

# Solid Flooring Acclimatization Guidelines

Timber is a natural product that expands and contracts with seasonal changes and is affected by the moisture content of the air. It is important to remember that small seasonal changes in timber flooring are considered normal and small gaps that open up during dry periods are not considered a defect. To minimize the movement of a solid timber caused by swelling on moisture uptake and shrinking on moisture loss, it is important to lay and fix a timber floor that is close to the average moisture content of the environment in which it is to be laid. This guide outlines the procedures required to assess the site and acclimatize solid timber flooring for the best results.

## **Site Assessment:**

The single most important step to ensure that your timber floor performs to expectations is that it be dried to a moisture content similar to the average in which it will be used. *foreverbeech* flooring is kiln dried to a range between 11 - 13% moisture content. In-use conditions will vary from less than 10% emc in consistently heated or air conditioned situations up to 14% in intermittently heated rooms or even higher in old homes with over joist floors. Some regions eg Central Otago, require

consistently lower moisture contents than most other places in New Zealand. Seek advice and provide sufficient lead-time to ensure timber can be dried to meet specific requirements.

All wood shrinks at a consistent percentage of its dimension, therefore the wider the board the greater the risk of visible shrinkage. Use of narrower strip flooring should be considered where under floor heating or constant air conditioning is proposed.

## **Internal Micro Climates:**

Within a dwelling, a number of climates may develop, causing areas of flooring to respond differently within the same dwelling. These usually include large expanses of glass coupled with the aspect of the house. Fireplaces, fridges, air conditioners and any appliances that vent warm air can all have an effect on the dimensional movement of the boards. When floors are exposed to direct sun through large glassed areas, protection should be considered before, during and after construction.

The likely movement of the floor after installation should also be a consideration when assessing the site. Small differences in moisture content between boards at the time of manufacture (5% is allowed by



Australian Standards) together with variable conditions within the house (such as a westerly room compared to a southerly one) may cause further variation in board width. For this reason, it can be expected that small gaps will occur at the edges of most boards, particularly during the drier months. These gap sizes may differ across the floor. In cases where shrinkage may occur after installation, wider boards such as 128mm will result in larger gaps at board edges when compared with narrower board widths.

**Installation Moisture Content and Acclimatization:**

Acclimatization is the process of allowing partial equalization of the moisture content of the hardwood timber flooring when supplied, to the moisture content of the surrounding environment in which the timber is to be installed.

As mentioned, *foreverbeech* flooring is kiln dried to 11-13% moisture content. Where the average supplied moisture content of the flooring is near the expected average in-service moisture content, acclimatization of flooring is not necessary.

Where conditions are drier, such as inland areas or air conditioned buildings, or where conditions are humid such as in coastal areas or elevated regions, flooring may need to be acclimatized on site.

Please note that the rate of moisture uptake varies from species to species.

Acclimatization relies on each individual board being exposed to the in-service atmosphere so packs must be opened and restacked in a way that allows air to flow freely between each board.

Acclimatization can only be effective in an air-conditioned building if the air conditioning is operating at the time or in dry locations during dry periods.

Acclimatization is only complete when the moisture content of the timber flooring is equal to the relative humidity in the environment. This usually takes about 14 days for 19mm flooring, but may take longer or shorter depending on the species used and weather conditions.

To check that the timber flooring has reached this point it should be moisture tested with an appropriate timber moisture meter.

