Your new wood flooring can be installed over most sub-floors, and is engineered to be dimensionally stable, making it suitable for installation over all grade levels. See all information and installation guidelines below.

ATTENTION – INSTALLER/OWNER RESPONSIBILITY

Wood is a natural product containing natural characteristics in colour, tone and graining. Slight variation in colour is to be expected in a natural wood floor. Your wood floors cannot be guaranteed against natural variation in each plank. The owner/installer assumes all responsibility for final inspection of product quality. Warranties DO NOT cover materials with visible defects once they are installed.

JOBSITE CONDITIONS

Due to the stability of this floor's engineered construction acclimation to the job site is not required unless the flooring will be transported from one extreme temperature into another. If there is a severe temperature difference, make sure to condition the cartons of wood flooring and adhesive, if being used, 24 hours before the installation. If adhesive is being used follow the adhesive manufacturer instructions. Adhesives by Bona and Bostik are recommended.

WARNING! DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW BEAD BLAST OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVES OR OTHER ADHESIVE.

SUB-FLOOR PREPARATION AND RECOMMENDATIONS

All subfloors must be installed as recommended by their manufacturers. Warranties offered for these wood floors do not cover problems caused by inadequate or improper installation.

CLEAN-Subfloor must be free of wax, paint, oil, sealers, adhesives and other debris.

LEVEL/FLAT-Within 3/16" in 10'(5mm in 3m) and /or 1/8" in 6'(3mm in 2m). Sand high areas or joints. If the floor is to be glued down, fill low areas with a latex additive cementitious levelling compound of 3,000-PSI (20000 kPa) minimum compressive strength. Follow the instructions of the levelling compound manufacturer but make certain that the levelling compounds are completely dry before beginning installation. When mechanically fastening the floor down, flatten low spots with layers of 15# builders felt, plywood or shims (not levelling compounds). Levelling materials must provide a structurally sound subfloor that does not affect the holding power of the fastener.

Concrete Sub-Floors

New concrete slabs require a minimum of 60 days drying time

Check moisture content of the subfloor with the appropriate moisture test.

STRUCTURALLY SOUND- Nail or screw any areas that are loose or squeak. Wood panels should exhibit an adequate

fastening pattern, glued/screwed or nailed as system requires

using an acceptable nailing pattern. Typical: 6"(15cm) along

bearing edges and 12"(30cm) along intermediate supports. Flatten edge swell as necessary. Replace any water damaged, swollen or delaminated subfloor or underlay..

Light weight concrete

Light weight concrete that has a dry density of 100 pounds or less per cubic foot is not suitable for glued down engineered wood floors. Many products have been developed as self-levelling toppings or floor underlayment. These include cellular concrete, resinreinforced cementitious underlayments, and gypsumbased materials. Although some of these products may have the necessary qualifications of underlayment for wood flooring installations, others do not.

To test for lightweight concrete, scrape a coin or key across the surface of the subfloor. If the surface powders easily or has a dry density of I00 pounds or less per cubic foot, do not install this Engineered Wood flooring unless using the floating method.

Concrete sub-floors must be dry, smooth (level with 3/16 " in a 10 foot. Radius - 1/8 " in 6 ') and free of structural defects. Hand scrape or sand with a 20 grit #3-1/2 open face paper to remove loose, flaky concrete. Grind high spots in concrete and fill low spots with a Portland based levelling compound (min. 3,000 p.s.i.) Concrete must be free of paint, oil, existing adhesives, wax grease, dirt and curing compounds. These may be removed chemically or mechanically, but do not use solvent-based strippers under any circumstances. The use of residual solvents can prohibit the satisfactory bond of flooring adhesives. It is important to ensure a proper adhesive bond between the concrete, and flooring.. This engineered hardwood flooring may be installed on-grade, above grade, as well as below grade where adverse moisture conditions do not exist.

To ensure a long lasting bond, make sure that the perimeter of the foundation has adequate drainage and vapour barrier.

Wood sub-floors

All wood subfloors must be structurally sound, dry, at least 5/8" in thickness if plywood and 23/32 thick if OSB, solidly fastened to appropriately spaced floor joists, and in compliance with all local building codes. For detailed information regarding each different kind of subfloor, refer to the latest National Wood Flooring Association (NWFA)I Installation Guide.

First, make sure subfloor is dry. Subfloor moisture content cannot exceed 10% prior to installation of a wood floor. To determine the moisture content use a good quality moisture meter. Next, determine if the subfloor is structurally sound.

Sub-floors other than wood or concrete

Note: Perimeter glued resilient vinyl and rubber tiles are unacceptable underlayments and must be removed.

Terrazzo, tile and any other hard surfaces that are dry, structurally sound and level, as described above, are suitable as a sub-floor for this Engineered hardwood flooring installation. As above, the surface must be sound, tight and free of paint, oil, existing adhesives, wax, grease and dirt. Terrazzo and ceramic tile must be scuffed to assure adhesion.

WARNING! Do not sand existing resilient tile, sheet flooring, backing, or felt linings. These products may contain asbestos fibres that are not readily identifiable. Inhalation of asbestos dust can cause asbestosis or other serious bodily harm. Check with local, state and federal laws for handling hazardous material before attempting the removal of these floors.

Radiant Heated Sub-floors

IMPORTANT: Depending on specific flooring construction, <u>some</u> products are approved for glue down installation over radiant heat and others are not. Be sure to check with your retailer or distributor for suitability of your material for glue down, radiant heat installation. The slab suface must never exceed 82° F. (28° C.) in temperature.

Before installing over a radiant-heated floor turn off heat and wait until the floor has reached room temperature. After installing the floor gradually return the heat to the previous setting.

PREPARATION

Remove all mouldings and wall-base and undercut all door casings with a hand or power jam saw using a scrap piece of flooring as a guide.

"Racking the Floor"

Whether you choose to install the floor with glue, nails, or staples or by floating, start by using random length planks from the carton or by cutting four to five planks in random lengths, differing by at least 6". As you continue working across the floor be sure to maintain the 6" minimum between end joints on all adjacent rows. Never waste material; use the left over pieces from the fill cuts to start the next row or to complete a row.

Note: When installing a pre-finished wood floor be sure to blend the wood from several cartons to ensure a good grain and shading mixture through out the installation.

GLUE DOWN INSTALLATION GUIDELINES

There are two ways to install when using urethane adhesive (wet lay meaning to lay directly into wet adhesive and dry-lay method meaning to allow the

adhesive to flash or to tack up.)

Caution: Whether you choose to install using the dry or wet method follow all guidelines set by the adhesive manufacturer. By not adhering to the guidelines you can void your flooring warranties

Step 1 – (Wet Lay Method)

Select a starter wall. It is recommended to start the installation along an exterior wall; it's more likely to be straight and square with the room. Measure out from the wall the width of two planks and mark each end of the room and snap your chalk line.

Step 2

Spread the adhesive from the chalk line to the starter wall using the recommended trowel. It is important to use the correct trowel at a 45% angle to get the proper spread of adhesive applied to the sub-floor, which will produce a proper and permanent bond. Improper bonding can cause loose or hollow spots.

Note: Change the trowel every 2000 to 3000 square feet due to wear down of the notches. This assures you always get the proper spread of adhesive.

Step 3

Install the first row of starter planks with the tongue facing the starter wall and secure into position. Alignment is critical and can be achieved by securing a straight edge along the chalk line (2'x 4's work well), or by top nailing the first row with finishing nails (wood sub-floor), or sprig/pin nails (concrete sub-floor). This prevents slippage of the planks that can cause misalignment.

Note: The planks along the wall may have to be cut to fit since most walls are not straight, and leaving an expansion space is not necessary with these engineered planks and strips.

Step 4

Once the starter rows are secure spread 2-1/2 to 3 feet of adhesive the length of the room. (Never lay more adhesive than can be covered in the time designated by the adhesive manufacturer.)

Place the tongue into the groove of plank and press firmly into adhesive. Never slide planks or strips through adhesive. Use a tapping block to fit planks snug together at side and butt- ends. Test for proper bond by occasionally lifting a board and looking for good coverage (90%), then replace it into the adhesive.

Clean any adhesive off the surface before it cures using the manufacturer's Adhesive Towels.

Use 3M Blue Mask Tape to hold planks securely in place as you are installing and continue the process through out the installation. Remove tape when the installation is completed. Tape left on the floor too long may damage the finish when removed. Use caution

when using a rubber mallet to butt material together, it can burn the finish and cause marring.

Note: Never work on top of the flooring when installing with the wet lay method

Step 1 – (Dry Lay Method)

Start by selecting your starter wall and measure out from the wall the width of 8 - 10 boards plus ½ inch (expansion space). This will allow adequate working space. Snap chalk line.

Step 2

Apply adhesive from the chalk line out $2\frac{1}{2}$ – 3'. Allow adhesive to flash as per the instructions affixed to the adhesive container. The humidity chart will aid in allowing the appropriate flash time based on the temperature and humidity.

Secure your starter rows with a straight edge (2'x 4's). Install planks and secure with 3M Blue Mask Tape as you continue through out your installation. If you must work on top of the newly laid flooring use a kneeling board.

Once the remainder of the floor has been installed go back to the beginning and remove straight edges and spread adhesive on the remainder of the open subfloor, allow to flash for the appropriate time and lay flooring as instructed. Remembering that the planks closest to the wall may need cutting to fit, due to irregularities along the wall.

Clean Up

Use Flooring Adhesive Towels to clean as you go, along with a wood flooring cleaner. Both are easy and convenient to use. Adhesive that has cured on the surface of the flooring can be difficult to remove and will require the use of a Urethane Remover. This product has been recommended by the adhesive manufacturer and is safe for the finish of your pre-finished wood floor. Once the floor is completed, clean the flooring with a quality wood floor cleaner. WARNING If urethane adhesive is allowed to dry on the surface of the floor it may permanently etch the surface.

Light foot traffic is allowed after 12 hours but wait 24 hours after installation to remove the 3M blue masking tape. Once the tape is removed clean any adhesive residue left from the tape with Adhesive Towels.

FLOATING INSTALLATIONS

Recommended Adhesive for Floating: Franklin Tongue and Groove adhesive (cross linking polyaliphactic emulsion glue) www.Titebond.com

PLAN YOUR INSTALLATION

Floating floors require freedom to experience expansion and contraction without binding or rubbing on vertical surfaces. Bedrooms and halls should be isolated from other rooms by using T-Mould transitions.

Be sure to follow expansion guidelines, to undercut door frames and leave expansion at cabinets and fireplaces. Do not exceed 30 foot spans without a expansion joint and transition moulding.

STEP ONE UNDERLAYMENT

- 1. Be sure to follow subfloor recommendations listed earlier. High or low spots can cause deflection of the flooring when walked on. Severe deflection may damage the flooring tongue and groove.
- 2. If the sub-floor is concrete install a 6-mil poly vapour barrier. All joints should be lapped 6" and taped with a moisture resistant tape.
- 3. Install the underlayment parallel to the starting wall and in the same direction that the Flooring will be installed. Do not overlap joints. Underlayment should be cut flush with the walls. Tape all joints using a water resistant tape such as packing tape or duct tape; allow no wrinkles. Tape the starting row to the floor to prevent movement

STEP 2 WORKING LINE

1. Place a mark approximately 18" from the corners of the starting walls add the width of flooring + 1/2" to allow for expansion and the tongue. Strike a chalk line through these two points the length of the room to the end walls on top of the underlayment. This line is the STARTING LINE.

NOTE: lack of expansion may cause squeaking or sections to pull apart during dry seasons due to contact with vertical surfaces.

2. Measure the distance between the starting line and the wall the full length of the starting wall. If the wall is badly out of line (crooked) it may be necessary to rip boards to the follow the irregularity in the wall. Option: Using no adhesive install a strip on the inside edge (closest to the wall) of the chalk line. This row may be of any straight wood material. Make certain each of the Strips is in perfect alignment with the starting line using wedges to hold the flooring in place on the ENDS.

STEP 3 INSTALLATION OF BOARDS

- 1. Lay the boards out the length of the room. Make certain that the last and final board in the row will be at least 12" in length. The last UNCUT board must allow at least 12" between the board end and the wall. If the board in the row will need to be cut less than 12" in length to complete the row adjust the board selection accordingly.
- 2. Begin installation from the RIGHT corner with the tongue facing you and the long GROOVE facing the starting wall or strip row. The short end GROOVE should be facing the end wall. Align the first board with the STARTING LINE.
- 3. Select the second board. Place a 1/8" continuous bead of glue in the inside bottom edge of the END groove. DO NOT apply glue to the long side groove at this time Carefully interlock the joint with the first board always maintaining alignment with the STARTING LINE. Remove any excess glue from the

surface with a towel dampened in warm soapy water.
Use 3m blue tape (not masking tape) to temporarily hold the end joints together. Use wedges or waste

material in the expansion gap on the side and end walls (ends only if sacrificial board was used) to maintain alignment with the STARTING LINE. Continue installing in this manner until the first row is complete.

- 4. Measure and cut to length the final board in the row allowing 1/2" expansion between the end of the board and the end wall. Apply glue in the groove and install. Set the waste end aside for later use.
- 5. Select a new set of materials. If the cut-off waste from the first row was 18" or longer it can be used as the first board in the row. Maintain 6" spacing between the end joints of all rows.
- 6. Place a continuous bead of glue along the inside bottom edge of the END groove and the same location on the side groove. Carefully align the tongue and grooves together and tighten the plank until all joints are snug. Remove any excess glue as before and temporarily hold the joints together using blue tape. Cut and install the final board in the row
- 7. Continue in this manner until the first four rows are completed. This four-row area is the base for the balance of the floor installation. Perfect alignment is essential, as any variance will worsen as the flooring proceeds further into the room. Carefully inspect for proper alignment before the glue sets. Adjust as necessary.
- 8. Continue with the installation as above. Continue using tape to hold the joints together and wedges to hold the end joints in place. DO NOT walk on the finished floor during installation, as this will break the uncured glue joint. DO NOT roll the floor for the same reason.
- 9. Finish the final row by cutting the boards to fit, always allowing for expansion space.
- 10. If a Starting strip was used remove it and replace with a row of material that is properly edge glued as above.

STEP 4 COMPLETING THE JOB

- 1. Remove all tape from the floor starting from the area in which the wood was first applied. Inspect for gaps, chips and glue residue while removing the tape. Remove all glue residue, touch up chipped areas and fill with the appropriate filler as necessary. Use a complimentary coloured filler such as Color Rite.
- 2. Install/reinstall all mouldings and clean the floor with the appropriate cleaner.
- 3. First use of the floor varies from one glue manufacturer to another. Generally the floor can have light foot traffic after the glue has cured for 8-24 hours with furniture being LIFTED into place after 24 hours. NOTE: Avoid walking on the floor during

installation as traffic may loosen or break glue joints.

NAIL DOWN INSTALLATIONS

Note: It is a requirement that all products with a board width of 7 inches and wider have nails supplemented by the use of adhesive. It is also recommended that adhesive be used with boards narrower than 7 inches but not required. Failure to supplement nail use with adhesive may result in

board movement or noises to emanate from moving boards which will not be considered a manufacturing defect. These adhesives may be trowelled on using methods and trowel recommended by the manufacturer or laid down in a bead if using sausage or cartridge adhesive. If trowellling and nailing the floor you should spread rows of adhesive that are perpendicular to the board direction and no more than 12 inches apart. If beads of adhesive are used they should be applied to the subfloor in a serpentine fashion along the entire length of the boards. A flexible adhesive such as Bostik Best, wood flooring Bona R851 or R850T (tube) should be used. Care must be taken to remove excess adhesive from the floor surface immediately or permanent damage may result.

These Engineered hardwood floors may be installed over wood sub-floors using cleats.

When installing these engineered wood planks or strips by nailing, it is necessary to use the proper type of flooring or nailer made for these Engineered Wood Floors.

Recommended Fasteners

1-1/2" or 1-3/4", 18 gauge wood flooring cleats are recommended for nail down installations. Numerous nailer manufacturers, including Primatech and Powernail manufacture tools suitable for these installations. Incorrect tool adjustment or cleat size may cause displaced wood to create blemishes on the floor surface. Cleats of insufficient gauge and/ or length may not secure the flooring to the subfloor adequately

Caution: We have tested the above-recommended fasteners. Other staplers, staples, nailers and cleats may work as well however, since they are not currently recommended if their use damages or fails to properly secure the flooring the responsibility is the installers and not the manufacturer.

You must nail 1" – 2" from the ends and every 4" along the edges. This will help insure a satisfactory installation. It is best to set the compressor PSI at 80-85 lb. to keep the fasteners from going through or breaking the tongues. Improper fastening techniques can cause squeaks in the floor.

Adjustments may be necessary to provide adequate penetration of the fastener into the nail bed. You want it flush in the nail pocket. Use a scrap piece of flooring material to set tools properly before installation.

If installing over a crawl space or wet basement, it is advisable to use the full glue down method, This will help to retard moisture from below. Keep in mind there is no complete moisture barrier system for nail down installations.

Beginning installation

Place the planks with the tongue facing away from the wall and along your chalk line. Use brads or small finishing nails to secure the first starter row along the wall edge 1"-2" from the ends and every 4" along the side. Counter sink the nails and fill with a filler that blends with the flooring installed. Place the nails in a dark grain spot in the board. The base or shoe moulding will cover the nails when installed after completion of the installation.

Blind nail at a 45° -degree angle through the tongues. It will be easier IF YOU PRE-DRILL THE HOLES IN THE TONGUES. Nail $1^{\circ}-2^{\circ}$ from the ends and every 4° along the sides. It will be necessary to blind nail the next 2 rows. A brad nailer with $1^{\circ}-3/8^{\circ}$ brads can also be used to blind nail and no pre-drilling is needed.

Continue the installation using an engineered wood flooring nailer, using nails recommended by the manufacturer. Nail the flooring 1" - 2" from the ends and every 4" along the edge tongues.

Complete the Installation

- -Clean floor with the recommended wood flooring cleaner such as Bona, Woodwise or Woodpecker brands.
- -Install or re-install any transition pieces that may be needed, such as Reducer Strips, T-mouldings, or Thresholds. The products are available pre-finished to blend with your flooring.
- -Install or re-install all base and/or quarter round mouldings. Nail mouldings into the wall, not the floor. Inspect the floor, filling all minor gaps with the appropriate blended filler.
- -If the floor is to be covered, use a breathable material such as Albert Floorotex or cardboard. Do not cover with plastic.
- -Leave warranty and floor care information with the owner. Advise them of the product name and code number of the flooring they purchased.
- -To prevent surface damage avoid rolling heavy furniture and appliances on the floor. Use plywood, hardboard or appliance lifts if necessary. Use protective castors/castor cups or felt pads on the legs of furniture to prevent damage to the flooring.

MAINTENANCE

These Engineered Hardwood Floors are very easily maintained. No wax, no mess. Simply use a quality wood floor cleaner and a specialty terry cloth flooring mop available from flooring retailers.

STEP ONE: Vacuum or sweep your floor to remove any particles that could scratch your floor.

Warning: Vacuums with a beater bar or power rotary brush head can damage a wood floor and never should be used.

STEP TWO: Apply the cleaner directly to the terry cloth flooring mop, not to the floor!

STEP THREE: Use a back and forth motion with the mop. When the terry cloth cover becomes soiled, simply replace it with a clean one. Cleaning the floor with a soiled cover could cause streaking. The covers are re-usable so simple throw the cover in the wash and dry its as you would any towel. Avoid using fabric softener as the absorbency will be reduced.

MANUFACTURER OBLIGATIONS

The responsibility of the mill is limited to repairing, refinishing or replacing defective products, to their discretion.

No distributor, retailer, installer, agent, salesperson or representative is authorized to modify or extend the conditions or duration of this warranty. Other compensation, like removal, installation, incidentals or any other expenses, are not covered by this warranty. (Note: Exclusions or limitations may not apply if they are against state or provincial law)

EXCLUSIONS

This warranty shall exclude the damages resulting from following:

Reduction or dulling of the floor's shine or gloss, which is not considered surface wear.

Shrinking and/or expansion of the floor, which is due to changes in relative humidity.

As wood is a product of nature, minor quality variations up to 5% of total square footage purchased are not covered by this warranty(as per industry standard) Incorrect handling or storage.

Cracking or/and peeling due to excessive surface pressure.

Neglect of maintenance, prevention or protection of said product.

Use of the product for other means than residential purposes.

Abnormal wear or abuse(i.e. indentations caused by spike heels, furniture or other sharp or abrasive objects, etc.)

Excessive moisture resulting from saturation with water or other liquid.

Insect infestation, blemishes or scratches caused by pets.

Extreme weather conditions and natural disasters.

Improper installation or acclimatization.

Any unauthorized repairs, refinishing, or removal of wood strip flooring.

OWNER OBLIGATIONS HUMIDITY

To prevent excessive expansion or shrinkage of your hardwood floor, it is important to maintain humidity level for your area between 35% and 50% approximately. Use appropriate relative humidity control devices ventilation system.

FINAL PRODUCT INSPECTION

The installer and/or the owner assume final inspection and acceptance for the product quality prior the installation.

PROTECTION

Water, dust, sand and salt are the worst enemies of wood. The combined effect of water and sand, salt or dust is devastating to flooring, so it is important to place floor mats at entrances.

Install felt pads to the legs of furniture and chairs to avoid scratching flooring when objects are moved.

LIQUIDS AND SPILLS

Never use a damped mop or wet cloth to clean your hardwood floor. Water can seriously damage any kind of wood. All liquids and spills should be wiped off as soon as possible in order to prevent any possible damage.

SUNLIGHT

Normal exposure to sunlight will cause colour changes in any hardwood floor. Area rugs, which block out light, should therefore be shifted regularly. The use of window coverings to shade the floor will minimize changes due to sunlight.

CARE PRODUCTS

For best results, we recommend the use of specially formulated wood care and maintenance products.

Also never use wax, household detergents or oil-based soap on the floor. These products may damage the finish and leave a greasy film, making the floor slippery and difficult to maintain afterwards.

PROCEDURES

Should you need to file a claim under this warranty, here is the procedure to follow.

Contact your authorized dealer and/or distributor where the floor was purchased.

You must have a copy of your original receipt and be the original owner of the floor.

The surface wear must be readily visible. At least 10% of the floor surface must be affected.

The factory keeps the right to inspect the floor and remove samples for technical analysis within 30 days from receipt of a written claim.

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