

Subfloor Preparation

Note: 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.

READ ALL INSTRUCTIONS CAREFULLY!

Subfloor Specifications

- A. The surface of the subfloor must be level to within 1/8" in an 8ft. radius. Check this by using the edge of a Kährs or Linnea plank to find high/low spots. To fill excessive voids or variations in the subfloor, use leveling compounds approved for your application. Consult the compound manufacturer to be sure it is appropriate. Allow the compound to dry thoroughly before beginning wood floor installation. Fifteen-pound felt or roofing paper is also appropriate to level a floor for a float-in installation. Cut small pieces to fit the shape of the depression and then stack as many sheets as necessary to level the area. DO NOT use this method to correct extensive variations in concrete subfloors.
- B. Concrete subfloors must not contain more than 3lbs. moisture (2.0 lbs. with radiant heat systems) on a dry-weight basis (calcium chloride test). Moisture content of wood subfloors must be between 6-10% Moisture Content (MC).
- C. The subfloor must be clean.
- D. Relative humidity at the job site must be, and remain, minimum 30%, maximum 60%. Temperature setting must be, and remain, within 15° F of normal operating range.

Evaluation

Before installing a Kährs or Linnea floor, inspect the job site thoroughly. With the help of the Installation Environment Chart determine if grade, subfloor, and subfloor conditions are acceptable for the installation method you plan to use.

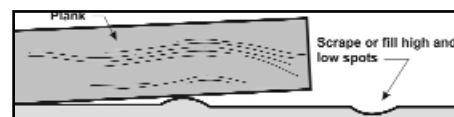
Exterior: Carefully inspect the outside surroundings for improper drainage and predictable or obvious sources of moisture. The yard should be graded (at least 6" in 10 ft.) to slope away from the foundation. Be sure that gutters and eaves sufficiently prevent rain from penetrating the foundation.

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 opening area equal to 1-1/2% of the square-foot area within the crawl space (eg. a 1000sq. ft. crawl space must have 15 sq. ft. of vents that remain open all year). 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.

Interior: Check the moisture content of the subfloor. See item "B" above as well as "Moisture" at the end of this section. Room conditions can also indicate high moisture and relative humidity. Look for water stains, peeled paint near windows and doors, and rusty metal, especially nails.

Preparation

Wood Subfloors: Moisture Content (MC) must be between 6-10%. To prepare the subfloor for installation, re nail any loose areas with squeaks. Sand or plane any high spots and fill any low areas. The sub floor should not vary more than 1/8" in an 8' radius. Check this by using the edge of a Kährs or Linnea plank to find any high or low spots. See Installation Environmental Chart for Approved Subfloors.



Subfloor Preparation

Preparation (con't.)

Preferred Subflooring: 3/4" (23/32", 18.3 mm) CDX grade plywood subfloor/underlayment (Exposure 1) 4' x 8' sheets OR 3/4" (23/32" 18.3mm) OSB subfloor/underlayment grade, with joint spacing 19.2" (475mm) on center joint construction or less. Direct Glue-Down installations: 2 layers 1/2" (11.9mm) CDX plywood.

Minimum Subflooring: 5/8" (19/32", 15.2mm) CDX plywood subfloor/underlayment (Exposure 1) 4' x 8' sheets, maximum 16" (400mm) on center joint construction. Direct Glue-Down installations: 2 layers 3/8" (10mm) CDX plywood.

Follow panel manufacturer recommendations for spacing and fastening. Typical panel spacing for joint systems is 1/8" (3.2mm) around perimeter and fastened every 6" (150mm) on bearing edges and every 12" (300mm) along intermediate supports.

Door casings should be notched or undercut to avoid difficult scribe cuts.

If nailing the floor, (Kährs 14, 15mm Traditional Tongue & Groove only) we suggest you cover the sub floor with 15 lbs. or higher asphalt felt or rosin paper to retard moisture and to help alleviate variations in the subfloor.

Concrete Subfloors: Lightweight (float-in only) and standard-density (float-in and glue-down) concrete subfloors are ideal applications for a Kährs floor. Concrete subfloors are generally acceptable for float-in installation if the subfloor appears to be dry (i.e. no standing water or discoloration of concrete) and Kährs Combo System Underlayment is used and installed properly. Be sure that, as a minimum, any concrete subfloor is at least 50-60 days old before installing a wood floor over it.

Moisture

To curb the adverse effects moisture will have on a Kährs or Linnea wood floor and to determine the source of moisture problems, use the following checklist:

1. Inspect the gutters, drains, and down spouts outside the house. Clear out any clogs caused by leaves, dirt, or other substances. Down spouts are designed to transport water away from a foundation.
2. Check the landscaping surrounding the home to be sure the yard is sloped away from the foundation (at least 6" in 10 ft.).
3. Check windows and doors for proper drainage and waterproof caulking.
4. Inspect concrete subfloor for cracks or buckling. Sometimes the water table (water beneath the surface) may rise and force water up through the concrete floor with hydrostatic pressure.
5. Check the ventilation system in the crawl space, basement, and attic. Moisture will collect on walls and floors if dead air (i.e. little or no ventilation) is present. As a rule, ventilation per sq. ft. should equal 1-1/2% of the sq. ft. of the area in question.
6. Inspect pipes, water heater tank, dishwasher, and any other plumbing fixtures in the affected area.
7. Remember to take seasonal changes in relative humidity into consideration when installing a Kährs or Linnea floor.
8. Signs that the moisture content is too high include discolored (darker) concrete and evidence of actual water droplets.

Subfloor Preparation

Moisture (con't.)

Required moisture testing for ALL Kährs radiant heat installations and direct glue-down flooring: Calcium Chloride test with a reading of 3 lbs. or less on a dry weight basis (2 lbs. or less for Radiant Heat Installations). Testing kits are generally available through your distributor or call the NWFA at 800-422-4556 (or 800-848-8824 in Canada) for the source nearest you. Follow test kit manufacturer's instructions for conducting test and measuring results. If calcium chloride results read over 3 lbs. but does not exceed 8 lbs. (and no obvious source of the moisture can be eliminated) you must use either of the following approved moisture sealers before installing the floor for the **Kährs Moisture Protection Warranty to apply:**

- DriTac MCS 7000 when used with DriTac 7600 or 7500 Adhesive (call 800-394-9310 for source nearest to you).
- Dependable Cutdown (call 800-227-3434 for the source nearest you).

Note: These concrete sealers are **NOT** approved for Radiant Heat installations.

All concrete sealer/vinyl manufacturer testing, documentation, and installation requirements **MUST** be followed for Kährs Limited Warranty to apply.

Installation Environment Chart			
I. Grade Type	Glue**	Nail*	Float
A. Above Grade	yes	yes	yes
B. On Grade	yes	yes	yes
C. Below Grade	no	no	yes
D. Over Radiant Subfloor	no	no	yes
II. Subfloor Type	Glue**	Nail*	Float
A. Concrete (701 lbs. cu. ft. density or higher)	yes	no	yes
B. Light-weight concrete	no	no	yes
C. Association-grade underlayment plywood	yes	yes	yes
D. Association-grade underlayment particle board	yes	no	yes
E. Stamped Underlayment Grade OSB (Oriented Strand Board)	yes	yes	yes
F. Old wood floors - above grade only	no	no	yes

Kährs Konzept Installer Program

Kährs International, and our distributor partners, sponsor a two-day school open to eligible, professional hardwood flooring mechanics. Konzept schools are distributor based and are held regularly throughout North America. The course covers all installation and repair techniques approved by Kährs. Graduates are honored with a Kährs approved guaranteed installation. For details and school locations, contact Kährs Technical Services via e-mail (from this website) or call 1-800-800-5247.