October 2006

Kährs

Professional Residential Installation Guide

Table of Contents

In order to ensure that the most current information is available to you, Kährs does not distribute printed copies of this guide. You are welcome to print all or parts of the Installation Guide from this website. Please note that this guide descibes approved installation methods and compatible products. Kährs approves only these installation methods and products. Always check with the Kährs Technical Department at 1-800-ASK-KAHRS if you have any questions.

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 us 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 15º 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.

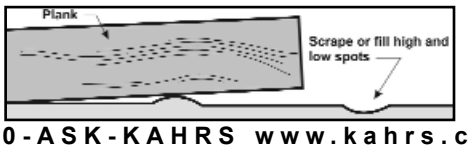
Exterior: Carefully inspect the outside surroundings for improper drainage and predictable or obvious sources of moisture. The yard should be graded (at least 6" in 10 ft.) to slope away from the foundation. Be sure that gutters and eaves sufficiently prevent rain from penetrating the foundation.

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, renail 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 sur face) 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 Guarantee 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).
- Concrete Moisture Barrier System*

***** If moisture is present an alternative is a barrier of inexpensive sheet vinyl or "slip sheet" (PVC). Use the manufacturers recommended adhesive for a full spread application to completely adhere the vinyl to the subfloor. Since Kährs cannot guarantee the bond of the vinyl to the subfloor, or subsequent performance of the vinyl, a patch test is strongly advised. Install several 3" x 3" pieces of vinyl in different areas of the installation. Wait 72 hours. Remove the vinyl. If the backing remains attached to the concrete, the subfloor should be acceptable for full spread vinyl installation.

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 Guarantee to apply.

Other Subfloors: Kährs floors can be installed directly over some existing floors (i.e. vinyl and rubber tile, steel plates, terrazzo, and existing wood floors). The subfloor or existing floor must meet the requirements listed in "Subfloor Specifications." A Kährs floor installed over existing floors must be installed with the float-in method.

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
(Continued next page)			

Subfloor Preparation

Installation Environment Chart			
II. Subfloor Type (con't.)	**Glue**	**Nail***	**Float**
G. Asphalt tile	no	no	yes
H. Inlaid linoleum	***	no	yes
I. Vinyl asbestos tile	no	no	yes
J. Cushion vinyl	no	no	yes
K. Rubber tile	no	no	yes
L. Solid vinyl tile	no	no	yes
M. Steel	no	no	yes
N. Marble	no	no	yes
O. Ceramic	no	no	yes
P. Carpet	no	no	no
*14mm & 15mm T & G only			

***** Check Kährs Technical Services Department: 1-800-ASK-KAHR**

Kahrs Koncept Installer Program

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

Underlayments

- **Kährs Combo-System Underlayment**
- **Kährs QuietStride**

Combo Foam Underlayment System with Overlap: The width of a row of Kährs Combo-System Underlayment is comprised of 40" of underlayment plus an 8" overlap flap. The overlap flap guards the flooring from moisture at the seams, where the rows of underlayment are laid side by side. The overlap flap has a peel and stick strip to aid the installation process.

1. Layout 1st row of underlayment (logo side down, blue side up) with the overlap flap facing the starting wall. Allow the underlayment to wrap up the wall, on the ends, approx. 2".
2. Reach under and grab the overlap flap and pull it up so it lies against the starting wall. Trim this over lap flap back to leave approx. 2" of plastic up the wall. (Use this cut off section to repair damage in the underlayment as needed*, see note below).
3. Lay 2nd row of underlayment flush to first. Make sure the overlap flap is next to 1st row, and the ends wrap up the walls. (If flooring installation has already begun, make sure to stop the floor ing approx. 8 inches from the side of the underlayment to allow for the installation of the overlap flap.)
4. Again, reach under and grab the overlap flap. Pull the flap up and fold it back to expose the peel and stick strip. Remove the white protective cover from the adhesive strip. Lay overlap flap across the 1st row of underlayment and press into place.
5. Continue this procedure row by row until the entire floor area is covered.

**** Note**:* When connecting a new roll of underlayment to the end of the roll you are working on, or for repairing any tears or cuts in the underlayment; overlay the butt joints or the damaged area with a spare piece of overlap plastic. This spare piece should overlay by approx. 8". Hold the spare piece in place with tape. Do NOT overlap underlayment. Overlap flap only.

Cover the entire floor area and run the underlayment up the perimeter walls approximately 2". This provides a secure enclosure for the flooring. After the floor is installed and before the installation of the baseboards, the excess underlayment should be trimmed to the height of the floor surface using a fine trimming blade. The use of the Combo-System Underlayment is also approved for Radiant Heat applications.

Kährs QuietStride:
Quiet Stride can be installed three different ways as a Kährs underlayment.

1. *Float-in Installations:* First install 6 mil polyethylene plastic loose-laid, seams overlapped 8". Run plastic up the wall 2" (trim excess after installation, before installing trim). Loose-lay QuietStride on top of plastic, wall to wall, and butt all seams together (taping seams preferred). Use of QuietStride with polyethylene plastic is approved for float-in Radiant Heat applications.
2. *Direct Glue-Down:* Install QuietStride wall to wall, butt all seams together (do not tape seams), directly adhering to subfloor with a premium multi-purpose adhesive. Fully adhere Kährs flooring to underlayment using approved adhesive and trowel (see *Glue-Down Installation* for details). **Note:** an approved concrete sealer must be used if calcium chloride test exceeds 3lbs. for Kährs Moisture Protection Warrany to apply.
3. *Direct Glue-Down over "float-in" underlayment:* First install 6 mil polyethylene plastic loose-laid, seams overlapped 8". Run plastic up wall 2" (trim excess after installation, before installing trim). Loose-lay QuietStride on top of plastic, wall to wall, butt all seams together (do not tape seams). Fully adhere Kährs flooring to underlayment using approved adhesive and trowel (see *Glue-Down Installation* for details). **Note:** an approved concrete sealer must be used if calcium chloride test exceeds 3lbs. for Kährs Moisture Protection Warrany to apply.

Calculation Worksheet for Min. Board Width - (U.S. Std.)

Purpose: To ensure last board of the installation (or long board at an obstruction) is not too narrow.
General Rule: Kährs requires that no board have a width less than 3" or .38" of a full board width.
Notes on Equation: This rule applies to boards with an original thickness of 5/8" x 3-strip wide. This equation should be used when a board 4' or more in length meets an obstruction.

WORKSHEET

Step 1
Measure width of connected area* from starting wall to finish wall or obstruction, in inches. Round to the nearest 1/4".

Connected Area Width in inches with fraction: _____

Step 2
Convert "inches with Fraction" to "Inches with Decimal". Use conversion chart below.

Connected Area Width in inches with decimal: _____

Step 3
Multiply "Required Expansion Space" by 2. Use chart below.

Connected Area Width (from Step 2)	Expansion Space		Total
Under 144"	1/4"	x 2 =	.50"
144" - 288"	1/2"	x 2 =	1.0"
288" - 480"	3/4"	x 2 =	1.5"

Total Expansion Needed from above: _____

Step 4
Subtract Total Expansion Needed from Connected Area Width to determine Actual Floor Width.
Total from Step 2: _____."
Total from Step 3: - _____."
Actual Floor Width in inches with decimal: = _____."

Step 5
Determine total # of rows of flooring needed.
Actual Floor Width (Step 4): _____."
Board Width in Decimal - measure board and use chart below to convert: ÷ _____."
Total Rows of Flooring: = _____.__rows

Step 6
If the result in Step 6 contains a decimal less than .38", you must rip the starting row in half to ensure proper width of the last row.

EXAMPLE

Step 1
Measure width of connected area* from starting wall to finish wall or obstruction, in inches. Round to the nearest 1/4".

Connected Area Width in inches with fraction: 325-1/4"

Step 2
Convert "inches with Fraction" to "Inches with Decimal". Use conversion chart below.

Connected Area Width in inches with decimal: 325.25"

Step 3
Multiply Required Expansion Space by 2. Use chart below.

Connected Area Width (from Step 2)	Expansion Space		Total
Under 144"	1/4"	x 2 =	.50"
144" - 288"	1/2"	x 2 =	1.0"
288" - 480"	3/4"	x 2 =	1.5"

Total Expansion Needed from above: 1.5"

Step 4
Subtract Total Expansion Needed from Connected Area Width to determine Actual Floor Width.
Total from Step 2: 325.25"
Total from Step 3: - 1.50"
Actual Floor Width in inches with decimal: = 323.75"

Step 5
Determine total # of rows of flooring needed.
Actual Floor Width (Step 4): 323.75"
Board Width in Decimal - measure board and use chart below to convert: ÷ 7.875"
Total Rows of Flooring: = 41.11 rows*
** The first board in this installation would be cut in half.*

Step 6
If the result in Step 6 contains a decimal less than .38", you must rip the starting row in half to ensure proper width of the last row. *Ripping the starting row in half will increase the last board width by .50 of a board. In this case the last board will end up being .61 of a board or approx. 5", instead of .11 or 1" wide.*

*** From Step 1 - Connected Area** is defined as all areas connected without a break. If Room **A** and Room **B** both are to have flooring installed and are directly connected, or connected by a hallway, without a t-molding, the **connected area** is the width of both Room **A** and Room **B**, and the hallway (if applicable). Obstructions can include cabinets, islands, and the wall opposite the starting wall in the same room, if the flooring continues to another room without a break. Multiple calculations may need to be made to best determine the amount cut from the starting row.

Fraction to Decimal Conversion Chart	
Fraction	**Decimal Equivalent**
1/4"	.25"
1/2"	.50"
3/4"	.75"

Board Width Decimal Equivalent Chart	
Board Width	**Decimal Equivalent**
7-7/8"	7.875"
8-1/10"	8.100"

Calculation Worksheet for Minimum Board Width - (Metric)

Purpose: To ensure last board of the installation (or long board at an obstruction) is not too narrow.
General Rule: Kährs requires that no board have a width less than 76mm or .38" of a full board width.
Notes on Equation: This rule applies to boards with an original thickness of 15mm x 3-strip wide. This equation should be used when a board 120cm or more in length meets an obstruction.

WORKSHEET

Step 1
Measure width of connected area* from starting wall to finish wall or obstruction, in inches. Round to the nearest 1/4".

Total Area Width in mm: _____

Step 2
Multiply "Required Expansion Space by 2". Use chart below.
Required Expansion Space: _____mm
X 2
Total Expansion = _____mm

Step 3
Subtract Total Expansion from Total Area Width to determine Actual Floor Width.
Total from Step 1: _____.___mm
Total from Step 2: - _____.___mm
Actual Floor Width: = _____.___mm

Step 4
Determine total # of rows of flooring needed.
Actual Floor Width (Step 3): _____.___mm
Board Width. Measure board. It will be either 200 or 205mm. ÷ _____.___mm
Total Rows of Flooring: = _____.__rows

Step 5
If the result in Step 6 contains a decimal less than .38", you must rip the starting row in half to ensure proper width of the last row.

EXAMPLE

Step 1
Measure width of connected area* from starting wall to finish wall or obstruction, in inches. Round to the nearest 1/4".

Total Area Width in mm: 8262mm

Step 2
Multiply "Required Expansion Space by 2". Use chart below.
Required Expansion Space: 20mm
X 2
Total Expansion = 40mm

Step 3
Subtract Total Expansion from Total Area Width to determine Actual Floor Width.
Total from Step 1: 8262mm
Total from Step 2: - 40mm
Actual Floor Width: = 8222mm

Step 4
Determine total # of rows of flooring needed.
Actual Floor Width (Step 3): 8222mm
Board Width. Measure board. It will be either 200 or 205mm. ÷ 200mm
Total Rows of Flooring: = 41.11 rows*
**The first board in this installation would be ripped in half.*

Step 5
If the result in Step 6 contains a decimal less than .38", you must rip the starting row in half to ensure proper width of the last row. *Ripping the starting row in half will increase the last board width by .50 of a board. In this case the last board will end up being .61 of a board or approx. 120mm, instead of .11 or 22mm wide.*

*** From Step 1 - Connected Area** is defined as all areas connected without a break. If Room **A** and Room **B** both are to have flooring installed and are directly connected, or connected by a hallway, without a t-molding, the **connected area** is the width of both Room **A** and Room **B**, and the hallway (if applicable). Obstructions can include cabinets, islands, and the wall opposite the starting wall in the same room, if the flooring continues to another room without a break. Multiple calculations may need to be made to best determine the amount cut from the starting row.

Required Expansion Space Chart

Floor Width	Space Needed
up to 750mm	12mm
750mm-1200mm	20mm

Required Expansion Reference Chart - (Metric)

Purpose: To ensure proper expansion space around all walls, doors and obstructions for 7mm, 14mm and 15mm thick flooring.

Required Expansion Rules:

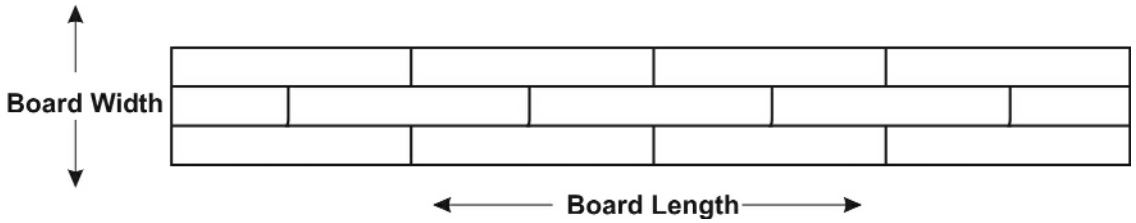
(1) Kährs requires 1.5mm of expansion space for every 1m of Connected Area width or 2.5m of Connected Area length (whichever is greater). This expansion space must be left around all walls, doors and obstructions. Minimum expansion requirement is 12mm.

(2) No connected flooring can span greater than 12m in width or 36m in length.

Notes:

(1) **Connected area** is defined as all areas connected without a break. If Room **A** and Room **B** both are to have flooring installed and are directly connected, or connected by a hallway, without a t-molding, the **Connected Area** is the width of both Room **A** and Room **B**, and the hall way (if applicable). Obstructions can include cabinets, islands, and the wall opposite the starting wall in the same room, if the flooring continues to another room without a break. Multiple calculations may need to be made to best determine the amount cut from the starting row.

(2) The direction of the flooring must be determined prior to calculating the required expansion space. The Connected Area width is parallel to the board width. The Connected Area length is parallel to the board length.



Required Expansion Reference Chart			
Connected Area Width	**Required Expansion Space***	**Connected Area Length**	**Required Expansion Space***
up to 750cm 750cm-1200cm	12mm 20mm	up to 2250cm 2250cm-3600cm	12mm 20mm

** Determine the required expansion space for both width and length, then use the larger of the 2 on all sides, and around all obstructions.*

Required Expansion Reference Chart - (U.S. Standard)

Purpose: To ensure proper expansion space around all walls, doors and obstructions for 9/32", 9/16" and 5/8" thick (Linnea) flooring.

Required Expansion Rules:

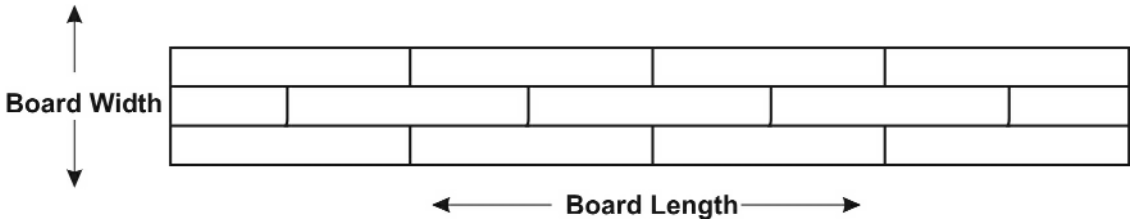
(1) Kährs requires 1/16" of expansion space for every 3' of Connected Area width or 9' of Connected Area length (whichever is greater). This expansion space must be left around all walls, doors and obstructions. Minimum expansion requirement is 1/2".

(2) No connected flooring can span greater than 40' in width or 120' in length.

Notes:

(1) **Connected area** is defined as all areas connected without a break. If Room **A** and Room **B** both are to have flooring installed and are directly connected, or connected by a hallway, without a t-molding, the **connected area** is the width of both Room **A** and Room **B**, and the hall way (if applicable). Obstructions can include cabinets, islands, and the wall opposite the starting wall in the same room, if the flooring continues to another room without a break. Multiple calculations may need to be made to best determine the amount cut from the starting row.

(2) The direction of the flooring must be determined prior to calculating the required expansion space. The Connected Area width is parallel to the board width. The Connected Area length is parallel to the board length.



Required Expansion Reference Chart			
Connected Area Width	**Required Expansion Space***	**Connected Area Length**	**Required Expansion Space***
up to 24' 24'-40'	1/2" 3/4"	up to 72' 72'-120'	1/2" 3/4"

** Determine the required expansion space for both width and length, then use the larger of the 2 on all sides, and around all obstructions.*

Important Installation Notes

Please see our website - www.kahrs.com for the Floor Care Guide and Lifetime Guarantee.

Installation

Floating:

Maximum room dimensions for a floating floor are 40ft. across the boards or 120 ft. length wise. Floors exceeding either of these dimensions require use of "T-Molding."

A minimum of one butt seam is required in every row, regardless of width (e.g. hallways).

Never attach any permanent object through the flooring, affixing it to the subfloor. A float-in floor must be free to expand and contract in all directions.

Double Gluing (Traditional T & G Flooring Only):

Increases the strength of the bond between boards by 90% over single gluing. This is **required** for Radiant Heat Installation.

Glue down / Nail down:

Installing Kährs floors with the Glue down or Nail down method requires no expansion breaks in the floor and is not limited in size. A 1/2" gap at perimeter walls is required to allow engagement of last boards.

Adhesive Tape on Kahrs Floors

The use of adhesive tape on any Kährs floor for any reason (i.e. to fasten temporary protection) is not recommended and is not covered in our warranty.

Kahrs Flooring is approved for installations in ½ bathrooms only (no bathrooms including showers or bath tubs)

Expansion in Large Areas

You may be able to attain the necessary added expansion by trimming the wallboard (i.e. sheetrock) or raising baseboards before installing floor. This will allow the floor to expand underneath the wall. For complete information please refer to Required Expansion Reference Charts on pages 8 and 9 in the Layout section of this Guide. A Kährs floor requires 1/16" expansion for every 3' across width and 1/16" expansion for every 9' along length. For example, a 28' x 28' space requires an expansion gap of 9/16" around the edge of the flooring.

Additional Finish Coating

For additional wear protection, a waterborne urethane finish is compatible with Kährs factory finishes. The following products from Bona Kemi are recommended:

- Pacific Strong
- Traffic

Contact Bona Kemi USA, Inc. (1-800-872-5515). Follow manufacturers instructions for recoating a prefinished wood floor. Kährs International, Inc. does not guarantee the performance and/or durability of these products.

Installation

Do you have the tools and products you need to install a Kahrs or Linnea floor?

Never start a job unprepared! Each installation method requires different tools and products. Use the chart below to be sure you are fully prepared to begin your installation. For your convenience, product codes (SKU's) are listed next to each Kährs product name. Where appropriate, square footage and other important information is included as well.

KAHRS PRODUCT KEY
(LISTED BY INSTALLATION METHOD)

Product/Material	SKU	Float In	Radiant Heat	Glue Down	Nail Down
Kährs 15mm Flooring	Various	Yes	Yes	Yes	Yes*
Kährs 14mm Flooring	Various	Yes	Yes	Yes	Yes
Kährs 11mm Flooring	Various	No	No	Yes	Yes
Kährs 7mm Flooring	Various	Yes	Yes	Yes	No
Combo System Underlayment (subfloor)	710730CSU	Yes	Yes	No	Tar/Roofing
QuietStride Underlayment	710113	Yes	Yes	Yes	No
Prefinished Moldings	Various	Yes	Yes	Yes	Yes
Landobond Adhesive; 239 sq.ft. per bottle	710225	Yes	Yes	Yes	Yes
Knocking Block, T & G Float-In and Nail-Down, 14, 15mm	710202	Yes	Yes	No	Yes
Knocking Block, T&G & Woodloc Glue-Down 14mm &15mm	710281	No	No	Yes	No
Knocking Block, Glue Down 11mm	710290	No	No	Yes	No
Woodloc Hand Block (Woodloc only)	710266	Yes	Yes	No	No
Woodloc Installation Wedge (Woodloc only)	710267	Yes	Yes	No	No
Last Board Puller (Jemmy)	710203	Yes	Yes	Yes	Yes
Nail Plate Adapter 15mm for use with Bostitch Mach III	710268	No	No	No	Yes
Nail Plate Adapter 14, 15mm for use with Bostitch Mach III	710269	No	No	No	Yes
Expansion Shims	710283	Yes	Yes	Yes	Yes
Recommended Mastic*** Taylor 2071, Dri Tac	Various	No	No	Yes	No
Spline - Kährs 11, 14, 15mm only - to change directions	**	Yes	Yes	Yes	Yes
Router Bit Kährs 11mm	710291S	Yes	Yes	Yes	Yes
Router Bit Kährs 14, 15mm	710291	Yes	Yes	Yes	Yes
Kährs Wood Cleaner	710280	Yes	Yes	Yes	Yes
Peel & Stick Floor Protectors	710287	Yes	Yes	Yes	Yes
Touch Up Kits (6 colors)	710273-79	Yes	Yes	Yes	Yes

* Tongue & Groove only

** Contact Kährs Customer Service

*** Alternative: any moisture cured urethane wood flooring adhesive. See Glue-Down sections for details.

Adhesive Tack and Open Times

Temperature/Relative Humidity Time Chart						
Temp.	**Humidity**					
		40%	**50%**	**60%**	**70%**	**80%**
60º	Tack	120 min.	110 min.	100 min.	90 min.	80 min.
	Open	3.5 hr.	3.5 hr.	3.5 hr.	3 hr.	3 hr.
65º	Tack	110 min.	100 min.	90 min.	80 min.	70 min.
	Open	3 hr.	3 hr.	3 hr.	3hr.	2.5 hr.
70º	Tack	100 min.	90 min.	80 min.	70 min.	60 min.
	Open	3 hr.	3 hr.	3hr.	2.5 hr.	2.5 hr.
75º	Tack	90 min.	80 min.	70 min.	60 min.	50 min.
	Open	3 hr.	2.5 hr.	2.5 hr.	2.5 hr.	2.5 hr.
80º	Tack	80 min.	70 min.	60 min.	50 min.	40 min.
	Open	3 hr.	2.5 hr.	2.5 hr.	2.5 hr.	2 hr.

Note: *This chart is for reference only. Actual times may vary dramatically based on jobsite conditions.*

Float-In Installation for Woodloc™ 7mm & 15mm

Notes:

- ***For subfloor and environmental specifications and requirements, see Jobsite / Subfloor Preparation section. Floating installation requires the use of Kährs Approved Underlayment Systems. Refer to Underlayment section of this Guide.***
- ***Kährs flooring is covered by a Limited Lifetime Guarantee. However, Guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.***

IMPORTANT!

- ***Do not open packages until ready to begin installation!*** Inspect boards as you go. Kährs flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.

Tools and Materials Required

- Tape Measure
- Chalk Line
- Last Board Puller
- Hammer
- Woodloc™ Knocking Block
- Woodloc™ Installation Wedge
- Expansion Shims
- Floor Protectors

For SKU numbers see Kährs Product Key in Tools & Techniques, page 11, this Guide.

Step 1

Start in corner and lay first row from left to right, with tongue sides toward wall (Fig 1). Proper expansion space can be achieved by pulling floor away from wall once first three rows have been installed (reference Step 9).

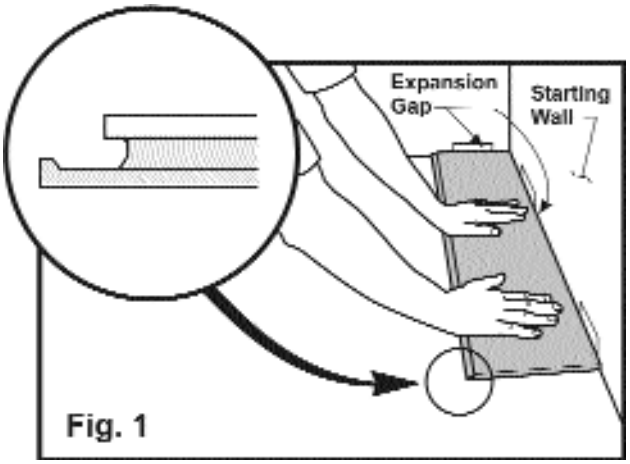


Fig. 1

Float-In Installation for Woodloc™ 7mm & 15mm

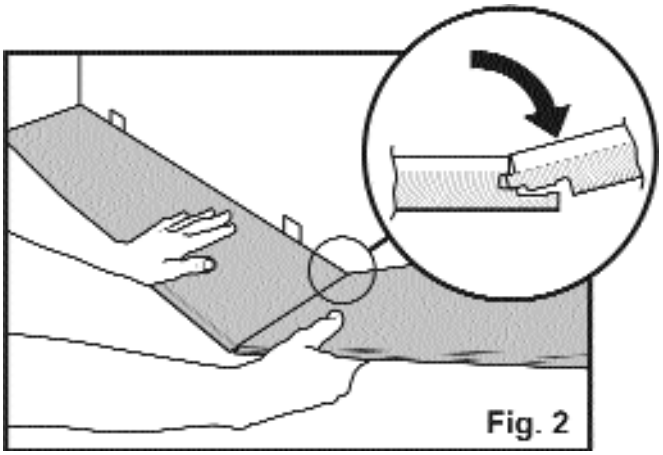


Fig. 2

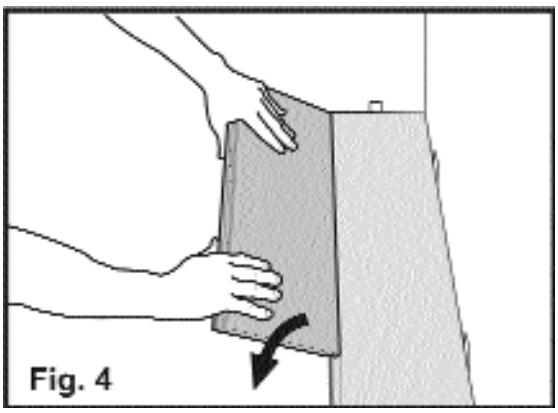


Fig. 4

Step 2

Hold next board against first board at approx. 45º angle and lay flat on floor (Fig. 2). Continue in this manner for entire first row.

Step 3

Cut end board in first row to correct length and start second row with left-over piece (if possible) as shown in Fig 4. End joints must be staggered by at least 12” for 7mm Linnea or 20” for 15mm Kährs. Butt seam must be placed in each row regardless of width, e.g. hallways.

Step 4

Hold board at approx. 45º angle to board in front. Press forward to engage joint and lay flat on floor (Fig. 4)

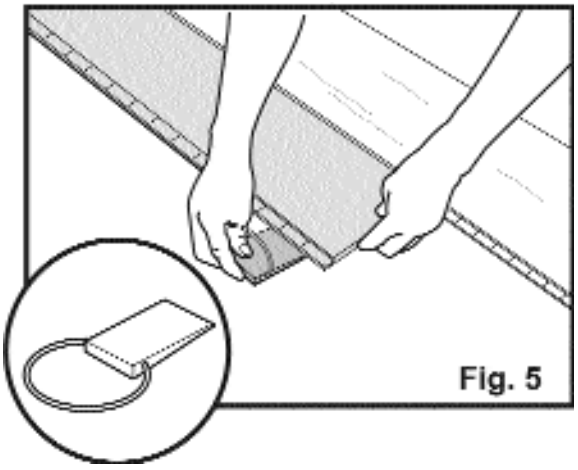


Fig. 5

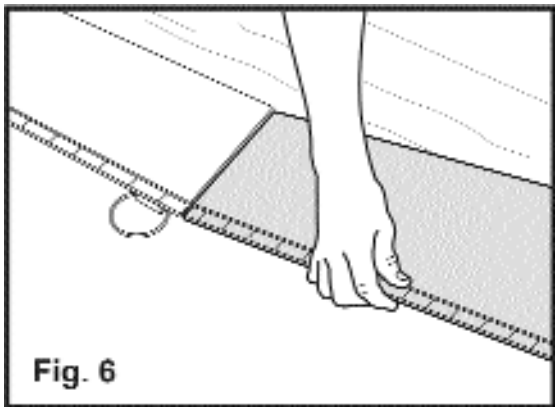


Fig. 6

Step 5

Push in Kährs Wedge under short end of last board installed, as shown in Fig. 5.

Step 6

Engage short end of new board as in Step 2. Lay flat keeping long side in line with groove of adjacent board (Fig. 6).

Float-In Installation for Woodloc™ 7mm & 15mm

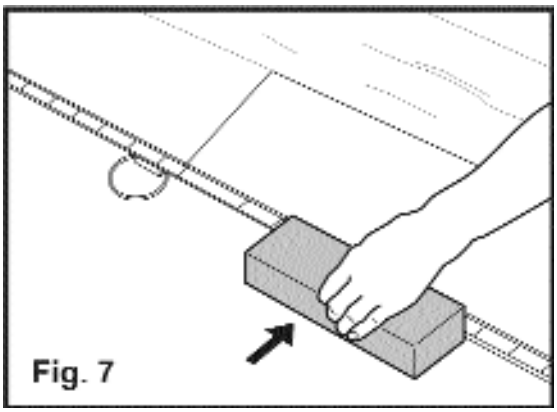


Fig. 7

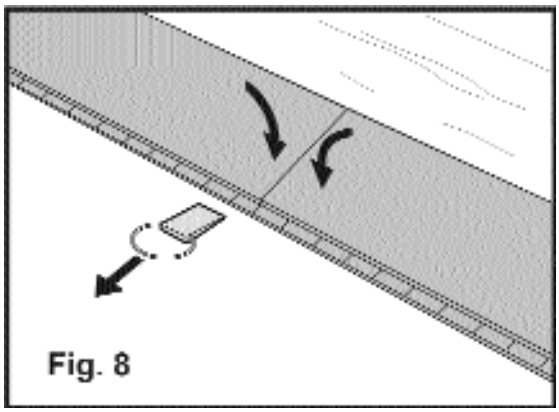


Fig. 8

Step 7

Using Kährs Handblock, carefully tap long edges together until they are closed. **DO NOT** tap too hard or over-engage (Fig.7). **Never** tap directly against wearlayer.

Step 8

Remove wedge and gently tap with knocking block along open long seam while applying pressure downward, until board lays flat (Fig. 8). Board should fall easily into place.

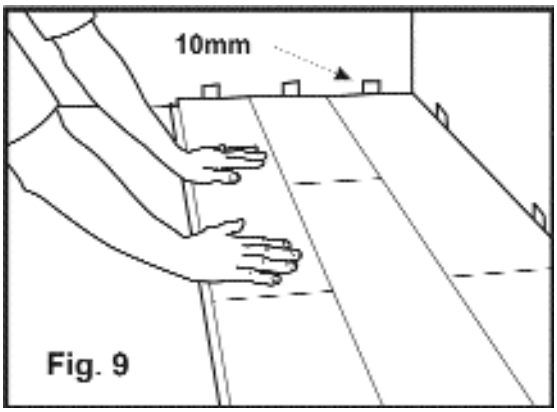


Fig. 9

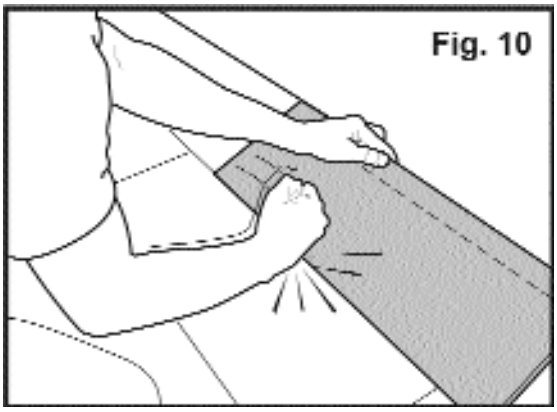


Fig. 10

Step 9

When three rows have been laid, pull floor away from starting wall until there is proper amount of expansion space. Place shims between floor and wall to maintain this space (Fig. 9).

Step 10

If first row must be cut to match crooked wall, trace shape of wall on flooring, making sure space is allowed for expansion (see Fig. 13). Disengage boards of first row by gripping long side and pulling upward while simultaneously giving long joint a light tap (Fig. 10). Saw to shape.

Float-In Installation for Woodloc™ 7mm & 15mm

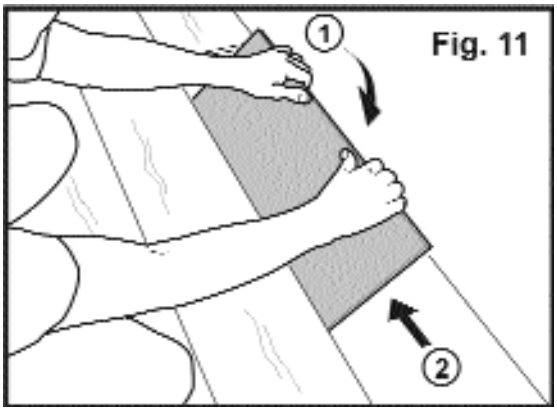


Fig. 11

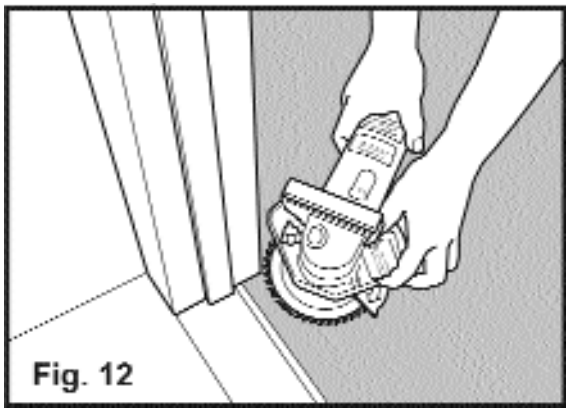


Fig. 12

Step 11

Re-lay cut boards in first row and re-install 2nd and 3rd rows. Continue installation in manner described above. Put shims between floor and wall (Fig. 11).

Step 12

If doorjamb (or similar) needs to be cut, use piece of board and piece of Combo Underlayment to obtain correct height (Fig. 12). If new board must be tapped into place, be sure to protect edges with scrap of wood before tapping with handblock.

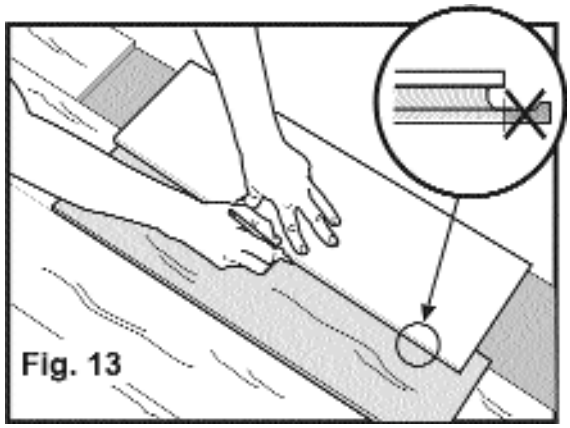


Fig. 13

Step 13

Saw last board to correct width. Place last board on top of second-to-last board. Mark board with help of piece of board without locking edge (Fig. 13). No board should be less than 3” in width (see Layout / Calculation Worksheet).

Float-In Installation for Woodloc™ 7mm & 15mm

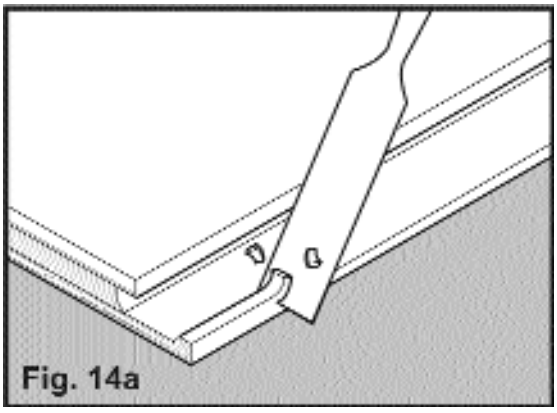


Fig. 14a

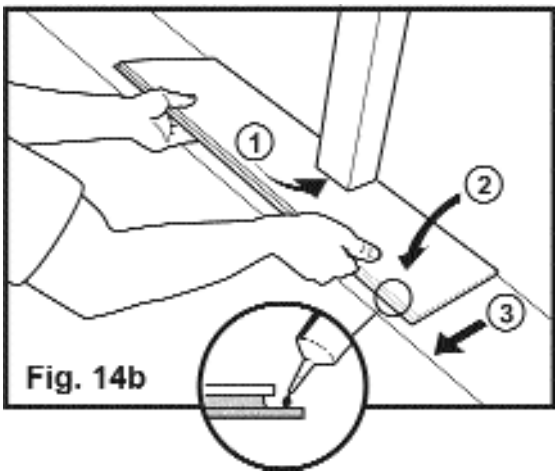


Fig. 14b

Step 14

Boards can be laid from all directions if necessary. Woodloc™ dismantles easily. This enables easier planning for difficult installation areas. If boards cannot be easily angled under door frame (or similar), do the following: cut away locking edge as shown in Fig. 14a. Then apply Landobond™ Adhesive (sku 710225) and install board (Fig. 14b).

After Installation

- Remove expansion shims and use required Kährs moldings and/or trim pieces to cover expansion space (Fig. A). **Always** nail moldings to wall, **never** to flooring!

Clean Up

- Immediately clean any Landobond™ adhesive spilled on wood flooring during installation.

Maintenance

- Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use Kährs Wood Floor Cleaner for best results. Do not use oil soap or water-emulsion, self polishing waxes. **NEVER** wet mop floor. Place Peel & Stick Floor Protectors on furniture legs to prevent damage. See Kährs Floor Guide & Lifetime Guarantee for full details.

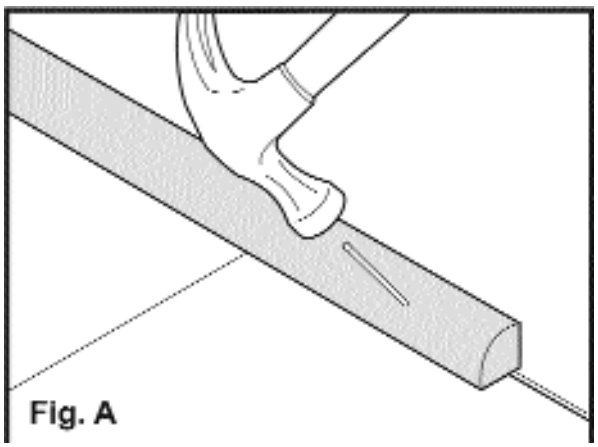


Fig. A

Float-In Installation for Traditional Tongue & Groove 14, 15mm

NOTES:

- ***Kährs flooring is covered by a Limited Lifetime Guarantee. However, Guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.***
- ***Always begin a Kährs tongue & groove installation with the grooves facing the wall!***
- ***Floating installation requires use of Kährs Approved Underlayment Systems.***
- ***Proper expansion must be left at all walls and all vertical obstrucions (e.g. fire place, doorjambs, etc).***
- ***For subfloor and environmental specifications, see Jobsite/Subfloor Preparation section.***

IMPORTANT!

- ***Do not open packages until ready to begin installation!*** Inspect boards before installation. Kährs flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.

Prior to Installation

- See Jobsite/Subfloor Preparation section and follow all requirements before installation.
- Door casings should be notched or undercut to avoid difficult scribe cuts.
- Sweep or vacuum subfloor thoroughly.
- Floating installation requires use of Kährs Approved Underlayment Systems. Please refer to Jobsite/Underlayments for details.

Tools and Materials Required

- Tape Measure
- Chalk Line
- Last Board Puller
- Hammer
- Knocking Block
- Landobond™ Adhesive
- Expansion Shims
- Floor Protectors
- Kährs Router Bit
- Spline

For SKU numbers see Kährs Product Key in Tools & Techniques, page 11.

Float-In Installation for Traditional Tongue & Groove 14, 15mm

Step 1: First Row

1.1 Start with groove sides of board facing starting walls. If starting wall is not square or otherwise irregular, scribe first row (Fig. 1.1), then cut boards to match variation in wall. Important: First row must be square to ensure true, fixed base from which to build entire floor.

1.2 Always leave appropriate expansion gap between boards and walls (Fig. 1.2). See Layout/Required Expansion Ref. Chart on page 9. Use expansion shims spaced every 12" along all walls to help prevent avoidable movement during remainder of installation. Ensure at least one end joint is in each row, regardless of row width (e.g., hallways). ***Note:*** Installation of 14mm (9/16") flooring - open two or three cartons of flooring and "rack" (dry-lay) material prior to installation to ensure proper end joint stagger and usage of all four board lengths packaged in each carton.

1.3 Apply 1/8" bead of Landobond™ adhesive to upper inside of grooves on board (Fig. 2.2). Note: Since first row boards lie against starting wall, only apply adhesive to board ends.

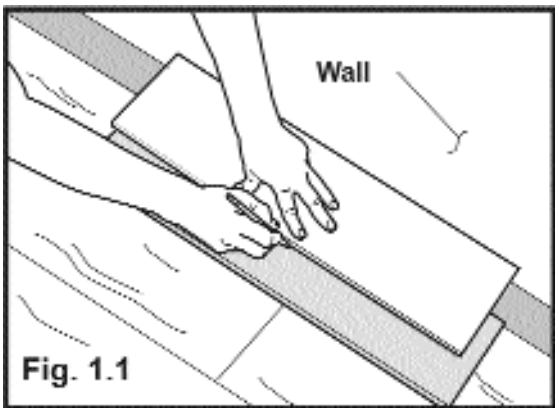


Fig. 1.1

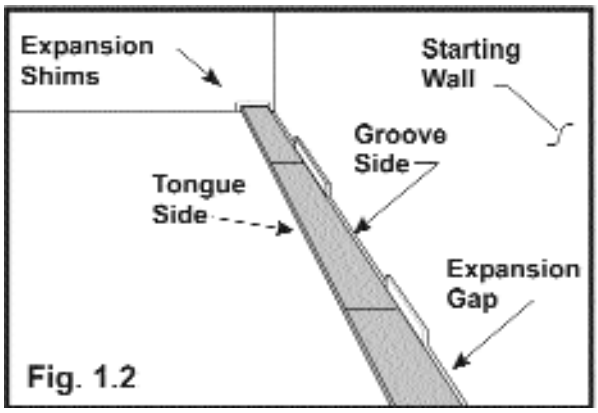


Fig. 1.2

Step 2: Subsequent Rows

2.1 Start each subsequent row with cut off end of last board from previous row (Fig. 2.1). Beginning at left, stagger end joints by minimum of 20" (Kährs 14mm [9/16"] flooring - use ***minimum 5"*** **stagger, preferred 8"**).

2.2 Apply 1/8" bead of Landobond™ adhesive to upper inside of grooves on board (Fig. 2.2). ***Note: Radiant Heat requires double gluing.***

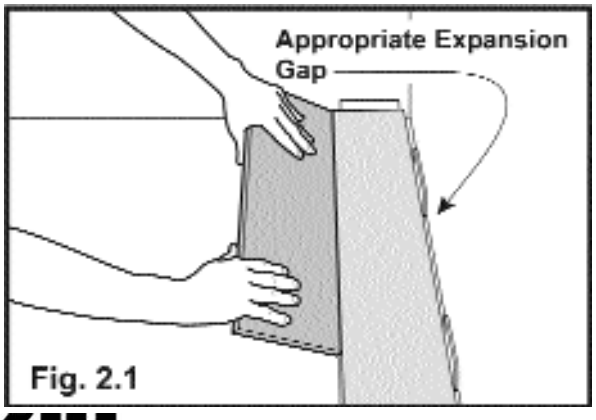


Fig. 2.1

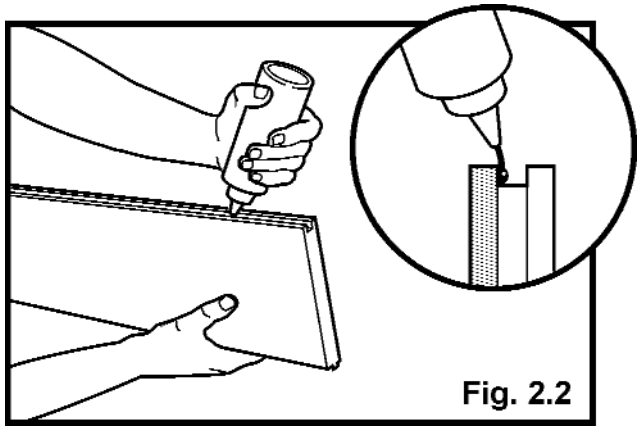


Fig. 2.2

Float-In Installation for Traditional Tongue & Groove 14, 15mm

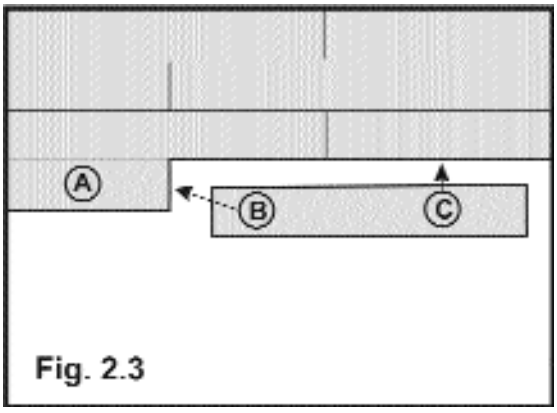


Fig. 2.3

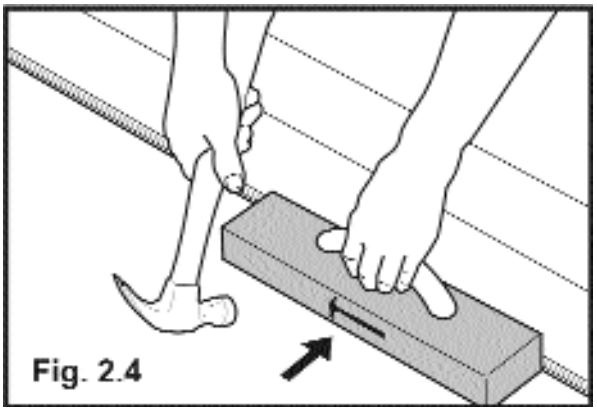


Fig. 2.4

Step 2: Subsequent Rows (con't.)

2.3 Procedure for installing each board (Fig. 2.3):

A) Set cut-off board from previous row as described in Step 2.1. Remember to allow for expansion gap and shim accordingly.

B) Engage new board at end joint only.

C) Starting at opposite end from engaged end joint, begin knocking length of board to engage groove with tongue of adjacent board.

D) If needed, use Last Board Puller or Knocking Block to reset end joint before completely engaging groove with tongue of adjacent board. Once long joints are engaged, it is virtually impossible to close end joints.

E) If gap exists at end joint after engaging long joint, work/wiggle board away from adjacent board to slightly open seam, then tap board end to close end joint.

2.4 Finish setting board by placing Knocking Block against tongue side and gently tapping board flush to previous row as shown in Fig. 2.4. **Never** tap groove side or top surface layer!

2.5 At end of row, cut board to appropriate length (allowing for expansion gap), apply adhesive and install as described above. If necessary, use Last Board Puller to gently pressure board into place as shown in Fig. 2.5.

2.6 Check all seams for tight fit and move on to next row.

Changing Directions: If necessary to continue floor in reverse direction (e.g. through doorway), or away from groove, Kährs Spline Tongue must be used. Apply glue to groove and insert spline tongue, converting groove into tongue. ***Note***: Kährs 14mm (9/16") flooring only: use Kährs Router Bit to re-cut groove, then insert spline. Board(s) to be installed adjacent must have grooves re-cut using Router Bit prior to engaging with routed/splined boards to ensure tight, level fit.

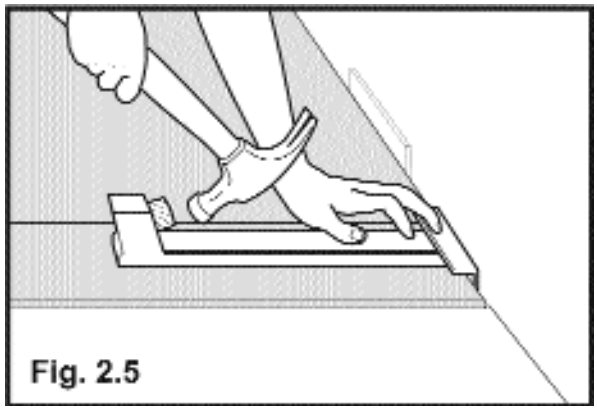


Fig. 2.5

Step 3: Last Row

Since last row will generally not fit perfectly, scribe row as shown in Fig. 1.1, remembering to allow adequate expansion gap. Engage all seams with Last Board Puller.

Float-In Installation for Traditional Tongue & Groove 14, 15mm

After Installation

- Remove expansion shims and use required Kährs moldings and/or trim pieces to cover expansion space (Fig. A). **Always** nail moldings to wall, **never** to flooring!

Clean Up

- Immediately clean any Landobond™ adhesive spilled on wood flooring during installation.

Maintenance

- Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use Kährs Wood Floor Cleaner for best results. Do not use oil soap or water-emulsion, self polishing waxes. **NEVER** wet mop floor. Place Peel & Stick Floor Protectors on furniture legs to prevent damage. See Kährs Floor Guide & Lifetime Guarantee for full details.

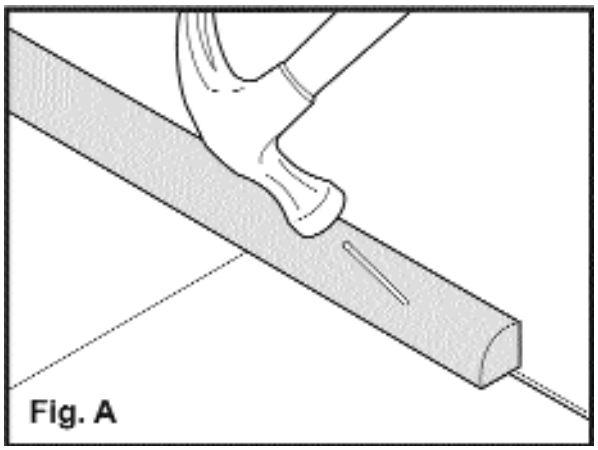


Fig. A

Radiant Heat Applications, 7, 14, 15mm Float-In Only

NOTES:

- ***Kährs flooring is covered by a Limited Lifetime Guarantee. However, guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.***
- ***Beech and Maple expand and contract more than other species of wood. Thus, there is greater risk of gaps appearing in floor. This is NOT a manufacturing defect but should be taken into consideration when choosing these species for your Radiant Heated floor.***
- ***Only Float-In installations are acceptable for Radiant Heat subfloors.***

IMPORTANT!

- ***Do not open packages until ready to begin installation!*** Inspect boards before installation. Kährs flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.

Subfloor Specifications

- Surface of subfloor must be level to within 1/8” in an 8’ radius.
- Concrete subfloors must not contain more than 2lbs. moisture on a dry-weight basis. Moisture content of wood subfloors should be between 6-10% moisture content.
- Subfloor must be clean.
- Relative humidity at the job site must be, and remain, minimum 30%, maximum 60%. Temperature setting must be, and remain, within 15º F of normal operating range.

Jobsite Evaluation

- Before floating a Kährs or Linnea floor over a radiant heat subfloor, inspect jobsite thoroughly. Lightweight-concrete and heating system must be laid correctly according to manufacturer’s specifications.
- Before installing a Kährs or Linnea floor over a Radiant Heat system, the following conditions must be met:
  A) Moisture content of lightweight concrete subfloor must not exceed 2lbs. on a dry-weight basis at time of flooring installation (calcium chloride test).
  B) Concrete must have been installed and cured at least four (4) weeks with no heat transference.
  C) Heating system should then be run at 2/3 maximum output for minimum of two (2) weeks to allow any remaining moisture to evaporate, attaining its final moisture content without causing damage.

Radiant Heat Applications, 7, 14, 15mm Float-In Only

Jobsite Evaluation (con't.)

D) Three or four days before flooring installation, heating system must be reduced to suitable temperature (about 64º F or 18º C).

E) Subfloor level should not vary more than 1/8" in an 8ft. radius.

Preparation

Lightweight Concrete: To prepare concrete subfloor for installation, scrape any high spots and fill any low areas with Radiant Heat (RH) paper.

Plywood: To prepare a plywood subfloor for float-in installation, re-nail any loose areas or areas with squeaks. Sand and/or plane any high spots and fill any low areas. Use caution not to damage radiant heating system.

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

Sweep or vacuum subfloor thoroughly.

Installation

Floating installations require use of Combo System Foam or Quiet Stride installed over 6 mil plastic.

These products are warranty-approved for Radiant Heat installations. Please refer to Jobsite/Underlayments on page 5 of this Guide for complete information.

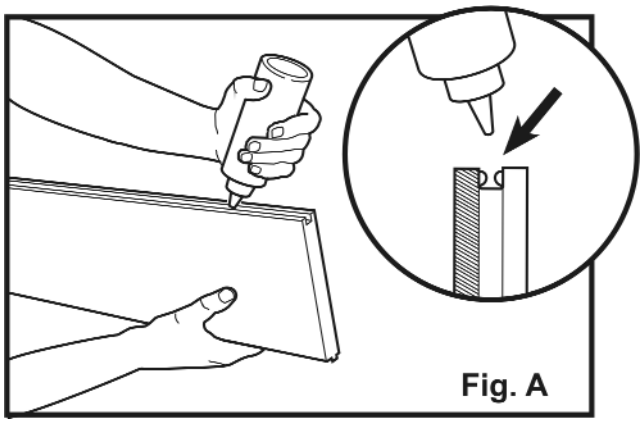


Fig. A

If installing 7mm or 15mm Kährs Woodloc™ floor over Radiant Heat, please refer to Float-In Installation Woodloc™ 7mm & 15mm on page 13 of this Guide and proceed from there.

If installing Float-In Traditional Tongue & Groove, please refer to Float-In Installation of Kährs 14, 15mm Traditional Tongue & Groove, page 31 of this Guide. **Double gluing of grooves is required for Traditional Tongue & Groove!** Double gluing (Fig. A) increases the strength of the bond between boards by 90% over single gluing.

R-Value: Kährs Flooring

Kährs 5/8" (14, 15mm) flooring = 1.15 R

Linnea Woodloc™ (7.4mm) flooring = .34 R

QuietStride Underlayment = 0.40 R

Combo Foam Underlayment = .39 R

After Installation

Beginning approximately two (2) days after installation is complete, gradually (over period of one week) raise temperature of heating system to its desired operating level. **Surface temperature should never exceed 81º F (27º C)**.

Glue-Down Installation of 7mm, 15mm Woodloc™

NOTE:

- ***Kährs flooring is covered by a Limited Lifetime Guarantee. However, guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.***

IMPORTANT!

- ***Do not open packages until ready to begin installation!*** Inspect boards before installation. Kährs flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.
- Tip: Dry-lay first two rows to familiarize yourself with Woodloc™.

Prior to Installation

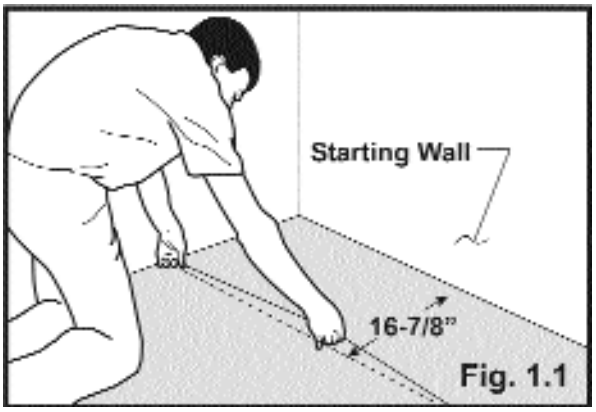
- See Jobsite/Subfloor Preparation section and follow all requirements before installation.
- Door casings should be notched or undercut to avoid difficult scribe cuts.
- Sweep or vacuum subfloor thoroughly.
- Approved and recommended adhesives are Taylor 2071 Tuff Lok X-Link Wood Flooring Adhesive or DriTac 7600, 7500, 7400, 9200. Apply adhesive directly to subfloor @ rate of 50 sq. ft. per gallon. Use manufacturer's recommended trowel. ***Note***: *Always wear rubber gloves when using adhesives!*
  *Optional adhesive: any moisture-cured urethane wood floor adhesive. For other approved adhesives call 1-800-ASK-KAHR.

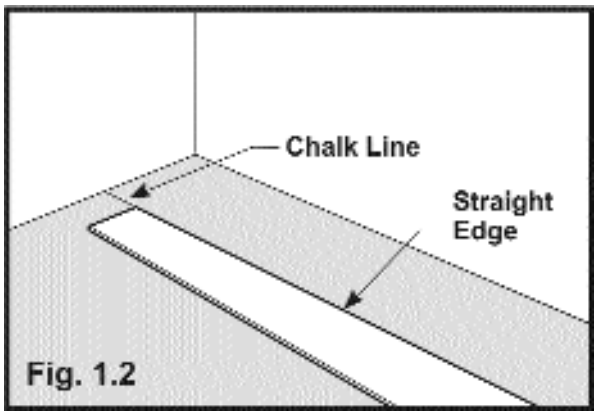
Tools and Materials Required

- Tape Measure
- Chalk Line
- Hammer
- Last Board Puller
- Glue-Down Knocking Block
- Taylor 2071 Tuff-Lok or DriTac 7600, 7500, 7400, 9200
- Expansion Shims
- Floor Protectors
- 100 lb. Roller
- Adhesive manufacturer's recommeded notched trowel

For SKU numbers see Kährs Product Key in Tools & Techniques, page 11, this Guide.

Glue-Down Installation of 7mm, 15mm Woodloc™

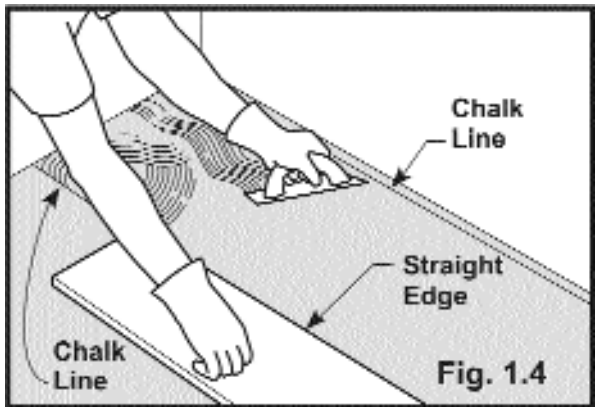


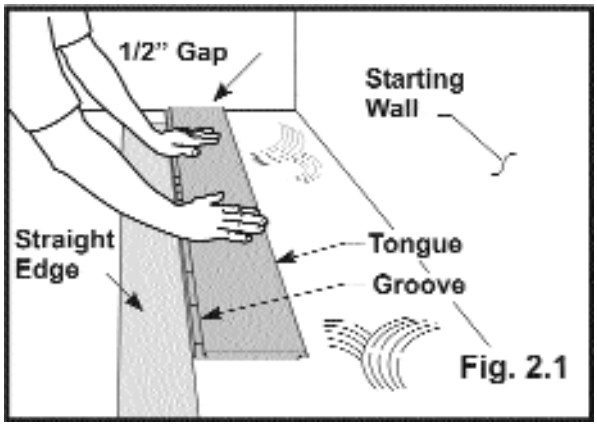


Step 1: Layout

1.1 Using starting wall as reference, snap chalk line on subfloor 16-7/8" (425mm) from wall (Fig. 1). Chalk line represents width of (2) Woodloc™ boards, plus width of groove and required 1/2" expansion gap for perimeter walls. Note: expansion gap not necessary at interior obstructions, i.e., fireplaces. Note: for 7mm, measure width of two boards plus 7/8", then snap starter line.

1.2 Align straight edge (Kährs board or any solid material with straight edge) with chalk line and secure to subfloor.





1.3 Measure 1/2" from starting wall and snap another chalk line (Fig. 1.4).

1.4 Spread adhesive in area between straight edge and second chalk line (Fig. 1.4). Use only as much adhesive as can be used during open time of adhesive.

Step 2: Installation

2.1 Start in corner with tongue sides facing walls and long groove side directly up against straight edge. Lay board into adhesive (Fig. 2.1). Remember to allow 1/2" expansion gap at wall.

Glue-Down Installation of 7mm, 15mm Woodloc™

Step 2: Installation (con't.)

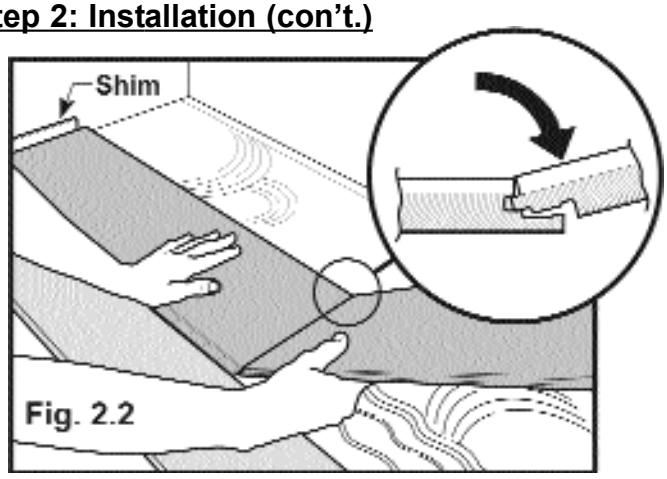


Fig. 2.2

2.2 Hold next board against first board at approximate 45º angle and lay flat on floor as shown in Fig. 2.2. Continue in this manner for entire first row, allowing for 1/2" expansion gap. Insert shims at both ends.

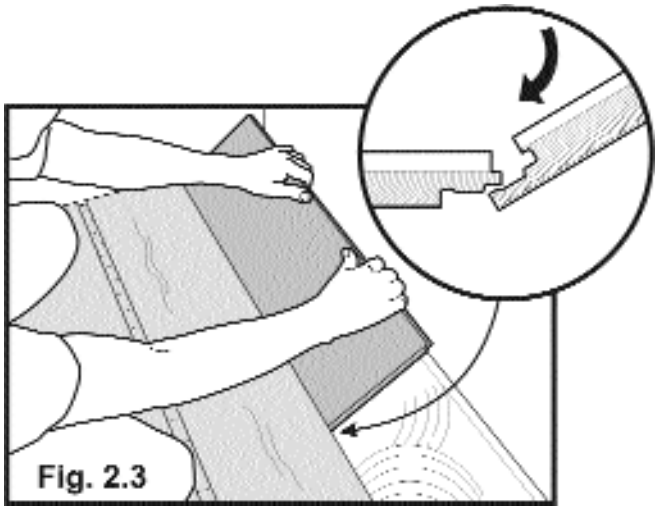


Fig. 2.3

2.3 Use cut off from first row to start second row (Fig. 2.3). With groove side facing first row, hold board at approximate 45º angle and press inward, completely engaging long side joint. Ensure end joint stagger from row to row is a minimum of 20" (for 7mm, minimum of 12").

2.4 Leave tongue side of board raised - **DO NOT** lay board flat into adhesive until all boards in row are fully engaged on long side.

2.5 Engage short end of next board as in Step 2.2 (Fig. 2.2). Lay long side in line with tongue of adjacent board in first row.

Glue-Down Installation of 7mm, 15mm Woodloc™

Step 2: Installation (con't.)

2.6 Since last row will generally not fit perfectly, scribe the row and cut to fit, allowing 1/4" (minimum) for expansion gap (Fig. 2.6a). Close seam tightly by pressing board against adjacent board. If necessary, use Last Board Puller (sku 710203) to assist with engagement (Fig. 2.6b). Continue until row is complete.

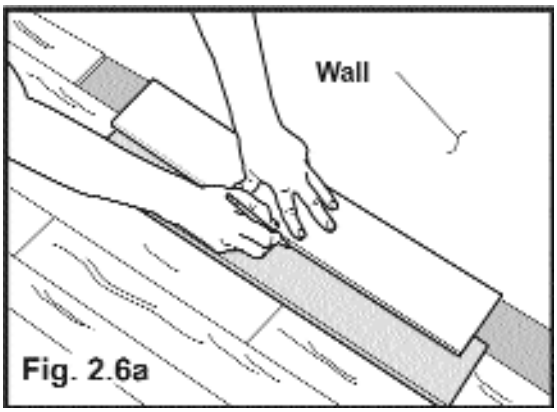


Fig. 2.6a

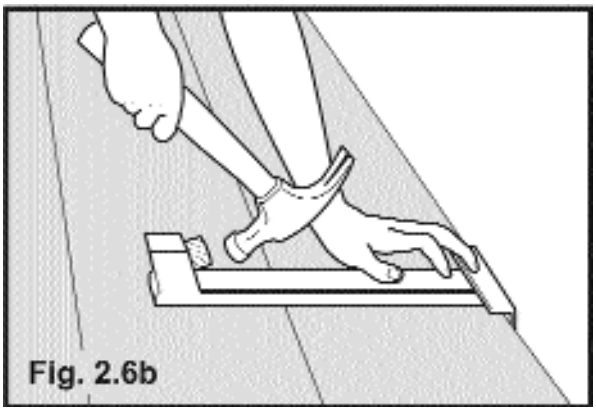


Fig. 2.6b

2.7 After first two rows are installed, ensure expansion gap between boards and walls are shimmed securely (Fig. 2.7, below). If recommended by adhesive manufacturer, roll flooring with 100 lb. roller to ensure contact between flooring and subfloor. Place weight (e.g., unopened cartons) along perimeters until adhesive sets up. Remove straight edge.

Step 3: Subsequent Rows

3.1 Once starting rows are firmly in place, apply adhesive in a "wet lay" method. Do not apply more adhesive than can be used within open time of adhesive. Immediately place flooring in "wet" adhesive and proceed with installation (Fig. 3.1).

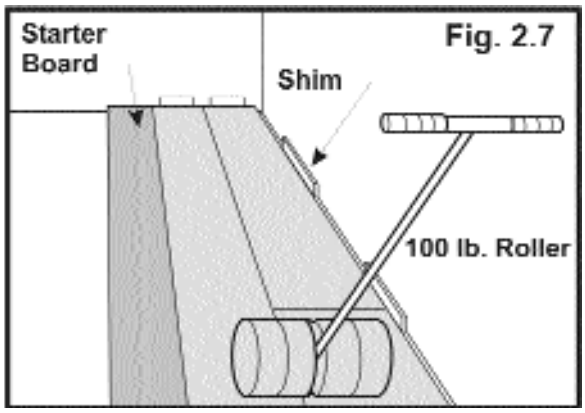


Fig. 2.7

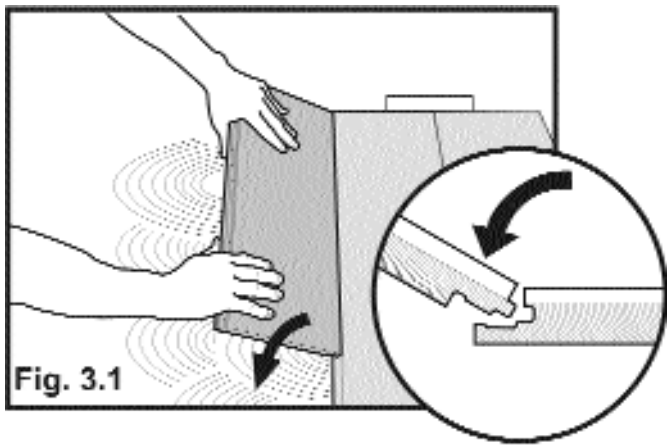


Fig. 3.1

Glue-Down Installation of 7mm, 15mm Woodloc™

3: Subsequent Step Rows (con't.)

3.2 Start each row with cut off end of last board from previous row (Fig. 3.1).

3.3 **DO NOT** lay board flat into adhesive until all boards in row are fully engaged. To assist in engaging **15mm** boards, use Woodloc™ Glue-Down Knocking Block (sku 710281) to engage long joints, as shown in Fig. 3.3. For **7mm** boards, use Woodloc™ Handblock 710266 instead.

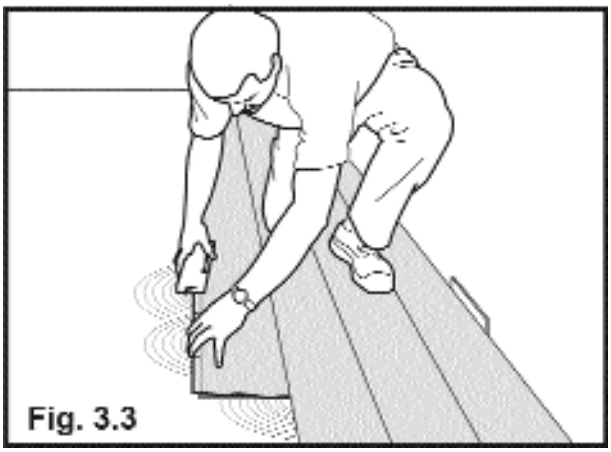


Fig. 3.3

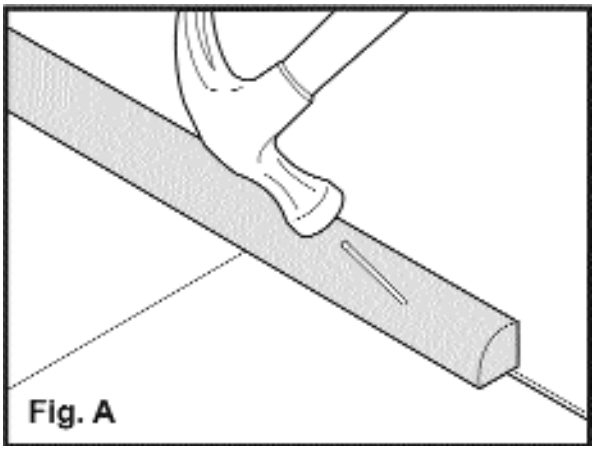


Fig. A

Tips:

- After first three rows are laid, have one installer work on installing flooring while others spread adhesive and cut boards as needed.
- Installation of Woodloc™ is easier while working on already installed flooring (Fig. 3.3).
- Working in this manner lessens chance of accidentally transferring adhesive onto flooring surface, thereby reducing clean-up time.
- For doorway installation insturctions, see Woodloc™ Float-In instructions.

After Installation

- Remove expansion shims and use required Kährs moldings and/or trim pieces to cover expansion space (Fig. A).

Clean Up

- Immediately clean any adhesive spilled on wood flooring during installation. Follow adhesive manufacturer's recommendations.
- Removal of cured adhesive from skin, tools, and equipment is difficult. Consult manufacturer for cleaning procedure. **Tip:** cover areas of trowel not used to spread adhesive with silver duct tape. After use, simply tear off tape and clean exposed areas with mineral spirits.

Curing

- Keep foot traffic to absolute minimum until adhesive is fully cured (follow manufacturer's recommendations.
- Wait at least 24 hours before placing furniture back in room and resuming normal traffic.

Maintenance

- Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use Kährs Wood Floor Cleaner for best results. Do not use oil soap or water-emulsion, self polishing waxes. **NEVER** wet mop floor. Place Peel & Stick Floor Protectors on furniture legs to prevent damage. See Kährs Floor Guide & Lifetime Guarantee for full details.

Glue-Down Installation of Traditional Tongue & Groove 14, 15mm

Notes:

- Kährs flooring is covered by a Limited Lifetime Guarantee. However, guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.
- For specifications and requirements, see Jobsite / Subfloor Preparation section.
- Kährs recommends Taylor 2071 Tuff-Lok X-Link™ Wood Flooring Adhesive or DriTac 7600, 7500, 7400, 9200. Use manufacturer's recommended trowel. For adhesive info please refer to Temp/Rel. Humidity Time Chart page 12, Tools & Techniques section of this Guide.
- Alternative adhesives: any moisture-cured urethane wood flooring adhesive using recommended trowel. **Note:** *Always wear rubber gloves when using adhesives!*
- As last row generally will not fit perfectly, Kährs recommends dry-fitting first two rows and scribe if necessary.

Tools and Materials Required

- Tape Measure
- Chalk Line
- Hammer
- Last Board Puller
- Glue-Down Knocking Block
- Taylor. 2071 Tuff-Lok™ or DriTac 7600, 7500, 7400, 9200
- Straight Edge (Kährs board or any solid material with straight edge)
- Expansion Shims
- Floor Protectors
- 100 lb. Roller
- Adhesive Manufacturer's recommeded notched trowel

For SKU numbers see Kährs Product Key in Tools & Techniques, page 11.

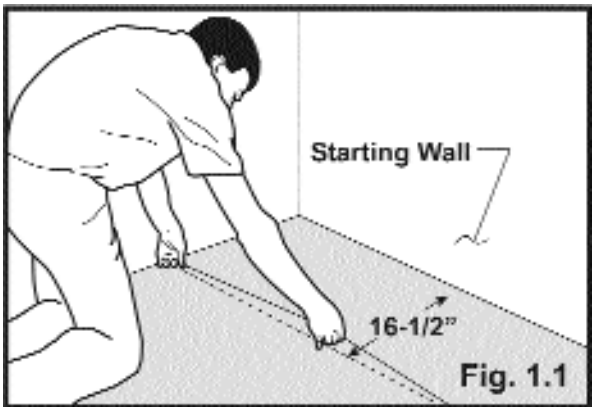


Fig. 1.1

Step 1: Layout

1.1 Using staring wall as reference, snap a chalk line on the subfloor (Fig. 1.1). Chalk line represents width of (2) Trad. T & G boards, plus width of tongue, and required 1/2" expansion gap required for perimeter walls. For example, see fig. 1.1 for 7 7/8" (KE) boards. Note: expansion gap not necessary at interior obstructions, i.e. fireplaces.

1.2 Align straight edge with chalk line and secure to subfloor (Fig. 1.2).

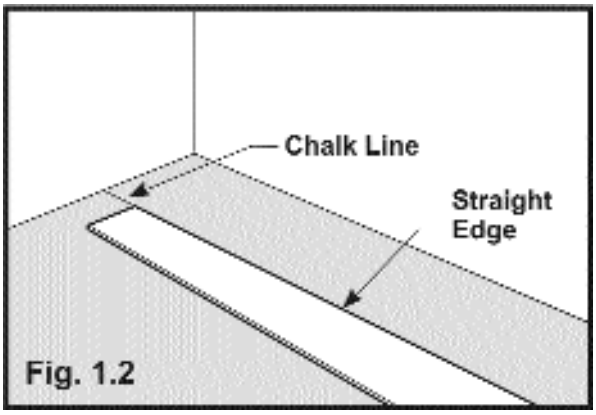
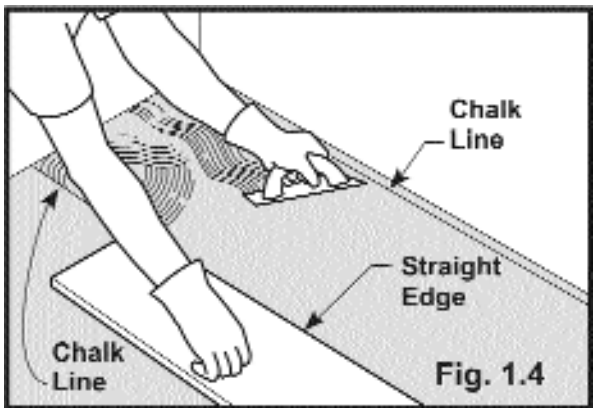


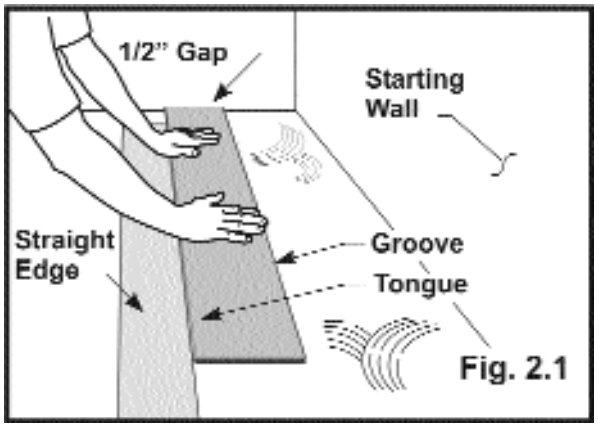
Fig. 1.2

Glue-Down Installation of Traditional Tongue & Groove 14, 15mm

1.3 Measure 1/2" from starting wall and snap another chalk line (Fig. 1.4).
Note: Installation of 14mm (9/16") flooring - open two or three cartons of flooring and "rack" (dry-lay) material prior to installation to ensure proper end joint stagger and usage of all four board lengths packaged in each carton.

1.4 Spread adhesive in area between straight edge and second chalk line (Fig. 1.4). Use only as much adhesive as can be used during open time of adhesive.

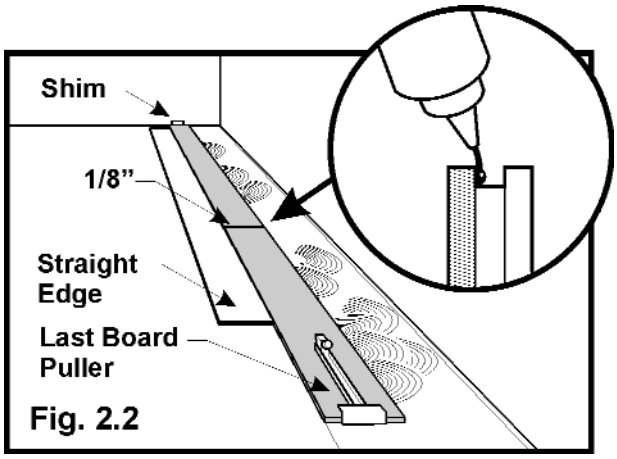


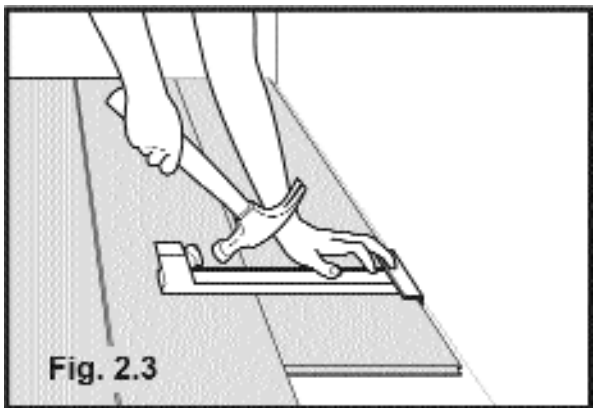


Step 2: Installation

2.1 Starting in corner, with grooved sides facing starting wall and long tongue side directly up against straight edge, lay board into adhesive (Fig. 2.1). Remember to allow 1/2" expansion gap at wall.

2.2 Apply Landobond™ adhesive (sku 710225) ***only*** to top inside edge of end joint groove of next board (Fig. 2.2). Lay board against straight edge and approx. 1/8" away from end of first board. Engage end joints using Last Board Puller. Continue in this manner for entire row. Remember to leave 1/2" expansion gap at end of row and shim at both ends.





2.3 Use cut off from first row to start second row (Fig. 2.3). With tongue side facing first row, fully engage boards using Last Board Puller. Ensure end joint stagger from row to row is a minimum of 20" (Kährs 14mm [9/16"] flooring - **minimum 5" stagger**).

Glue-Down Installation of Traditional Tongue & Groove 14, 15mm

2.4 Apply Landobond™ adhesive to end joint of next board. Engage board to floor at end joint only. Starting at opposite end of locked end joint, use Last Board Puller to knock along length of board to engage tongue on long side with groove of adjacent board. Use Last Board Puller to reset end joint if necessary. Once long seams are set, it is virtually impossible to close end seams.

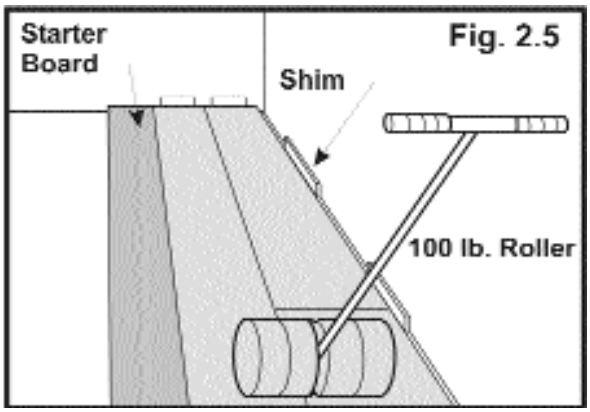


Fig. 2.5

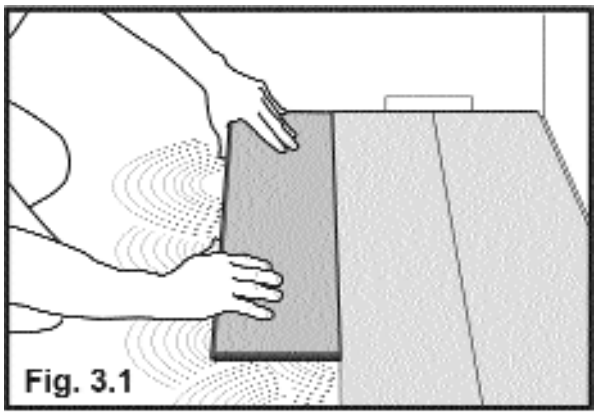


Fig. 3.1

2.5 After first two rows are installed, ensure expansion gap between boards and walls are shimmed securely (Fig. 2.5). If recommended by adhesive manufacturer, roll flooring with 100 lb. roller to ensure contact between flooring and subfloor. Place weight (e.g., unopened cartons) along perimeters until adhesive sets up. Remove straight edge.

Step 3: Subsequent Rows

3.1 Once starting rows are firmly in place, apply adhesive in a “wet lay” method. Do not apply more adhesive than can be used within open time of adhesive. Immediately place flooring in “wet” adhesive and proceed with installation (Fig. 3.1).

3.2 Start each row with cut off end of last board from previous row (Fig. 3.1) maintaining 20” minimum end joint stagger (Kährs 14mm (9/16”) flooring - minimum 5” stagger).

3.3 Engage second board in third row, and subsequent boards, as described in Step 2.4. Use Glue-Down Knocking Block (sku 710281) (Fig. 3.3) or Last Board Puller to engage boards.

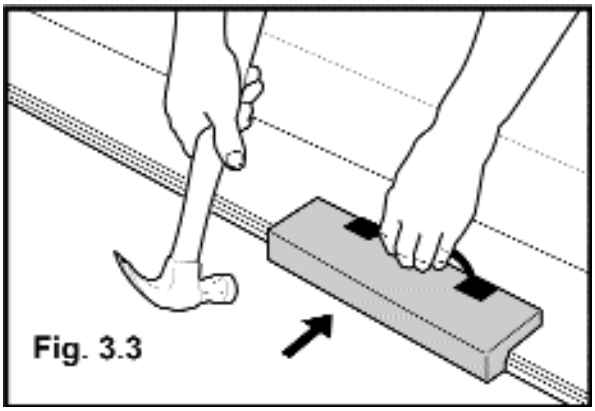


Fig. 3.3

Glue-Down Installation of Traditional Tongue & Groove 14, 15mm

Tip:

- After first three rows are laid, have one installer work on laying flooring while others spread adhesive and cut boards as needed.

After Installation

- Remove expansion shims and install required Kährs moldings and/or trim pieces to cover expansion gaps (Fig. A). Always nail moldings to wall, **never** to flooring.

Clean Up

- Immediately clean any adhesive spilled on wood flooring during installation. Follow adhesive manufacturer's recom mendations.
- Removal of cured adhesive from skin, tools, and equipment is difficult. Consult manufacturer for cleaning procedure. **Tip:** cover areas of trowel not used to spread adhesive with silver duct tape. After use, simply tear off tape and clean exposed areas with mineral spirits.

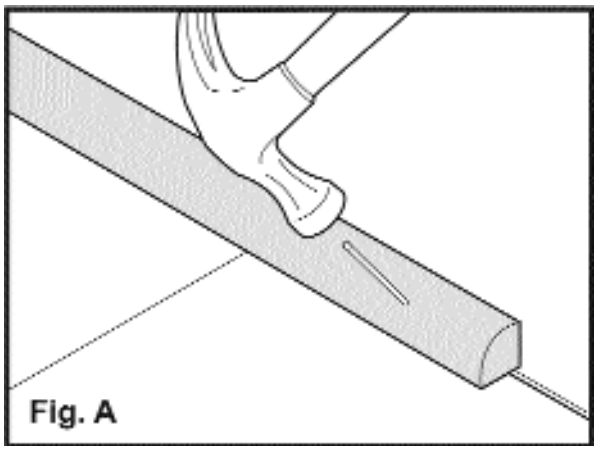


Fig. A

Curing

- Keep foot traffic to absolute minimum until adhesive is fully cured (follow manufacturer's recommendations.
- Wait at least 24 hours before placing furniture back in room and resuming normal traffic.

Maintenance

- Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use Kährs Wood Floor Cleaner for best results. Do not use oil soap or water-emulsion, self polishing waxes. **NEVER** wet mop floor. Place Steel-shank or Peel & Stick Floor Protectors on furniture legs to prevent damage. See Kährs Floor Guide & Lifetime Guarantee for full details.

Glue-Down Installation of Studio™ & Mega Studio™, 11mm

NOTE:

- ***Kährs flooring is covered by a Limited Lifetime Guarantee. However, Guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.***

IMPORTANT!

- ***Do not open packages until ready to begin installation!*** Inspect boards as you go. Kährs flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.

Prior to Installation

- See Jobsite/Subfloor Preparation section and follow all requirements before installation.
- Door casings should be notched or undercut to avoid difficult scribe cuts (Fig. A).
- Sweep or vacuum subfloor thoroughly.
- Approved and recommended adhesives are Taylor 2071 Tuff Lok X-Link™ Wood Flooring Adhesive or DriTac 7600, 7500, 7400, 9200 Adhesive. Apply adhesive directly to subfloor @ rate of 50 sq. ft. per gallon. Use manufacturer's recommended trowel. **Note:** *Always wear rubber gloves when using adhesives!*
- Optional adhesive: any moisture-cured urethane wood floor adhesive. For other approved adhesives call 1-800-ASK-KAHR.
- See Tool List on page 36 for required tools.

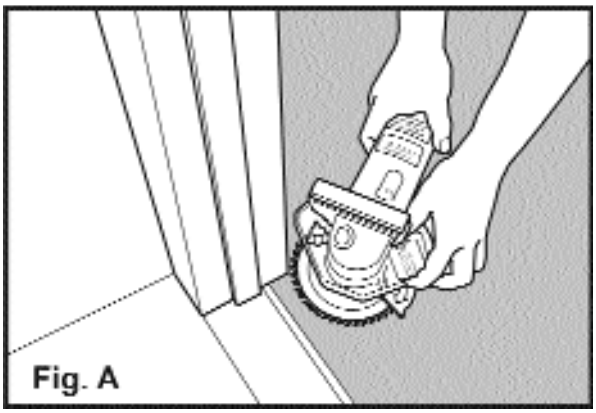


Fig. A

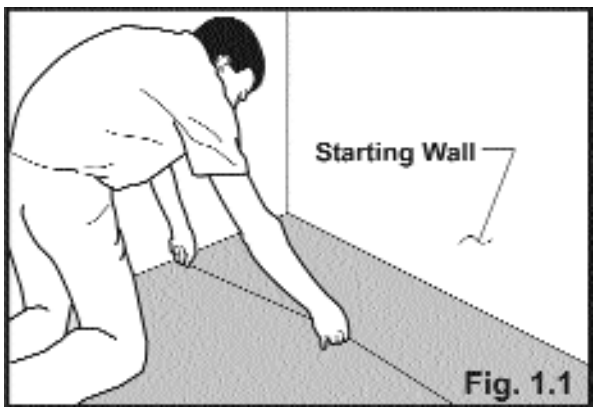


Fig. 1.1

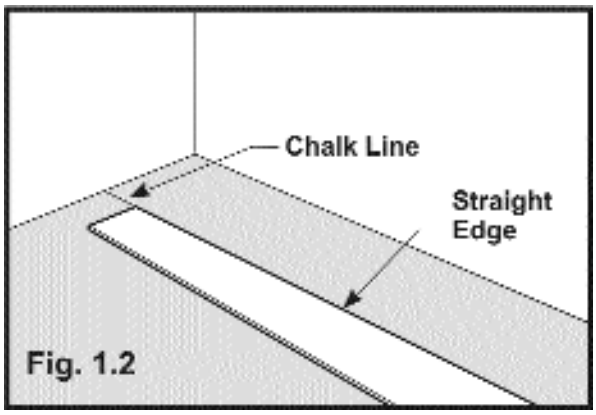
Step 1: Layout

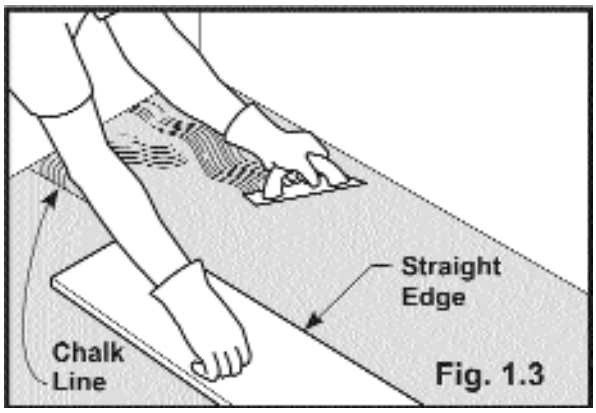
1.1 Using starting wall as reference, snap chalk line on subfloor at distance of 4 - 6 times width of boards (depending on reach of installer), plus additional 1/4" (minimum) for expansion gap, as shown in Fig 1.1. Note: expansion gap not necessary at interior obstructions, i.e. fireplaces.

Glue-Down Installation of Studio™ & Mega Studio™, 11mm

Step 1: Layout (con't.)

1.2 Align straight edge (can be plywood or any solid material with STRAIGHT edge) with chalk line and secure to floor (Fig. 1.2).

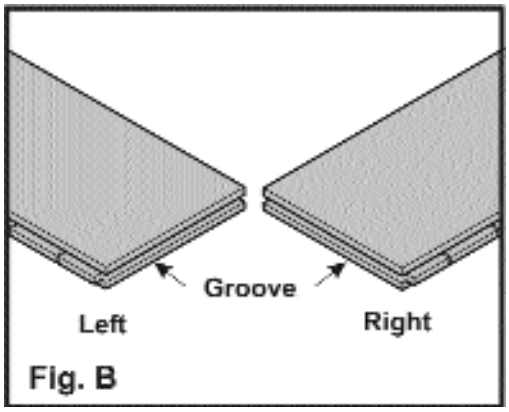




1.3 Spread only as much adhesive as can be used during open time of adhesive (Fig. 1.3).

Important Installation Notes:

- Kährs Studio Flooring comes with an equal number of "left-handed " and "right-handed" boards. When installing, an entire row must be installed using all "right-handed" or all "left-handed" boards (Fig. B).
- Mega Studio includes only "right-handed" boards.
- Studio and Mega Studio Flooring cartons contain several "shorts". Use these boards at perimeter walls.
- Place weight along walls and doorways after installation for several hours to ensure proper adhesion.

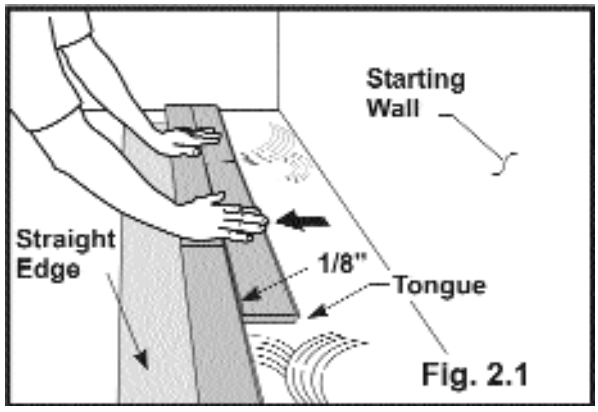


Step 2: Installation

2.1 Install flooring with tongue side facing starting wall. Begin by installing first row directly against straight edge (Fig. 2.1).

2.2 Install subsequent rows, working toward starting wall. Place each board into adhesive at slight diagonal to first row, approx. 1/8" from final position, and push by hand to engage groove and tongue (Fig. 2.1).

2.3 Stagger end joints from row to row - Studio - 2-3/4" (min.) stagger, Mega Studio - 4" (min.) stagger.



Glue-Down Installation of Studio™ & Mega Studio™, 11mm

2.4 Check for tight fit on end joint of each board and wedge expansion shims at end of each row and at starting wall to help prevent movement during remainder of installation (Fig. 2.4). Note: refer to Fig. 4 for last row installation.

2.5 Once first rows are installed, a 1/4" (min.) expansion gap should remain between last row installed and starting wall (Fig. 2.4). Allow first rows to set up firmly, then remove straight edge.

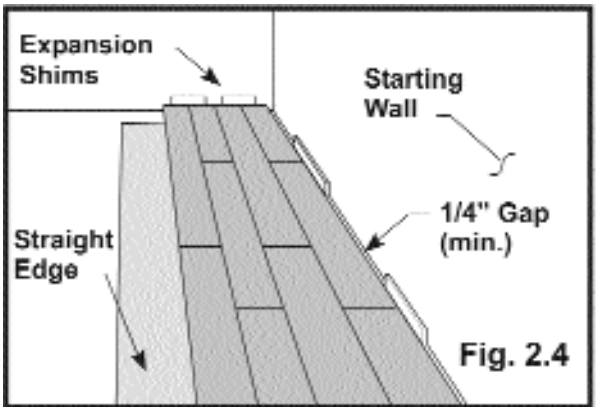


Fig. 2.4

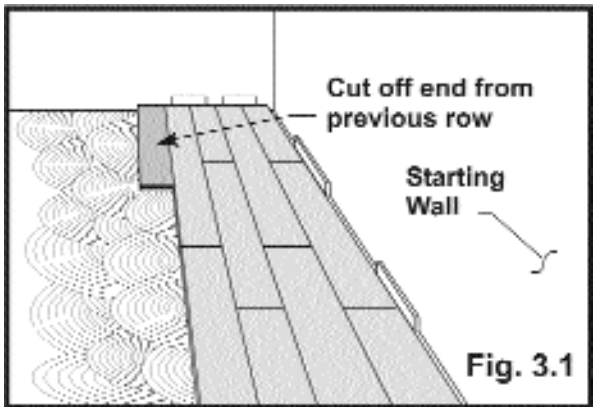


Fig. 3.1

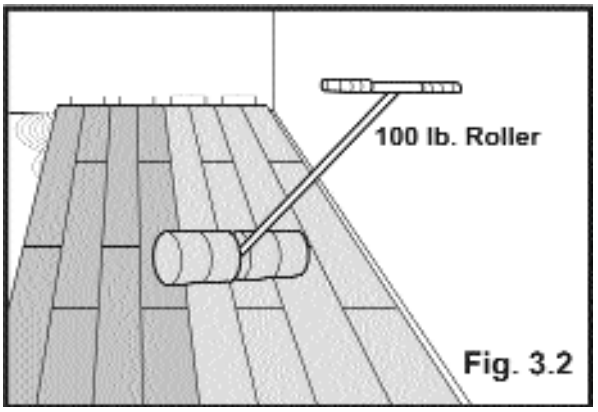


Fig. 3.2

Step 3: Subsequent Rows

3.1 Once starting rows are firmly in place, apply adhesive in a "wet lay" method. Immediately place flooring in "wet" adhesive and proceed with installation (Fig. 3.1)

3.2 If recommended by adhesive manufacturer, roll floor with a 100lb. roller to ensure contact between flooring and subfloor (Fig. 3.2).

3.3 Place weight (i.e. unopened cartons) at starting and perimeter walls during installation until adhesive sets up (Fig. 3.3).

3.4 Start each row with cut off end of last board from previous row (Fig. 3.1).

3.5 At end of each row, cut excess length and use at beginning of next row.

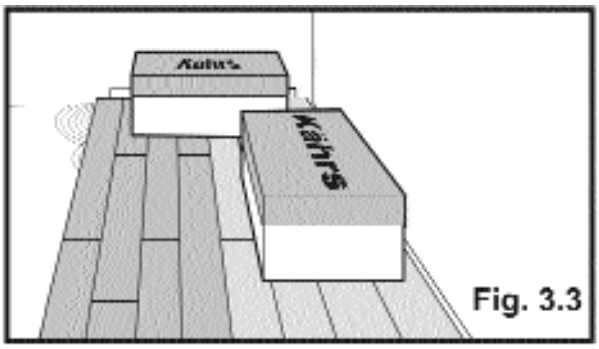


Fig. 3.3

Glue-Down Installation of Studio™ & Mega Studio™, 11mm

Step 4: Last Row

Since last row will generally not fit perfectly, scribe the row and cut to fit, allowing 1/4" (minimum) for expansion gap (Fig. 4).

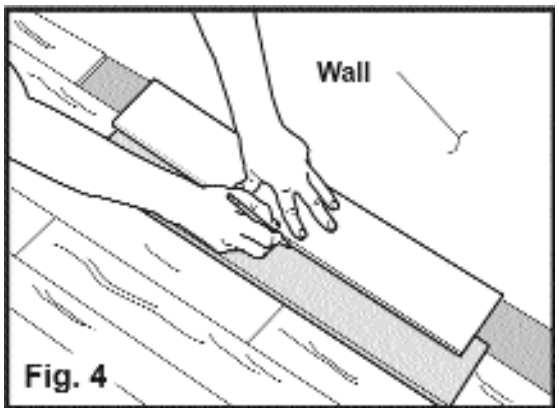


Fig. 4

Tools and Materials Required

- Taylor™ 2071 Wood Flooring Adhesive or DriTac 7600, 7500, 7400, 9200
- Adhesive mfg.'s recommended trowel
- Tape Measure
- Chalk Line
- Straight Edge
- Expansion Shims
- Floor Protectors

For SKU numbers see Kährs Product Key in Tools & Techniques, page 11.

After Installation

- Remove expansion shims and use required Kährs moldings and/or trim pieces to cover expansion space (Fig. C).

Clean Up

- Immediately clean any adhesive spilled on wood flooring during installation. Follow adhesive manufacturer's recommendations.
- Removal of cured adhesive from skin, tools, and equipment is difficult. Consult manufacturer for cleaning procedure. **Tip:** cover areas of trowel not used to spread adhesive with silver duct tape. After use, simply tear off tape and clean exposed areas with mineral spirits.

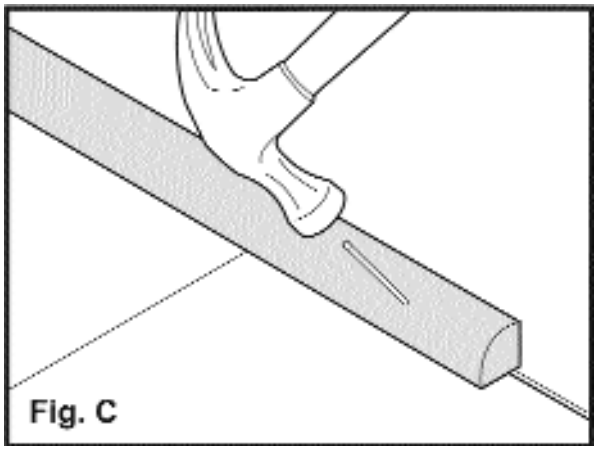


Fig. C

Curing

- Keep foot traffic to absolute minimum until adhesive is fully cured (follow manufacturer's recommendations).
- Wait at least 24 hours before placing furniture back in room and resuming normal traffic.

Maintenance

- Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use Kährs Wood Floor Cleaner for best results. Do not use oil soap or water-emulsion, self polishing waxes. **NEVER** wet mop floor. Place Peel & Stick Floor Protectors on furniture legs to prevent damage. See Kährs Floor Guide & Lifetime Guarantee for full details.

Herringbone Installation of Studio™, 11mm

NOTE:

- ***Kährs flooring is covered by a Limited Lifetime Guarantee. However, guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.***

IMPORTANT!

- ***Do not open packages until ready to begin installation!*** Inspect boards before installation. Kährs flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.

Prior to Installation

- See Jobsite/Subfloor Preparation section and follow all requirements before installation.
- Door casings should be notched or undercut to avoid difficult scribe cuts.
- Sweep or vacuum subfloor thoroughly.
- Approved and recommended adhesive is Taylor 2071 Tuff Lok X-Link™ Wood Flooring Adhesive or DriTac 7600, 7500, 7400, 9200. Apply adhesive directly to subfloor @ rate of 50 sq. ft. per gallon. Use manufacturer's recommended trowel **Note:** *Always wear rubber gloves when using adhesives!*
  *Optional adhesive: any moisture-cured urethane-based wood floor adhesive. For other approved adhesives call 1-800-ASK-KAHR.
- Studio flooring is packaged with an equal number of "left-handed" and "right-handed" boards (see Fig. A) and must be separated prior to installation.
- See Tool List on page 38 for required tools.

Important Installation Notes:

- Herringbone (or other patterned floors) can only be installed using Kährs Studio (2-3/4" x 18-1/2").
- Measurement accuracy is critical for successful installation.
- Subfloor preparation is critical. Please see Jobsite/Subfloor Preparation for all requirements.

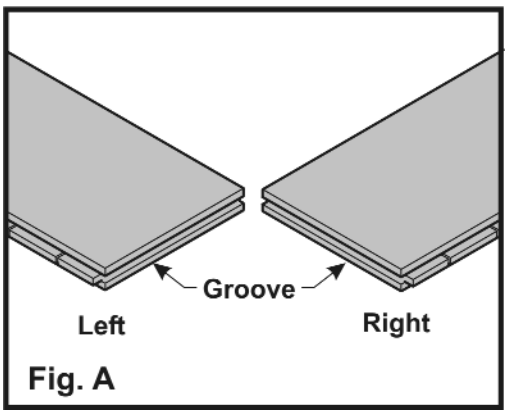


Fig. A

Herringbone Installation of Studio™, 11mm

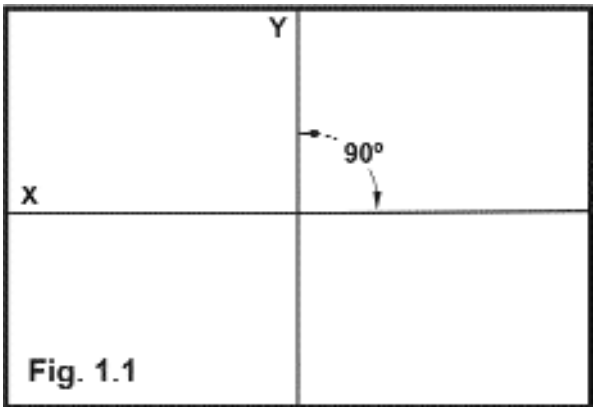


Fig. 1.1

Tools and Materials Required

- Taylor™ 2071 Wood Flooring Adhesive or DriTac 7600, 7500, 7400, 9200
- Adhesive mfg.'s recommended trowel
- Tape Measure
- Chalk Line
- Straight Edge
- Expansion Shims
- Floor Protectors

For SKU numbers see Kährs Product Key in Tools & Techniques, page 11.

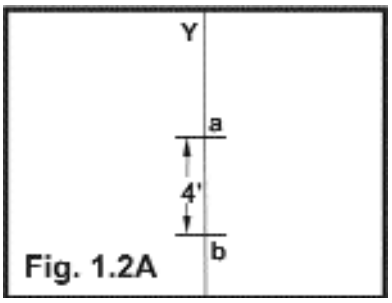


Fig. 1.2A

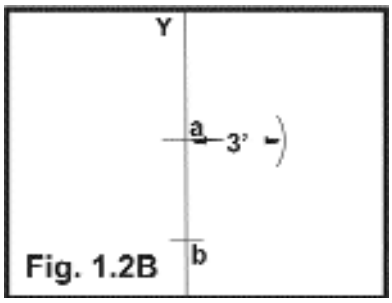


Fig. 1.2B

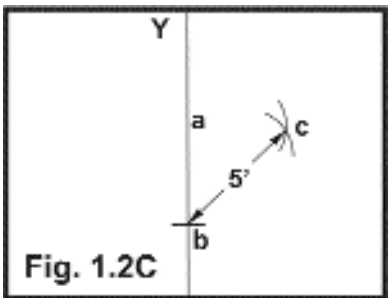


Fig. 1.2C

Step 1:

1.1 Snap chalk line (Y) through center of room as shown in Fig. 1.1 above. Next, determine perpendicular line (X). **Important:** Line X must be **exactly** 90º to line Y to form perfectly square corner.

1.2 To ensure this angle:

A) From center point (a) of line Y, measure 4' along line Y and mark point (b) (Fig. 1.2A).

B) From center point (a) measure 3' in general direction of where line X will be and scribe an arc (Fig. 1.2B).

C) Return to original 4' mark (b) on line Y and measure 5', scribing an arc crossing 3' arc from previous step (Fig. 1.2C).

D) Verify all measurements before proceeding.

E) If correct, snap chalk line thru intersection of arcs and center point of line Y. Chalk line represents line X and should form 90º angle with line Y as shown in Fig. 1.1.

Herringbone Installation of Studio™, 11mm

Step 1 (con't):

1.3 Measure out 1" from each side of line Y and snap chalk lines, A & B to serve as guidelines for top corners of boards as shown in Fig. 2 below.

Step 2

2.1 Cut starter board from plywood 18-1/2" x 18-1/2". Starter board must be **perfectly square.**

2.2 Align top and bottom corners of starter board with line A and secure to floor (Fig. 2).

2.3 Dry-lay three rows (for procedure refer to Step 3) to determine distance to point C (Fig. 2). Once distance is determined, snap another chalk line to represent guide line C. Repeat procedure for other side, point E and guide line E (Fig. 2).

2.4 Parallel to line C and in direction of line Y, snap another guide line (D). Repeat procedure on other side for line F. These lines serve as pattern and adhesive guides.

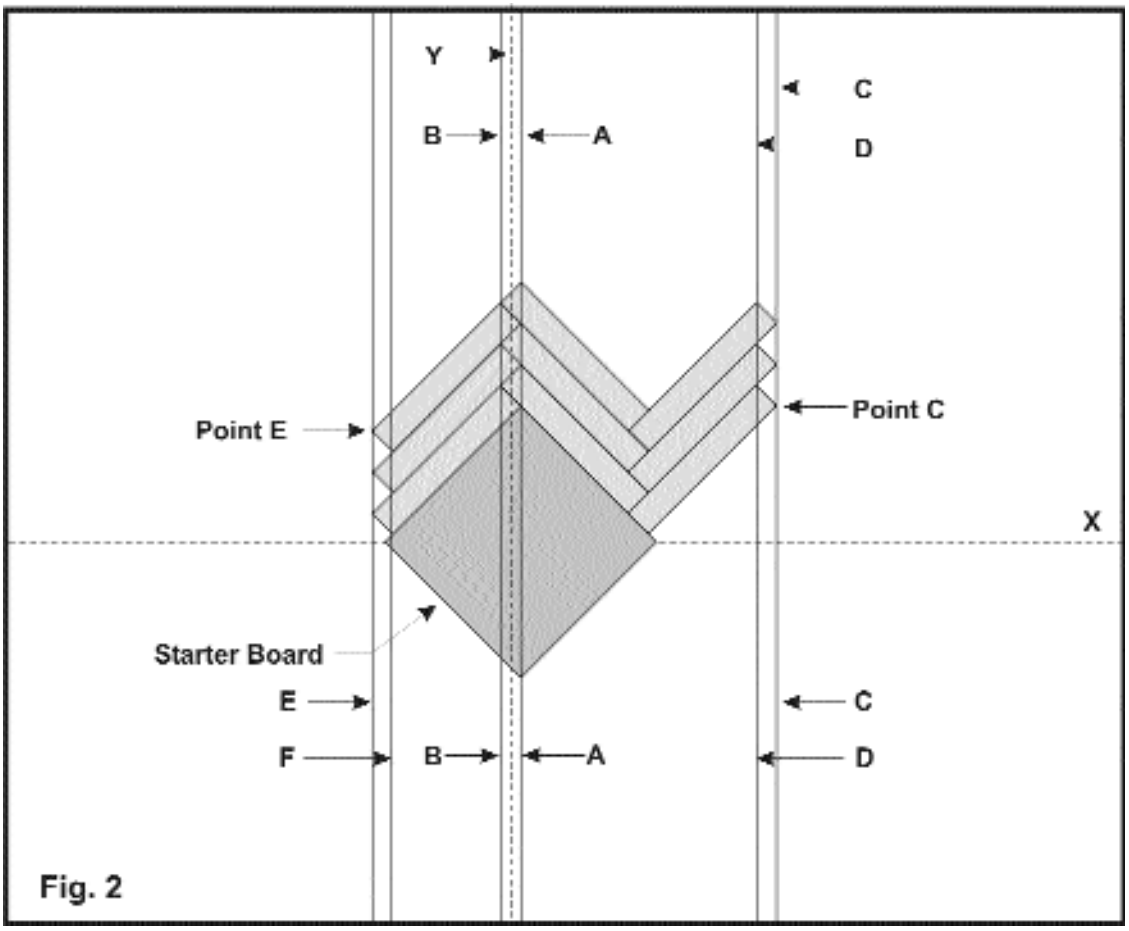


Fig. 2

Herringbone Installation of Studio™, 11mm

Step 3

3.1 Remove boards. Spread adhesive from starter board to outside guide lines C, and E. Amount of adhesive spread should account for flooring able to be laid during adhesive working time.

3.2 Place left-handed board (Fig. A) with groove side against left side of starter board. End joint must line up with point on starter board.

3.3 Place right-handed board with groove side against right side of starter board. Ensure tongue on end joint lines up with long side tongue of left-handed board.

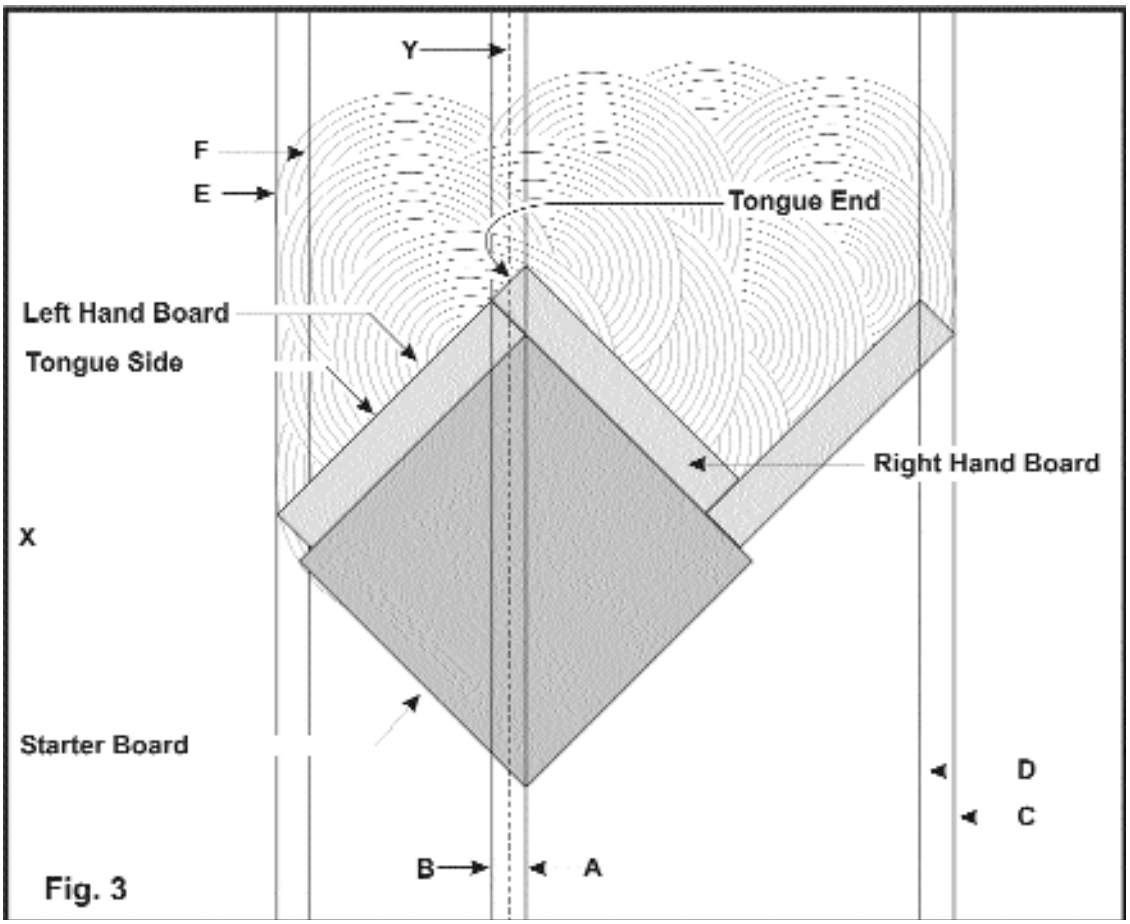


Fig. 3

3.4 Continue installing in this manner, alternating installation with left-handed and right-handed boards, until starting area is completely installed.

3.5 Place weight on boards and let adhesive set up (see Temperature/Relative Humidity/ Time Chart).

3.6 Remove starter board and complete installation as described above. Snap new guide lines as needed.

Nail-Down Installation for Traditional Tongue & Groove 14, 15mm

NOTES:

- ***Kährs flooring is covered by a Limited Lifetime Guarantee. However, guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.***
- ***Always begin a Kährs tongue & groove installation with the grooves facing the wall!***
- ***Proper expansion must be left at all walls.***
- ***As last row generally will not fit perfectly, Kährs recommends dry-fitting first two rows and scribe if necessary.***

IMPORTANT!

- ***Do not open packages until ready to begin installation!*** Inspect boards before installation. Kährs flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.
- Flooring should be installed perpendicular to joists to prevent subfloor sagging. Subfloor must be reinforced to nail down Kährs parallel to joists.

Prior to Installation

- See Jobsite/Subfloor Preparation section and follow all requirements before installation.
- Door casings should be notched or undercut to avoid difficult scribe cuts.
- Sweep or vacuum subfloor thoroughly.
- Once subfloor has been prepared, Kährs recommends covering subfloor with 15 lb. or higher asphalt felt or rosin paper to retard moisture and help alleviate any remaining variations.

Tools and Materials Required

- Tape Measure
- Chalk Line
- Last Board Puller
- Hammer
- Knocking Block
- Landobond™ Adhesive
- Expansion Shims
- Floor Protectors

Approved Nailers

- Bostitch Air Stapler Model III:
  15mm - remove std. plate and add adapter plate (sku# 710268) **or** add adapter plate w/shim (sku# 710269).
  14mm - remove std. plate and add adapter plate (sku# 710269). Do not use shim. Use 2” staples with compressor set at 95 psi.
- Primatech Q 500 with Primatech 5/8” adapter plate using 1-1/2” power cleats.
- Powernailer Model 200 (pneumatic or manual) with Powernailer U-1 pad using 1-1/2” powercleats with compressor set at 80 psi.

For SKU numbers see Kährs Product Key in Tools & Techniques, page 11.

Nail-Down Installation for Traditional Tongue & Groove 14, 15mm

Step 1: First Row

1.1 Start with groove sides of board facing starting walls. If starting wall is not square or otherwise irregular, scribe first row (Fig. 1.1), then cut boards to match variation in wall. **Important:** First row must be square to ensure true, fixed base from which to build entire floor.

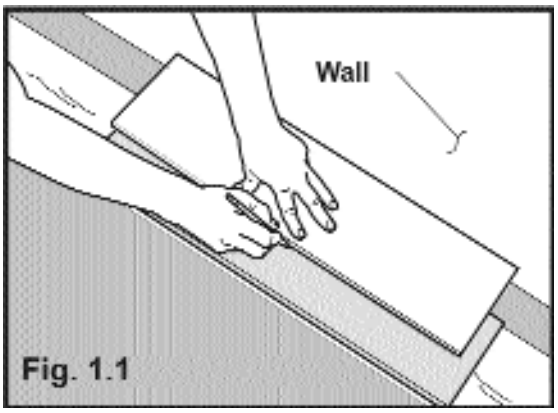


Fig. 1.1

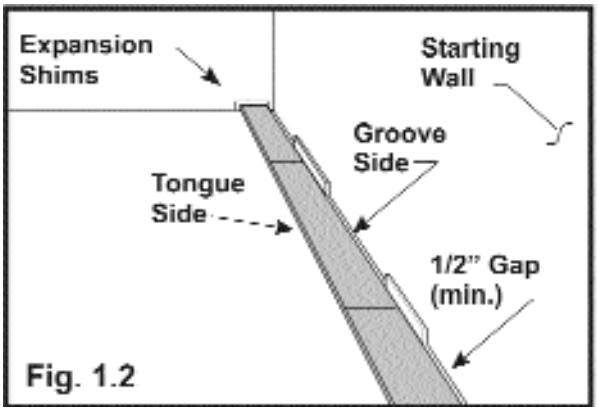


Fig. 1.2

1.2 Always allow minimum 1/2" expansion gap between boards and walls (Fig. 1.2). Use expansion shims spaced every 12" along all walls to help prevent avoidable movement during remainder of installation.
Note: Installation of 14mm (9/16") flooring - open two or three cartons of flooring and "rack" (dry-lay) material prior to installation to ensure proper end joint stagger and usage of all four board lengths packaged in each carton.

1.3 Apply 1/8" bead of Landobond™ adhesive to upper inside of groove on end joint only (and all subsequent end joints) as shown in Fig. 1.3.
Note: Failure to apply adhesive to end joints will result in gapping!

1.4 Lay entire first row and check for tight fit on all end joints. Place expansion shims as shown in Fig. 1.2. Now top-nail first row at 7" - 10" intervals as close to wall as possible (Fig. 1.4). Molding and trim pieces should cover nail holes. If not, set nails and fill with matching putty stick.

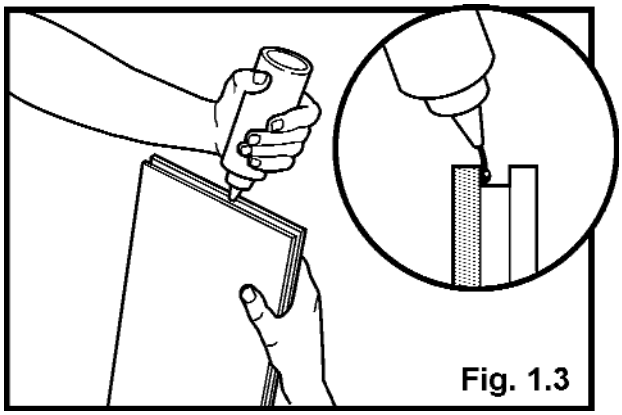


Fig. 1.3

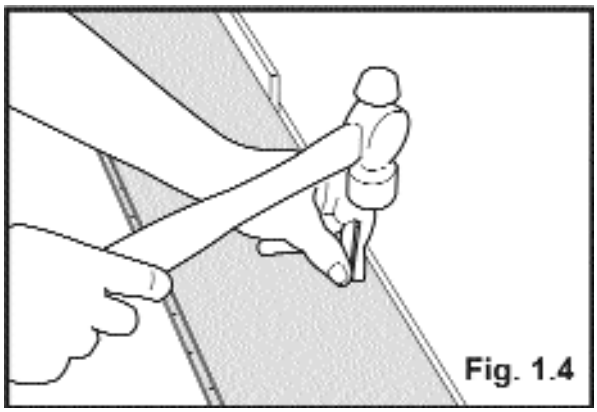


Fig. 1.4

Nail-Down Installation for Traditional Tongue & Groove 14, 15mm

Step 2: Starting Second Row

Start second row with cut off end of last board from previous row (Fig. 2a). Remember to allow for expansion gap and shim accordingly. Use Knocking Block to engage groove with tongue of board in first row (Fig. 2b). **Never** tap groove side or top surface layer!

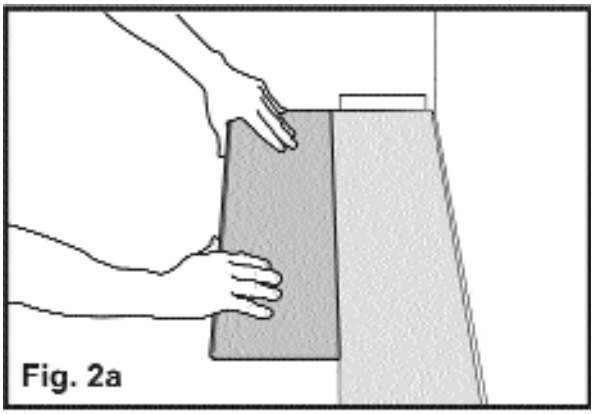


Fig. 2a

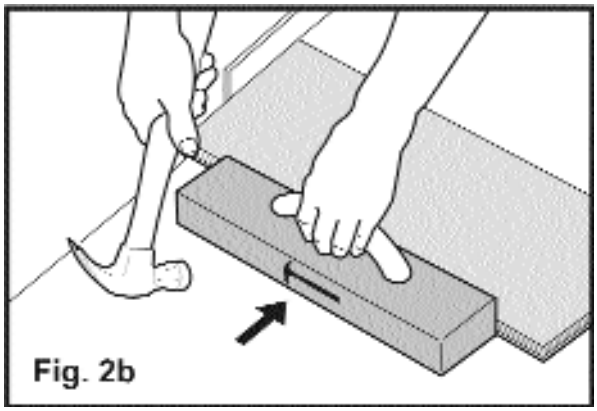


Fig. 2b

Step 3 Installing Second Row

Start next board (Fig. 3) by applying Landobond™ adhesive to **upper** side of groove on end joint only (Fig. 1.3, previous page). Be sure to stagger end joints by minimum of 20" (Kährs 14mm (9/16)" flooring - minimum of 5" stagger).

A) Engage board at end joint only (Fig. 3, A).
B) Starting at opposite end from locked-in end joint, begin knocking length of board to begin engaging groove with tongue of adjacent board (Fig. 3, B)
C) Use Knocking Block or Last Board Puller to re-set end joint before completely engaging long joint with adjacent board. Once long joints are engaged, it is virtually impossible to close end joints.
D) Finish setting board by placing Knocking Block against tongue side and gently tapping board flush to previous row. If gap exists at end joint after engaging long joint, work/wiggle board away from adjacent board to slightly open seam, then tap board end to close end joint.

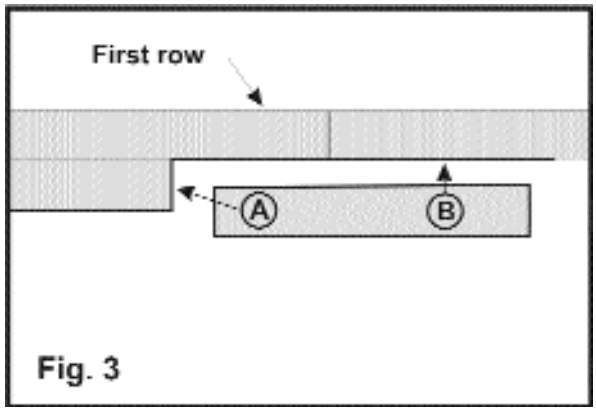


Fig. 3

Nail-Down Installation for Traditional Tongue & Groove 14, 15mm

Step 4 Completing Second Row

At end of second row, cut board to appropriate length (allowing for expansion gap), and install as described above. If necessary, use Last Board Puller to gently pressure board into place as shown in Fig. 4. Check all seams for tight fit and insert shims at end joints of both walls.

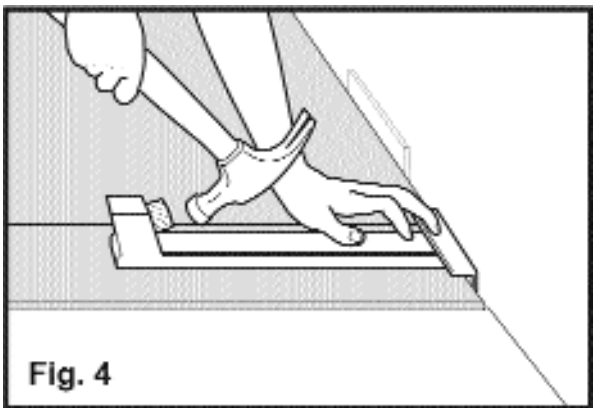


Fig. 4

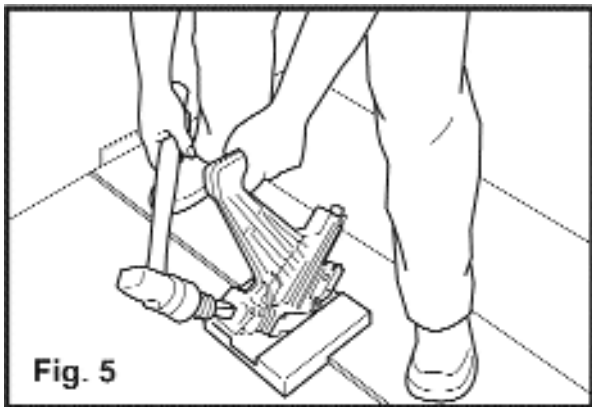


Fig. 5

Step 5 Side-nailing Second Row

After laying entire second row, side-nail boards at 8” intervals or minimum of three nails/cleats per board. Nail/staple through tongue. Nails/staples must be set just below surface of tongue. Adjust compressor if necessary.
Important: If side-nail must be removed after setting, use extreme caution. **DO NOT** pull side-nail straight up from tongue as edge and surface of board may be damaged.

Now move on to next row, installing as described above.

Changing Directions: If necessary to continue floor in reverse direction (e.g. through doorway), or away from groove, Kährs Spline Tongue must be used. Apply glue to groove and insert spline tongue, converting groove into tongue. ***Note***: Kährs 14mm (9/16”) flooring only: use Kährs Router Bit to re-cut groove, then insert spline. Board(s) to be installed adjacent must have grooves re-cut using Router Bit prior to engaging with routed/splined boards to ensure tight, level fit.

Step 6: Last Row

Since last row will generally not fit perfectly, scribe row as shown in Fig. 1.1, remembering to allow minimum 1/2” expansion gap. Interlock all seams with Last Board Puller.
Note: It may be necessary to top-nail in other areas of room where side-nailer cannot be used (i.e., doorways, tight areas where nailer cannot fit). It may also be necessary to direct-glue areas for same reason. See Glue-Down instructions for approved adhesives.

Nail-Down Installation for Traditional Tongue & Groove 14, 15mm

After Installation

- Remove expansion shims and use required Kährs moldings and/or trim pieces to cover expansion space (Fig. A). Always nail moldings to wall, **never** to flooring.

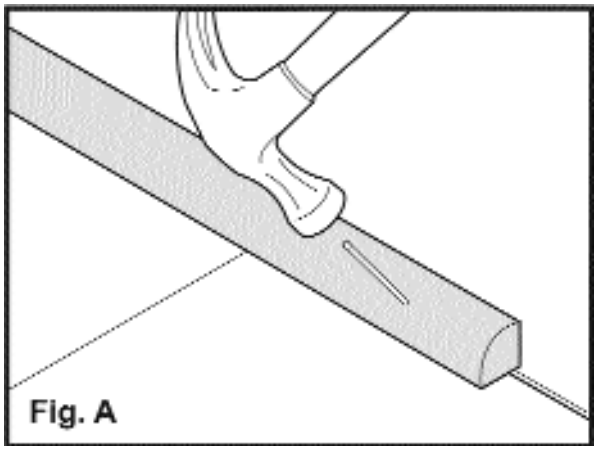


Fig. A

Clean Up

- Immediately clean any Landobond™ adhesive spilled on wood flooring during installation.

Maintenance

- Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use Kährs Wood Floor Cleaner for best results. Do not use oil soap or water-emulsion, self polishing waxes. **NEVER** wet mop floor. Place Peel & Stick™ Floor Protectors on furniture legs to prevent damage. See Kährs Floor Guide & Lifetime Guarantee for full details.

Staple-Down Installation for Studio & Mega Studio, 11 mm

NOTES:

- ***Kährs flooring is covered by a Limited Lifetime Guarantee. However, guarantee coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. READ ALL INSTRUCTIONS CAREFULLY.***
- ***Always begin a Kährs tongue & groove installation with the grooves facing the wall!***
- ***Proper expansion must be left at all walls.***
- ***As last row generally will not fit perfectly, Kährs recommends dry-fitting first two rows and scribe if necessary.***

IMPORTANT!

- ***Do not open packages until ready to begin installation!*** Inspect boards before installation. Kährs flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.
- Flooring should be installed perpendicular to joists to prevent subfloor sagging. Subfloor must be reinforced to staple down Kährs parallel to joists.

Prior to Installation

- See Jobsite/Subfloor Preparation section and follow all requirements before installation.
- Door casings should be notched or undercut to avoid difficult scribe cuts.
- Sweep or vacuum subfloor thoroughly.
- Once subfloor has been prepared, Kährs recommends covering subfloor with 15 lb. or higher asphalt felt or rosin paper to retard moisture and help alleviate any remaining variations.

Tools and Materials Required

- Tape Measure
- Chalk Line
- Last Board Puller
- Hammer
- Knocking Block
- Landobond™ Adhesive
- Expansion Shims
- Floor Protectors

For SKU numbers see Kährs Product Key in Tools & Techniques, page 11.

Approved Staplers

- Stanley-Bostitch SX150 - BHF-2 using 1”, 18 guage staples
  Note: Contact plate must be re-positioned for use with Kährs 11mm flooring. Refer to figure A, B1, B2, next page.

- Senco SLS 20 HF using 1", 19 guage staples
  Note: Use adjusting screws to re-position contact plate for use with Kahrs 11mm flooring.

Staple-Down Installation for Studio & Mega Studio, 11 mm

Repositioning of Stapler Contact Plate

Front piece of contact plate must be removed, turned upside down, then re-attached before installing Kährs 11mm flooring (Fig. A).

After repositioning, contact point (arrow in Fig. B1 & B2) must be between top of tongue and bottom of wear layer when gun is resting on subfloor.

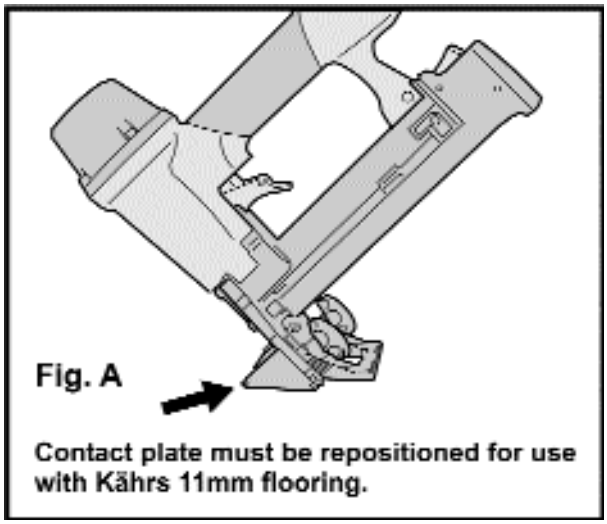


Fig. A

Contact plate must be repositioned for use with Kährs 11mm flooring.

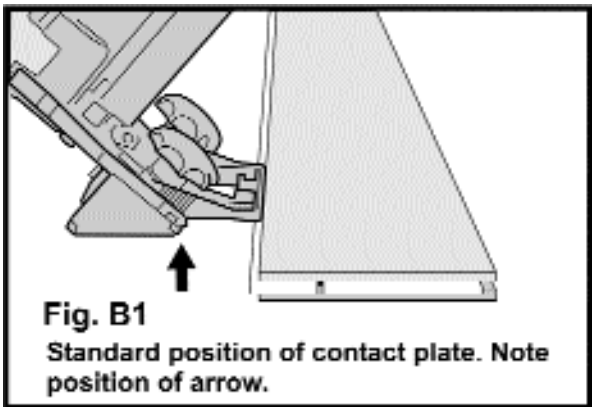


Fig. B1

Standard position of contact plate. Note position of arrow.

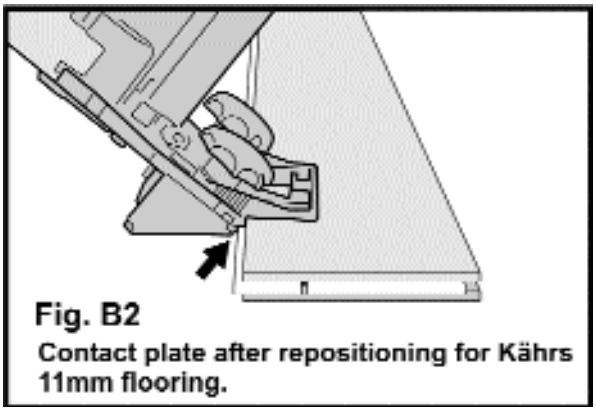


Fig. B2

Contact plate after repositioning for Kährs 11mm flooring.

Step 1: First Row

1.1 Start with groove sides of board facing starting walls. If starting wall is not square or otherwise irregular, scribe first row (Fig. 1.1), then cut boards to match variation in wall. **Important:** First row must be square to ensure true, fixed base from which to build entire floor.

1.2 Always allow minimum 1/2" expansion gap between boards and walls (Fig. 1.2). Use expansion shims spaced every 12" along all walls to help prevent avoidable movement during remainder of installation.

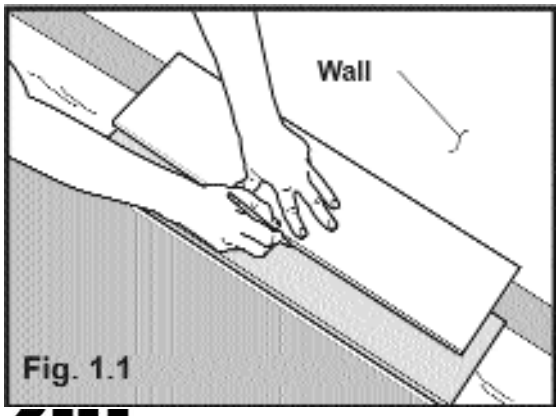


Fig. 1.1

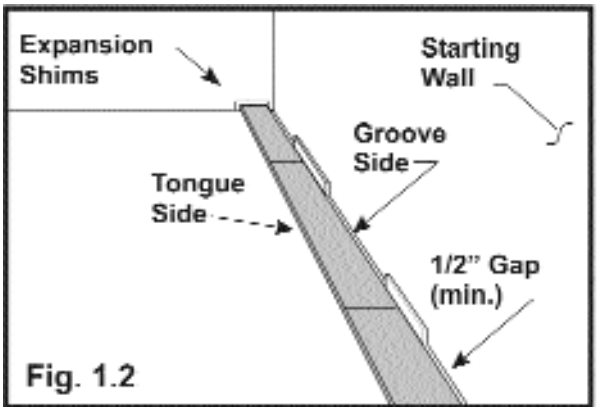


Fig. 1.2

Staple-Down Installation for Studio & Mega Studio, 11 mm

Step 1: First Row (con't.)

1.3 Lay entire first row and check for tight fit on all end joints. Place expansion shims as shown in Fig. 1.2. Now staple first row at 7" - 10" intervals as close to wall as possible, with minimum 3 nails per board (Fig. 1.3). Molding and trim pieces should cover nail holes. If not, set nails and fill with matching putty stick.

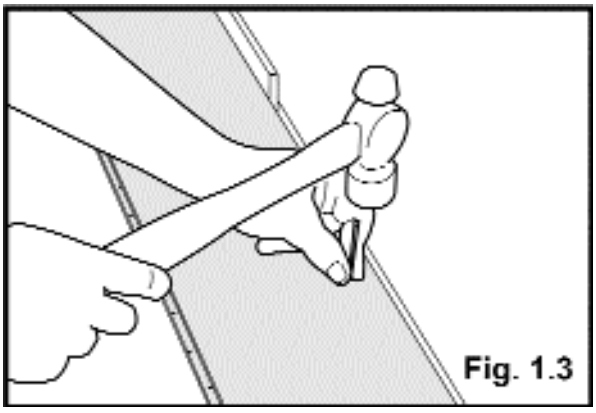


Fig. 1.3

Step 2: Starting Second Row

Start second row with cut off end of last board from previous row (Fig. 2a). Remember to allow for expansion gap and shim accordingly. Use Knocking Block to engage groove with tongue of board in first row (Fig. 2b). **Never** tap groove side or top surface layer!

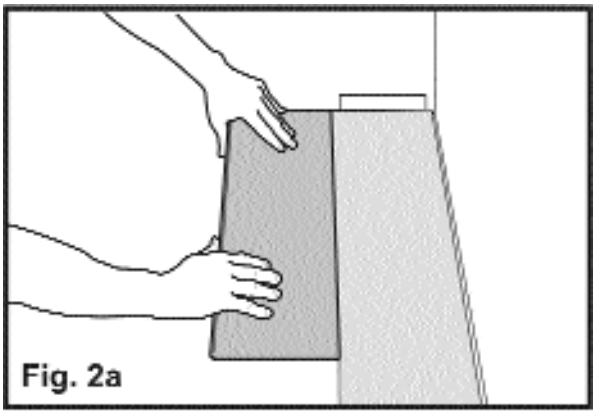


Fig. 2a

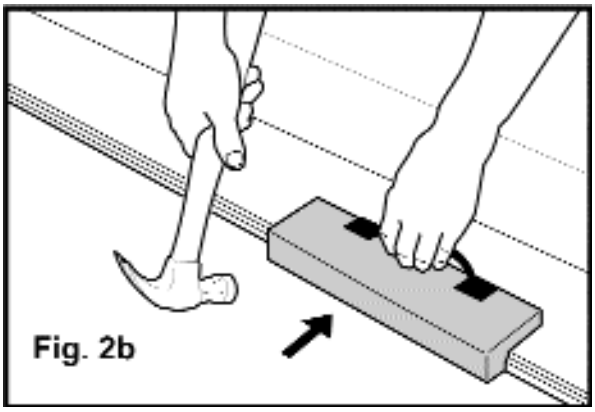


Fig. 2b

Step 3 Installing Second Row

A) Engage board at end joint only (Fig. 3, A).

B) Starting at opposite end from locked-in end joint, begin knocking length of board to begin engaging groove with tongue of adjacent board (Fig. 3, B).

C) Use Knocking Block or Last Board Puller to reset end joint before completely engaging long joint with adjacent board.

D) Finish setting board by placing Knocking Block against tongue side and gently tapping board flush to previous row. If gap exists at end joint after engaging long joint, work/wiggle board away from adjacent board to slightly open seam, then tap board end to close end joint.

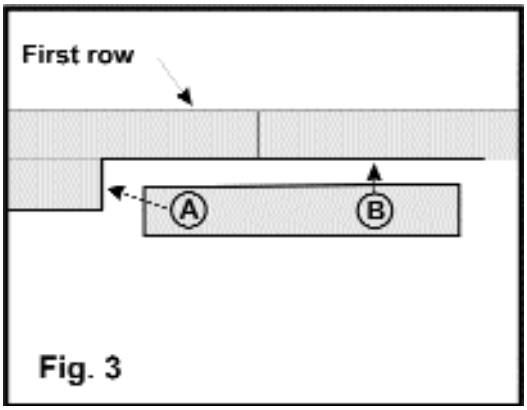


Fig. 3

Staple-Down Installation for Studio & Mega Studio, 11 mm

Step 4 Completing Second Row

At end of second row, cut board to appropriate length (allowing for expansion gap), and install as described above. If necessary, use Last Board Puller to gently pressure board into place as shown in Fig. 4. Check all seams for tight fit and insert shims at end joints of both walls.

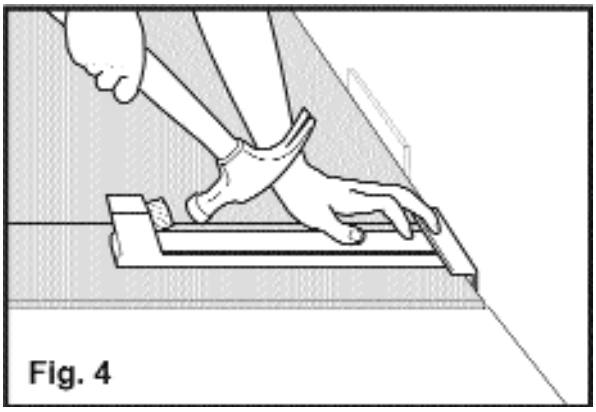


Fig. 4

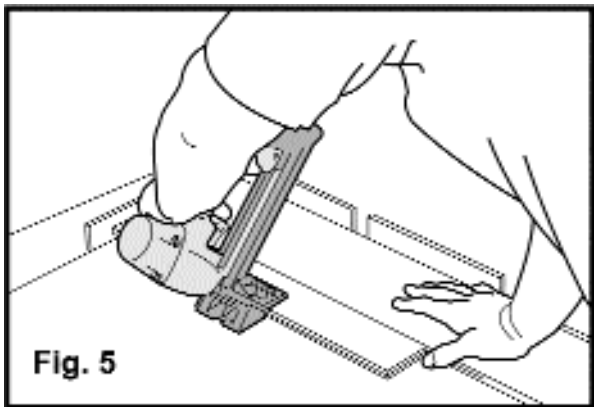


Fig. 5

Step 5 Side-nailing Second Row

After laying entire second row, side-staple boards at 8” intervals or minimum of three staples per board. Staple through tongue. Staples must be set just below surface of tongue. Adjust compressor if necessary.

Important: If side-staple must be removed after setting, use extreme caution. **DO NOT** pull side-staple straight up from tongue as edge and surface of board may be damaged.

Now move on to next row, installing as described above.

Changing Directions: If necessary to continue floor in reverse direction (e.g. through doorway), or away from groove, Kährs Spline Tongue must be used. Apply glue to groove and insert spline tongue, converting groove into tongue.

Step 6: Last Row

Since last row will generally not fit perfectly, scribe row as shown in Fig. 1.1, remembering to allow minimum 1/2” expansion gap. Interlock all seams with Last Board Puller.

Note: It may be necessary to top-staple in other areas of room where side-stapler cannot be used (i.e., doorways, tight areas where stapler cannot fit). It may also be necessary to direct-glue areas for same reason. See Glue-Down instructions for approved adhesives.

Staple-Down Installation for Studio & Mega Studio, 11 mm

After Installation

- Remove expansion shims and use required Kährs moldings and/or trim pieces to cover expansion space (Fig. C). Always nail moldings to wall, **never** to flooring.

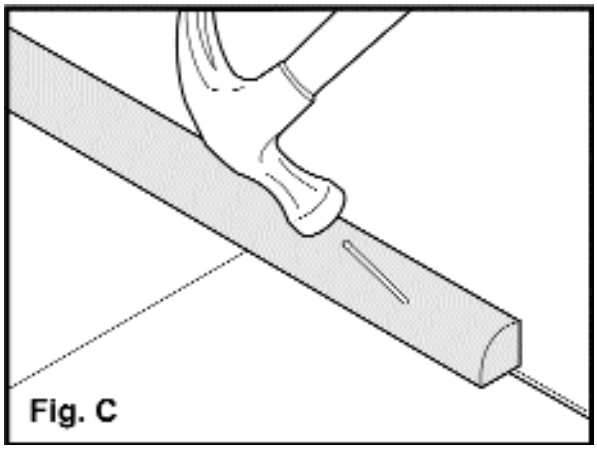


Fig. C

Maintenance

- Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use Kährs Wood Floor Cleaner for best results. Do not use oil soap or water-emulsion, self polishing waxes. **NEVER** wet mop floor. Place Peel & Stick™ Floor Protectors on furniture legs to prevent damage. See Kährs Floor Guide & Lifetime Guarantee for full details.

Recoating your Kährs or Linnea Floor

Kährs and Linnea floors can be renewed without removing the factory finish. As a floor ages, normal wear and tear will cause a floor to lose its luster. This is natural - it happens to all wood floors. To renew the luster and extend the wear layer of the Kährs or Linnea floor, recoat with water based urethane coating.

Recoating should be done when necessary. Don't wait until the finish has worn down. Call your professional flooring contractor for recommendations as soon as you see a wear pattern developing.

Preparation:

Whether coating a floor upon installation or at a later date when it begins to show wear, the following recoating procedures are recommended:

1. Kahrs recommends the BonaTech® Prep chemical bonding system for recoating all Kahrs or Linnea floors. Please contact Bona Kemi USA @ 1-800-574-4674 for product information, directions, and qualified professionals in your area.
2. Do not use water based urethane over a floor that has been waxed or oiled. If unsure, wipe a small section of the floor with a white rag dampened with mineral spirits to test for wax or coat a test area to check adhesion prior to coating the entire floor. It is imperative, regardless of the age of the floor, to test for adhesion.

Application:

Application of a waterborne finish should be done according to instructions on the product label. Important factors to consider with any urethane are:

- Shake or Stir Bottle: There will also be a sitting time to consider before using.
- Coverage/Feet per Gallon : This will dictate how heavy or thin the finish is designed to be applied.
- Dry Time: Average time before a finish can be recoated.
- Curing Time: This includes time before a floor is walked on, time before normal use, and complete cure time.

Note: To achieve a uniform look, coat the worn traffic areas first, followed by a coat over the entire floor.

Recommended finishes from Bona Kemi:

- Pacific Strong
- Traffic

Call Kahrs Technical Line (1-800-ASK-KAHR) for other compatible floor finishes.

Molding Profiles & Installation

Note: Information in table below is intended to help determine starting point for new flooring in instances where molding is not immediately available.

Profile Name	Profile #	Stop Distance*	Metric Stop Distance*
14, 15mm Reducer	30, 31	1-3/4”	47mm
14, 15mm Square Nose Reducer	32, 33	1-1/4”	30mm
14, 15mm T-Molding	34, 35	1-3/4”**	44mm
14, 15mm Overlap Stair Nosing	50, 51	2-1/8”***	54mm
15mm Flush Stair Nosing WL	52, 53	2-1/8”***	54mm
14, 15mm Flush Stair Nosing T&G	54, 55	2-1/8”***	54mm
11, 7mm Reducer	40, 41	1-3/8”	35mm
11, 7mm Square Nose Reducer	42, 43	1-1/8”	28mm
7mm T-Molding	44, 45	1-7/16”**	36mm
7mm Overlap Stair Nosing	60, 61	1-1/4”***	32mm
7mm Flush Stair Nosing WL	62, 63	1-1/4”***	32mm

* Stop Distance is the distance from the face of the new flooring to the surface that molding will transition to (see Fig A). This distance will produce a 1/8” overlap and 1/2” expansion gap. Adjust stop distance accordingly to the installation environment.

** This is the distance from the other floor of equal height.

***This is the distance from the face of the stair riser to the face of the flooring.

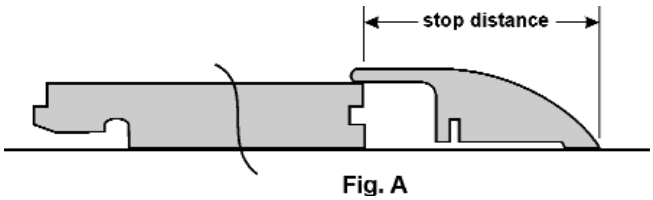
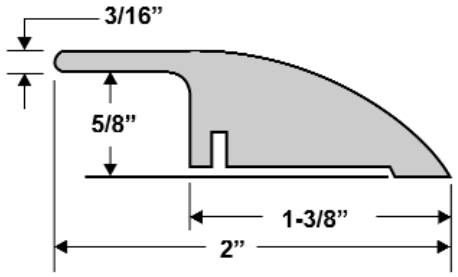


Fig. A

Molding Profiles

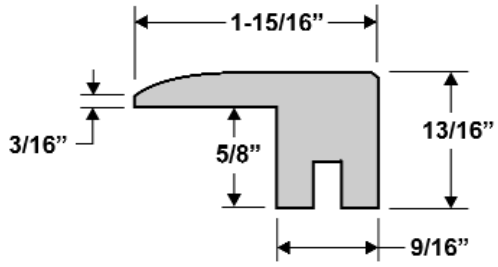
14, 15mm Reducer

Profile # 30, 31



14, 15mm Square Nose Reducer

Profile # 32, 33

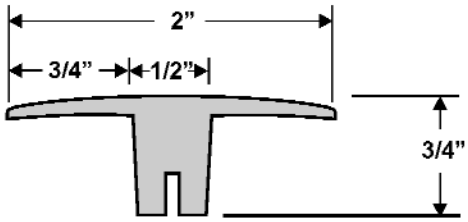


Molding Profiles & Installation

Molding Profiles

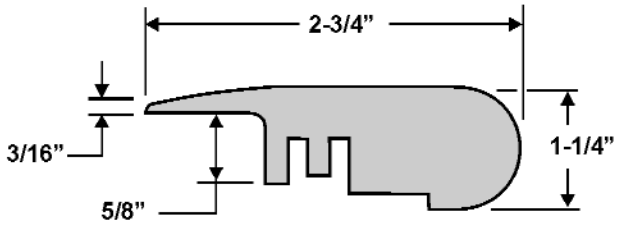
14, 15mm T - Molding

Profile # 34, 35



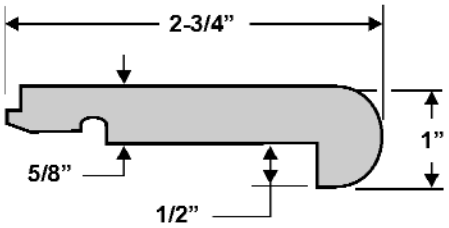
14, 15mm Overlap Stair Nosing

Profile # 50, 51



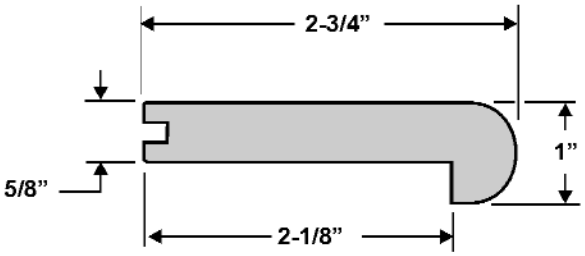
15mm Woodloc Flush Stair Nosing

Profile # 52, 53



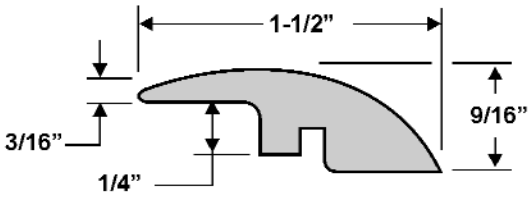
14, 15mm Tongue & Groove Flush Stair Nosing

Profile # 54, 55



11, 7mm Reducer

Profile # 40, 41



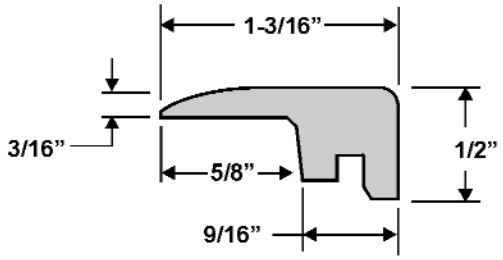
Molding Profiles & Installation

Molding Profiles

7mm Square Nose Reducer

Profile # 42, 43

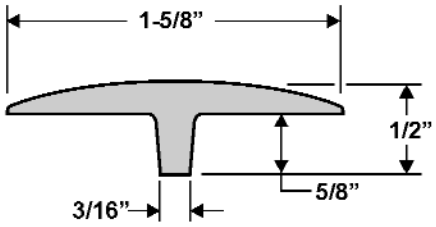
*Note: 7mm flooring is packaged with shim for 11mm floor installations.



7mm T-Molding

Profile # 44, 45

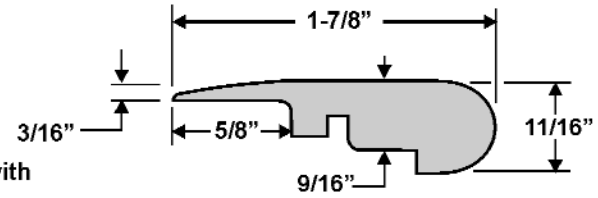
*Note: 7mm flooring is packaged with shim for 11mm floor installations.



7mm Overlap Stair Nosing

Profile # 60, 61

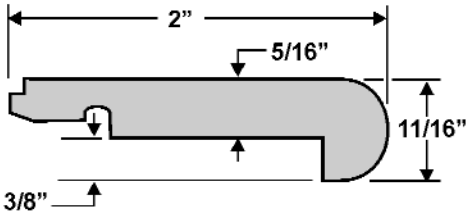
*Note: 7mm flooring is packaged with shim for 11mm floor installations.



7mm Flush Stair Nosing WL

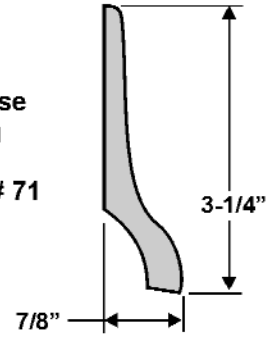
Profile # 62, 63

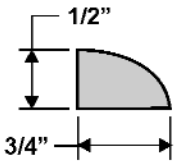
*Note: 7mm flooring is packaged with shim for 11mm floor installations.



Slim Base Molding

Profile # 71



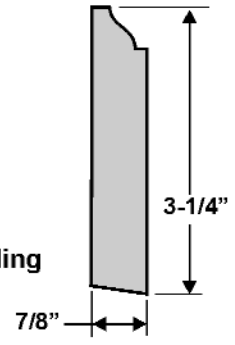


Shoe Molding

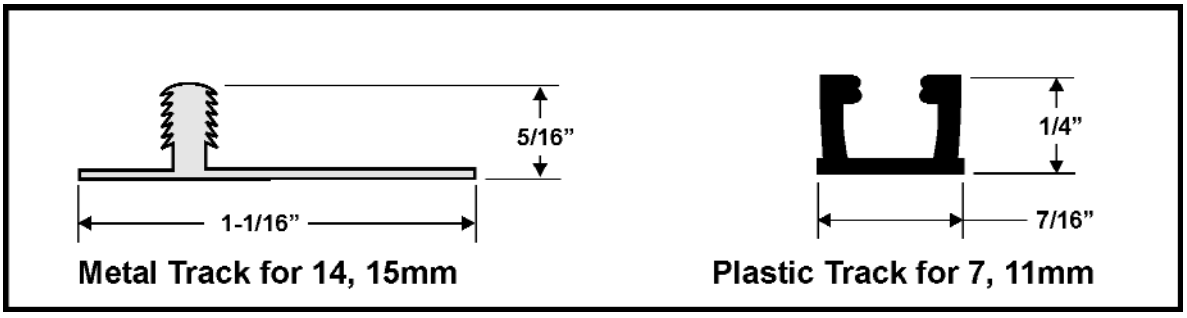
Profile # 74

Colonial Base Molding

Profile # 72



Molding Profiles & Installation



Note: All transitional moldings and overlap stair nosings must be installed via a track system. See illustrations above and instructions below.

Reducer

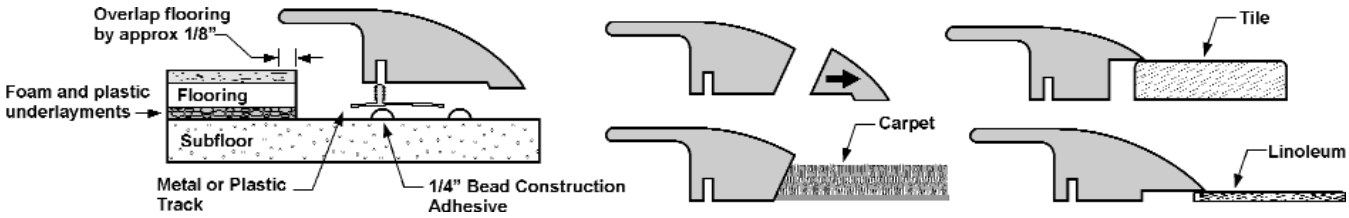
Installation:

Cut away underlayments to allow molding to be attached to subfloor. Molding should overlap flooring by 1/8", leaving the balance for the required expansion space. To attach molding, apply one or two beads of a good quality construction adhesive to molding track, and/or set track with flat head screws using pre-drilled holes in track, and then seat the track in place onto subfloor. Insert molding in track. DO NOT glue or otherwise attach overlap portion of molding to flooring. When installed the overlap portion should be flat and supported by the flooring.

Application:

The reducer is used for transitions between Kährs and Linnea flooring and vinyl, carpet and tile of lower profile.

Note: Moldings can be rip sawn or notched to create smoother transitions.



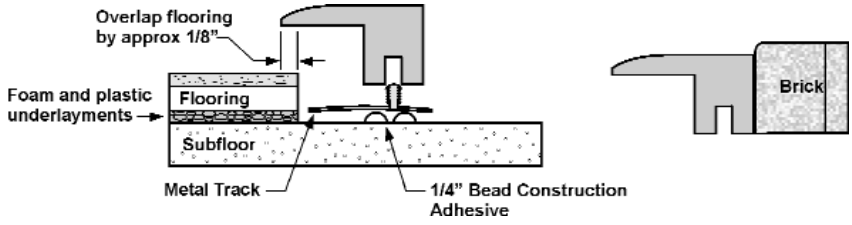
Square Nose Reducer

Installation:

Cut away underlayments to allow molding to be attached to subfloor. Molding should overlap flooring by 1/8", leaving the balance for the required expansion space. To attach molding, apply one or two beads of a good quality construction adhesive to molding track, and/or set track with flat head screws using pre-drilled holes in track,, and then seat the molding in place. DO NOT glue or otherwise attach overlap portion of molding to flooring. When installed the overlap portion should be flat and supported by the flooring.

Application:

The square nose reducer is used to conceal the expansion space when the flooring runs up to a vertical object that cannot be framed by base molding or quarter round. Examples: fireplace hearth, sliding glass doors, large thresholds.



Molding Profiles & Installation

T-Molding

Installation:

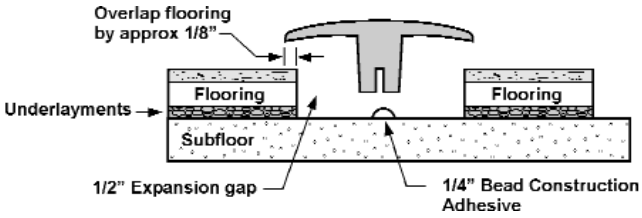
Cut away underlayments to allow molding to be attached to subfloor. Molding should overlap flooring by 1/8", leaving the balance for the required expansion space. To attach molding, apply one or two beads of a good quality construction adhesive, and then seat the molding in place. DO NOT glue or otherwise attach overlap portion of molding to flooring. When installed the overlap portion should be flat and supported by the flooring.

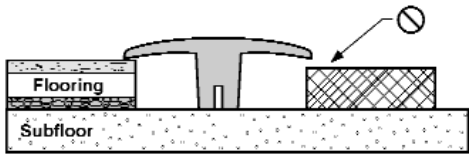
Application:

T-Molding is used to join two Kährs or Linnea floors. It is also used to provide expansion space when a floor width dimension exceeds 40 ft. or when the length dimension exceeds 120 ft.

Note:

T-Molding should not be used to span two floors that are not the same height. The overlap portion must be supported on each side.



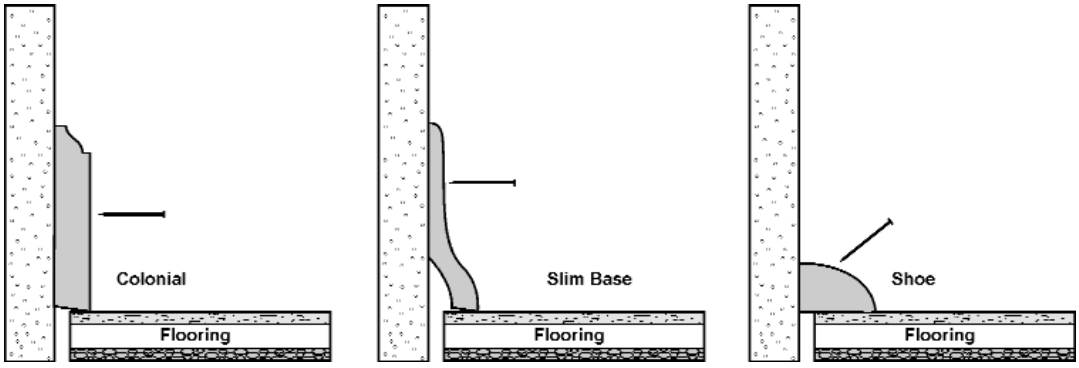


Base and Shoe Molding

Installation:

Nail or otherwise attach to the wall. Never nail Base Molding or Quarter Round directly to the subfloor.

Application: Used to conceal the required expansion space between the wall and the hard wood flooring.



Molding Profiles & Installation

Overlap Stair Nosing

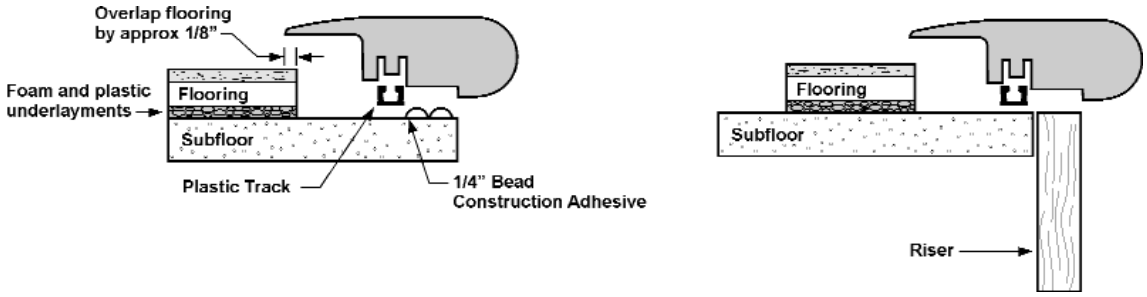
Installation:

Cut away underlayments to allow molding to be attached to subfloor. Molding should overlap flooring by 1/8", leaving the balance for the required expansion space. To attach molding, apply one or two beads of a good quality construction adhesive to molding track, and/or set track with flat head screws using pre-drilled holes in track, and seat the molding in place. DO NOT glue or otherwise attach overlap portion of molding to flooring. When installed the overlap portion should be flat and supported by the flooring.

Application:

The Overlap Stair Nosing is used as a transition piece when the flooring stops at a step-down.

Note: If a riser is to be installed to finish the step face, install the riser first to allow nosing to overlap.



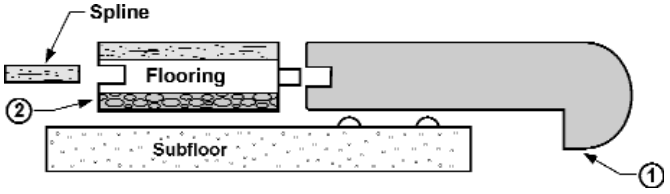
Flush Stair Nosing

Installation:

Because the Flush Stair Nosing must be interlocked with the flooring, the molding must be installed first (1). This becomes the starting "wall." The flooring will then be installed out from this point (2). If the flooring runs parallel to the nosing, you must insert Kährs spline into the groove opposite the nosing to ensure a proper installation. To attach molding apply one or two beads of a good quality construction adhesive.

Application:

The Flush Stair Nosing was designed as a transition piece for glue down and nail down installations when the floor stops at a step down.

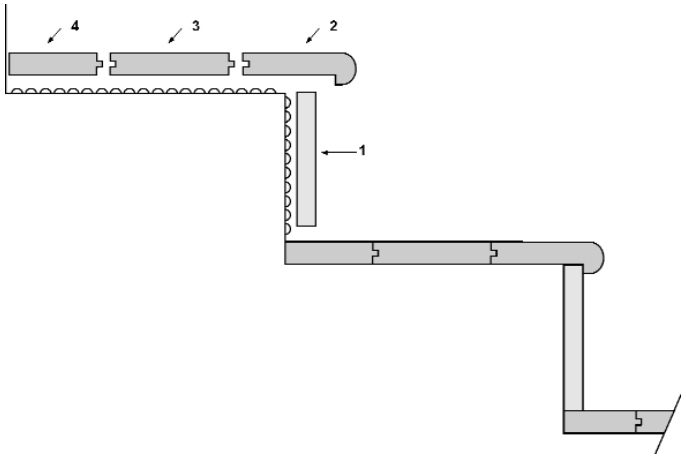


Note: By using a Kährs router bit (11mm SKU# 710291S - 14, 15mm SKU# 710291) that cuts a factory groove, you can install the Flush Stair Nose after the flooring has been installed. The last boards must be measured and cut cleanly to allow the molding to be installed properly (1).

Molding Profiles & Installation

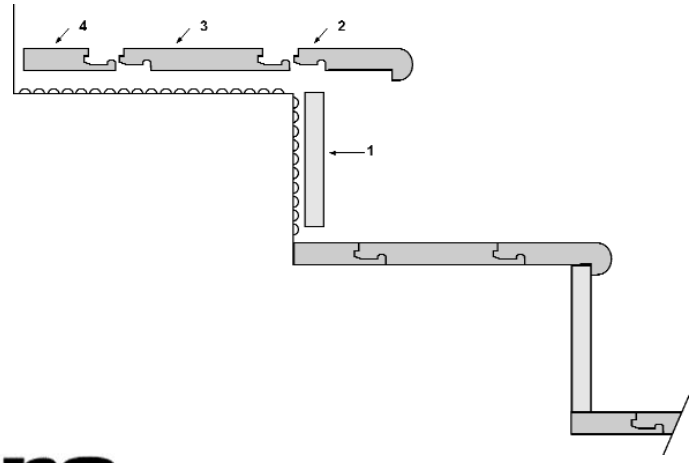
Kährs Tongue & Groove Stair Step Installation:

1. Starting from the bottom of the staircase working up, cut the stair riser to match the height of the step. The riser can be made from the Kährs flooring or other finished material.
2. The Kährs T&G Flush Stair Nosing is then installed to overlap and cover the riser.
3. Cut the Kährs flooring to length and assemble it with the Stair Nosing. The step assembly can be done first and installed as one piece if preferred.
4. To cover a standard width stair tread an additional "filler" piece of flooring must be added to the back of the full width flooring piece and stair nose assembly.
5. The Steps and Risers should be attached by direct gluing to the stair using a construction adhesive or wood mastic.



Kährs Woodloc Stair Step Installation:

1. Starting from the bottom of the staircase working up, cut the stair riser to match the height of the step. The riser can be made from the Kährs flooring or other finished material.
2. The Kährs Woodloc Flush Stair Nosing is then installed to overlap and cover the riser.
3. Cut the Kährs flooring to length and assemble it with the Stair Nosing. The step assembly can be done first and installed as one piece if preferred.
4. To cover a standard width stair tread an additional "filler" piece of flooring must be added to the back of the full width flooring piece and stair nose assembly.
5. The Steps and Risers should be attached by direct gluing to the stair using a construction adhesive or wood mastic.



Glossary of Terms

AB Gustaf Kahr - Swedish wood flooring manufacturer headquartered in Nybro, Sweden, and parent company to Kährs International. Founded in 1857, the company employs more than 2,000.

Above grade - Above ground level. A term used to describe second and third floors of a home when determining appropriate floor covering and best installation method.

Acclimation; Acclimate - The process in which seasoned lumber (hardwood flooring) is stored in the installation area to adjust to its new environmental conditions, specifically moisture and humidity.

Acrylic urethane - The major component of the Kahrs finish. The acrylic element adds strength and non-yellowing agents not found in conventional polyurethane.

Air-dried - Wood is dried by exposure to air and is not treated with artificial heat.

At grade - Also “On Grade”- On ground level. A term used to describe the first, or ground floor of a home. Indicates that perimeter walls are not submerged, but does not specify that a basement is present.

Below grade - Below ground level. A term used when determining appropriate floor covering and best installation method to describe floors or basements found beneath the first floor and imbedded in the ground. Below-grade environments generally have higher humidity levels than at- and above-grade environments.

Buckling - A condition of wood flooring caused by cupping in which individual planks swell and rise at the edges.

Butt Seam -The seam created along the short side of a Kährs or Linnea plank.

Checking - A downside of peeled veneers. After exposure to moisture, the flattened veneer tries to resume its original shape around the tree, causing cracks along the grain. Not repairable. All Kährs floors are sawn-cut, not peeled.

Combo Foam - A multi-ply underlayment that incorporates a moisture barrier and styrene particles. This one step product replaces the two part Airolen Foam + 6 mil poly system. Also age-tested, this product is sanctioned for use with Radiant heat floors as well.

Cracking - See "Checking.", a symptom of peeled veneers.

Crowning - A condition, caused by moisture imbalance, in which the center of a piece of flooring is higher than its edges across its width. (Concave)

Cupping - A condition, caused by excess exposure to moisture on the bottom of a wood piece, in which its edges are higher than its center across its width. (Convex)

Cut-off - portion of plank remaining after cutting it to fit into an installation.

End Joint Stagger - Required distance between end joints in adjacent rows.

Engineered flooring - Flooring consisting of multiple layers of wood, glued or laminated together to form a durable floor that is 75% more dimensionally stable than solid strip flooring.

Glossary of Terms

Expansion Gap - The necessary gap that separates a hardwood floor from any fixed objects like walls, door jambs, kitchen islands and exposed pipes. For Kahrs floors, expansion space must be at least ½" in normal sized rooms. In rooms with a length or width dimension larger than 25 linear ft., an additional 1/16" for every 3 ft. in excess of 25 ft. must be calculated.

Expansion - A condition of wood floors in which moisture is absorbed into the wood, causing it to enlarge or increase in size.

Expansion shims - Wood wedges used to leave ½" of expansion space on all walls and obstacles as required by Kährs Installation Guide. (Available online at www.Kährs.com)

Fillet - The wood strips that make up the surface layer of two- and three-strip plank floors and other patterns. Fillets vary in length and graining in all patterns. The fillets in Kahrs floors are 1/8" thick and are plain-sawn. Widths and lengths vary by pattern.

Flat-sawn - A form of plain-sawn wood in which the annual rings, the lines that make up wood grain, run horizontally across the height of the piece and form V -shaped cathedrals across the face or surface of the wood. Also referred to as Open Grain.

Floor Care Guide/Lifetime Guarantee - Kahrs' consumer guide to day-to-day and periodic maintenance of a Kahrs floor and the complete and official listing of Kahrs' residential warranty, including coverage, limitations and exclusions.

Glue down installation - A method of installation in which wood planks are glued, using appropriate flooring mastic, directly to the subfloor. Often done to avoid size restrictions or to reduce noise.

Glue-down knocking block - A specialized knocking block with a lip so that it can sit atop the plank being installed to avoid contacting the applied mastic. Kahrs SKU# 710281.

Grade - sorting- used to describe the sorting of fillets for our flooring. Grades range from clean to rustic and connote the consistency of graining of the individual pieces that make up the floor.

Grade- level - A term used to describe the level of a room or floor in a home or building relative to the ground (e.g. 'at grade' indicates at ground level).

Grain; Graining - Terms used to describe the arrangement of the fibers and layers of wood, Therefore the markings or texture of the finished piece.

Hardness - A rating used to describe the density and strength of a particular species of wood. Often references the Brinell test rating.

Hardwood - A term used to designate wood from broad-leafed or deciduous, trees like maple, oak and ash; it does not refer to the actual hardness of the wood.

Installation DVD - This 15-minute DVD video gives an overview of installing Kährs or Linnea floor. Not intended to replace our online Installation Guide available at www.Kahrs.com.

Kiln-dried - Wood is dried by placing it in a chamber in which temperature, humidity and air flow are regulated for maximum efficiency.

Glossary of Terms

Knocking block - A tool used to knock or tap pre finished planks together. Offers a straight, undamaged edge with which to install a Kährs tongue and groove floor without damage.

Landobond adhesive - The only approved adhesive to join tongues to grooves when installing Kahrs flooring. Required for its strength, elasticity and resistance to moisture. Freeze-thaw stable, replaces ULP glue.

Last board puller - A tool used to join pre finished planks together at the ends of each row, the last row and other hard- to-get-to areas. Also called a "jemmy," or "pull-over bar." Kährs tools are designed for our specific thickness to avoid slipping and damaging the floor during installation.

Leveling compound - Generally a latex-based material used to fill deviations in a sub floor to meet required installation specifications. Kahrs floors require no more than 1/8" variation in a sub floor in an eight-foot radius.

Long Seam - The seam created along the long side of a Kährs or Linnea plank.

Mastic - The material used in a glue-down installation to adhere wood floors to approved interior sub floors.

Medullary Rays - Strips of cells extending radially within a tree and varying in height from a few cells in some species to four or more inches in oak. The rays serve primarily to store food and transport it horizontally in the tree. On quartersawn oak, the rays form a conspicuous figure, sometimes referred to as Flecks.

Moisture content - The amount of moisture in wood expressed as a percentage of the weight of the wood. Kahrs flooring is sealed at the factory with moisture content of 7% to ease installation and ensure success of the floor.

Molding - A term used to describe a variety of trim pieces that cover expansion gaps and/or conceal the tongue and groove under-construction of wood flooring. Kahrs offers seven profiles: quarter round, base, overlap stair nosing, flush stair nosing, reducer, square-nosed reducer, and T -molding.

Nail-down installation - A method of installation in which wood planks are attached directly to a plywood sub floor with nails driven either through the top of the surface layer (top-nailing) or through the tongue of each board (side- nailing). Only side-nailing is approved for the nail-down installation of a Kahrs floor.

Natural colors - A term used to describe unstained wood species like oak, maple, ash, etc. Seventy percent of the Kahrs product line is comprised of natural colors.

On Grade- also “At Grade”. On ground level. A term used to describe the first, or ground floor of a home. Indicates that perimeter walls are not submerged, but does not specify that a basement is present.

One-strip - A plank-style flooring pattern in which one solid surface layer extends the entire width and length of the board. Kahrs' one-strip patterned floor features a micro-beveled edge to highlight its early-American, hand-crafted look. Most Kahrs one-strip floors are called London.

Overwood - A term used to describe the vertically uneven seam between two planks or strips of wood flooring with different height dimensions and/or warping.

Peel-and-Stick Floor Protectors - Circular felt pads, packaged in quantities of 12 per pack. Peel-and-Stick Floor Protectors attach to metal, plastic and other non-permeable, solid furniture legs and bases to help prevent scratching and denting wood floors.

Glossary of Terms

Peeled - See "rotary-cut.".

Perimeter - The outermost dimensions of the floor. Length x 2 + width x 2, and including any notches, curves or indents.

Plain sawn - A lumber-cutting method in which the log is cut into blocks (much like a potato is cut into French fries), producing a finer, more natural wood grain that eliminates the splitting, checking and cracking associated with peeled cuts. This is the same technique used to cut traditional solid strip flooring.

Polyethylene moisture barrier - An age-tested, 6 millimeters thick, transparent plastic sheet, used to prevent moisture from below the floor from damaging the wood flooring. Formerly used together with Kährs Airolen foam for friction protection, replaced by Combo Foam method.

Polyfilm - See "polyethylene 6 mil moisture barrier."

Polyurethane - The standard, oil-modified urethane substance used as a protective surface coating for wood flooring. Will yellow with age, altering the look of wood.

Prefinished - A term used to describe a floor on which the finish is applied at the factory, generally in a controlled environment, so that no sanding and finishing is necessary once the floor is installed. This allows the consumer to avoid hazardous fumes and chemicals and to begin using the pre finished floor up to five days sooner than an unfinished floor. All Kahrs floors are prefinished.

Racking - the pattern created when alternating the length of starting boards on a floor. Often created by using the cut-off from your first row to start the second row. Thereby staggering the butt seams through the floor. 20” racking must be maintained for Kährs 15mm flooring, 5” racking for 14mm flooring, and 12” racking must be maintained for Linnea 7mm flooring.

Radiant heat system - A subfloor system in which heating pipes are imbedded into the sub floor. A radiator pumps heated water through the pipes to warm a room. The high fluctuations in relative humidity and moisture cause by radiant heat systems prevents the installation of most wood floors. Kahrs floors are approved and guaranteed for radiant heat applications.

Relative humidity - The ratio of the amount of moisture present in the air at a certain temperature to the amount it would be able to hold at that temperature. Optimum RH for Kährs flooring is 30-60%.

Rotary-cut - A method of cutting veneer in which the log is peeled like a roll of paper towels. Wood flooring cut this way resembles plywood and often tries to return to its original shape, causing checking on the surface layer. Also called "peeled cut” .

Router bit - A router bit specially designed to cut a perfectly-matched factory groove into the tongue and flat sides of a plank in order to reverse directions in the installation of a Kahrs floor. Kahrs SKU #BIT.

Short Seam - See “Butt Seam”.

Sliced - See “plain sawn.

Slip tongue - A spline or small strip of wood used to reverse or change direction while installing standard tongue-and- groove wood flooring. Used in conjunction with Kährs router bit.

Glossary of Terms

Specialist Repair Kit - A comprehensive, professional repair kit that contains the instruction, tools and products necessary to perform major repairs to Kahrs flooring.

Softwood - A term used to designate wood from coniferous, or cone-bearing trees, like pine and fir; it does not refer to the actual hardness of the wood.

Solid strip flooring - Generally made of oak, solid strip flooring is usually 3/4" thick by 2 1/4" wide with a tongue-and- groove construction. Solid strip flooring must be nailed to a plywood sub floor for stability.

Subfloor - Usually plywood or concrete, the base floor over which, after proper preparation (including leveling, sealing, etc.), a surface floor is installed.

Surface layer - See “Wear Layer”.

Three-strip - A flooring pattern that most resembles traditional solid strip flooring in which the surface layer is made up of three fillets across the width of the plank. The most popular flooring pattern sold by Kahrs.

Tongue & groove - The standard construction used to join wood flooring.

Touch-up Kits - Available in six colors to match all Kahrs products, Kahrs Touch-up Kits are consumer-friendly minor repair kits that include filler pencil, touch-up marker and clear finish.

Two-strip - A flooring pattern in which the surface layer is made up of two fillets across the width of the plank. Kahrs two-strip floors are called Glasgow and Genua.

Unfinished - A term used to describe a floor on which the finish must be applied on-site after installation.

UV-cured - Dried with ultra-violet light for a harder finish.

Veneer - A thin surface layer, usually rotary-cut into sheets before application. Kährs plain-saws the veneers used in Linnea flooring for beauty and performance.

Warping - Any distortion of a piece of flooring from its true plane.

Water table - Water beneath the surface of the soil which can rise and fall with varying environmental conditions.

Wear layer - In Kahrs floors, the 1/8" solid, pre finished, plain-sawn top layer that is laminated to two under-layers to form a plank. Can be one of eleven species and is usually comprised of fillets across the width of the plank onto which it is laminated. Sometimes called Surface Layer.

Windshake - A fracture that develops in the medallion rays. Not detectable at the time of manufacturing and is considered a natural phenomenon of wood. Kährs does accept windshake repairs although they are not product defects.

Wood Cleaner - Kährs - cleaning product specifically designed to clean wood floors with acrylic urethane or polyurethane finishes. Kährs Wood Cleaner leaves no residue.

Woodloc - A patented milling profile that allows our wood flooring to lock together without glue. This makes for easy installation with perfect results, every time.