

Common problems with laminate flooring installations

This document is intended to help identify problems that commonly occur with Laminate Flooring installations.

1 Cupping, buckling or warping can occur when laminate boards have not been fully acclimatised prior to installation (see diagram 1a below). To ensure that boards are properly acclimatised the closed flooring packages should be placed in the room where they are to be installed, on an even surface, for at least 48 hours prior to installation. See note 5 below for more on this topic.



Diagram 1a

The presence of dampness, moisture and or water damage will also cause this problem - for example: High moisture content in the air (often after heavy rains) or excessive water on the surface of the floor. Never wet mop a laminate floor, because it will cause this type of problem.

The most common cause of warping or buckling is dampness rising from the subfloor or even the lack of a sufficient good quality moisture barrier.

2 Edge Swelling is caused by exposure to water or even over cleaning, where too much water or pools of fluid remain standing on the floor instead of being cleaned up immediately. This leads to edge swelling because the moisture permeates (often slowly) into the joints which lead to what is known as moisture induced swelling.

It's important to note that according to EN13329 specification (which is what most board is manufacturer too) confirms that boards will swell as much as 18% if boards are exposed to water at 20 degrees C for 24 hours. Please remember that cleaning with even a small excess of water will expose a board to water till it dries out on its own or the water is absorbed by the board.

Some manufacturers like our floorLoc™ and Parador board density are significantly better than that set by the EN13329 specification, and or they have all round edge protection with affords a better resistance to water or damp.

Lack of proper clearances around the walls and fixtures can also cause edge swelling as shown in the picture below.



Picture 1

3 Effect of Humidity

Humidity changes cause expansion and contraction of boards and if the installation is not completely to specification one can experience two conditions, namely:

Low Humidity can cause opening between planks caused by *shrinkage*.
High Humidity can cause compression peaking caused by *expansion*.

Both of these are dealt with below but first a word about the humidity effects.

Humidity Overview

Opening joints are often caused by variations in humidity levels even within respective rooms. Low humidity will cause boards to dry out resulting in *shrinkage*, whereas higher humidity levels will cause *expansion*.

Normal operating levels for wood laminate are generally between 50 and 65% at a temperature between 20 and 22^oC. anything outside of these normal operating limits or significant variation even day to night can induce problems of shrinkage or expansion.

Depending on which part of the country you are in, humidity will affect all wooden floors to some degree or another. Humidity measured daily can vary from very low to very humid especially where there is heat and then rain.

Special care **MUST** always be exercised if one is drawing stock from Johannesburg especially in mid-winter, when humidity in Johannesburg is very low, and installing in most other area such as Cape Town in winter where it is damp and moist. Care **MUST** therefore be given to proper acclimatisation.

The effect of NOT acclimatising materials correctly, or installing prematurely, will be that the boards expand quickly often taking up the entire expansion gap allowed during installation. This can result in floors peaking or even crowning as dealt with below.

Remember that use of underfloor heating and even space heating in a room, will further exacerbate the problem, as it has the effect of drying boards even more causing further shrinkage. This is especially noted in Johannesburg where winter humidity is already very low.

Lack of Proper Expansions – During periods of shrinkage (Low Humidity)

In the event that the recommended guide lines for use of expansions has not been adhered to, this can cause boards to shrink and open gaps between the planks.

For example:

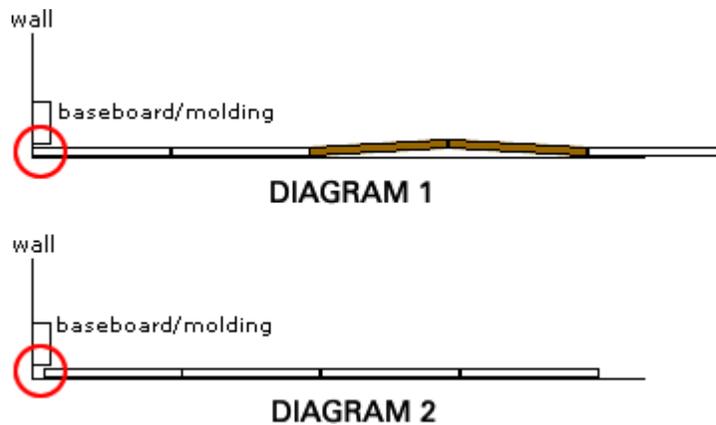
- If there are no proper expansions from room to room, normally fitted at doorways, or if the installation is in a larger open plan area where the rooms flow from say a family room into a kitchen and perhaps to a breakfast nook, without expansions – There will be problems of opening between boards.
- There's always a temptation NOT to use expansions in large flowing areas, because it spoils the flow of the room, but one must accept that if this is done, there will be times when expansion openings between boards will occur from summer to winter.
- Remember all expansions MUST be track or screw swivel fitted to ensure that proper clearances are maintained in the gaps at all times.
- We do not accept any liability if expansion profiles are silicone fitted, and this is because it's impossible to control the expansion gap as the silicone tends to fill the gap on fitting, thus defeating the whole purpose of having an expansion profile.
- A further example of this occurs when kitchen units or cupboards are installed on top of the laminate thus restricting the free movement.
- Security gates should NOT be fitted on top of the laminate and screwed through to the floor as this will also cause a problem.
- If heavy furniture or large pool tables are placed on top of the laminate this can also cause end opening to occur.
- A common problem is found in long passages where the laminate is fitted into the doorways and no proper clearance is allowed around the door frames.

- REMEMBER gaps and clearances must be consistent; there is no point in having a big gap most of the way and small gaps in some places. The smallest restriction can severely limit total floor movement.

Lack of Proper Expansions – During periods of board expansion (High humidity)

As a floor expands, if proper expansion joints have not been allowed for or if there is a resulting lack of proper clearances this will cause the opposite effect of board opening as board grow. If there is a lack of clearances and this remains un-checked the effect will be that the edges will compress and look like edge swell (picture 1 above). This will often occur prior to crowning, as dealt with below.

Crowning of floors or peaking is an early indication that the floor is abutting against a wall or at some expansion point where the expansion joint may have become insufficient, see diagram below. (Often doorways, columns and even walls). This can easily be caused by expansion of the boards as the humidity increases over a period of months (please note point 5 above).



It's not uncommon for floors, laid in the low humidity periods, to expand in the higher humidity period to such an extent that the original expansion gap has been lost completely, due to the climatic changes.

In short larger expansion gaps should be allowed in low humidity periods to compensate for the climatic changes that may take place later in the year.

In short be aware of the problem and make the necessary adjustments to suit local climatic conditions. Remember in terms of when we experience high or low humidity, Johannesburg and Durban are totally the opposite of Cape Town, and PE is a bit in the middle.

4 Cloudy or dull floors are usually caused by the use of inappropriate cleaning agents. Over time these cleaning agents cause a build-up which act as a barrier or film-layer on the floor which leads to a cloudy look.

Please refer to info@floorsetc.co.za if you require any further information or support