</i>	5.9

Remember the durability of your surface coating will determine the wear expectancy of your floor.

Timber Features and Grades

Depending upon the species chosen, various grades may be available. You may prefer a grade which exhibits the maximum variety of natural features including colour, knots, gum vein (generally dark lines) and insect markings to provide a unique visual impact. In our kiln dried species this is Standard, Feature or Rustic Grade, or you may prefer a mix, which offers maximum achievable consistency, this is described as “Select” grade.

Be sure to discuss the natural feature variation encountered in your chosen species and also the available options with your supplier.

The Australian Standard refers to grades as Select – Standard – Cover. Clarification must be sought when purchasing timber from a supplier that uses marketing names for various mixing of grades.

There can be considerable price variation between the grades.

Board Width and Length

Tongue and Groove flooring is generally supplied in random lengths from about 1m to 5.4m. Universal profile of 63mm, 80mm, 85mm, 105mm or 130mm (actual cover width).

The width of boards and the direction they are laid will affect the look of a room. Generally boards laid along a room will make the room look longer while the boards laid across a room will make it look wider.

Other factors such as the sub-floor materials may control the direction the boards must be laid. The wider the floor board the greater the natural shrinkage / expansion across the face. Therefore, during dry periods, wider boards may exhibit slightly wider gaps between the boards and cupping may also be more apparent. Both of these conditions may generally disappear after a reasonable period of normal humidity / weather conditions.

Top (face) Nail or Secret Nail

Some species and board widths are offered in a choice of top nail or secret nail profiles. As the name describes, top nail profiles are installed with nails through the top surface, while secret nail profiles are installed with nails through the tongue, and are thus hidden by the adjoining board. Face nails at the start and finish points complement secret nailing. If attempting secret nailing direct to joists, advice should be sought. 85mm is the maximum to secret nail, wider boards must be top nailed.

Home Design Considerations

Shrinkage and expansion of timber board floors is natural and cyclical process. The degree of movement depends on the surrounding changes in atmospheric moisture content and therefore is generally controlled by the seasonal weather conditions. Changes are most evident during long periods of dry or wet weather conditions however, local conditions also have considerable influence.

Good ventilation for your floor is a very significant factor in a successful installation. Minimum ventilation recommendations may not be adequate for your site. Ensure the water from gardens or storm water does not drain under the floor area and that no water lies in the under-the house.

Air conditioning and heating systems dramatically reduce the general moisture content within a house. Your flooring specialist should be made aware that these systems are to be used. It may be necessary or advisable during laying / coating to operate these systems and to acclimatise the flooring to the average conditions in these circumstances. Shutting up a house when away on holiday for long periods can also create abnormal conditions. Full-length windows, large glass areas and skylights, which admit direct sunlight, can create sunroom conditions and with high temperatures and low moisture conditions, cause floors to shrink. Direct sunlight will also cause colour changes to the timber, so moving rugs occasionally, and the use of curtains and blinds is a good idea. If your home is located close to the body of the water such as the ocean, a river, large dam or wet lands, or if it will experience prevailing winds which may direct particularly moist or dry air towards your home, special moisture control measures may be required. Expert advice should be sought.

Transport and On-site Storage

It is most important to ensure a suitable on-site storage location is available before delivery is arranged as incorrect storage will damage the timber and / or delay laying. All flooring timbers should be protected from the elements during loading, transportation and unloading.

The optimum storage location is under cover, protected from the elements and direct sun and where the atmospheric content is similar to the level expected in your home.

In all locations a timber pack should be stored off the ground / concrete, with even supports to maintain straight boards and to allow good ventilation to all pack faces. A moisture barrier to the concrete slab is essential.

Do not store timber in it's plastic wrapping exposed to direct sun as this limits air circulation and exposes the timber to extremely high temperatures which causes sweating. Do not store timber on a fresh concrete floor or in a recently rendered room, as the timber will absorb moisture from the drying concrete.

Installation and Acclimatisation

Depending upon the situation it may be necessary or advisable to acclimatise the flooring to its proposed location prior to fixing.

It is not advisable to fix acclimatised timber flooring during or just after extended periods of wet or dry weather. In this case, we would allow a period of normal weather conditions before commencement.

It is preferable to lay flooring only after all "wet trades" such as brick cleaning, rendering, plastering and tiling have finished. Plastic laid over the floor to protect it from the wet trades often raises the moisture content of the flooring timber and can be counter

productive. Close monitoring is required in this situation. Expansion gaps of 8mm to 12mm are left between boards and the wall. These are usually covered by skirting boards or splay beading.

Timber Floor Finishes



The main two timber floor finishes we apply at Floor By Nature are Solvent and the very popular Water Base. With time most solvent finishes will change in colour and film build as they wear, as for the water base, these are more of a clear coating which brings out the true colour of the timber. With all coatings, the ability to touch up becomes more difficult with time, however all coatings can be restored by re-coating. In the long term a re-sand and refinish may be necessary depending on the wear and age of the floor.

Solvent Borne Polyurethane Finishes

Solvent based polyurethanes (one pack and two pack) provide a hard finish, generally with limited flexibility but much greater abrasion resistance. Consequently, this greatly reduces the level of routine maintenance. They currently provide some of the hardest finishes available today with gloss levels from matt through to a very high gloss. These finishes will generally darken with time. The odour during application is very strong with these products but dissipates as the finish dries. Due to their high strength and generally limited flexibility, edge bonding of boards can occur.

Water Borne Finishes

Water based polyurethane finishes come in one and two pack. The one pack is more than sufficient for residential living, however, if the area's are used often or maybe have pets, we recommend the commercial grade 2 pack. These finishes are generally applied over a sealer (either solvent or water based), that not only enhances the colour of the timber but can significantly reduce the risk of edge bonding. Matt through to gloss finishes are available, but not in a high gloss. Very little colour change will happen with a water based polyurethane coating. During application there is low odour associated with water based finishes.

The following table outlines the types of finish available and lists various characteristics of each.

PROPERTIES OF COATING SYSTEMS

Timber Floor Finishes							
Oil based Alkyds		Composite		Solvent based		Water based	
Tung oil	Linseed oil based varnishes	Oil modified Urethanes (OMU)	Urethane oil/alkyd 'Tung oil'	2 pack Polyurethane	Single pack Polyurethane (moisture cured)	Polyurethane/ Acrylic	Polyurethane (Single and two pack)
Less wear resistant finish requiring more frequent maintenance Unlikely to edge bond boards #				High wear resistant finish May edge bond boards#. There is a reduced risk of edge bonding when applied over an appropriate sealer.		Moderate to high wear resistant finishes Unlikely to edge bond boards # when applied over an appropriate sealer	
6-24 hour drying by solvent evaporation Some tolerance to waxes Moderate to strong odour on application Avoid inhalation and contact				1-4 hour drying by chemical reaction Not tolerant to waxes Strong odour on application Avoid inhalation and contact		2-4 hour drying by evaporation and reaction Not tolerant to waxes Minimal odour on application Avoid inhaling cross-linkers and hardeners	
Matt to gloss levels Darkens with age				Matt to very high gloss levels Darkens with age		Matt to gloss levels Less darkening with age	
Generally ready for use 2-5 days from completion*				Generally ready for use 2-3 days from completion*		Generally ready for use 2 days from completion*	
*Varies with weather conditions and product. Full curing may take a longer time. # Edge bonding relates to the finish acting as an adhesive and bonding board edges together. When board shrinkage occurs, this can result in wide irregularly spaced gaps at board edges or splitting of boards.							

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