



Installation Instructions

3/8", 1/2" & 5/8" Engineered Prefinished Flooring

APPLICATIONS

Prefinished engineered hardwood floors are installed using standard flooring nailers or staplers, as well as approved gluedown and floating applications. Natural variations and characteristics within species such as hardness and brittleness can affect installation time or workability and is not considered a manufacture defect. This flooring is not intended for radiant heat applications. In addition, approved underlayment can be applied under this flooring to meet the needs of customers, building specifiers and condominium associations desiring a quieter and warmer floor.

HANDLE WITH CARE

It is understood that wood products are sensitive to moisture, temperature and humidity. Store your new flooring inside in the area to be installed not in buildings, garages, sheds without climate controls or directly on bare concrete or next to outside walls. It is important to keep wood flooring dry, protect the flooring from rain or snow during transportation. Lay the flooring flat in a dry, level place. Provide air flow under and around cartons. Cartons should be placed close to the center of the installation area as possible. Keep out of direct sunlight and away from heat/air vents. To prevent board warping, twisting or bowing do not cut the outside plastic banding straps or remove product from the box until ready to install.

OWNER/INSTALLER RESPONSIBILITIES

Wood flooring is a product of nature characterized by distinctive variations in grain, pattern, and color. These natural variations are neither flaws or defects, but rather the natural beauty and uniqueness of wood, and should be expected. Only stained products will have the most uniformity in color or shade. Before beginning the installation, first determine if the job site and subfloor conditions are acceptable. The in-home environment, weather fluctuations and product storage can adversely affect all organic materials (SEE ACCLIMATION.) The customer/installer is responsible for final inspection of quality, and for moisture testing the subfloor and wood flooring. During installation, use reasonable board selectivity and good judgment. From a standing position any individual board deemed unacceptable in appearance should not be used. Defects should be cut off placing the remainder in closets or near walls. To minimize gapping, boards of similar widths should be placed together in the same row. A reasonable amount of installed flooring (up to 25% or 100sqft whichever is less) is enough to determine acceptance of quality. Because installation constitutes acceptance, once the flooring is completely installed, it is deemed appropriate for use by all parties concerned. If milling or quality issues are suspected stop the installation and call your distributor sales representative or claims administrator immediately. The manufacturer shall not be responsible for costs associated with repairing or replacing flooring installed with visible defects. Our floors are manufactured in accordance with accepted industry standards that may allow possible defects not to exceed 5%. Depending on layout, custom installations and species selection additional material should be included in the order to complete the project. The use of putty, stains, wood blend sticks or markers to touch-up prefinished hardwood flooring before, during and after installation is considered normal practice.

JOB SITE INSPECTION

The yard around the workspace should be graded to allow water to run away from the building. The building must be enclosed. The crawl space or basement must be dry. Crawl space should be a minimum 18" from the ground to the underside of the joist. To prevent moisture related issues such as buckling or cupping, all wet trades involving water or moisture (plumbing, ceramic tiles, drywall finishes, painting, etc.) should be finished with ample time allowed for complete drying prior to wood floor installation. Gutters should be in place and function properly to direct water away from the foundation. For best performance, wood flooring should be one of the last items installed. (HVAC) Heating, Ventilation and or air conditioning systems should be fully operating and running with temperature between 60F and 80F with humidity between 30% and 50%, before, during and maintained after installation.

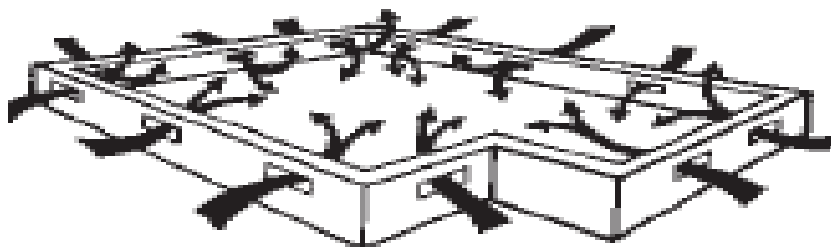
NOTE: Some regions of the country are moderate in both temperatures and humidity. Homes in these regions may not have typical (HVAC) Heating, Ventilation and Air-conditioning systems to regulate the indoor environment. Therefore, in this and in all cases, it is the flooring professional or homeowner's responsibility to determine the indoor environment or moisture content of the wood flooring is suitable for installation and its on-going maintenance.

VENTILATED CRAWL SPACES

Per (IRC) International Residential Code, Section R408.1

Inspect the under-floor crawl space. It must have vents for proper cross-ventilation (pic1). Venting allows damp areas to dry-out, reducing the likelihood of mold growth, and to minimize moisture pressure or build-up under homes. Provide year-round air circulation with multiple vents, a minimum of 1 square foot for each 150 square feet of under-floor space area. One ventilating opening shall be within 3 feet of each corner. Ventilation fans can be used in the crawl space area to circulate the air, promote drying and reduce dead air spaces. (*Exception R408.2; "Where warranted by climatic conditions, ventilation openings to the outdoors are not required if, ventilation/conditioned openings to the homes interior are provided."*) **Ground Cover:** under the home in the crawlspace completely cover 100% of the soil to guard against ground moisture. Use black 6-mil virgin polyethylene sheet plastic as a moisture vapor barrier. When connecting, overlap any seams 6" and tape seams completely.

(pic1)



ACCLIMATION/CONDITIONING OF THE FLOORING

After harvesting, wood flooring is kiln-dried for optimum service. During transit, delivery and storage, wood flooring must be protected from moisture. Wood is hygroscopic, meaning its size and shape changes with the absorption or release of moisture. The amount of change varies with wood species, cut, and type of flooring. Therefore, wood movement (shrinkage or expansion) is to be properly controlled and achieved at the worksite. First, acclimate the new flooring while in the boxes in the areas to be installed to the expected environment that the floor will service. If products are packaged in plastic, remove the plastic wrapping from the outside of the boxes to speed up the acclimation process. The length of acclimation time is not the determining factor. The goal is to reach a moisture balance between the new flooring and its normal indoor surroundings before assembly, fastening or installation. Extended conditioning is not unusual for exotic species having natural oils or for very dense species like Brazilian Teak, Brazilian Cherry, and Mahogany, Rosewood, Redwood, Brazilian Walnut and others. For best performance, condition and maintain the flooring to consistent indoor temperatures of 60°-80° F and indoor humidity levels of 30% - 50%, before, during and after installation. Depending on your local conditions the use of a dehumidifier or a humidifier may be necessary to maintain the desired results. Very dry or humid regions of the country usually require extended conditioning to balance the wood to the environment it will service. Proper jobsite

conditions, acclimation, moisture testing of the subfloor and new flooring all work together for the success of the installation and is the responsibility of those overseeing the project. Not following the above recommendations can negatively impact board performance and can result in excessive movement, squeaks, board gapping, board-edge cupping, finish splits and other related issues. This is especially true regarding flooring placed in seasonal or vacation homes without proper ventilation and climate conditions.

SUMMER/WINTER MOISTURE CONTENT MAP

The USDA map of the United States below shows the average moisture content of interior wood products for each state and region. **The goal is to reach a moisture balance between the new flooring and its normal indoor surroundings before assembly, fastening or installation.** The first number indicates the average moisture content of wood in January (winter or lower humidity months), and the second number indicates the average moisture content in July (summer or higher humidity months). To calculate what the optimal average wood moisture content is add the high season and low season together, then divide by two. Example: If your region has an expected low of 6% to a high of 12%, the average baseline moisture content of the wood would be 9%. When wood flooring has achieved the average in moisture content for the geographical location and the proper relative humidity conditions are present the installation can begin. If the moisture content of the product is outside of the average moisture content of that region, extend the acclimation time. This map is merely a helpful guide for installation, actual moisture content in any location may differ significantly from these numbers. Ideal interior environmental conditions will vary from region to region and jobsite to jobsite. The most reliable moisture-content numbers will be obtained using a moisture meter to determine the moisture content of the new wood flooring in relation to the subfloor.

NOTE; Some regions of the country are moderate in both temperatures and humidity. Homes in these regions may not have typical (HVAC) Heating, Ventilation and Air-conditioning systems to regulate the indoor environment. In this and all cases, it is the flooring professional or homeowner's responsibility to determine the indoor environment or moisture content of the wood flooring is suitable.

Average Moisture Content (%) by U.S. Region

Moisture Content Map, from the US Department of Agriculture, Forest Products Laboratory



The effects of Temperatures and Humidity on wood flooring

It's understood that wood products are sensitive to moisture, temperature and humidity. Refer to the **chart** below to better understand the best in-home environmental relationship between relative humidity (RH) and temperature, and its effects on wood moisture content. Refer to the current weather conditions in your area; find the combination of temperature and RH in your area on the chart (temperature variations are listed on the left side of the chart, humidity variations are listed along the bottom).

Temperature (°Fahrenheit)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	98
30	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
40	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
50	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
60	1.3	2.5	3.6	4.6	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3	14.6	16.2	18.2	20.7	24.1	26.8
70	1.3	2.5	3.5	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1	14.4	16.0	17.9	20.5	23.9	26.6
80	1.3	2.4	3.5	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.8	11.7	12.9	14.2	15.7	17.7	20.2	23.6	26.3
90	1.2	2.3	3.4	4.3	5.1	5.9	6.7	7.4	8.1	8.9	9.7	10.5	11.5	12.6	13.9	15.4	17.3	19.8	23.3	26.0
100	1.2	2.3	3.3	4.2	5.0	5.8	6.5	7.2	7.9	8.7	9.5	10.3	11.2	12.3	13.6	15.1	17.0	19.5	22.9	25.6

Chart taken from *Wood Handbook: Wood as an Engineering Material*, (Agriculture Handbook 72), Forest Products Laboratory, U.S. Department of Agriculture.

Note: Wood products properly acclimated and maintained to consistent temperatures of 60°-80° F and humidity 30% - 50% will become relatively dormant, less likely to shrink or expand. Wood flooring kept outside these recommended values can negatively impact board performance and may result in excessive movement, squeaks, board gapping, board-edge cupping, finish splits and other related issues. Acclimation is the responsibility of the installer and or homeowner. Depending on your local in-home conditions, the use of humidification/dehumidification equipment may be recommended to maintain the proper in-home environment

GENERAL INFORMATION - all installations

- Install flooring in normal proper lighting.
- Save a box of flooring for future repairs.
- Do not install in full bathrooms or areas with steam.
- Inspect subfloor for flatness, squeaks, and moisture.
- Do not install this product over radiant heat systems
- Do not install this product below-grade or in basements.
- Avoid board grouping board sizes should be intermingled.
- Use breathable materials like paper when protecting a newly installed floor.
- Inspect flooring during installation select out boards have milling and finish defects.
- The customer is advised to be home during the installation for consultation/direction.
- Customer and installer should discuss installation and layout to maximize satisfaction.
- It is helpful to save the item number found on the packaging box ends for future references.
- Jobsite subfloors can be dry today and wet tomorrow. The use of moisture barriers is recommended.
- Floor should be installed from several cartons at the same time to ensure good color, shade and appearance.
- An Expansion space must be left around the perimeter and at all vertical obstructions. This space is normally the same as the thickness of the new flooring. For example; 1/2" flooring requires 1/2" expansion.

HELPFUL TOOLS

- Pencil
- Chalk line
- 6' level
- Miter saw
- Table saw
- 60 tooth carbide tip saw blades
- Broom
- Jamb saw
- Eye protection
- Ear protection
- Dust Mask
- Gloves
- 18-gauge Approved Floor Nailer or Stapler
- Floor fasteners
- Hygrometer (to monitor in-home humidity)
- Blue painters tape (2080)
- PVA wood glue
- Compressor with regulator
- Drill
- Drill bit set
- Hammer
- Nail set
- Moisture meter (wood)
- Calcium chloride moisture test (concrete)
- Approved adhesive remover (glue down installs)
- Cloth rags

MOISTURE TESTING

Most wood flooring failures result from jobsite moisture. Do not unpack or deliver flooring to the jobsite until moisture problems are corrected. The goal of moisture testing is two-fold. (1) To determine when the installation can begin and (2) to verify that proper moisture balance between the new floor boards and that of the existing subfloor has been achieved. Verify by using a moisture meter that will have individual species settings (pic1). Pin or probe meters that have adjustable species settings are most accurate. Contact the meter manufacturer directly for your alternate or substitute species settings. Meter examples; ([Tramex](#), [Ligno- DX/C](#), or [Delmhorst](#)).



Test the subfloor. Set the meter to the type of subfloor. Obtain an average by meter testing the subfloor (10 locations per every 500sqft). Test around exterior doorways, near plumbing and foundation walls and in the center of the room. On average, the subfloor moisture range must not exceed 12%.

Test the new flooring. Set the meter to the proper wood species. Obtain an average reading by testing (20 boards out of every 500sqft) of new flooring. The flooring can have acceptable moisture content between 4%-8%, with no more than 5% of total material containing a variance up to 10%. After thoroughly testing both the subfloor and the flooring, be sure that the average moisture content of both doesn't differ by more than 4% for strip flooring (boards 2 1/4" or less) and 2% for plank flooring (3" or wider). If high moisture readings are found in either the new floor or subfloor identify the moisture source and correct. Extend acclimation time. Postpone the installation until the proper conditions have been met. It is recommended to document moisture test results with notes should future questions arise; include a record of the customer's name and digital pictures showing the meter actually used, including the time and date.

FOR WOOD SUBFLOORS

All wood subfloor components must not exceed 12 percent moisture content.

Do not install flooring directly over floor joist without subflooring. Subfloors provide strength and a proper nailing base.

- Install subflooring sealed-side down. Square-edged or non-tongue and grooved panels used as a subfloor will require a minimum 1/8" (3 mm) expansion space placed between all plywood seams. Panels must meet minimum CD grade Exposure 1 and US Voluntary Product Standard PS1-95, PS2-04 or Canadian performance standard CAN/CSA 0325-0-92 for construction sheathing. Check panel/supplier for codes.
- Solid board planks used for subflooring should be 3/4" x 5 1/2" (1" x 6" nominal), Group 1 dense softwoods, No. 2 Common
- Particleboard, Luan or Masonite are not recommended for nailing solid wood, remove and replace with minimum recommended subfloor material to meet minimum thickness requirements or cover with 3/8" plywood underlayment.
- Minimum of 3/8" CD panel thickness is recommended when used as an underlayment when needed.
- Avoid pressure treated plywood for interior use. These can have elevated moisture or latent with rot resistant chemicals.

Note that joist spacing determines minimum subfloor thickness.

- Joist spacing **16"** (oc) on center or less
Plywood: Minimum of (5/8", 19/32) Oriented Strand Board (OSB): minimum (3/4", 23/32") Advantech minimum (3/4", 23/32")
- Joist spacing **16" up to 19.2"** (oc)
Plywood: Minimum of (3/4", 23/32") Oriented Strand Board (OSB): minimum of (3/4", 23/32")
- Joist spacing over **19.2" up to maximum 24"** (oc)
Plywood: Minimum of (7/8") Oriented Strand Board (OSB): Minimum of (1") or two layers of subflooring, or brace between truss/joists in accordance with local building codes.

Wood floor orientation

- Nail wood flooring **perpendicular** to the floor joist.
- Nailing wood flooring **parallel** to the floor joist is an option using a combination of plywood, OSB, Advantech or similar approved subfloors. Floor joist (16" to 19.2 oc) The total subfloor thickness minimum must be 1-1/4"
Floor joist (19.2 to 24"oc) The total subfloor thickness minimum must be 1-7/16"

When nailing over existing solid wood tongue and groove flooring, install over an additional 3/8" plywood or run the new floor **perpendicular** or at a **45 degree angle** to the direction of the existing flooring.

Flatness

All subfloors should be flat to within 3/16" in 10 feet or 1/8" in 6 feet radius. Wood subfloors must be securely nailed or screwed to joists to minimize movement or squeaks. Install over 16" minimum center-to-center joist sub-structure. Thoroughly inspect and replace existing floor or subfloor that shows evidence of water damage or structural weakness. Repair any sagging or loose sections of the subfloor. Squeaky or loose boards should be re-secured. An uneven or cupped subfloor can be an indication of excess moisture or rot, identify and correct. High spots/joist may be sanded down. Low spots should be cut out and repaired or may be filled with old pieces of firm vinyl or build up with 30 lb. black roofing paper. Do not fill-in low areas under naildown flooring with cement patching materials as these may break down over time.

New Construction: It is the builder's or general contractor's responsibility to provide the wood flooring contractor with a subfloor that is within the tolerances listed above. Postpone the installation until corrections have been completed.

CAUTION: Do not sand any surfaces containing lead based paints, finishes, or asbestos.

For buildings built in 1978 and earlier, contact the EPA for lead based testing prior to any sanding (www.epa.gov).

FOR CONCRETE FLOORS

Concrete sub-floors should always be checked for moisture content prior to the installation of wood flooring. Please note that these tests do not guarantee a dry concrete slab year-round. The two most common moisture tests include:

- **Calcium Chloride Test** – Calcium chloride tests can be found in flooring retail stores or retail websites on the internet such as www.taylorstools.com or www.moisturetestkit.com 1-888-216-TEST (8378).
- **Tramex Concrete Moisture Encounter Meter** – (www.tramexltd.com). Check with moisture sealer manufacturer to confirm what tests are required to initiate moisture sealer warranty

The following moisture barrier systems are recommended. They carry a warranty from their manufacturer.

Franklin
Bostik
Sika
Dri Tac

www.franklinflooring.com Tech Services: 1-800-669-4583
www.bostik-us.com Tech Services: 1-800-523-6530
www.sikausa.com Tech Services: 1-800-933-SIKA
www.dritac.com Tech Services: 1-800-394-9310

Please see the above websites and product labels and literature for full details. The above sealer systems may require some form of testing of the concrete sub-floor (i.e. Calcium Chloride Test). **PLEASE REMEMBER THAT YOUR WARRANTY AGAINST MOISTURE VAPOR TRANSMISSION COMES FROM THE MANUFACTURER OF THE SEALER.** Before use of any of these sealer/adhesive systems please check with their manufacturer regarding limitations warranties and installation instructions.

Some acceptable vapor retarders over concrete include:

1. A minimum 6 mil construction grade polyethylene film, with perm of .13, or other impermeable material with a perm of .15 or less is recommended. A premium polymer material meeting ASTM D-1745 for concrete with higher tensile, tear and puncture resistance is highly desirable.
2. Double felt: Two layers of #15 asphalt saturated felt paper that meets ASTM Standard D-4869, with the first layer adhered to the slab in a skim coat of appropriate adhesive, and a second layer adhered to the first layer with appropriate adhesive.
3. Polyethylene (poly) Film – For staple-down or floating applications minimum requirement, install 6 mil (minimum) poly film making sure ends overlap at least 18". Tape to secure. For floating applications, 2 In 1 Pad can be used in place of polyethylene film.

NAILERS/STAPLERS

Our flooring is not warrantied against squeaking, popping or crackling when using staple-down or nail-down installation methods. Some squeaking, popping or crackling is normal and possible when using staple-down or nail-down installation methods. These symptoms may be aggravated in drier areas or during dry conditions. It is the responsibility of the installer to prepare the subfloor and ensure that it is clean, dry, sound, and flat. It is the responsibility of the installer to ensure a clean, sound, and quiet flooring installation. Flooring should be continually inspected throughout the process.

Use of Pneumatic Staplers and Nailers

Minor occasional noises within the flooring are inherent to all staple/nail-down installations and can change as environmental changes occur. This is not a manufacturing defect and is therefore not covered under our warranties (see warranty brochure for complete warranty coverage). You can help reduce squeaking, popping, and crackling by being sure that the subfloor is structurally sound, does not have any loose decking or joists, and is swept clean prior to installation. You should also be sure that your stapler or nailer is setting the fastener properly, not damaging the planks, and that you are using the correct nailing schedule. When used improperly, staples or cleats can damage wood flooring. If the tool is not adjusted properly the staples/cleats may not be positioned at the proper angle and cause blistering, peaking, squeaking, or crackling of the floor. Some models may require the use of an adapter to adjust for proper thickness.

Test the tool on a piece of scrap material first: Set the stapler/nailer flush on the tongue side of the plank and install a staple/cleat. Should the staple/cleat penetrate too deeply reduce the air pressure. If the staple/cleat is not deep enough then increase the air pressure using an in-line regulator. The crown of the staple/cleat should sit flush within the nail pocket to prevent damage to the flooring and to reduce squeaking. Indusparquet is not responsible for damage caused by mechanical fasteners.

Recommended Fastener Lengths and Specifications

For 3/8" thick Engineered products: minimum length is 1 1/4" to 1 1/2" 18-gauge staple OR 1 1/4" 18-gauge cleat nail

For 1/2" thick EGD/Solid products: minimum length is 1 1/4" to 1 1/2" 18-gauge staple OR 1 1/4" 18-gauge cleat nail

For 5/8" thick Engineered products: recommended length is 1-1/2" 18-gauge staple OR 1 3/4" 18-gauge cleat nail

For 3/4" thick Solid products: recommended length is 1 3/4" 18-gauge cleat nail

Read and follow the manufacturer's instructions for complete set-up and operation of equipment.

INSTALLATION PREP

Use a jamb saw (manual or powered) to undercut all door jambs/casing to allow enough clearance for the wood flooring to easily slide underneath. A gap (business card thick) between the top of the wood flooring and bottom of the door jamb is acceptable. Sand down any high spots or high subfloor seams. Correct low spots (See subfloor prep). Sweep or vacuum the subfloor clean of dust and debris. Install moisture retardant underlayment and staple it down to prevent movement/sliding.

ESTABLISH STARTING POINT

An exterior wall is usually the straightest and best reference line to start the installation. Direction of finished flooring should be at right angles to the floor joists whenever possible. Establish a starting line by leaving a minimum 1/2" expansion gap around all vertical obstructions. Measure this distance from the starting wall (in at least two places) close to the starting wall's opposite corners. Mark these points and snap a working chalk line parallel to the starting wall allowing the required expansion space between the starting wall and the edge of the first row of flooring.

INSTALLING THE FLOOR: STAPLE OR NAIL DOWN INSTALLATION

On the first row of flooring use 6d or 8d flooring nails to top nail surface of flooring and countersink (pre-drilling nail holes will prevent splits). Fasteners should hit the joist whenever possible. To ensure proper alignment of flooring, make sure the flooring along the working chalk line is straight.

Allowing for a 1/2" minimum expansion gap around all vertical obstructions is critical. Wood expands and contracts with changes in humidity. Wood will buckle and/or cup if an adequate expansion space is not provided. Always allow for expansion when making end or side cuts around vertical objects.

CAUTION: It is extremely important to use the appropriate adapters as well as staples or cleats. Improper fasteners, machines, and air pressure can cause severe damage.

Make sure to properly space fasteners every 3" – 4" along the length of the board with a minimum of 2 fasteners per piece 1" – 2" from each end. Top and/or hand nail enough rows to allow adequate spacing from wall; continue installation with a recommended floor-stapling machine. Stagger the ends of boards at least 6" in adjacent rows creating a stair-step pattern. Continue across the room until finished. Remember to provide adequate spacing for expansion gap.

INSTALLING THE FLOOR: GLUE DOWN INSTALLATION

ADDITIONAL TOOLS REQUIRED FOR GLUE DOWN

•**Trowel** - Correct trowel as requested by glue manufacturer for a 1/2" engineered hardwood flooring product. Always confirm with adhesive manufacturers recommendations

•**Urethane Adhesive Cleaner** - Many of the leading glue manufacturers offer their own adhesive cleaner. Please use them. If none is available, a light application of mineral spirits to a terry cloth will help

•**3-M Blue Tape** - (Orange Cardboard Middle)

OTHER APPROVED URETHANE-BASED ADHESIVES THAT PROVIDE A BOND WARRANTY ONLY

(This bond warranty is supplied by their manufacturer. No moisture protection warranties are offered by any of the adhesive products listed below.)

- Franklin 811, Franklin 821 Premium, Tietebond Wood Flooring Adhesive, Franklin 801 Preferred
- Bostik's Best, Bostik's BST Urethane, EFA + or TKO
- Sika Bond T55
- DriTac 7600, DriTac 7500 Eco-Urethane or Easy Spread DriTac 7400
- Millennium Series 2010 High Performance Moisture Cured urethane Wood Adhesive

Apply recommended urethane adhesive with manufacturers recommended trowel. Follow manufacturer's recommendations for the application of the adhesive.

NOTE: DO NOT USE A WATER-BASED ADHESIVE WITH THIS HARDWOOD FLOORING PRODUCT

When installing boards, avoid sliding materials through adhesive when placing them in position. Engage the end joint first, as close as possible to side tongue-and-groove, and fit boards together. Check for a tight fit between all edges and ends of each board. Occasionally lift a board to check for adequate adhesive transfer. Stagger the ends of boards at least 6" in adjacent rows creating a stair-step pattern.

3-M Blue Tape should be used to hold planks tightly together and reduce minor shifting of floors during installation. Remove all adhesive from the surface of the flooring with urethane adhesive remover or mineral spirits as you go. Adhesive is very difficult to remove from prefinished hardwood floors if allowed to dry and may damage finish on flooring. All adhesive must be removed from flooring surfaces prior to applying 3-M Blue Tape. Remove 3-M Blue Tape within 24 hours.

Allowing for a 1/2" minimum expansion gap around all vertical obstructions is critical. Wood expands and contracts with changes in humidity. Wood will buckle and/or cup if an adequate expansion space is not provided. Always allow for expansion when making end or side cuts around vertical objects. Continue across the room until finished. Remember to provide adequate spacing for expansion gap. Once completed, install molding and trim. Thoroughly clean, sweep, and vacuum installed floor before further use. If floor is to be covered, use a breathable material such as cardboard or rosin paper. Do not cover with plastic.

INSTALLING THE FLOOR: FLOATING INSTALLATION

ADDITIONAL TOOLS FOR FLOATING INSTALLATION

- Pull Tool or Crowbar
- Floating floor pad with built in moisture barrier foam with moisture barrier 2 in 1 or 3 in 1
- Tapping Block (used with care)
- Glue — Franklin Titebond II or Equivalent PVA-2 floating floor (poly vinyl acetate) adhesive

Install approved 2-in-1 or 3-in-1 underlayment padding for engineered hardwood flooring. Follow pad manufacturers instructions. Boards should be installed left to right with the edge of the groove lined up against the chalk line, side-tongue facing out to the right. Whenever possible, the tongue along with width and length of the board should be facing out so that tapping block or pull tool always uses the tongue of the flooring. If the groove is facing out and a tapping block or pull tool is used, the edge of the board may be damaged.

For the best performance of your floating floor, use a stair-step pattern installation, staggering seams 12" to 15". No two end joints should be within three rows of each other.

Install all rows by applying a thin bead of glue in the groove on the side and end of each board. Press each board firmly together and lightly use a tapping block if necessary. Clean excessive glue from between boards with a damp cloth or mineral spirits. Tape each board together at side and end seams using 3-M Blue Tape. Allow glue to set before continuing installation of subsequent rows.

Always remember to allow for the expansion gap and clean excess glue from between boards. Often the last row will not end with a full plank. When this happens, place a full row of planks on top of the last row installed. Insert a 1/2" spacer against the wall, and using a full width plank, trace distance from wall into final row. Cut planks for final row to designated width. Apply glue and fit into place.

Trim excess polyethylene film and/or padding so it will not be visible once moldings are installed. Tape may be removed within one hour. Allow 12 hours before placing furniture on floors and 24 hours before introducing heavy objects of full traffic.

FINISHING UP

- Fill in nail holes and minor gaps with close matching wood filler.
- Install any base board molding and shoe molding
- Install transition moldings
- Clean floor using the approved hardwood cleaner
- Use felt pads under furniture legs
- Protect against moving appliances and heavy furniture.

Congratulations on your new Indusparquet Hardwood Floor!

If you have further questions or comments regarding Indusparquet Hardwood Flooring, please contact your local retailer or our Customer Service Department at www.indusparquet-usa.com