

Acclimation/Conditioning

In order for wood to perform successfully as a flooring material, it must be acclimated to its environment. Acclimation is defined as the process of allowing a wood floor's moisture content to equilibrate with the surrounding environment in which it will perform. Acclimation requirements for factory finished solid and engineered flooring is product-specific and manufacturer-specific; however, the simple rules of how wood interacts with its environment will not change.

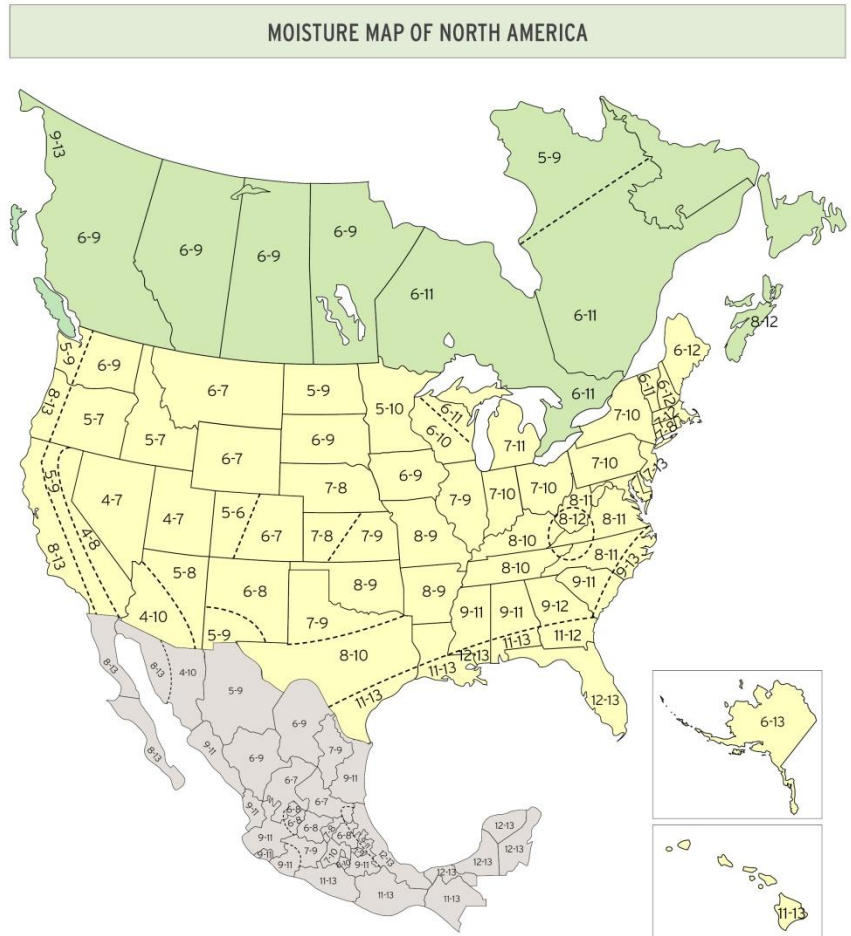
To properly acclimate/condition a wood floor, proceed as follows unless otherwise directed by the flooring manufacturer:

1. Interior environmental conditions vary from region to region and jobsite to jobsite. Determine what the expected in-use (e.g., normal living) conditions are and customize the floor selection around those conditions. This customized floor selection may include identifying which species, cut, width, installation method, or whether to use solid or engineered flooring for each unique situation.
2. Ensure that the building is enclosed and all wet work is complete prior to delivery of the materials.
3. Verify gutters, downspouts and soil surrounding the property are placed/graded to drain water away from the building and the crawlspace meets required criteria detailed within this publication and/or local building codes.
4. Verify that the building receiving new flooring is maintained at the expected in-use (e.g., normal living) conditions for temperature and humidity for a minimum of five days preceding installation to promote proper conditioning of the space. These same conditions should be maintained during and after installation. Check the moisture content of exposed wood products on the jobsite and compare with the values on the EMC chart above to ensure they coincide. Permanent or temporary heating, cooling, humidification or dehumidification systems may be necessary to achieve and maintain these conditions.

Note that the use of temporary propane heating systems will introduce moisture to the environment. Large amounts of water are produced with the combustion of propane. These systems should be avoided.

5. Do not store wood flooring in uncontrolled environmental conditions.
6. Upon delivery, check wood flooring moisture content to ensure it is compatible with the expected in-use (e.g. normal living) conditions. Record, date, and document all results. Check other wood materials on the jobsite for comparison. Check and record the moisture content of multiple boards from a variety of bundles. Take MC readings on a minimum of 40 boards for every 1,000 square feet of flooring and average your results. In general, more readings will result in a more-accurate average number. Any unusually high or low moisture readings should be isolated and addressed individually.
7. If wood flooring is delivered at a moisture content that coincides with the expected in-use (e.g. normal living) conditions of the facility, and these conditions are maintained, no on-site acclimation may be required.

8. If the moisture content of the product received is outside of the range of these expected in-use (e.g. normal living) conditions, acclimation of the product to these conditions will be required in order to get the flooring and the facility aligned. This may include introducing moisture to the wood or removing moisture from the wood prior to installation. When doing so, you must take into account that the increase/decrease in moisture may distort the wood, which could adversely affect the installation.
9. When flooring needs time to acclimate to the environment, this can be facilitated by separating the flooring into small lots and/or completely opening the packaging. Then cross-stack the materials with spacers ($\frac{3}{4}$ -inch to 1-inch stickers) between each layer of flooring to allow air circulation on all sides of all boards until EMC has been reached.
10. Prior to installation, ensure the wood flooring is within acceptable range of moisture content relative to the wood subfloor. For solid strip flooring (less than 3 inches wide), there should be no more than 4% moisture content difference between properly acclimated wood flooring and wood subflooring materials. For solid plank flooring (3 inches or wider), there should be no more than 2% difference in moisture content between properly acclimated wood flooring and wood subflooring materials. If the moisture content of the subflooring and wood flooring are outside of these tolerances, the flooring should not be installed until they are within the proper range.



While it takes time to acclimate a product, the ultimate goal is to get the materials to reach a moisture content that is in equilibrium with the expected end-use environment. Bringing wood flooring to equilibrium includes conditioning the materials in a stable environment as long as necessary to ensure the materials have reached the proper moisture content based on the temperature and humidity levels of the facility. However, once the environmental conditions change so will the moisture content of the flooring.

More-detailed information about wood flooring acclimation is available in the NWFA Wood Flooring Installation Guidelines and Methods publication, or at <http://member.nwfa.org/default.asp?page=InstallGuidelines>.