

# ENGINEERED WOOD INSTALLATION INSTRUCTIONS

## INTRODUCTION

These instructions are written as a guide to be used when installing Tarkett Flooring. These instructions, combined with our adhesives and flooring products, create a system. Utilizing this system will ease the installation process and provide the customer with a completed product that will perform to its intended purpose. Always visit [www.tarkett.com](http://www.tarkett.com) for the most current installation and maintenance instructions. Technical videos and tip sheets are also available. Contact Tarkett Technical Services at (800)-899-8916 with any questions.

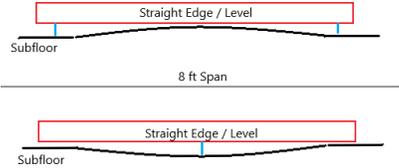
## GENERAL INFORMATION

1. Tarkett Engineered Wood flooring can be installed on, above, or below grade.
2. When ordering product for your installation, calculate the quantity needed for the square footage of the area of installation. For standard (straight) installations, add an additional 5-10% (for diagonal installations add 15% additional) to allow for cuts and to have extra material left over that can be used if a future repair is needed.
3. Tarkett Engineered Wood flooring is intended for installation in indoor, climate-controlled spaces only. The building must be structurally completed and enclosed, with all exterior doors and windows installed. All concrete, masonry, plastering, drywall, and paint must also be completed, allowing adequate drying time as to not raise moisture content within the building. All texturing and painting primer coats should be completed. Exterior grading, directing drainage away from the structure, as well as gutters and down-spouts should also be completed.
4. Cartons must be stored horizontally on a sturdy base at all times. Protect carton corners from damage.
5. Permanent HVAC systems must be fully operating a minimum of 5 days prior to flooring delivery to the site, maintaining room temperature between 65°F and 80°F (18.3°C–26.7°C) and relative ambient humidity between 35-55%. Temperature and humidity shall be always maintained at this range before, during, and after installation.
6. Tarkett Engineered Wood, any finish moldings and transitions, and any applicable adhesives shall be acclimated in the installation environment for a minimum of 48-72 hours; however, actual acclimation time may vary based on geographical location, climate conditions, and jobsite environment. Installation must not begin until the flooring has reached equilibrium with normal living conditions and the moisture content of the product aligns with the subfloor as outlined in the Subfloor Guidelines below. In drier or more arid regions, acclimation may need to extend beyond 72 hours – up to 5 to 7 days – to ensure the flooring reaches proper equilibrium. Open cartons of flooring during this period to allow wood to acclimate to humidity.
7. Hardwood flooring is a product of nature and therefore not perfect nor identical in grains or color, and differences can occur naturally as a characteristic of the wood. Carefully check flooring material for any defects or characteristics that are not acceptable to the end user. Contact your supplier immediately if any defect is found. **NOTE: The use of stain pens, filler, or wood putty for the correction of minor defects is standard and expected for the installation of any wood flooring product.**
8. Exposure to direct sunlight can result in fading and creates excessive heat directly on the finished flooring and surrounding structure which may result in movement. During peak sunlight exposure, the use of drapes or other window treatments are recommended.
9. Remove all existing transitions, quarter round, baseboard molding, or cove base prior to beginning the installation.
10. Undercut doorway moldings to the thickness of the flooring.
11. Tarkett TranquilStep™ Underlayment is an acceptable underlayment for mechanically fastened Engineered Wood. See TranquilStep installation instructions at [www.tarkett.com](http://www.tarkett.com) for complete details.

## SUBFLOOR GUIDELINES

Subfloor Construction	Requirements
All Subfloors	Permanently dry, clean, smooth, and structurally sound
	<p><b>Minimum substrate temperature</b> must be 60°F (15.6 °C). Substrate temperature should be a minimum of 5°F (2.8°C) higher than the ambient temperature and 10°F (5.6°C) higher than the dew point temperature.</p> <p><b>NOTE: Dew point calculators are available online. If your substrate is not 10°F (5.6°C) above the dew point, contact Technical Services at (800) 899-8916</b></p>
	<p><b>Residual adhesives</b> should be mechanically removed to trace amounts and encapsulated with an approved cementitious patching compound or encapsulation. Do not use chemical adhesive removers or solvents. Always follow Resilient Floor Covering Institute's (RFCI's) <i>Recommended Work Practices for Removal of Resilient Floorcoverings</i>.</p> <p><b>Caution: Some resilient flooring and adhesives contain "asbestos fibers" and special handling of this material is required.</b></p> <p><b>WARNING: Do not sand, dry sweep, dry scrape, drill, saw, bead blast or mechanically chip or pulverize existing resilient flooring, backing, lining felt or asphaltic "cutback" adhesive. These products may contain asbestos fibers or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.</b></p>



<p>(All Subfloors Continued)</p>	<p>Flat to within 1/8" in 8' (3.1mm in 2.4m). Any unevenness (humps or dips) must be sanded down or filled with a cement-based patching compound.</p> <p><b>EXAMPLE: Area of the BLUE line below cannot exceed 1/8" (3.1mm)</b></p> 
<p>Existing Flooring</p>	<p><b>Ceramic, Porcelain, and Natural Stone</b> tiles must be smooth, even, free of any wax or sealer, and well-bonded. Abrade the surface of the tiles if choosing a glue down installation method. All grout lines must receive a thorough brush cleaning.</p> <p><b>Plank-board or Strip-Wood Sub Flooring or Nail-Down Solid Wood Flooring:</b> DO NOT install over plank wood installed directly over a concrete slab floor.</p> <ul style="list-style-type: none"> <li>• <b>For Glue-Down Installations</b> – Do not install Engineered Wood over more than a single layer of existing flooring. The single layer must not be thicker than 1/8" (3.2 mm). Cover these existing flooring types with a single layer of plywood that is a minimum 3/8" (10 mm) thick</li> </ul> <p><b>For Glue-Down Installations: DO NOT install</b> over linoleum, sheet vinyl, vinyl tile, self-stick tile, vinyl composition tile (VCT), rubber flooring, laminate flooring, glass tile, bamboo flooring, glue-down engineered wood flooring, glue-down solid wood flooring, or any other non-porous flooring materials.</p> <p><b>For Nail or Staple installations:</b> For existing flooring, cover the existing flooring with a suitable underlayment panel. Ensure that the selected staples or nails can properly penetrate and secure the flooring to the underlayment.</p>
<p>Wood Subfloors</p>	<p><b>Wood Subfloor Moisture Content</b> cannot exceed 13% prior to installation. Subfloor moisture content shall not exceed 4% difference between the subfloor and wood flooring. Use a quality moisture meter to test this in accordance with</p> <p><b>Crawl spaces:</b> All suspended wood subfloors must have at least 18" of well-ventilated air space clearance above the ground. The ground under the crawl space shall be covered with 10 mil or thicker polyethylene sheeting to reduce moisture vapor transmission.</p> <p>Wood joist or truss systems spacing must be a maximum of 16" on center. Wood or joist truss systems spacing of 16"-19.2 is acceptable for double wood layer construction.</p> <p>It is recommended that wood subfloors have no movement or deflection, as installations over wood subfloors that are not structurally sound will likely result in movement and squeaking of the finish flooring. Squeaking is not considered a manufacturer defect.</p> <p><b>NOTE: DO NOT install over wood floors in direct contact with concrete substrates or installed over sleeper systems.</b></p> <p>Subfloor panels must be</p> <ul style="list-style-type: none"> <li>• dry, sturdy, smooth and dimensionally stable</li> <li>• double layer, 3/4" minimum thickness blocked or tongue and groove plywood or oriented strand board (OSB) over 16"-on-center (40.64 cm) floor joists. <b>NOTE: OSB is only approved for mechanical fasten (nail or staple) methods</b></li> <li>• good one side and have a fully sanded face with a solid core (no voids)</li> <li>• exterior grade or classified as Exposure I</li> <li>• panel joints offset by at least 16" so that four corners do not meet</li> <li>• securely fastened to the joists and free from spring or deflection (should not exceed 3/63" [1.1mm] per APA Product Standard 2-10 <i>Performance Standard for Wood-Based Structural-Use Panels.</i>) If glue-nail procedures are required, use a solvent-free construction adhesive</li> </ul> <p><b>Wood subfloors not meeting the above requirements must be covered with 1/4" minimum thickness underlayment grade plywood. Follow all APA and manufacturer's guidelines for installing underlayment grade plywood.</b></p> <p>Tarkett recommended underlayments include:</p> <ul style="list-style-type: none"> <li>• APA Underlayment Grade Plywood A-C, B-C, or C-C Plugged</li> <li>• ACCU-PLY</li> <li>• SurePly</li> <li>• TECPLY</li> <li>• ULAY</li> <li>• C.S.A. (CanPly) and Proboard</li> </ul>

Concrete Substrates	Approved for properly constructed and prepared on-grade, above-grade, and below-grade concrete.
	<b>Constructed</b> as recommended by the American Concrete Institute's <b>ACI 302.2 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials</b> . <b>NOTE: Refer to ACI 302.2 for recommended drying times for newly poured concrete.</b>
	<b>Prepared</b> according to <b>ASTM F710 Standard Practice for Preparation of Concrete Floors to Receive Resilient Flooring</b> . The slab must be swept, damp mopped and/or vacuumed to remove any dust. Any surface materials present must be removed, such as loose paint, wax, grease, oil, adhesive residues, crayon, pen marking, etc. that may migrate to the surface of the flooring causing discoloration. Fill and level any cracks, construction joints, control joints, depressions, grooves, or other irregularities with a high-quality, non-shrinking, latex-fortified, cementitious patching compound.
	<b>DO NOT</b> install Tarkett flooring over expansion joints, or other moving joints in the substrate. These joints must be respected and should not be filled with products that are not intended for that purpose. Contact an expansion joint cover manufacturer to meet specific flooring conditions.
	Complete 3 moisture tests for up to 1,000 ft <sup>2</sup> (add 1 additional test for every 1,000 after that) Test for moisture in accordance with: <b>ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes:</b> <ul style="list-style-type: none"> <li>• Must test to within 75% RH</li> </ul> <p style="text-align: center;"><b>-OR-</b></p> <b>ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.</b> <ul style="list-style-type: none"> <li>• Must test to within 3 lbs. / 1,000 ft<sup>2</sup> / 24 hours</li> </ul> <p>If the moisture test results exceed the limits above but does not exceed 95% RH or 12 lbs. / 1000 ft<sup>2</sup> / 24 hours, it is recommended that the flooring be installed as a Glue Down installation following the guidelines below for the Moisture Control Method in the adhesive application section.</p>
Gypsum	<b>For Glue Down Installations:</b> Refer to <b>NWFA Wood Flooring Installation Guidelines</b> for proper preparation of Gypsum-based underlayment. It is often necessary to apply a sealer and/or a densifier/hardener that is compatible with the adhesive being used in order to provide moisture protection and reduce cracking and degradation caused by natural movement. Follow the Gypsum manufacturer's guidelines for proper preparation.

## SUBSTRATE PREPARATION

1. All substrates must be dry, clean, structurally sound, smooth, and free from all oil, grease, paint, wax, sealers, existing adhesive residue, or contaminants.
2. The substrate must be flat within 1/8" in 8' (3.17mm in 2.4m).
3. Fill and level concrete cracks, construction joints, control joints, depressions, grooves, and other irregularities. Use a latex fortified, cementitious patching compound. Follow the manufacturer's recommendation for preparing.
4. Sweep and vacuum or damp mop substrate to remove all dust and debris.

## GETTING STARTED

1. Room temperature shall be between 65° F and 75° F (18.3°C–23.9°C) with relative humidity between 35-55% for a minimum of 14 days before the installation. Flooring and adhesives shall be acclimated to the conditions of the installation room for a minimum of 5-7 days prior to installation. Cartons must be stored horizontally at all times.
2. Inspect all planks for visible defects and damage before and during installation. During installation, inspect the groove area and remove any debris that may prevent proper assembly of planks. Do not install damaged planks. Tarkett will not accept responsibility for claims on flooring installed with obvious defects.
3. Remove quarter round, baseboard molding, or cove base.
4. Undercut doorway moldings to the thickness of the flooring.
5. Prepare your layout to determine direction and orientation of planks. To make the room appear larger, or if installing in very small rooms or hallways, it is preferable to lay the planks parallel to the longest room dimension.
6. Carefully measure the room to determine the squareness of the room and the width of the last row of planks. If the width of the last row of planks is less than 2" (5.08 cm), excluding the tongue, the width of first row of planks will have to be cut accordingly. If the length of any cut piece at the end of any row less than 8" (20.32 cm), the first plank in the row will need to be cut accordingly.
7. Select your planks for the first and second rows. **NOTE: It is recommended to shuffle from multiple cartons as selecting boards, so that they are blended in the installation.** Randomly install different length boards to avoid a patterned or stair-step appearance.
8. The entire perimeter of the installation as well as any areas abutting fixed verticals (cabinets, transition fasteners, pipes, etc.) must have 9/16" (14.3 mm) minimum expansion space to allow for expansion and contraction of the floor. Place the spacers around the perimeter and against any fixed verticals.

## SELECT THE INSTALLTION METHOD

- Glue down (Required for Herringbone)
- Nail or Staple

For all installation methods, Tarkett recommends the following tools:

- Circular, Table, or Chop saw
- Carpenter's square
- Spacers
- Tape Measure
- Pencil
- Chalk Line
- Universal Tapping Block and Hammer\*
- Pry Bar

\*Never use a hammer directly onto the face of the finish flooring, only use it to tap in the appropriate place on the chosen tapping block.

## GLUE DOWN INSTALLATION

In addition to those listed above, Tarkett also recommends the following tools for this installation method:

- Tarkett Home Wood Adhesive
- 1/8" x 1/4" x 1/4" Square Notch trowel
- Undyed (white) masking-type tape or equivalent

### Adhesive Application:

- Clean white rags
- Mineral spirits (Follow all manufacturer's precaution when handling this chemical)

Standard – For installations where moisture does not exceed the published limits outlined in the Subfloor Guidelines table above:

- Use a 1/8" x 1/4" x 1/4" (3 x 6 x 6 mm), square-notch trowel and spread the adhesive evenly across the subfloor, holding the trowel at a 45-degree angle.
- Keep trowel ridges perpendicular to the direction the Engineered Wood planks will be laid.
- Only apply as much adhesive as can be covered by flooring within 15-30 minutes.

Moisture Control Method – For installations where the moisture exceeds the published limits outlined in the Subfloor Guidelines table above::

- Do not install Engineered Wood if the MVER exceeds 12 lbs. / 1000 ft<sup>2</sup> / 24 hours.
- Use a 1/8" x 1/4" x 1/4" (3 x 6 x 6 mm), square-notch trowel. Key in the adhesive using the flat side of the trowel, ensuring 100% adhesive coverage across the area of installation.
- Using the notched side of the trowel, spread the adhesive evenly across the subfloor, holding the trowel at a 45-degree angle.
- Keep trowel ridges perpendicular to the direction the Engineered Wood planks will be laid.
- Only apply as much adhesive as can be covered by flooring within 15-30 minutes.

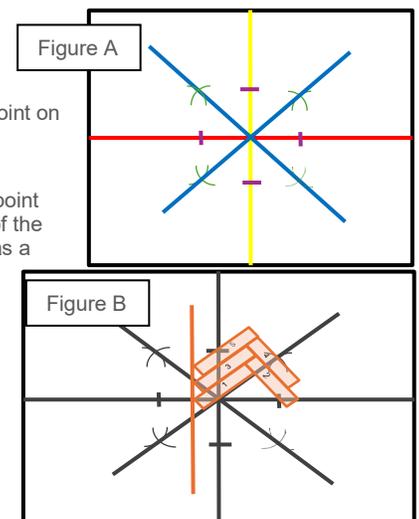
### Determining Layout:

Standard Planks:

1. Select a starting wall. Exterior walls are more likely to be square. Measure out from this wall at each end to the width of two planks plus the tongue and expansion space. Snap a chalk line from these points parallel to the starting wall. This will be the guideline for the installation.  
**NOTE: Temporarily securing a straight piece of lumber to the starting wall side of the chalk line can ensure a straight installation. Alternately, the first row of flooring can be face-nailed with finishing nails into a wood subfloor or sprig nailed into a concrete subfloor to hold it in place.**

Herringbone Planks:

1. Establish reference marks (Figure A)
  - a. Establish a starting primary line at the center of the room by measuring and marking the halfway point on two opposing walls. Snap a chalk line across this primary line. (red line). Repeat this step for the opposing walls and establish a secondary line (yellow line).
  - b. Next, set a mark for the 45° line by measuring equal distance in all four directions from the center point where the primary and secondary lines meet. (purple marks). Carry these markings into the field of the subfloor using trammel arcs (green arcs). Where these arc markings intersect, create a third line as a reference for the 45° angle (blue line). Repeat this process for the opposite direction.
  - c. (Figure B) Establish adjusted reference marks to align with herringbone pattern by dry laying approximately 6 planks and marking a new center line along the leading corner of the pattern (orange line).



2. Spread the adhesive using the recommended trowel from the chalk line out to the width of two planks. Do not apply more adhesive than can be covered in 15-30 minutes.
3. Install the first row of planks by laying the tongue edge of the planks against the chalk line or straight edge. Proper alignment of this row will be crucial to the installation. Ensure that all end joints are squared to the adjoining planks. The use of a tapping block and hammer to tap the planks together may be helpful. Stagger all end joints from row-to-row by a minimum of 6" (15.24 cm). Cut planks from the end of the first row can be used to begin subsequent rows if they are a minimum of 8" in length.
4. Ensure expansion space is maintained at all perimeters and against any fixed vertical obstructions.
5. Immediately clean any adhesive from the face of the planks using a clean, white rag dampened with mineral spirits (follow all manufacturer's precautions when using this chemical). Do not allow the adhesive to cure on the surface of the planks. **NOTE: Do not use water to clean the adhesive as this may cause swelling and damage to the planks.**
6. Once the first two rows are properly aligned and fully installed, apply additional adhesive in a band wide enough to cover with at least two rows, but not wider than can be reached over without kneeling into the wet adhesive. Do not apply more adhesive than can be covered with flooring within 15-30 minutes.
7. Repeat steps 2 through 5 to lay additional rows of planks.
8. Once several rows are installed, use strips of releasable painter's tape applied perpendicular to the installed rows and placed approximately 12" (30.48 cm) apart to stabilize the planks in the wet adhesive. Repeat this process for further rows until the installation is completed.
9. Continue until the remainder of the room is installed. The final row on the wall opposite the starting wall will likely need to be cut to width. Be sure to remove sawdust from these cut planks so as not to contaminate the adhesive. Once this row of planks is cut, the use of a pry bar may be required to install this final row.
10. Return to the beginning of the installation and remove any straight edge used to align the first rows. Spread adhesive on the exposed subfloor and use a pry bar to position the remaining rows. The final row of planks will require modification with the tongue being removed so that it can be dropped into place. The use of a pry bar type tool may be helpful in placing these final two rows.
11. When completed, planks which are not completely flat should be weighed for several hours to ensure bond of the adhesive.
12. Protect the flooring from light foot traffic for a minimum of 6 hours, and furniture placement for a minimum of 12 hours. Once adhesive has cured, all painter's tape can be removed.

## NAIL OR STAPLE DOWN INSTALLATION

**NOTE: Minor squeaking and noise are inherent to a staple or nail down installation. These conditions are not considered a manufacturing defect and are not covered by the warranty.**

### Fastener Type\*:

- **For staple down installations**, use 15.5g staples not less than 1 ½" (3.81 cm) in length.
- **For nail down installations**, use a 16g-18g cleat not less than 1 ½" (3.81 cm) in length. Ensure that a specifically designed tongue-and-groove engineered flooring nailer is used.

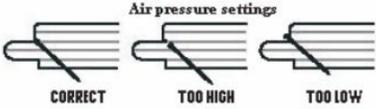
### Fastener Spacing\*:

- 6-8" (15.24-20.32 cm) intervals along length of each board
- 1-3" (2.54-7.62 cm) from each end joint of every board
- Minimum of 2 fasteners per board

*\*As recommended by the NWFA Wood Flooring Installation Guideline.*

In addition to those listed above, Tarkett also recommends the following tools for this installation method:

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| <ul style="list-style-type: none"> <li>• Tarkett Tranquil Step Underlayment, Red Rosin Paper, or equivalent underlayment</li> <li>• Engineered Hardwood Pneumatic Stapler or Nailer</li> <li>• Air Compressor with regulator</li> <li>• Selected Fastener (as recommended above)</li> </ul> | <ul style="list-style-type: none"> <li>• Safety Glasses</li> <li>• Power Drill</li> <li>• 1" (2.54 cm) Finish Nails</li> <li>• Matching wood filler</li> </ul> |
|---|--|

1. Set up the Pneumatic Finish Nail or Pneumatic Brad Tack Gun. Follow the manufacturer's instructions and precautions for complete set up and operation of the pneumatic tool.
    - a. Ensure that the adapter of the pneumatic tool seats properly into the tongue and groove of the flooring. Use the retaining feet of the adapter to adjust so that the planks are held firmly against the subfloor when positioning the pneumatic stapler.
    - b. Attach the pneumatic tool to the air compressor following all manufacturer's guidelines. Set the regulator to 80 psi and start the compressor. **NOTE: Pressure shall never exceed 100 psi, this can damage the pneumatic stapler and cause harm.**
    - c. Use a scrap piece of flooring and set it flush on the substrate. Fully engage the pneumatic tool into the tongue of the plank. The top of the fastener's crown shall be flush with the nail pocket on the plank. Reduce or increase the pressure on the air compressor until the fastener is flush.
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2. Cover the entire area of installation with red rosin paper or other suitable engineered wood flooring underlayment lining material.
  3. Select a starting wall. Exterior walls are more likely to be square. Measure out from this wall at each end to the width of one plank plus the tongue and expansion space. Snap a chalk line from these points parallel to the starting wall. This will be the guideline for the installation. **NOTE: Temporarily securing a straight piece of lumber to the starting wall side of the chalk line can ensure a straight installation. Alternately, the first row of flooring can be face-nailed with finishing nails into a wood subfloor or sprig nailed into a concrete subfloor to hold it in place.**
  4. Install the first row of planks by laying the tongue edge of the planks against the chalk guideline. Proper alignment of this row will be crucial to the installation. Ensure that all end joints are squared to the adjoining planks. The use of a tapping block and hammer to tap the planks together may be helpful. Cut planks from the end of the first row can be used to begin the second row if they are a minimum of 8" in length.
  5. Drill pilot holes through the face of each plank at 6" (15.24 cm) spacing about 1" (2.54) cm from the back of the board. Placing these pilot holes in darker grained areas of the board will help camouflage their appearance. Secure to the subfloor with 1" (2.54 cm) finish nails. Countersink the nails and fill with matching wood filler. Be sure to remove any excess wood filler from the surface of the boards.
  6. After the first row is complete, continue with the predrill and nail or brad tack procedure into the nail pocket of the planks, securing the selected fasteners at a 45° angle. This procedure should be used until subsequent rows are far enough out from the starting wall that the pneumatic stapler has room to operate. Stagger all end joints from row-to-row by a minimum of 6" (15.24 cm).
  7. For subsequent rows, use the pneumatic tool to apply fasteners at the recommended spacing.
  8. Continue until the remaining portion of the room is installed. The final row on the wall opposite the starting wall will likely need to be cut to width. Once this row of planks is cut, the use of a pry bar may be required. This row of planks will also require pre-drilling and secured to the subfloor with finish nails as outlined in step 5 above.
  9. Return to the beginning of the installation and remove any straight edge used to align the first rows. Use a pry bar to position the remaining rows. Predrill and face nail these rows as outlined in step 5 above. The use of a pry bar type tool may be helpful in placing these final two rows.

## FINISHING THE INSTALLATION

1. Sweep the floor to remove all dust, debris, and scraps as these may damage the new flooring.
2. Inspect the final installation for any imperfections that may need attention. Touch-up any nicks, scratches, or minor gouges in the wood using wood stain markers or fill sticks that are available at home centers and online.
3. Save all leftover planks and cut scraps so that they will be available in the event of a board replacement or repair. Store left over planks in a dry area to prevent warping.
4. Install transition moldings, quarter round, and/or base moldings.
5. Use plywood to cover the top of the flooring when moving heavy furniture or appliances into position.
6. Use proper floor protectors under the legs of furniture.
7. Post installation temperature must be maintained between 60° F and 80° F (15.6°C–26.7°C) with relative humidity between 35-55%.

### Tarkett North America

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