



K

Kentwood Installation Instructions

PLEASE READ THESE INSTRUCTIONS COMPLETELY BEFORE BEGINNING THE INSTALLATION

Kentwood engineered hardwood floors must be installed in accordance with the following instructions.

Failure to do so may void the product warranty.

PRODUCT USE & INSTALLATION OPTIONS

Note: kentwood's cascades, revelation and monument collections have installation instructions specific to each collection. If installing a product from one of these collections please visit kentwoodfloors.com and download the appropriate instructions or contact technical services at the numbers below

Kentwood engineered hardwood floors are for indoor use in residential and light commercial applications. They should not be installed in 'wet rooms' that are exposed to dampness or high heat and humidity on a regular basis (eg: full bathrooms, laundry, sauna, sunroom).

In commercial applications, Kentwood engineered hardwood floors may be used in locations where light to moderate customer traffic is expected, including but not limited to cafes, salons, boutiques etc.

This floor may be installed:

In commercial applications, Kentwood engineered hardwood floors may be used in locations where light to moderate customer traffic is expected, including but not limited to cafes, salons, boutiques etc.

Kentwood engineered hardwood floors may be installed:

- On, above or below grade
- Over OSB, plywood or concrete subfloor
- Over compatible in-floor radiant heat systems* (*Some exceptions apply – please see Radiant Heat section for details)

Installation options differ by product; please see Installation section for details. The use of a certified installer is recommended for all installations.

We recommend every installation be documented for reference and confirmation of installation procedures. An Installers' Checklist form is appended to these instructions for your convenience.

For Technical Assistance in Canada, please call: 1-800-992-3163

For Technical Assistance in the USA, please call: 1-800-851-3841

or email techserv@metrofloors.com

PRODUCT USE & INSTALLATION OPTIONS.....	2
PRODUCT INSPECTION & SITE PREPARATION	4
Installer's / Customer's Responsibility	4
Site Preparation	4
Radiant Heat Systems	5
Climate Control.....	5
Subfloor Preparation	6
Moisture Content.....	7
Racking / Color Sorting	7
Expansion Space.....	7
Installation Methods Chart.....	8
NAIL DOWN INSTALLATION.....	9
Fasteners & Nailing Schedule	9
Nail-Down Installation - No Glue Assist	10
Nail-Down Installation - Glue Assist	11
GLUE DOWN INSTALLATION	13
FLOATING INSTALLATION	15
AFTER INSTALLATION.....	17

PRODUCT INSPECTION & SITE PREPARATION**INSTALLER'S / CUSTOMER'S RESPONSIBILITY**

It is the responsibility of the installer and/or customer to ensure that the Kentwood product meets or exceeds their expectations for visual appearance and manufacturing quality.

Because Kentwood floors are made from real wood, every piece of Kentwood flooring will have a unique appearance, often with naturally-occurring variations in color, texture and grain pattern. Showroom samples and photographic reproductions may not represent the full range of color, texture and grain variations which can occur in the product itself, nor may they indicate the presence of filled knots and grain in some products. It is strongly recommended that, prior to commencing installation, the customer and installer open several boxes of product and loose lay the boards on the floor. Examine the product carefully to ensure that it meets the customer's expectations for appearance, color and visual character and quality before proceeding with the installation.

If the visual appearance or manufacturing quality of the product is deemed unacceptable, it should not be installed. Flooring that has been installed will be deemed to have been inspected and accepted by the installer and customer, even if the customer is not present at the time of installation.

Kentwood floors are manufactured in accordance with accepted industry practices which permit a defect tolerance not to exceed 5% of the total quantity. These defects may be the result of manufacturing or naturally occurring characteristics of the material. Filled knots and grain are not considered defects. It is

recommended that a minimum 5% cutting or grading allowance be added to the total square footage when calculating the quantity of flooring required. Boards that are judged to be defective should not be installed or should be installed in an inconspicuous location where they will not be noticeable (eg inside a closet).

SITE PREPARATION

It is the sole responsibility of the installer to ensure that the job site, subfloor and installation tools and materials meet or exceed these instructions and any applicable industry standards. Kentwood accepts no responsibility for problems arising from incorrect or improper site preparation or installation procedures.

INSTALLATION IN NEWLY-CONSTRUCTED HOME

Installation of hardwood flooring should be one of the last jobs to be done in a new home construction. Prior to installing a hardwood floor, the following conditions must be met:

- The building is completely enclosed with all outside doors and windows in place and securable, including a door from an attached garage to house interior
- All concrete, masonry, plastering, drywall, texturing, painting, tiling and other wet work is complete and fully dry and cured
- Basements must be dry, within recommended temperature and humidity ranges, with no standing water and adequate cross-ventilation in accordance with NWFA guidelines
- Crawlspace must be dry, with no standing water and adequate cross-ventilation in accordance with NWFA guidelines. Exposed earth crawlspaces must also have a vapor retarder (ASTM D 1745 Standard) installed to NWFA guidelines
- Gutters and downspouts are in place, directing water away from the building
- Landscaping is directing water away from the building
- HVAC systems are fully operational, enabling heat and humidity levels to be controlled and maintained throughout the home, and have been operating for a minimum of 5 days prior to installation

PRODUCT INSPECTION & SITE PREPARATION

- Subfloor is prepared for installation in accordance with these instructions
- If installing over radiant heat, ensure that the system is in full working order and has been fully tested and running for a minimum of two weeks prior to installation. The system should be turned off for 24 hours prior to installation in the install zone.

INSTALLATION IN EXISTING HOME (RENOVATION)

Installation in an existing home must meet the same conditions as a new home. If part of a larger remodeling project, ensure that all wet work (painting, wallpapering, texturing, etc.) is completed and thoroughly dry before commencing flooring installation. In addition:

- Remove all furniture, artwork and other valuables from installation area
- Remove baseboards and moldings
- Undercut door casings and jambs. Use a piece of the flooring (and underlay if applicable) as a depth gauge
- Remove existing flooring, if necessary

RADIANT HEAT SYSTEMS

Kentwood engineered hardwood floors are suitable for installation over compatible in-floor radiant heat systems with the exception of Acacia products: Acacia hardwood is not suitable for use over radiant heat. Installation of an Acacia floor over radiant heat will void the product warranty.

It is the homeowner's responsibility to determine if the radiant heat system being considered is compatible for use under the floor being installed. We recommend that the homeowner contact the system manufacturer and get written confirmation that the system is approved for use with hardwood flooring and under what operating conditions. If you are unable to obtain this information, please contact the Kentwood Technical Services Team at techserv@metrofloors.com.

Prior to installation, ensure that the radiant heat system is in full working order and has been fully tested and running for a minimum of two weeks. The system should be turned off for 24 hours prior to installation in the install zone.

After installation, Kentwood recommends that the surface temperature of the floor never be allowed to exceed 82°F (28°C) and that changes in temperature be moderated in increments of 5°F (2°C) to avoid 'shocking' the floor.

Where possible, we recommend the use of a data logger to monitor and record temperature and humidity conditions; this provides a record of the environmental conditions and may also help take preventive measures where conditions are outside of recommended levels.

CLIMATE CONTROL

Kentwood flooring is made from real wood, and like any wood product it will react to changes in the environment. Please pay special attention to instructions regarding site acclimation, expansion space and temperature and humidity levels.

Conditions at the job site must be maintained with the temperature between 60-80°F (15 - 26°C) and humidity at 30-50% before, during and after the installation to ensure proper performance of the floor.

In areas with extreme climate conditions it may be necessary to use humidifiers or dehumidifiers to ensure the humidity is kept within the recommended range.

PRODUCT INSPECTION & SITE PREPARATION

Flooring material should not be delivered to job site until these conditions have been met and maintained for five days prior to installation. Following installation, these conditions should be maintained at all times to ensure proper performance of the floor. See Warranty for details.

When flooring has been delivered to the jobsite, leave the boxes closed until ready to commence the installation, and then open only as needed.

SUBFLOOR PREPARATION

The general contractor and /or homeowner is responsible for ensuring the subfloor is sound, clean, dry, flat and properly prepared for installation. The installer is responsible for inspecting the subfloor and ensuring that it meets the required standards for installation. Installers may make minor corrections for levelling, cleaning and surface preparation but any major structural, moisture, surface contamination or other substrate issues must be remedied by the contractor / homeowner prior to the installation proceeding.

All subfloors must be flat, clean, dry, structurally sound, and free of squeaks and protruding fasteners. The subfloor must be flat to within 3/16" over 10 feet, or 1/8" in 6 feet radius.

Plywood or OSB subfloors must meet the minimum acceptable thickness as determined by the truss/ joist spacing.

Truss/joist spacing. (Measured on center)	Minimum acceptable thickness, 4' x 8' sheets
16" or less (406mm)	<ul style="list-style-type: none"> 5/8" (19/32", 15.1mm) CD Exposure 1 Plywood or 23/32" Exposure 1 OSB
16" - 19.2" (406 - 488mm)	<ul style="list-style-type: none"> 3/4" (23/32", 18.3mm) T&G CD Exposure 1 Plywood, glued and mechanically fastened, or 3/4" (23/32", 18.3mm) Exposure 1 OSB, glued and mechanically fastened
19.2" - 24" (488mm - 610mm)	<ul style="list-style-type: none"> 7/8" T&G CD Exposure 1 Plywood, glued and mechanically fastened, or 7/8" Exposure 1 OSB, glued and mechanically fastened or

In addition to meeting or exceeding the minimum acceptable thickness requirement, the subfloor must be secure to the joists and free of squeaks and protruding fasteners. Subfloor moisture content must not exceed 12% based on a minimum of 20 tests per 1000sf and the variance in moisture content between the subfloor and the flooring boards must not exceed 3 percentage points.

Concrete subfloors must be fully cured (minimum 30 days) and have been tested for moisture content using one of these recognized tests:

ASTM F2170 – RH Probe Test: maximum allowable limit of relative humidity within the slab is 75% or,

ASTM F1869 – Calcium Chloride Test: the moisture vapor emissions rate (MVER) should not exceed 3lbs / 1000 sq/ft per 24 hours.

If these conditions cannot be met, further curing or a moisture control system (vapor retarder or membrane) will be required.

The slab must be dry, clean and free of non-compatible sealers, waxes, oil, paint, drywall compound, or other bond-breaking substances which may compromise the adhesive bond. (Check for the presence of sealers by applying drops of water to the slab. If the water beads up, there may be sealers or oils.)

PRODUCT INSPECTION & SITE PREPARATION

Gypsum-based concrete (eg Gypcrete) subfloors must meet concrete manufacturer's recommendations for dry, cured conditions.

MOISTURE CONTENT

All wood flooring must be tested for moisture content prior to installation to ensure moisture content is within allowable limits. When ready to commence installation, open several boxes of product and test and record moisture content of the flooring using a reliable and accurate moisture testing device. Wood flooring should have a moisture content between 6 and 9%.

Note: when testing engineered hardwood flooring for moisture, use a pin-type meter and probe only the lamella (top veneer). Probing into the plywood core may pick up glue and skew the readings.

Guard against long term exposure to moisture by installing appropriate vapor retarders where required and channeling water away from building.

Kentwood assumes no responsibility for installation failures associated with unaddressed site conditions including but not limited to vapor transmission, moisture permeation, improper pH levels, contaminated concrete, or

damaged subfloors. Responsibility for ensuring subfloor acceptability and compatibility resides with the installer. Note that tests done at time of installation do not guarantee long term performance of substrate.

RACKING / COLOR SORTING

Real wood flooring contains natural variations in color and grain pattern. In order to prevent color clustering or repetitive grain patterns in the finished floor, it is recommended that boards be racked (visually sorted) before installation to create a satisfactory and pleasing color arrangement. Immediately prior to installation, unpack several cartons to get a sense of the range of color variation and arrange the planks to achieve a satisfactory appearance.

When racking, inspect all boards for visible manufacturing defects. Boards with manufacturing defects in excess of industry standards (5% of total quantity) may be replaced by the dealer under the terms of the

product warranty. Once installed, boards will be considered to have been accepted by the customer and will not be eligible for replacement. See Warranty for details.

When racking, distribute lengths where possible. Avoid 'H' patterns, stair-steps and other discernible patterns in adjacent rows. When racking, a general rule is to stagger the end joints by a minimum of double the board width (e.g. for boards 5" / 125mm wide stagger joints a minimum of 10" / 250mm).

For products 3" to 5" (8 – 13cm) in width do not use boards of less than 6" (15cm) in length.

For products over 5" (13cm) in width do not use boards of less than 12" (30cm) in length.

EXPANSION SPACE

Wood flooring will expand and contract with changes in ambient temperature and humidity. To allow for this, during installation leave a 1/2" expansion space around the entire perimeter of the

PRODUCT INSPECTION & SITE PREPARATION

floor between the flooring and the walls. Also leave expansion space where the flooring will meet any vertical obstruction, such as stairs, pipes, door sills, tiles, cabinets etc.

INSTALLATION METHODS CHART

Collection	Nail-Down	Full-Spread Glue	Float
Avenue	Yes	Yes	Yes
Badlands	Yes	Yes	Yes
Bohemia	Yes	Yes	Yes
European Plank	Yes	Yes	Yes
Heirloom Engineered	Yes	Yes	Yes
Milltown	Yes	Yes	Yes
Moraine	Yes	Yes	Yes
Plateau	Yes	Yes	Yes
Progressives	Yes	Yes	No
Regency	Yes	Yes	Yes
Tundra	Yes	Yes	Yes
Urban	Yes	Yes	Yes

NAIL DOWN INSTALLATION

It is common for nailed down hardwood floors to make some noise when walked on, or when the floor is adjusting to seasonal changes in heat and humidity. This will occur even when the correct nailing schedule and fasteners are

used. The National Wood Flooring Association (NWFA) acknowledges that some minor noise in a nailed-down hardwood floor should be considered normal.

Where applicable, the use of 'glue-assist' procedures during nail down installation may help minimize or even eliminate such noise.

Wide plank floors are not well suited to nail-down installation. Even when the recommended nailing schedule is followed, due to the width of the material there remains a considerable area over which the flooring has no attachment to the subfloor. For that reason, when installing wide plank engineered flooring with a nail-down procedure, Kentwood:

Recommends using a glue-assist procedure for products between 4¾" (120mm) and 7" (180mm) in width, and

Requires using a glue-assist procedure for products over 7" (180mm) in width

Failure to use a glue assist where it is a requirement will void the product warranty. Full glue-assist instructions are included below.

When installing hardwood flooring with nail-down, it is essential that the manufacturer's guidelines for fastener selection and nailing schedule for the product are followed (see chart below). It is the installer's responsibility to ensure that fastener selection and nailing patterns are aligned to the manufacturer's specifications.

FASTENERS & NAILING SCHEDULE

COLLECTION	FASTNER TYPE	GAUGE	LENGTH	SPACING	DISTANCE FROM ENDS	NOTES
Avenue	Cleat	18	1-3/4"	4 to 6"	1 to 2"	glue assist recommended
Badlands	Cleat	18	1-3/4"	4 to 6"	1 to 2"	glue assist recommended
Bohemia	Cleat/Staple	16	2"	4 to 6"	1 to 2"	glue-assist & end-glue required
European Plank	Cleat/Staple	16	2"	4 to 6"	1 to 2"	glue-assist & end-glue required
Heirloom Engineered	Cleat/Staple	16	2"	4 to 6"	1 to 2"	glue assist recommended
Longstrip	Cleat/Staple	16	2"	4 to 6"	1 to 2"	glue-assist & end-glue required
Milltown	Cleat	18	1-3/4"	4 to 6"	1 to 2"	glue assist recommended
Moraine	Cleat	18	1-3/4"	4 to 6"	1 to 2"	glue assist recommended
Plateau	Cleat	18	1-3/4"	4 to 6"	1 to 2"	glue-assist & end-glue required
Progressives	Cleat/Staple	16	2"	4 to 6"	1 to 2"	glue assist recommended
Regency	Cleat/Staple	16	2"	4 to 6"	1 to 2"	glue-assist & end-glue required
Tundra	Cleat	18	1-3/4"	4 to 6"	1 to 2"	glue assist recommended
Urban	Cleat	18	1-3/4"	4 to 6"	1 to 2"	glue assist recommended

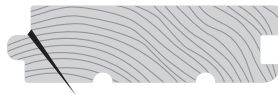
NAIL DOWN INSTALLATION

Nail down installation requires three different nailing systems:

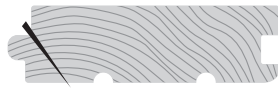
- a pneumatic or manual blind-nailer
- a pneumatic finish-nailer
- a brad nailer for top-nailing

Prior to beginning installation, installers are advised to test-nail a couple of pieces of flooring to ensure the nailer/fastener combination is providing a satisfactory result, and to ensure issues such as “dimpling” and “edge-splintering” are not occurring.

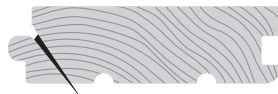
Correct Nail Depth



Incorrect Nail Depth | Protruding



Incorrect Nail Depth | Too Deep



NAIL-DOWN INSTALLATION - NO GLUE ASSIST

Ensure plywood subfloor is suitable and properly prepared. Verify moisture content of both subfloor and flooring is within allowable limits before commencing installation. Open several packages of flooring and rack and inspect boards. (See Racking, above.)

If the installation is over an unheated crawlspace, basement or exterior space (eg: above a carport) a Class II Perm-rated vapor retarder must be placed over the entire subfloor. Kentwood recommends Aquabar-B or equivalent. Wax paper is not an approved vapor retarder. Install according to underlay manufacturer’s instructions.

Set the first row of boards in place. If required, snap a chalk guideline on the surface of the vapor retarder to act as a guide. If starting the installation against a wall, place boards with the groove side facing the wall and remember to allow expansion space.

Top nail along the groove edge with the brad nailer using minimum 18g 1½” fasteners set 10 to 12” apart, with a fastener 1 to 3” from each end of each board. Keep the nailer perpendicular to the direction of the flooring and set nails no less ¼” in from the edge of the board.

Using a pneumatic finish nailer, blind nail along the tongue edge at a 45° angle. Follow the nailing schedule specified above, spacing the specified fasteners as indicated. Ensure a fastener is placed as indicated near the end of each board.

At the end of the row, cut a board to fit, allowing ½” expansion space.

It is a common practice among some installers to use a ‘full spread glue down’ on the first and last few rows of a nail down installation in order to avoid top nailing. This practice is not approved

by Kentwood for any nail down installation. Any use of full spread glue down on first and/or last rows within a nail down installation will void the product warranty.

NAIL DOWN INSTALLATION

Set the second row in place and set the tongue and groove joints. Use offcuts if lengths are suitable and stagger end joints as required. When placing boards, engage the tongue of the incoming board with the previous row and snug the joint tight by pushing or by gently tapping with a rubber mallet and tapping block. Do not strike boards directly with a rubber mallet or other tool as damage to the joint and finish may result.

Nail the second row in place using the pneumatic or manual blind-nailer. Use fasteners and nail spacing as specified for the product (page #).

Continue with subsequent rows. To avoid a repetitive or predictable board patterns, cut some boards to random lengths to begin rows. Open new packages several at a time and rack and inspect boards as described above. Ensure 1/2" expansion space is maintained at all perimeter walls and other vertical obstacles. Maintain nailing schedule and keep end joints staggered as described above.

In the last couple of rows, there may not be space to use the nail gun, so revert to using the finish nailer as before, blind nailing through the tongue. For the final row, measure the gap to the wall, allowing expansion space, and rip a row of boards to the required width. Top nail the final row into place using brads or finishing nails placed 1/4" in from the edge. Install moldings and transitions as required.

NAIL-DOWN INSTALLATION - GLUE ASSIST

This installation procedure is

Recommended for products between 4¾" (120mm) and 7" (180mm) in width, and

Required for products over 7" (180mm) in width

The purpose of a glue-assist procedure is to use adhesive to bond the floorboard to the substrate as a secondary source of fastening in addition to the nails or cleats. The glue is applied to the underside of the board and provides more widespread adhesion to the substrate.

When installing floors over 7" (180mm) in width, it is also required that the end joints be glued. Products requiring this additional procedure are indicated in the chart above. Use a non-crystallizing floating floor adhesive applied to the bottom of the groove.

Failure to follow instructions for 'glue assist' and 'glued end joints' may result in excessive floor noise and possible loosening of boards over time. These are not product defects and are not covered by the product warranty. The National Wood Flooring Association (NWFA) acknowledges that some minor noise in a nailed-down hardwood floor should be considered normal.

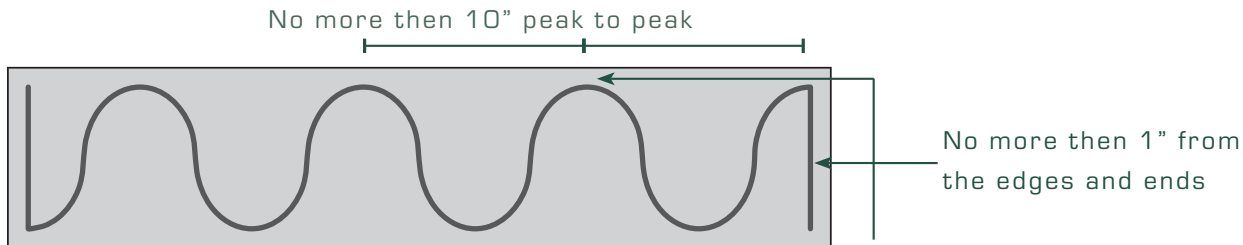
Ensure plywood subfloor is suitable and properly prepared, paying special attention to the cleanliness of the substrate, which must be free of debris to ensure a good bond with the adhesive. Verify moisture content of both subfloor and flooring is within allowable limits before commencing installation. Open several packages of flooring and rack and inspect boards. (See Racking, above.)

The glue-assist procedure precludes use of a vapor retarder as is typically required in some nail down installations. If the installation is over an unheated crawlspace, basement or exterior space (eg: above a carport) where a Class II Perm-rated vapor retarder would be required, consider applying a roll-on liquid moisture barrier to the subfloor prior to installation. Contact techserv@metrofloors.com for more information.

Prepare to set the first row of boards in place along the starting wall. If required, snap a chalk guideline to act as a guide. If starting the installation against a wall, place boards with the groove side facing the wall and remember to allow expansion space.

NAIL DOWN INSTALLATION

Prior to setting each board in place, apply adhesive to the underside. Use an elastomeric adhesive designed for hardwood flooring installation (eg Ultrabond Sausage Tube). Apply a bead of adhesive directly to the back of the individual boards as shown. Do not apply adhesive directly to the subfloor. If required, apply non-crystallizing floating floor adhesive to the grooved end joint as well.



Set the board in place carefully, taking care not to push it into place any more than necessary to avoid smearing the adhesive. When set in position, top nail along the groove edge with the brad nailer using minimum 18g 1½" fasteners set 10 to 12" apart, with a fastener 1 to 3" from each end of each board. Keep the nailer perpendicular to the direction of the flooring and set nails no less 1/4" in from the edge of the board.

Using a pneumatic finish nailer, blind nail along the tongue edge at a 45° angle. Follow the nailing schedule specified above, spacing the recommended fasteners as indicated. Ensure a fastener is placed as indicated near the end of each board.

At the end of the row, cut a board to fit, allowing 1/2" expansion space

It is a common practice among some installers to use a 'full spread glue down' on the first and last few rows of a nail down installation in order to avoid top nailing. This practice is not approved

by Kentwood for any nail down installation. Any use of full spread glue down on first and/or last rows within a nail down installation will void the product warranty.

Prepare the second row of boards. Use offcuts if lengths are suitable and stagger end joints as required (see above). Apply adhesive in the same manner as before to each board and carefully set into place. Hold the board at a 45° angle and engage the tongue and groove joint, then lower the board onto the subfloor. Snug the joint tight by pushing or by gently tapping with a rubber mallet and tapping block. Do not strike boards directly with a rubber mallet or other tool as damage to the joint and finish may result. Avoid pushing boards into place more than necessary to avoid smearing the adhesive. Nail the second row in place using the pneumatic or manual blind-nailer. Use fasteners and nail spacing as specified for the product.

Continue with subsequent rows using the same method. To avoid a repetitive or predictable board patterns, cut some boards to random lengths to begin rows. Open new packages several at a time and rack and inspect boards as described above. Ensure 1/2" expansion space is maintained at all perimeter walls and other vertical obstacles. Maintain nailing schedule and keep end joints staggered as described above.

In the last couple of rows, there may not be space to use the nail gun, so revert to using the finish nailer with glue assist as before, blind nailing through the tongue. For the final row, measure the gap to the wall, allowing expansion space, and rip a row of boards to the required width. Top nail the final row into place using brads or finishing nails placed 1/4" in from the edge. Install moldings and transitions as required.

GLUE DOWN INSTALLATION

Glue down installation is the recommended installation method for all wide-plank floors. We recommend that it only be performed by professional wood flooring installers.

Ensure subfloor is suitable and properly prepared. Verify moisture content of both subfloor and flooring is within allowable limits before commencing installation.

If installing over radiant heat, please review the Radiant Heat section in Part 1 for further instructions.

Select the starting point for the installation and snap a chalk line and / or install a guide strip to ensure the first row of flooring is installed perfectly straight and, if relevant, parallel to starting wall, cabinetry, tile etc.

Use a moisture-cured urethane adhesive specially formulated for wood flooring installation. Kentwood recommends Pro Series 3089 urethane adhesive or Timberbond MS adhesive. For trowel selection, adhesive application and all other aspects of adhesive usage, follow the adhesive manufacturer's instructions.

Open several packages of flooring and rack and inspect boards. (See Racking, above.)

Apply adhesive evenly to the subfloor and set first row of boards in place along the chalk line or guide strip with the groove facing outwards, towards the installer.

Leave 1/2" expansion space between the end of the first board and the wall. At the end of the row, cut a board to fit, ensuring board length is not less than minimum specified. Allow 1/2" expansion space to end wall. If desired, use offcut to begin next row.

Set subsequent rows working away from starting point. When installing new boards, avoid pushing them into place across the subfloor as this may unevenly redistribute the adhesive. Instead, hold the new board above the subfloor at an angle, engage the tongue into groove joint, then press the board directly down onto the subfloor.

Ensure no glue is forced into tongue & groove joints during installation as this may affect the fit of the joint. Avoid getting adhesive on the flooring surface, and clean up any excess glue immediately according to adhesive manufacturer's instructions.

To prevent boards shifting after they have been set into place, tape them with low adhesion delicate surface masking tape, such as 3M Scotch-Blue™ 2080 or Yellow Low-Adhesion Frog Tape®. Do not use regular masking tape as it may leave a residue of adhesive on the surface. Be sure to remove the tape at the end of each workday; do not leave it on the floor overnight. Under no circumstances should the tape be left on the floor for longer than 12 hours, as damage to the finish may result. Remove the tape slowly and carefully, pulling it away from the floor at a 45° angle.

Continue with subsequent rows. To avoid a repetitive or predictable board pattern, cut some boards to random lengths to begin rows. Open new packages several at a time and rack and inspect boards as described above. Use offcuts if lengths are suitable and stagger end joints as required (see above). Ensure 1/2" expansion space is maintained at all perimeter walls and other vertical obstructions.

Complete the installation to the far wall. For final row, rip boards to required width (allowing 1/2" expansion space at far wall). Remove the guide strip from the starter row and complete the last ten rows back to the starter wall.

When installation is complete, remove tape. Install moldings and transitions as required.

Wait 24 hours or until the adhesive has fully cured before moving furniture or appliances onto floor or before allowing heavy foot traffic. Wait 24 hours before applying a floor protection membrane.

GLUE DOWN INSTALLATION

If the flooring was installed over a radiant heating system, wait 24 hours after installation or until the adhesive has fully cured before turning the system back on. Bring the temperature of the system up gradually, in 5°F (2°C) increments per day. Never allow the surface temperature of the floor to exceed 80°F (26°C) and avoid dramatic temperature changes; always adjust the system gradually in 5°F (2°C) increments per day.

FLOATING INSTALLATION

If installing a floating floor in a single room greater than 30' x 40' (9m x 12m), special installation measures may be required. Please

contact Technical Services for more information at techserv@metrofloors.com or the toll free numbers on page 1 of this document.

Ensure subfloor is suitable and properly prepared. Verify moisture content of both subfloor and flooring is within allowable limits before commencing installation.

If installing over radiant heat, ensure that the radiant heat system is in full working order and has been fully tested and running for a minimum of two weeks prior to installation. The system should be turned off for 24 hours prior to installation in the install zone.

All floating floor installations require that an underlay be installed over the subfloor before laying the floor itself. Some installations may require the installation of an additional vapor barrier in addition to the underlay.

If the flooring is being installed on a plywood or OSB subfloor that is over a crawlspace or below ground level, a vapor retarder with a permeance rating 0.7 – 10 (as per NWFA guidelines), must be installed. Many underlay products include an integral vapor retarder that meets this specification (eg ProSeries Kombo, minimum permeance rating of 0.7); if using one of these products, an additional vapor retarder is not required.

If the flooring is being installed on a concrete subfloor, a Class 1 vapor barrier must be installed in addition to the underlay. 6 mil polyethylene sheathing meets the specification for a Class 1 barrier. To install the vapor barrier, place a single layer of poly over the entire subfloor. Overlap seams by 12" and seal all seams and any tears or slits with moisture-proof tape.

When installing over concrete, an additional Class 1 vapor barrier with a permeance rating of 0.15 or less must be installed in addition to the underlay, even if the underlay is a '3-in-1' product that has an integral vapor retarder. The vapor retarder

component of these products inhibits moisture transmission but does not meet the specifications of a Class 1 vapor barrier. Install the vapor barrier before installing the underlay.

Next, install ProSeries Kombo underlay or equivalent over the entire subfloor surface. Underlay seams should butt, not overlap.

Open several packages of flooring and rack and inspect boards. (See Racking, above.) Select starting wall and snap a chalk line to use as a guide. Set first row of boards in place with the groove side facing the starting wall, using chalk-line as a guide to ensure the flooring is laid in a perfectly straight line. Set expansion spacers between the flooring and the starting wall.

It is essential that a floating floor has freedom to move and is not impeded in any way from doing so. In addition to expansion space, ensure nothing is attached to the floor in such a way that

the floor becomes affixed to the subfloor below. Cabinetry, closet tracks, chair rails etc should not be mounted on the floor in such a way that they are impeding the movement of the floor.

FLOATING INSTALLATION

Glue the end joints together using a non-crystallizing wood flooring glue (eg Deccobond). Apply glue in a 1/8" bead to upper edge of groove portion of joint only. Set joints closed using a hammer and tapping block. Never use a hammer directly on the tongue and groove joints as damage to the joint may result. Clean up excess glue immediately according to glue manufacturer's instructions.

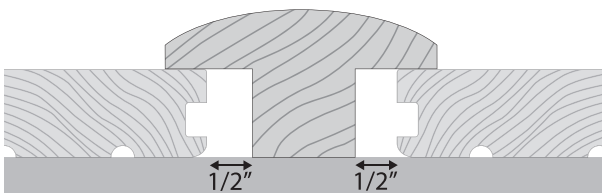
Begin second row. Run a 1/8" bead of glue along the upper edge of the groove on the long side and the right hand end joint. Align left hand edge with first row and set in place, engaging long side joint. Tap joint closed and clean any excess glue. Repeat for subsequent boards in second row. Use offcuts if lengths are suitable and stagger end joints as required (see above).

When second row is completed, tape the boards with low adhesion delicate surface masking tape, such as 3M Scotch-Blue™ 2080 or Yellow Low-Adhesion Frog Tape®. Do not use regular masking tape as it may leave a residue of adhesive on the surface.

After one hour, resume installation using same technique for gluing and setting joints. To avoid a repetitive or predictable board pattern, cut some boards to random lengths to begin rows. Open new packages several at a time and rack and inspect boards as described above. Use offcuts if lengths are suitable and stagger butt joints as required (see above). Maintain 1/2" expansion space at all perimeter walls and other vertical obstructions.

Where the flooring transitions from one room to another in a doorway or archway, leave an expansion gap at the threshold and cover with a T-cap molding. The gap should be wide enough to

accommodate the molding and expansion space on both sides. Ensure the molding is glued to the subfloor and not to the flooring.



For the final row, measure the gap to the wall, allowing expansion space, and rip a row of boards to the required width. Ensure all excess glue has been cleaned from the floor surface.

To keep the joints tight while the adhesive sets up, tape the entire floor with low adhesion delicate surface masking tape, such as 3M Scotch-Blue™ 2080 or Yellow Low-Adhesion Frog Tape®. Be sure to remove the tape at the end of each workday; do not leave it on the floor overnight. Under no circumstances should the tape be left on the floor for longer than 12 hours, as damage to the finish may result. Remove the tape slowly and carefully, pulling it away from the floor at a 45° angle.

After tape is removed, install moldings and transitions as required. Ensure baseboard moldings are affixed to the wall, not the floor.

If the flooring was installed over a radiant heating system, bring the temperature of the system up gradually, in 5°F (2°C) increments per day. Never allow the surface temperature of the floor to exceed 80°F (26°C) and avoid dramatic temperature changes; always adjust the system gradually in 5°F (2°C) increments per day.

AFTER INSTALLATION

On completion of the installation:

Sweep or vacuum the floor and clean with Therapy by Kentwood Spray Cleanser or similar cleaner designed for pre-finished hardwood floors (polyurethane-finished floors only). Do not use steam assisted cleaning mops or all-purpose household cleaners on the floor.

Complete a visual inspection of the installation with the homeowner or site supervisor. Inspect the floor from a standing position in non-reflected light. Touch up nail holes or slight imperfections with appropriate touch up putty or stain according to accepted industry practice.

Ensure the homeowner or site supervisor has been given a copy of the Kentwood care & maintenance guidelines (available online at kentwoodfloors.com) and understands the importance of maintain heat and humidity at the required levels at all times.

Complete the installation checklist for future reference (last page of this document)

If the floor is not being put into use immediately, the use of a floor protection membrane is strongly recommended. Use a material with a Perm Class 3 vapor permeance rating to avoid trapping moisture/vapor on or within the floor. When using floor protection, be sure to cover the entire floor to avoid exposing a partial area to sunlight causing an uneven color change. Overlap the seams of the membrane and tape them to each other. Never tape the membrane directly to the floor. Run membrane to the perimeter walls and tape to the base or shoe mouldings using low adhesion masking tape.

24 hours after installation:

Remove blue tape if necessary

Install a floor protection membrane where appropriate (see above)

If the flooring was installed over a radiant heating system, bring the temperature of the system up gradually, in 5°F (2°C) increments per day. Never allow the surface temperature of the floor to exceed 80°F (26°C) and avoid dramatic temperature changes; always adjust the system gradually in 5°F (2°C) increments per day.