DOMESTIC SOLID TIMBER FLOORING
5-YEAR GUARANTEE

Client's Name: _____

This guarantee is not transferable. It applies to Construction Company (if applicable) plus the first floor owner

Address: _____

Areas and m²: _____

Timber Product: _____

Coating Products: _____

Completion Date: _____

Signed: _____ Dated: _____

Steven Heald, Director

Our Guarantee.

Just Hardwood Floors Ltd guarantees to provide a quality solid timber floor finished to a high standard of workmanship which will perform for at least 5 Years so long as the floor is appropriately treated and maintained and the conditions stated below are met.

Just Hardwood Floors guarantees the floor will respond to changes in moisture content in the manner set out in the following paragraphs.

If the floor behaves in any way significantly different to what is set out below, (eg. significant gaps or bulges appearing, timber lifting, polyurethane delaminating, etc.) then we will take all practical steps to determine why it is doing this and should the problem relate in any way to fault on our part in preparation of the timber, laying or sanding and coating then we will take all steps possible to repair or replace the floor to your satisfaction. Set out below are the details of what you should expect from your floor and suggestions on how to avoid problems.

... each floor is part of a building system and the performance of the floor is dependent on other elements of the building. The key element in performance of solid timber floors is moisture. Wood is hygroscopic, which means it absorbs and releases moisture to and from the air depending on the temperature and relative humidity of the air. As timber loses moisture it shrinks and as it gains moisture it swells. This loss, gain or redistribution of moisture creates visible movement. You can expect your floor to move to some extent. You can expect fine gaps to appear from season to season, especially in rooms which experience unusual or significant changes in temperature and humidity.

Further, board size will influence floor stability and movement - the squarer the profile when viewed from end on, the more stable that timber will be. Therefore, an 85x19mm T&G floor will better withstand movement and shrinkage than an 85x12mm T&G floor. For this reason, we choose not to install boards of certain sizes (e.g. 112x12mm). Clients should be aware of this stability factor and possible movement when selecting their preferred board size.

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Timber floors installed in the early years were much less prone to noticeable movement due to the much higher EMC of the homes of the day, the higher moisture contents of the timber and the lower strength of the adhesives and polyurethanes which allowed the timber to move uniformly, rather than raft in groups of boards.

The moisture content of timber in a building moves towards the Equilibrium Moisture Content (EMC) of that building. EMC is a function of the average temperature and relative humidity of the building. The average EMC for NZ dwellings is around 11%, however, the average will vary between buildings and it will vary seasonally. Also within the same building the EMC will vary from one part to another depending on factors which affect temperature and relative humidity. This variation can be from 8% to 14%. Unless otherwise specified, your floor has been prepared and installed for an expected average EMC of 11%-13%.

In some older houses the timber strip floor is exposed to the outside environment on the bottom of the timber. In these situations the moisture content varies dramatically between seasons and is often as high as 18-20% in winter. Just Hardwood floors are never knowingly installed in this fashion. The sub floor cavity must be stabilised by lining and an insulation system to bring the EMC down into the acceptable range of 9–13%. The subfloor lining must not be removed or damaged (e.g. during alterations), as this will change the EMC and affect the performance of the floor.

Your Just Hardwood installed floor is designed to perform to its' optimum at the average EMC of 11%. It should perform well within the range of 9% to 13%, however, at 9% small gaps may appear and at 13% minor peaking may appear at the edges between boards as the pressure causes the boards to press upward against one another. At 8% the gaps will be more significant and at 14% the floor will be obviously under strain.

Bathrooms and laundries can often have higher EMC's. In these areas the timber should be well looked after and all steps should be taken to keep the EMC within an acceptable range i.e. under 13%.

Steps which will assist with lowering the EMC are:

- Use venting kits to vent clothes dryers to the outside.
- Prevent water leaking from washing machines, shower doors and other plumbing fixtures.
- Do not leave puddles of water, damp towels, bathmats or clothes on the floors.
- Use extraction fans and heaters as well as heated towel rails.
- Install floor drains in case of flooding.

If the house is being maintained at a comfortable temperature and relative humidity then the EMC should not go above 13%. Moisture contents above this usually indicate a problem such as inadequate ventilation, moisture egress from the subfloor or plumbing or drainage problems. We design our flooring installation systems to be as strong as possible and we ideally want the timber to not fail under 17% moisture content, however, sometimes other elements of the system such as the concrete substrate fail earlier than the glue or the timber.

We try to prepare concrete substrates as well as possible. However, if the concrete is of poor quality or is uneven and requires the addition of levelling compounds then this introduces a potential weakness which can reduce the range of moisture contents the floor can cope with. It is very important that when concrete subfloors are poured that the concrete placer produces a good level surface, approximately 3mm variation over 3m, this will minimise the cost of flooring installation and improve its strength by removing the need for levelling compounds. The use of moisture barriers over concrete substrates to prevent moisture migration is an important

aspect of installing a solid timber floor. If an approved moisture barrier is not used our guarantee will exclude problems resulting from moisture gain.

Where the building design creates a sudden change in EMC over a small area, small gaps may appear in the low EMC area. Examples of this are under sky lights or in front of large glass walls without a veranda overhang where direct light focuses on the floor for much of the day, in front of heaters or fireplaces without a suitable size hearth, below some types of self defrosting fridges or anywhere else where spot heating causes a drop in relative humidity bringing the moisture content below 9%.

Where subfloor heating and air-conditioning systems are installed the moisture content of the floor should still remain within the acceptable range as long as the system is well set up and maintained and the unit is controlled by the temperature of the floor, NOT the temperature of the water in the heating system where this type of system is used. Ideally the timber temperature should be around 22°C with an absolute maximum of 25°C. If the timber temperature is raised higher than this the relative humidity at the surface of the wood will drop, drying the timber out below the 9% and leading to gaps between the boards. Certain strict criteria must be met before the Just Hardwood Floors Flooring Guarantee covers timber flooring installed over underfloor heating.

Potential problem areas where the floor may take on moisture and get too tight and where polyurethane may become damaged are by the base of external doors that do not have adequate door seals. At external traffic areas, at doors to garages which may be left open into unheated hallways, rooms on the south side of houses which are seldom used and are unheated during winter, at doorways with immediate access to the house from swimming and spa pools, underneath dishwashers which drip, in toilets, bathrooms and laundries as previously discussed.

It is not recommended a house be left unoccupied and unheated for long periods especially, during winter as the EMC will rise without the drying effect of the heating and venting associated with normal occupation. After a period of being unoccupied, do not suddenly or dramatically heat the house. This may dry out the surface of the flooring faster than the middle and bottom of the timber, leading to differential shrinkage, which can cause cracking of the polyurethane along the joints and cupping of the boards.

If the timber floor is inadvertently flooded, damage can be minimised by removing the surplus water as fast as possible and adding extra heating, dehumidifiers and air circulation to try and remove the moisture that may have got between the boards or underneath the boards. Do whatever is possible to dry the floor quickly before the timber has time to absorb and hold too much moisture. A well installed floor (as ours are) can recover from flood damage to a large degree if prompt action is taken.

It should be noted that polyurethane is moisture resistant, not water-proof so over-wetting damage may occur from mop and bucket washing methods. It is recommended timber flooring is cleaned with a dry mop and spray bottle.

The polyurethane coating should not delaminate or separate from the timber under normal reasonable use. Loss of gloss and loss of polyurethane material is directly related to the level of use. Wear is dramatically increased with the presence of dirt, water on the surface and other contaminates which create an abrasive action beneath shoes and furniture in contact with the floor. In a domestic application if care is taken to exclude dirt and other abrasive materials and felts are placed on the feet of furniture, the polyurethane should not need resurfacing for 7-10 years. In commercial application it is impossible to predict the life of the coating because the use and abuse levels vary dramatically between applications.