Preverco
Hardwood Flooring

Technical Bulletin:
Acclimation of Hardwood Flooring
For Solid and Engineered Wood (All Widths and Thicknesses)

Purpose:
Proper acclimation of hardwood flooring is critical to ensuring long-term stability, minimizing expansion or contraction, and preventing installation-related issues. This bulletin outlines best practices for acclimating both solid and engineered hardwood flooring across all widths and thicknesses.

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Key Considerations

1. **Understand the Wood Type:**
- Solid Hardwood Flooring: Solid wood reacts more significantly to changes in moisture and humidity. Some species react greater to environmental changes.
- Engineered Hardwood Flooring: More stable due to its multi-layered construction but still requires proper acclimation to match site conditions.

2. **Environmental Conditions:**
- Maintain a stable environment in the installation area. The target indoor conditions are to respect Normal Living Conditions. Temperature: 70°F (more or less 10°F (21°C more or less 5.5°C), Relative Humidity (RH): approx. 37–50%. This is a critical step that must not be skipped. If wood is acclimatized to "Normal Living Conditions" the MC (Moisture Content) of the wood floor with respect the needed 6-9% MC.
- Ensure HVAC systems are operational for at least 5–7 days prior to delivery of the flooring and/or the installation.

3. **Flooring Moisture Content (MC):**
- Wood should reach equilibrium moisture content (EMC) with the subfloor and ambient environment.
- Measure moisture using a wood moisture meter. Acceptable MC range between subfloor and the floor should be: 2% for solid wood over 3", and 4% for solid wood 3" and under, 3% for all engineered wood products.

Acclimation Procedures

1. **Site Preparation:**
- Ensure the subfloor is clean, dry, and flat.
- Verify subfloor MC: Concrete subfloors should have MC below 3% with a calcium chloride test, 4% when using a conductivity meter, and below 75% for concrete relative humidity (RH) testing, while plywood or OSB subfloors should match the flooring MC as closely as possible.
- Address any leaks, dampness, or improper ventilation in the installation area.

2. **Storing and Spacing Flooring Material:**
- Deliver flooring to the job site approx. 48 hours before installation for engineered wood, and ideally 48–72 hours for solid wood. (The time suggested is good practice, to help ensure the wood moisture content, subfloor, and environment are all able to best respect "Normal Living Conditions")
- Store flooring in the room where it will be installed. Do not place in basements, garages, or areas with fluctuating conditions.

3. **Cross-Stacking and Airflow:**
- Stack flooring planks crosswise with at least 1–2 inches of space between layers to allow air circulation.
- For wider planks (5 inches and above), increase acclimation time to prevent cupping or gapping after installation.

4. **Monitor Conditions During Acclimation:**
- Use a hygrometer to monitor RH and temperature daily.
- Check moisture levels in both the subfloor and wood periodically to confirm they are within acceptable ranges.

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Installation Considerations

- After acclimation, inspect planks for defects, warping, or excessive moisture content.
- Follow manufacturer guidelines for adhesives, nails, or other fastening systems.
- Leave appropriate expansion gaps at walls and fixed objects: ¾" is standard (= to the thickness).
- Post-installation, maintain consistent environmental conditions year-round to prevent seasonal movement.

Special Cases

1. **Wide Plank and Thick Flooring (>5 inches or >3/4 inches):**

- May require extended acclimation (potentially over 72 hours in normal living conditions or until the flooring matched the desired readings, verified with testing). Temperature: 70°F (more or less 10°F (21°C more or less 5.5°C), Relative Humidity (RH): approx. 37–50% (Normal Living Conditions)
- Consider engineered hardwood for better stability in extreme environments.
- May benefit from additional sealing or humidity control systems.

2. **High Humidity or Arid Climates:**

- Use dehumidifiers or humidifiers to bring RH to an acceptable range prior to delivery. Temperature: 60–80°F (15–27°C), Relative Humidity (RH): approx. 37–50% (Normal Living Conditions)
- Consider engineered hardwood for better stability in extreme environments.

3. **Can you install wood flooring without acclimation?**

- If the flooring and environment respects that of "Normal Living Conditions" Temperature: 70°F (more or less 10°F (21°C more or less 5.5°C), Relative Humidity (RH): approx. 37–50%, 6-9% wood Moisture Content (MC). (When in doubt, take proper time to acclimate to Normal Living Conditions prior to installation.)
- If the flooring was acclimated to "Normal Living Conditions" off site and the site also respects these same conditions.

Conclusion:

Proper acclimation is essential for both solid and engineered hardwood flooring. Following these guidelines will ensure optimal performance, minimize post-installation issues, and enhance the longevity of your flooring.

Contact Information:
For additional support, please contact our technical support team.