



SUBFLOOR AND INSTALLATION PREPARATION INSTRUCTIONS

Applicable to:

ALL Products



Note: These directions are based on industry standards and best practices. Warranty coverage may be lost due to failure to strictly follow all installation instructions and recommendations and/or the use of improper materials or tools. For complete warranty information visit www.kahrs.com or call 1-800-800-5247.

READ ALL INSTRUCTIONS CAREFULLY!

THANK YOU FOR CHOOSING KÄHRS FLOORING!

Owner/Installer responsibility

The installer and customer must both ensure the product meets their expectations regarding appearance, quality, and grade prior to installation. The installer must use reasonable selectivity and set aside or cut off pieces with deficiencies, whatever the cause. Should an individual piece be doubtful as to grade, manufacture, or factory finish, the installer should not use the board.

Prior to installation of Kährs flooring, the installer must ensure that the jobsite and subfloor meet the requirements of these instructions. Floor failure resulting from unsatisfactory jobsite and/or subfloor conditions is not covered under warranty.

Any decision not to proceed must occur within the first 10% or 100 square feet of flooring installed, whichever is less. Once installed, any board is considered as having been accepted by the installer and owner, even if the owner is absent at the time of installation. Please see *Kährs Wood Floor Guarantee document* for more information.

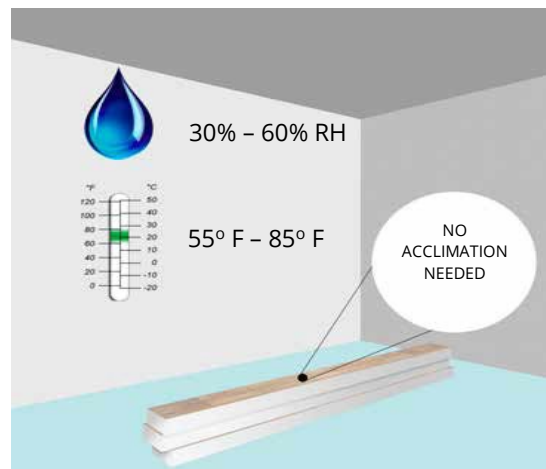
The owner must maintain the flooring in accordance with Kährs Wood Floor Care guidelines, including maintaining recommended temperature and relative humidity levels year-round.

Always store the hardwood flooring in dry conditions and do not open the cartons until just before installation.

Jobsite Conditions

Interior Conditions

- Kährs products must be installed only in a climate-controlled environment, with doors and windows installed and operational HVAC system.
- Wood flooring should be one of the last items installed for any new construction or remodel project. All work involving water or moisture should be completed before flooring installation.
- Relative Humidity at the job site must be, and remain, in the range of **30% - 60%**. Temperature setting must be, and remain, in normal operating range of **55°F - 85°F**. Test and record (photograph) RH readings in each area where Kährs products will be installed.
- Warning - humidity levels below 30% will likely cause movement in the flooring, including possible dry cupping, face checking and gapping between planks.



Exterior conditions

- Carefully inspect the outside surroundings for improper drainage and predictable or obvious sources of moisture. The yard should be graded (at least 6" in 10 ft.) to slope away from the foundation. Be sure that gutters and eaves sufficiently prevent rain from penetrating the foundation.
- Under the house: In homes with crawl space or pier-beam foundations, foundation vents must provide cross-ventilation with no dead air space. Vents should be located throughout the foundation with an opening area equal to 1.5% of the square-foot area within the crawl space. If excessive moisture exists underneath the house, you must lay a 6-mil black polyethylene moisture barrier on the ground in the crawl space below the installation area.
- Basement should be free of all moisture and be weather tight. Relative humidity of basements should not be more than 10% higher than the upper floors.
- Exterior site/structure issues are NOT the responsibility of the flooring contractor/installer or Kährs.



Subfloor Requirements

Moisture and testing

The installer must confirm subfloor moisture conditions are suitable before installing any hardwood floor.

Wood subfloor moisture must read under **12%** and differential between boards and subfloor must be less than 4%.

Concrete subfloor must be fully cured and at least 60 days old. Evaluate several areas, especially near exterior walls and walls containing plumbing. Document and keep all results.

Acceptable test methods for concrete subfloor moisture content include:

- TRAMEX Concrete Moisture Encounter Meter: Moisture readings should not exceed **4.5** on the upper scale. Concrete Moisture Meters give qualitative reading results-not quantitative ones. These results are a quick way to determine if further testing is needed.

Note: The following tests are required in residential/commercial applications. Either or both tests are acceptable.

- Calcium Chloride Test (ASTM F 1869): The maximum moisture transfer must not exceed **3 lbs./1000 ft²** in 24 hrs. (2lbs./1000 ft² for Radiant Heat installations).

- **RH** Levels in Concrete Using In-situ Probes (ASTM F 2170) should not exceed **75%**.

Preparation and specifications

A floor can only be as good as the subfloor allows. All subfloors must be **clean, structurally sound, dry, and flat**. Address any movement, delamination, squeaks/noise, water damage, physical damage, etc. prior to installation. Use a vacuum cleaner to remove any debris and dirt.

Subfloor flatness is different from 'level'. Level is typically not necessary, but it is extremely important to level the subfloor to achieve the flatness of an 1/8" in an 8' radius. Check this by using the edge of a Kährs plank to find any high or low spots. Sand or grind high areas or joints. Fill low areas with a latex additive cementitious leveling compound of 3,000-PSI minimum compressive strength patch and underlayment. For more information on how to correct subfloor flatness, see NAWFA Installation Guidelines.

Note: Subfloor deflection and movement are the main cause of squeaking floors. If subfloor deflection exists measures must be taken to correct it. Check NAWFA guidelines for joist spacing and plywood thickness.

Kährs floors can be installed directly over most existing floors. Check the installation environment chart below. The subfloor or existing floor must meet the specifications listed in "Subfloor Requirements."

Ceramic tile, resilient tile and sheet vinyl must be well-bonded to the subfloor, in good condition, clean and flat. All Kährs wood products installed over lightweight or standard density concrete floors, or other existing floors with the float-in method must have Kährs ECO+ or COMBO or QuietStride underlayment. QuietStride does not come with vapor barrier built-in, add Class II vapor retarder for installations over concrete slab.

If stapling the floor, we suggest you cover the subfloor with 15 lbs. or higher asphalt felt to retard moisture and to help alleviate variations in the subfloor.

WARNING! INSTALLERS

WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

Precautionary Measures: If power tools are used, they should be equipped with a dust collector. If high dust levels are encountered, use an appropriate NIOSH-designated dust mask. Avoid dust contact with eye and skin.

First Aid Measures in Case of Irritation: In case of irritation, flush eyes or skin with water for at least 15 minutes.

Installation Environment Chart			
I. Grade Type	Glue	Staple	Float
Above Grade	Yes	Yes	Yes
On Grade	Yes	Yes	Yes
Below Grade	No	No	Yes
Over Radiant Subfloor	No	No	Yes
II. Subfloor Type	Glue	Staple	Float
Concrete (701lbs ft ³ density or higher)	Yes	No	Yes
Light-weight concrete (less than 2700 psi strength)	No	No	Yes
Min 5/8" CDX grade plywood	Yes	Yes	Yes
Underlayment grade particle board	No	No	Yes
3/4" OSB PS2 rated plywood	Yes	Yes	Yes
Old wood floors - above grade	No	No	Yes
Hardwood glued over concrete	No	No	Yes
Ceramic/Porcelain Tile	No	No	Yes
Vinyl asbestos tile	No	No	Yes
Resilient Tile / Sheet Vinyl	No	No	Yes
Rubber tile	No	No	Yes
Solid vinyl tile	No	No	Yes
Steel	No	No	Yes
Marble	No	No	Yes
Carpet	No	No	No



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