

## **PDNA ENGINEERED TONGUE & GROOVE HARDWOOD FLOORING INSTALLATION GUIDELINES (for all T&G profiled engineered floors, including: 1/2", 5/8" and 9/16" thick floors)**

### **Before you start read these Installer/Owner Responsibilities:**

Relative Humidity (RH) requirements: Engineered hardwood floors require a Relative Humidity of 35% - 50% continuously throughout the entire year. Installation over in floor radiant heat requires a Relative Humidity of 40% - 55% continuously throughout the entire year.

It is the installer/owner's responsibility to maintain the required RH within the recommended range throughout the year. Failure to maintain the required RH may damage the floor and void product warranty.

Before starting installation, it is important you read all instructions and warranty information. By starting installation of this product you are agreeing that you have read and understand all installer/owner's requirements and responsibilities and are aware that deviating from the instructions and recommendations in this installation guide may result in voiding the product warranty.

Hardwood is a natural product and may vary in colour and character from display models and literature. In addition, boards may differ from one another in colour and character. Verify colour and character before installation. Once the floor is installed, it is deemed to have been inspected, approved and accepted.

It is the sole responsibility of the installer/owner, prior to installation, to assure that the planned installation area is suitable for engineered flooring and meets local building codes. Confirm that all subflooring is dry, sound, flat and meets or exceeds all industry standards/local building codes; as well as the recommendations listed herein.

The manufacturer accepts no responsibility for product failure extending from or related to failure to meet job area/environment and subflooring requirements. If the installation is for a newly built home or construction, the installer/owner must ensure all windows and doors are installed and that wall and floor boards are completely dry and that the homes HRV/heating/air-conditioning system is functional and running at living conditions to which the floor will be maintained. It is recommended that flooring be the last stage in a construction project.

The installer/owner assumes full responsibility for the final inspection of this product. Inspection should be done prior to installation and should include: colour, factory finish, milling and grade. If the product is not acceptable, DO NOT INSTALL IT. Contact your supplier immediately for assistance. Flooring that has been installed will be deemed to have been inspected and quality accepted.

Engineered hardwood flooring is manufactured in accordance with recognized industry standards, allowing for a natural or manufacturing defect tolerance of 5%; therefore, the installer/owner must use reasonable selectivity and allow for defects accordingly. Pieces of flooring with noticeable flaws are generally used for cuts or for installation in closets, along walls or areas covered by furniture. The use of putty, stain and filler to conceal flaws is considered normal and accepted manufacturing practice.

If you wish to install over a radiant heating system consult with the manufacturer of your radiant heating system to ensure that it is compatible with engineered hardwood flooring. Temperature must never exceed 29° C (85° F) and changes in temperature settings must be gradual. Rapid temperature

changes and/or excessive heat will damage the flooring and/or the finish. Humidity must be maintained between 40% and 55% continuously throughout the entire year. It is the responsibility of installer/owner to confirm the suitability of the radiant heating system for use with this product. Any damage to the floor caused by the radiant heating system will not be covered by the product warranty.

### **Suggested Tools for Installation:**

Safety Glasses, Saw, Chalk Line, Tape Measure, 6' Straight Edge (or level), Shims, Pry-bar, Hammer, Finishing Nails, Flooring Nailer or Stapler (nail-down) or trowel and adhesive (glue down) or adhesive (edge glue).

### **Pre-installation:**

When calculating flooring square footage requirements, allow a minimum of an additional 5 - 10% for cuts, waste, grading and defects. If installing a diagonal or other special pattern, allow for 10% additional materials.

Acclimatize engineered flooring for a minimum of 48 hours. We recommend you leave the products in their original packaging (straps left on each carton) until time of installation at a temperature of 68°F to 80°F (20°C to 27°C) at 35 to 50% relative humidity in the area in which the flooring will be installed. Protect flooring from excessive heat/cold or sources of high humidity during storage.

### **Subfloor Requirements:**

All sub-floors must be clean, flat and dry prior to installation, regardless of installation method. Floors installed over non-flat subfloors may squeak and/or deflect when walked on. Sweep or vacuum your subfloor immediately prior to installation ensuring there is no debris or grit, as it may interfere with installation.

Wooden subfloors: Recommended  $\frac{3}{4}$ " CDX plywood, OSB or boards (follow NWFA guidelines), must be flat, high or low areas exceeding 3/16" per 10' (5mm per 3m) or 1/8" per 6' (3mm per 2m) must be corrected. Sand down high areas, fill low areas. Nail or screw down any loose areas and replace any damaged sheathing (damaged, swollen or delaminating). Moisture content of wood subfloors should not exceed 12% or read more than 4% difference that the engineered flooring being installed.

Nail/staple or glue down installations over particle board, wafer board or chip board is not recommended.

Concrete: most concrete subfloors (slabs) are not flat and must be leveled before installation. In all cases, verify the subfloor using a 10' long straightedge to locate high and low areas, low areas should be filled with a self-leveling compound. The moisture content of the concrete subfloor should not exceed 5%.

### **Underlayment:**

We recommend the use of an underlayment for all floor installations. Floating installations **require** an underlayment. Use an approved underlayment as recommended by your local dealer suitable for your chosen installation method.

Concrete on-grade slab / basement applications: If installing over on-grade or sub-grade concrete slabs, you must use a high performance vapour barrier to protect your floor from slab-borne moisture. Failure

to use an appropriate vapour barrier over concrete slabs in these cases may void the warranty. In addition to moisture protection, your choice of vapour barrier should also offer you acoustic performance.

Condos two-story homes or buildings: In the case of suspended structural concrete slabs, the use of a vapour barrier is always recommended and is required only if there is a risk of slab-borne moisture. In all cases, the use of an approved acoustic membrane is recommended to minimize the transfer of sound from level-to-level and improve the comfort level of the floor. Many municipalities have building codes for acoustic membranes; consult your local building codes or condo association for FIIC and STC acoustic rating requirements.

Installation:

- In all cases, T&G flooring should be installed perpendicular to the floor joists, unless you have added an extra sub-floor layer to stiffen the sub-floor to reduce sagging (see NWFA guidelines).
- Calculate the width of the install area and adjust the start/finish row boards to be at least ½ a board wide.
- Stagger your end-joints by a minimum of 8" to 10" and avoid "H" patterns and "stair-steps".

#### **NAIL DOWN GENERAL INSTALLATION INFORMATION:**

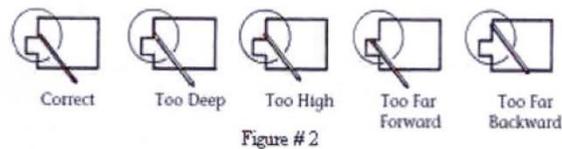
Option 1 - Starting from a wall:

- Set up your starting line for your first row as follows: measure the width of the T&G flooring you have purchased, adding 1/2" (12 mm) to this width. Using this measurement, make a clear mark on the floor at each end of the wall, staying a few inches away from the corner (where the wall is straight and true).
- Using a chalk-line, carefully snap a line between these two points.
- It is important to use the longest and straightest boards for the first row and medium to long lengths for the second row, this will start installation straight and true. Install these first 2 rows as shown.
- When installing the first row, note the GROOVED side of the board must be facing the wall.
- Starting 2" (5cm) from the end of the board and 1/2" (12mm) from the GROOVED edge of the board, pre-drill 1/16" holes every 6" (15cm).
- Align the tongue of the first row along the chalk-line. Using 7D or 8D nails, face-nail down the first row through the pre-drilled holes. Counter-sink nails using a nail punch. Next, blind-nail through the nailing pocket of the tongue on the first row, using 7D or 8D nails. Nails should be spaced every 8" (20cm). Use a nail punch to drive nails the last 1/4" to avoid damaging or bruising the edges of the boards. Nails must be countersunk to allow a close fit of the next board.
- Blind nail the next few rows until you are far enough away from the wall to utilise stapling or pneumatic nailing system.

Option 2 – Starting from the center of the room:

- Locate the centre line of the room, using a chalk-line, snap and mark the centre line.

- Temporarily install a secure “guide row” of hardwood (or other straight material) along the entire length of the centre line. Screw down this guide row to assure it does not move.
- Install a minimum of 4 rows of flooring along this temporary row.
- Remove the temporary guide-row and install a “slip tongue” (a solid strip of wood milled to allow reversing the direction of flooring) into the groove. Drill and nail the slip tongue into place to secure the centre edge of the first row.
- Continue installation from both sides of the centre of the room.
- To affix the flooring to the recommended sub-floor, use a pneumatic nailer/stapler designed specifically for use with engineered T&G flooring. Follow nailer/stapler manufacturer instructions regarding the use of proper adapters and fasteners.
- Correct air pressure settings are key to successful installation. Too low a pressure will insufficiently set nails/staples which will result in poorly fastened boards, damage to adjacent boards and difficulty in making tight joints. Too high a pressure will over set nails/staples, resulting in damaged or split tongues, loose and squeaky boards (see figure #2).



- To ensure even distribution of character and color, draw flooring planks from a minimum of 3 boxes at a time. Pieces of flooring with visible flaws, extreme colours or texture should put aside for end-cuts, use in less visible areas or in closets.
- To ensure proper spacing of the floor, end joints should be a minimum of 4” - 6” (10cm - 15cm) apart.
- For fastener spacing, staple or cleat nail every 6-8” and 2” (5 cm) from ends of boards to minimise the risk of splitting. All planks should have a minimum of 2 fasteners.
- It will not be possible to use a mechanical or pneumatic nailing system on the last 3 or 4 full rows. Install these last rows using the same method as outlined in “Option #1 – Starting from a wall” on the tongue side of the last full boards.
- Rip-cut the final row to fit, leaving a 1/2” to 3/4” (12 -19mm) gap along the finishing wall for future expansion. It should be drilled and face-nailed 1/2” (12mm) from the edge as previously outlined.

#### **GLUE DOWN GENERAL INSTALLATION INFORMATION:**

- For a glue-down installation, use a quality branded urethane flooring adhesive, following the adhesive manufacturer’s directives for trowel type, spread rate and any special subfloor preparation requirements. In general, the subfloor must also be free of oil, grease, paint, sealants or other materials that may affect the performance of your adhesive. Check to ensure your subfloor is completely smooth. Nail and screw heads must be countersunk.
- Set up your starting line for the first row by measuring the width of the engineered floor plank. Add 3/8” (10mm) to this number and mark the floor at each end of your starting wall, (approximately 6” (150mm) away from the corners). Using a chalk-line, carefully snap a line between these two points. This will ensure your first row is straight, even if your wall isn’t.

- Select the longest boards for the first two rows to ensure a straight and true installation. Apply adhesive to floor wide enough for the first two rows, using the trowel recommended by the adhesive manufacturer. Align the grooved edge of the first row of boards along the chalk line, tongue facing the starter wall. Ensure the first row is well seated in the adhesive by applying sufficient down pressure along all portions of the board. Full adhesive transfer is essential for the floor to be properly bonded to the subfloor. To correctly install each subsequent board, insert tongue of board into the next row leaving a minimal gap to board on left. Tap board into place and continue.
- We recommend you use temporary 3/8" (10mm) shims to keep the floor away from the walls, as the floor will shift during installation due to it being a "floating floor" until the adhesive sets. Place the shims every 2-3' (60-90 cm) along the starting wall, plus at the end of each of the starting rows so boards do not shift when set into place.
- Check to make sure the boards are making adequate floor contact, you can flatten the boards with weights to ensure full adhesive transfer, as required. Place the weights on a protective layer of cardboard to avoid damage to the floor. Leave weights for 24 hours.
- To keep joints tight we recommend taping every 4 to 5 rows together with painters easy release masking tape (make certain that no adhesive residue remains on the surface).
- Remove all tape when adhesive is fully cured.
- Remove all temporary shims, sweep & vacuum immediately.

#### **EDGE GLUED FLOATING GENERAL INSTALLATION INFORMATION:**

- For an edge-glued floating installation, follow the directives noted above regarding sub-floor preparation (**Note:** flooring planks or panels exceeding 6-1/2" in width are not recommended to be installed as a floating floor, they should be mechanically [nailed/stapled] or chemically [glued] fastened to the subfloor system).
- Floating installations may be made over most subfloors including: Plywood or OSB, ceramic/porcelain tile, smooth stone, marble, granite, and linoleum. Do **NOT** install directly over carpet.
- For installation over concrete, you must first install a moisture barrier underlayment.
- For installation over an existing hardwood or engineered floor, you must ensure the old floor is properly secured down. Install the new floor perpendicular to the old floor. If you choose to install the new floor in the same direction, you must install a minimum 3/8" (10mm) approved underlayment over the top of the old floor for stabilization. Also, if the old floors are wider than 6" (150mm), it must be covered with a minimum 3/8" (10mm) approved underlayment for stabilization.
- Set up starting line for the first row by measuring the width of the plank. Add 3/8" (10mm) to this number and mark the floor at each end of your starting wall, approximately 6" (150mm) away from the corners.
- Installation in rooms over 20' (6m) wide and /or over 40' (12m') long: If you are doing a installing floating and the width of the room exceeds 20' (6m) (across width of boards) and or 40' (12m) long (across length of boards), you need to install a T-moulding mid-room to allow the floor to naturally expand or contract with seasonal changes in humidity. Glue-down installations do not require mid-room T-moulding installation.

- Using a chalk-line, carefully snap a line between these two points. Check to make sure there will be approximately 3/8" (10mm) between the edge of your first row of planks and the wall. This space allows for slight expansion of the engineered hardwood and will be covered by the baseboard / quarter-round.
- Layout first row of boards, selecting longer lengths, the groove should be facing the wall. Apply a continuous bead of quality flooring adhesive to the groove of the second row and set onto tongue of previous row. Gently tap the tongue to fit tight and continue. First board should start 3/8" (10mm) from the wall. Cut the last board to finish 3/8" (10mm) from opposite wall. We recommend you use temporary 3/8" (10mm) shims to keep the floor away from the walls, as the floor will shift during installation due to it being a floating floor. Place the shims every 2-3' (60-90 cm) along the starting wall, plus at the end of each of the starting rows so boards do not shift when set into place.
- Continue to install the floor in sections of 5 complete rows. After each 5 rows, again inspect the floor as outlined above. Before installing last row, again verify the entire floor for any gaps, errors or shifting.
- Ensure there is a minimum 3/8" (10mm) gap around the entire floor perimeter. Measure and cut the last boards to fit so that there is a minimum 3/8" (10mm) gap along the last wall. Remove all temporary shims, sweep & vacuum immediately.
- To keep joints tight we recommend taping every 4 to 5 rows together with painters easy release masking tape (make certain that no adhesive residue remains on the surface).
- Remove all tape when adhesive is fully cured.
- Remove all temporary shims, sweep & vacuum immediately.
- Note: You must use a "T" moulding transition strip between rooms. Failure to do so may cause damage to the floor and will void the warranty.

#### **CHEVRON ENGINEERED PANEL FLOORING INSTALLATION:**

- If you are installing a Chevron engineered panel product, follow the guidelines for nail/staple and/or full spread glue down installations. We do not recommend edge-glued floating installation method for this type of product.
- Note that there are 6 panels per box: 3 profiled for right hand side and 3 profiled for left hand side. You will need to separate these into different piles.
- Begin the first row with the right hand profiled panels and then use the left hand profiled panels in the second row. Alternate between the right hand side and left hand side profiled panels in successive rows until the floor is completely installed.
- Be sure to align the Chevron points before mechanically or chemically fastening the panels to the subfloor system.
- Stagger panel end joints in consecutive rows by at least one third of the length of the panel (16") whenever possible.

#### **Finishing Details and Maintenance:**

- General cleaning: It is recommended that you sweep & vacuum the area immediately after installation to remove potential damaging grit and debris. A further cleaning with an approved pre-finished hardwood floor cleaner is also recommended, as required. Do not wax or use cleaning products that contain surfactants or oils. Never wet mop or steam clean the floor.

- Baseboards and quarter rounds: Replace or install new matching baseboards and quarter rounds in all areas. If baseboards and quarter rounds require finishing, it is best to pre-finish them in a separate area to avoid spilling on the hardwood or bamboo floor. Baseboards are to be nailed into the wall and quarter rounds into the baseboards. DO NOT nail either of these into the hardwood flooring.
- Transition pieces: If you have removed any transition pieces and not covered their place with engineered hardwood, reinstall them immediately.
- Furniture & appliances: If you are moving and placing furniture and appliances in areas with engineered hardwood floors, cover all feet and floor contact points with heavy self-adhesive felt pads to protect the floor. Lift objects when moving (furniture or appliance) DO NOT slide them.
- Felt pads on chair legs should be replaced periodically, as they wear and accumulate grit with use and can damage the floor.
- Outdoor footwear, hard soled shoes and stiletto type heels should not be worn when walking on your engineered floor, as they may dent, abrade or otherwise damage the surface and finish of your floor.
- Keep pet nails trimmed, especially dogs, as they may damage the floor.
- Toilet training accidents should be cleaned immediately. Do not keep litter boxes or food/water dishes directly on the flooring.
- UV from sunlight may slightly darken/lighten the color of your floor over time. This is a natural development in wood fiber and is not considered a defect. Periodically move area rugs and other objects to minimize any minor differences in areas over time.

#### **Engineered Hardwood Limited Flooring Warranty:**

This warranty is subject to the procedures, recommendations, limitations, disclaimers and exclusions mentioned herein and in the general information, installation and warranty sections of this document.

Engineered hardwood flooring products carry a limited residential warranty, when installed in a residential situation\* (SEE NOTE AT BOTTOM OF WARRANTY), against manufacturer and workmanship defects when used under normal conditions and installed in accordance with Manufacturer's installation instructions to the original purchaser owner of the home, as long as they continually own the home for the period of the warranty. Consult your original packaging for the warranty time specific to the product you have purchased. Note that you must retain an original label of the product purchased which denotes your warranty duration, as well as the UPC code and your original receipt of purchase. This warranty is not transferable. Manufacturer's warranty and liability does not extend beyond the flooring strips and is limited to a maximum value of the original purchase price. Warranty is limited to repair or replacement of the strips at the sole option of the manufacturer. The warranty does not include labour and installation costs nor any secondary costs. Claim compensation (if approved and/or authorised by Power Dekor NA) is limited to the specific area which Power Dekor NA deems to be valid under the claim.

This warranty does not cover and specifically excludes such damages as: indentations, scratches, dents, chips, pet damages and stains caused by normal wear and tear, sheen loss in high traffic areas, erosion from pebbles, stones, sand, all other abrasives, wet mopping, inadequate protection, insects, rot,

mould, mildew, bacteria, lack of maintenance, weather conditions, fire, water, high humidity, excessive dryness, natural disasters, excessive heat, heating and air conditioning systems, accident, improper installation or handling, cleaning agents, negligence or other causes not attributed to manufacturing or workmanship defects. Failure to adhere to and follow all the manufacturer's instructions for installation and maintenance and incorrect or insufficient maintenance. Any modification to the product other than as outlined in the manufacturer's installation instructions will render the warranty null and void.

The warranty excludes claims due to the development of naturally occurring flaws, stresses, warping, cracks, split ends or other flaws within the product which manifest over time, whether or not caused by age, low or high humidity, seasonal humidity changes, improper maintenance, uncontrolled environmental conditions or other natural causes.

This warranty does not cover natural contraction (loose boards and cracks/gaps between boards) or expansion (cupping of boards, buckling and warping), whether or not caused by excessively low or excessively high humidity. Nor does this warranty cover secondary damages (such as delamination) caused by floor expansion/contraction or installation environment where the boards were installed.

This warranty excludes noises of all types (creaks, squeaks etc.) emanating from the floor and/or subfloor.

This warranty excludes floors which have been installed in areas without adequate humidity control and/or when humidity has not been continuously maintained within required humidity level throughout the entire year as required herein.

This warranty excludes changes to gloss levels.

This warranty excludes claims due to differences in the colour and character from display models and literature, as well as differences in colour and character from board to board.

This warranty excludes bows in boards: it is the nature of boards to bow seasonally due to changes in relative humidity.

The warranty excludes claims due to natural lightening or darkening of the product from exposure to light, or to areas which have not darkened due to less exposure to light than surrounding areas.

This warranty explicitly excludes products sold "as is", on clearance, as seconds, utility, rustic, second, antique or other grades which utilises other than Select and Better grades of lumber. The original purchaser is responsible for correct installation, maintenance and cleaning of the flooring in accordance with the included instructions. It is important to note that natural and stained floors can have colour, grain variations and natural flaws & manufacturing flaws up to 5% and that the manufacturer cannot guarantee exact colour matches from one piece of flooring to the next. Colour, grain variations and natural flaws & manufacturing flaws up to 5% are not considered as manufacturer's defects under this warranty.

This warranty specifically excludes damages to floors caused by heating systems: heating ducts, heat sources and heating system components of all types.

This warranty specifically excludes colour variances from one dye/batch number to another. Prior to installation, verify the colours are an acceptable match. Co-install all batched in evenly distributed and well mixed manner.

In the case of claims for commercial installations, please note the following should your floor carry a limited commercial warranty. If applicable, the limited commercial warranty is only applicable to “light commercial” use and applications, which are defined as follows: low traffic areas in commercial offices, showrooms and retail spaces. In all cases, installed areas must not be subject to wet or abrasive debris or other conditions caused by wet or dirty footwear, these types of conditions will void the warranty. High traffic areas as defined previously herein are excluded from this warranty.

Power Dekor NA warrants to the original user that its products, when in their original manufactured condition, aside from previously mentioned information and exceptions, will be free from defects and dimensional inconsistency during the warranty period when installed and used under normal residential use in accordance with the terms, installation instructions, limitations and conditions herein. Power Dekor NA warrants to the original user that the finish on its products will not wear through nor separate from the flooring during the warranty period when installed and used under normal residential use in accordance with the terms, installation instructions, limitations and conditions herein.

This warranty is the entire and sole statement of warranty for the product and replaces any and all previous warranties, written, spoken, implied or otherwise. No implied warranties exist beyond the terms and conditions of this warranty, Power Dekor NA assumes no legal liability for any and all actual incidental and/or consequential damages, however, some states within the USA do not permit the exclusion or limitation of incidental and/or consequential damages, as such, this exclusion may not apply to you. This like all warranties gives you specific legal rights, in addition, you may also have other rights that vary from state to state or from province to province.

To file a warranty claim, contact the original supplier where the flooring was purchased

\* NOTE: Rental units, leased properties and apartments are considered commercial properties under this warranty. The limited residential warranty does not apply to these types of properties and installations. If your product purchase also carries a limited commercial warranty, it is the limited commercial warranty that applies to rental units, leased properties and apartments per the condition, exclusions and terms specified herein.

Note that Power Dekor NA reserves the right to visit or have its agent visit the premise where the product claim originates to inspect the product in dispute and to remove samples for verification and technical analysis. Failure to provide reasonable access to the installation area or to provide requested information and/or documentation may result in denial of the claim.

All warranty claims must be made in writing to Power Dekor NA through the original supplier and must include a complete copy of the original purchase receipt, installation documentation, as available, and other information that may be requested by Power Dekor NA including this warranty.

For information regarding our products, please visit our web-site: [www.powerdekorna.com](http://www.powerdekorna.com)

For questions e-mail us at: [customerservice@powerdekorna.com](mailto:customerservice@powerdekorna.com) or call toll free at: 1-844-MY-DEKOR