Southern Wood Floors Installation Summary

This summary is compiled based on industry standards set forth by the National Wood Flooring Association and infield experience. It is not intended to cover all aspects in detail but allow the client an overview of the 2 most important pre installation elements that are part of any successful wood floor installation. Southern Wood Floors wood floor specialists can provide specific details of installation methods for specific floor products.

Jobsite Conditions:

- **Wood floors should be installed during the final phase of any project. This is true with unfinished floor for jobsite finishing and also for factory finished floors. The closer the project is to completion the less foot traffic (electricians, painters, etc) will occur and moisture in the environment will be stabilized.**
- **It is important to evaluate jobsites for potential issues before wood floor delivery and installation begins.**
    - **Know the surface drainage is being directed away from the building. Experience indicates that the potential for increased expansion and contraction exist anytime surface drainage is directed toward the building even with proper drainage installed.**
    - **Wood flooring should only be delivered and installed in a building that is completely enclosed. All windows and doors installed and operable.**
    - **The best building environment is one that has operating heat and air. If this is not possible, it is imperative that the temperature and humidity are as near normal living conditions as possible and maintained. Normal expansion and contraction will not be minimized unless the temperature and humidity conditions are established and maintained based on normal occupancy conditions.**
    - **Wood flooring should not be delivered for acclimation on a jobsite until all concrete, masonry, plaster, sheetrock and paint primer coats are complete.**
    - **Crawl space and basement areas must be dry. The crawl space at all points should have a minimum of 18" from ground to joists. The crawl space is 100% covered with a vapor retarder. The optimum venting for crawl space is 1.5 square feet per 100 square feet of crawl space. However, local building codes may differ.**

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- **Subfloor (concrete and wood) should be checked for moisture to establish a range appropriate to the floor product installation. This is completed with a moisture meter.**

Acclimation:

- **Wood flooring material can have dimensional changes based on changes in moisture, temperature and humidity in the jobsite environment. Wood flooring must acclimate to the jobsite that it will be installed at or near the normal range that the building will be occupied. Failure to acclimate may increase the amount of expansion, shrinkage, or other dimensional changes that are normal or seasonal.**
- **As a point of reference, wood flooring performs best when the interior remains between 35-60 percent humidity and 60-80 degrees.**
- **The process of acclimation requires that the building is enclosed completely and brought as close to normal living conditions as possible by temperature and humidity. Too dry can be as counterproductive as too moist. If the heating and air systems are operating, they should be maintained at the temperature generally maintained year round. If they are not operable, the acclimation should be completed in the building at a temperature between 60-80 degrees and at the average annual relative humidity for this area.**
- **At delivery of flooring the moisture content is established for the wood flooring. This baseline allows the installer to determine if the acclimation is occurring to the accepted range. As a general rule the moisture content in the Southeast areas of Georgia and South Carolina will range from 8-12%. This reading is determined with a pin meter. Always know what the product manufacturer requires for acclimation.**
- **For solid flooring less than 3" width, an approved vapor retarder is installed over the subfloor, the difference between subfloor and flooring product should be 4% or less. For solid wider flooring, the moisture content difference between flooring and subfloor should be 2 % or less.**

Again, this brief summary is to outline the very basics of a successful wood floor installation. Very detailed information is available on a range of topics from how to perform moisture testing to the appropriate installation methods for each floor product. However, Southern Wood Floors believes that if the homeowner, flooring professional and builder can grasp the two basic elements of jobsite conditions and acclimation, the mechanics of moisture testing, installation methods can be discussed in relation to each wood floor product and jobsite environment.

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Southern Wood Floors can best answer your specific questions through a showroom visit, jobsite visit for quote, or by just picking up the phone to speak to a wood floor specialist.

A glossary of some wood floor terms related to installation is included to assist in understanding wood floor terminology. See Finishing guidelines for finish terminology.

- **Acclimation** – The period that allows the wood moisture content to equalize with jobsite environment that it will be installed.
- **Vapor Retarder** – This is the covering that is normally installed over the subfloor to limit the amount of moisture vapor that passes from the subfloor to the wood floor material. It is important to understand this as a "retarder "and not a barrier. The traditional product in this area has been 15# felt but newer materials such as 6 mil plastic or asphalt backed papers are also used.
- **Trim**- This term collectively refers to the base moldings such as shoe and quarter round as well as thresholds to transition to other floor coverings. A quote should always indicate the specific trim element included.
- **Strip flooring** – Strip refers to solid or engineered floor boards that are less than 3" or less width.
- **Plank flooring** – Plank refers to solid or engineered floor boards that are greater than 3".
- **Square Edge**- This refers to flooring that does not have any sort of bevel, micro bevel, or eased edge. It is most common in unfinished floors but some factory finished floors will be referenced as "square edge". However, generally factory finished floors referenced as square edge have a very small micro bevel to avoid sharp edges.
- **Bevel Edge**- Most prefinished floors and some custom unfinished floors have some degree of bevel present. This bevel can range from a "micro" to a deep bevel or wide shallow bevel for effect.
- **Solid**- Solid references floor that is manufactured from a single piece of wood.
- **Engineered** – Engineered is manufactured using a "Wear layer" adhered to a substrate. Often this is a 2 part process of wear layer and multi layer substrate or a 3 part process of wear layer, center core, and substrate back.

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- **Laminate**- Laminate in today's market refers to a non wood product generally plastic or laminate applied to a high density fiber core. The key is to recognize laminate as plastic that cannot be re-sanded or finished. Often thought of as hard vinyl.
- **Nail/Stapled Installation**- Flooring is nailed or stapled directly to a wood (plywood or OSB) subfloor. The nail or staple is blind fastened through the tongue and is normally every 6-8" along the board length and within 2" of each board end.
- **Glued Installation**- The glue method is normally select for flooring to concrete subfloor. The key in any glued installation is adhesive quality and correct spread.
- **Floated Installation**- This installation can be used over any subfloor but is most often used for concrete subfloor or below grade installations. This install technique basically utilizes gravity but gluing each individual floor board to one another via the side tongue and groove but not fastening the floor to the subfloor. When complete, in theory, the floor becomes one complete unit that floats above the subfloor on a cushioned pad.
- **Cupping**- The edges of the flooring board are raised above the center (concave). Although a natural cup can sometimes be viewed in an un-installed board, almost all cupping is a result of moisture content higher or introduced under an installed floor. As the moisture searches for points of least resistance to be released, the tongue and groove joints are the natural points for the moisture to escape. Thus the edges of the boards absorb the moisture and expand and push up.

- **Crowning**- The edges of the floor board are lower than the center. This is often seen in wide boards (greater than 5") and is normally removed in the installation process. A floor that exhibits crowning across a large area may be the result of board moisture content extremely higher at installation than the subfloor environment.
- **Seasonal Expansion and Contraction**- All wood is hydroscopic and expands and contracts constantly. Heating and dry winter humidity can and normally changes the overall moisture content and relative humidity in and around a building. This lower moisture can cause most floors to contract slightly across the width resulting in minor cracks between floor boards. This contraction is normally reversed in the spring and summer months through high humidity on both the interior and exterior of the building. Sometimes minor cupping can occur in periods of extreme humidity and moisture levels. This cupping is different from cupping that occurs at installation due to non acclimation or moisture check or cupping that occurs from the introduction of moisture via pipe breaks or permanent or catastrophic changes in moisture in the building crawl space or building leaks.

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