

Wood's Acclimation

The point of acclimating wood flooring before installing it is to allow the moisture content of the wood to adjust to “**normal living conditions**” at the site — that is, the temperature and humidity conditions that will typically be experienced once the structure is occupied.

Thus, it does no good at all — in fact, it is likely harmful — to store wood flooring at the jobsite under conditions that don't reflect those normal environmental conditions.

The wood flooring industry has done a good job in recent years communicating the message that wood flooring is a dynamic material subject to changes in dimension as a result of changes in humidity in the surrounding environment. That has led to increasing awareness of the need to acclimate wood flooring before installation. Unfortunately, some installers have heard the message as, “Leaving wood flooring at the jobsite for two weeks will properly acclimate the wood, no matter what the conditions are.”

In truth, some wood flooring may already be at the proper moisture content when it's delivered. To allow it to sit at the jobsite under excessively humid conditions will only cause the flooring to absorb unwanted moisture.

So, the key message is not that acclimation is good, and that's all you need to know. Rather, installers need to understand the dynamics of water and wood and make educated judgments about when and how much acclimation is required. To do so requires knowing what the moisture content of the flooring is at the time of delivery and what its expected moisture content will be “in use.”

Wood at the warehouse

Once milled, the flooring should be stored in dry, well-ventilated warehouses before shipment to jobsites. These are some recommended guidelines for handling and storing hardwood flooring:

- *Unloading:* Flooring should be unloaded in good, dry weather, never in the rain.
- *Warehousing:* Flooring should be stored in an enclosed, well-ventilated building and located in areas where similar fine millwork is stored. The storage area within the building should be clean and dry. The stacks of flooring should have good air circulation and no water drainage nearby.
- *Preventing condensation:* When air in a building is more humid than outside air, moisture may form on the underside of the non-insulated roof and affect flooring. Insulation in the roof or walls can prevent condensation.

A covered area can also provide protection, although this is not a guarantee in a damp season or

environment. If this is not possible, all top pallets should be covered with polyethylene film or other water-proof covering.

The storage building should ideally have controlled humidity. Continual dry heat may dry flooring below its desirable moisture content, which could result in buckled floors if flooring is installed without proper acclimation. Conversely, storage in a damp area can introduce unwanted moisture and expansion in the flooring, which could result in unacceptable cracks between boards if flooring is installed without proper acclimation.

Wood at the jobsite

Before wood is delivered, the jobsite must be checked to determine if it is ready. Wood should not be delivered if jobsite moisture conditions are excessive. Otherwise, one will absorb moisture from the other.

The structure should be fully enclosed, with doors and windows in place, and interior climate controls should be operating for at least 48 hours to stabilize the moisture conditions of the interior. Once at the jobsite, the wood should be set indoors and spread over the subfloor. About four days should pass before an installation is started. Moisture contents of both the flooring and the subfloor must be checked and recorded before any work begins.

If flooring is delivered on a damp day or during rain, the boards will absorb moisture. If installed in this condition, the flooring will shrink a few months later and show cracks.

Wood flooring should not be delivered to the jobsite until plastering and painting are completed and dried. Moisture evaporates from damp walls into the air within the house, and some of it will be absorbed by the flooring.

Another condition that causes flooring to pick up moisture during construction is less obvious, but more common: If the heating or air conditioning is not operating from the time the floor is installed until the house occupied, the humidity may be higher than it would be if the house were occupied.

Only after getting satisfactory moisture measurements from the concrete slab and the subfloor, and only after wood has acclimatized to the jobsite, is the installer ready to install. When installation is completed, good practice calls for a delay of one or more weeks for further acclimation before beginning the sanding and finishing part of the job.

On page 14 is a “Builder's Checklist” that can assist as a pre-installation evaluation of the jobsite. Problems identified while completing the checklist should be brought to the attention of the general contractor or owner before installation is begun.