

GLUE DOWN INSTALLATION - DRYBACK PRODUCTS

Read entire installation instruction sheet prior to beginning installation. Improper installation of the flooring or deficiencies related to site conditions may result in failure of the installation and will void your warranty. Owner/installer assumes all responsibility for final inspection and acceptance of product prior to installation. Always reference manufacturer's current installation recommendations. Installation guidelines are available in additional languages upon request.

For installations in EU: refer to standards for installation of floorcovering for the country of installation (Germany VOB/C and DIN18365/DIN18299; UK British Standard BS8203:2017; France NF P62-203:2007-04-01; NF DTU 53.2:2007-0401; Spain UNE CEN/TS 14472-4:2004).

JOB-SITE EVALUATION:

- Calculate the room size prior to installation. Add 5-10% to total flooring quantity needed to cover floor surface for cutting waste.
- Determine the direction the floor will be installed. It is recommended that the flooring be installed parallel to the longest outside wall or parallel to the main light source for optimal appearance.
- Acclimate flooring for a minimum of 48 hours prior to installation in the area where it is to be installed. Room temperature and relative humidity must be consistent with normal, year-round living conditions for at least one week prior to installation. Conditions should be maintained at the same temperature and humidity level expected for normal use between 65-85 degrees F (18-29 degrees C) with relative humidity range between 35-65%, before, during and after installation. LVT/LVP is not suitable for exterior use or in areas where normal, year-round climate-controlled conditions are not maintained.
- Ensure that subfloors are dry prior to onset of installation and that a moisture barrier is installed between the ground and subfloor. Concrete should be cured and tested for moisture.
- Substrate must be clean and free of dirt, debris, or any contaminants; structurally sound; and level to within 3/16" over a 10-foot radius (4 mm over a 300 cm radius).
- Carefully examine each piece of flooring for visible defects prior to installation. Ensure there is sufficient natural or artificial lighting for thorough inspection of the flooring with regard to finish, color, texture and sheen. Do not install any piece of flooring that may be considered questionable in appearance or quality. Installer assumes all responsibility for acceptance of flooring installed with visible or manufacturing defects.
- Check cartons to ensure that the item number and lot number are the same for all material to be installed. Work from 2-3 cartons at a time to insure the best representation of pattern, color, and design. Manufacturer is not responsible for color or sheen variation when material from multiple lots is installed.
- Check planks and tiles for directional arrows imprinted on the back of the product. Ensure that all arrows are pointing in the same direction to insure proper visual of installed product.

TOOLS NEEDED:

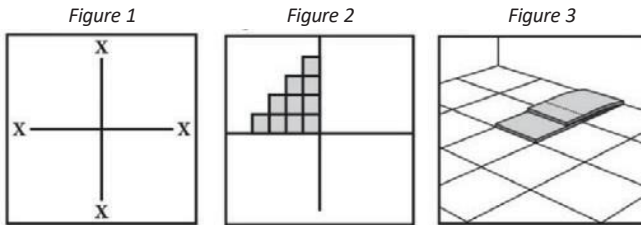
Tape measure, pencil, chalk line, utility knife, manufacturer's recommended notched trowel, 100 lb. (50 kg) roller

SUBFLOOR REQUIREMENTS AND PREPARATION:

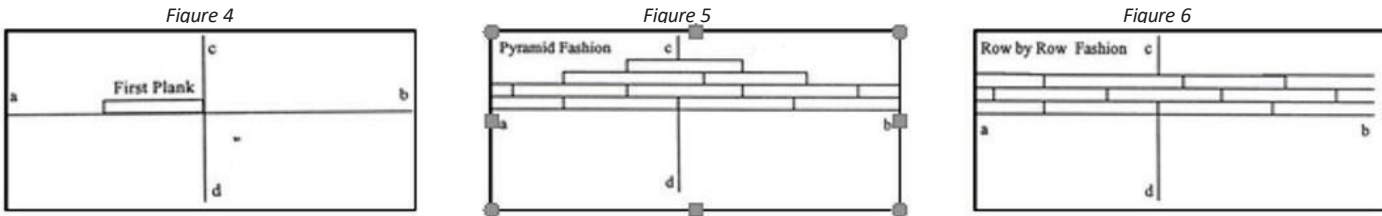
- All subfloors should be inspected prior to installation, and must be smooth, clean, dry, structurally sound, and free of dust, dirt, oil or any other contaminant that would inhibit a proper bond. Use a good quality Portland cement-based patching compound to fill or smooth any irregularities in the subfloor that may telegraph through the surface of your LVT/LVP.
- Concrete subfloors must be at least 90 days old and fully cured. Concrete must be free of moisture or high alkalinity, with a minimum of 6-mil poly film moisture barrier between the ground and the concrete. Concrete must be pH neutral prior to installation. Moisture levels in concrete should be tested according to ASTM F2170-2 (standard test method for determining relative humidity in concrete floor slabs using in situ probes) with a moisture content not exceeding 5 pounds per 1000 sf; or ASTM F1869-98 (standard test method for measuring moisture vapor emission rate of concrete subfloor using anhydrous calcium chloride – CM method) with a maximum permissible moisture content of 2.0%. See also BS 8203:2017 Annex B Hygrometer test for dampness of concrete, cementitious and calcium sulphate bases.
- Concrete should be dry, clean, and level to within 3/16" in a 10-foot radius (4 mm over a 300 cm radius). Level low spots with a Portland cement based leveling compound and grind high spots to ensure floor is level.
- Manufacturer does not warrant or guarantee unsatisfactory installations due to the presence of excessive alkali, moisture or hydrostatic pressure in subfloors.
- Wood subfloors shall have at least 18" (46 cm) of well-ventilated space below. The ground under crawl spaces must be covered with 6-mil (1.25 mm) poly film to reduce moisture vapor transmission. Wood subfloors must be double construction or equivalent, with a minimum thickness of 1" (2.54 cm), such as APA rated underlayment grade plywood with a fully sanded face that is free of voids. Wood subfloors such as particle board, OSB or construction grade plywood are not suitable subfloors and must be overlaid with a layer of APA underlayment grade plywood or coated with a quality embossing leveler to smooth any irregularities in the subfloor that may telegraph through the surface of the LVT/LVP.
- Warning: Existing resilient floor coverings and black asphalt adhesive may contain asbestos, asbestos fiber or crystalline silica. Do not sand, scrape or abrade these materials. If removal of existing resilient floor covering is necessary, be certain that all precautions are taken, and proper procedures are followed. For information regarding proper removal procedures in the US, please refer to "Recommended Work Practices for the Removal of Resilient Floor Coverings" published by The Resilient Floor Covering Institute. In Europe, please refer to "Asbestos and man-made mineral fiber materials in buildings: practical guidance. 2000", DETR publications.
- LVT/LVP may be installed over some existing floor covering materials. Existing resilient floor covering must be smooth and consist of a single layer of non-cushioned flooring which is well adhered to the subfloor. Use embossing leveler to smooth the surface and prevent telegraphing on to your new LVT/LVP. Do not install over carpet, perimeter glued resilient flooring, ceramic tile, hardwood flooring or laminate flooring.
- LVT/LVP flooring may be installed over in-floor hydronic radiant heat systems under the following guidelines. Complete system must be operational at least one week prior to installation. The system should be turned off 72 hours prior to installation and remain off 72 hours after installation is complete. After this time-frame, gradually return system to normal room temperature setting. Subfloor surface must never exceed 80 degrees F (27 degrees C) throughout the life of the floor. Flooring and adhesive should never come in direct contact with heating system. All other standard installation instructions apply.
- Sweep or vacuum subfloor to remove any loose dust or dirt particles prior to onset of installation.

STARTING THE INSTALLATION:

- LVT/LVP may be installed with wet-set or pressure sensitive adhesive, or equivalent. Use of high temperature (HT) adhesive may be necessary for extreme climate conditions (sun rooms, basements and underfloor heating systems). It is the installers responsibility to ensure that the proper adhesive is used for each application and specific site conditions. Follow adhesive manufacturer's recommendations for use, with manufacturer recommended trowel. Spread only the amount of adhesive that can be covered within the working time specific to the adhesive being used. Contact supplier for a listing of acceptable adhesives.
- When installing flooring with attached pad, no additional underlayment should be used. Underlayment for use with LVT/LVP products without pad attached must be specifically designated for use with LVT/LVP. Follow manufacturer's instructions for installation.
- For best results, LVT should be installed starting from the center of the room. Measure and mark the center of each end wall. Connect center points with a chalk line. Locate the center and establish a second chalk line at a right angle to the existing line. (Figure 1)
- Tile should be installed in a pyramid fashion. Carefully place the first tile at the junction of the chalk lines. Continue laying the tiles, making sure each one is flush against the chalk line and tight against adjoining tile. (Figure 2)
- To fit partial tiles, lay the piece to be cut exactly over the last full piece, place another full piece against the wall and make the cutting line where they overlap (Figure 3). Make sure the edge of the flooring is against the wall to ensure the factory-finished edges are next to each other. To fit the floor around the door jambs, pipe or other protrusions, cut a paper pattern to fit, and trace it on the face of a piece. Cut the piece and try fitting it into place before installing.



- When installing LVP, position the first plank at the junction of the chalk lines. (Figure 4) Continue laying the planks, making sure each one is flush against the chalk line and tight against the adjoining plank. Be sure the planks are well seated into the adhesive and continue laying in either pyramid fashion or row by row. (Figure 5 & 6) Planks should be staggered, with minimum of 8" (200 mm) or 25% of the length of the plank between end joint of adjacent planks. No plank less than 6" (150 mm) should be installed.
- When installation is complete, roll flooring in both directions using a 100 pound (45-50 kg) sectional floor roller. Install trim to cover any exposed space or uneven cuts at walls or vertical obstructions. Do not affix trim to the floor.



PREVENTIVE CARE:

- The easiest way to maintain the optimal look and performance of your floor is to reduce the amount of dirt, grit and moisture with an effective barrier mat. This should be cleaned regularly. The use of rubber-backed or coco-fiber mats is NOT acceptable, as they are known to stain resilient floors.
- Never slide heavy furniture or fittings over an unprotected floor. Severe scratching or damage may occur as a result. The floor should be protected from wheels, casters or feet of fittings and furniture, avoiding rubber products, which may stain the floor. Use hard plastic or felt pads under heavy furniture to prevent point loads. Non-staining felt pads can also be used, provided they are changed on a regular basis to prevent dirt, debris and grit build-up. Wide, non-staining type W casters at least 2" (50 mm) in diameter, or floor protectors should be used on rolling furniture, such as office chairs (in Europe, casters must be in accordance with DIN18354 and EN12529).
- Furniture polish and window cleaning agents should be applied directly to a cloth to avoid over-spray or spillage onto the floor. Contact with some agents, such as silicone, will make the floor surface extremely slippery, which may result in accidents.

REGULAR MAINTENANCE

- Sweep or vacuum regularly to remove dust and loose debris, then clean with PH neutral cleaner specifically formulated for use on resilient floor covering, in accordance with the manufacturer's instructions and allow to dry. Always remove excess moisture to prevent slip and fall hazards. Do not use soap-based detergents, caustic or abrasive cleaners.
- Most cleaning agents will not harm the floor; however, all residue of cleaning agents should be removed immediately to avoid discoloration. The following substances may stain or discolor resilient flooring: tar, nail-polish, varnish, some spices, shoe polish, lipstick, solvent-based paints, rubber mats, coco-fiber mats, asphalt, permanent markers, crayons, hair dye.

ADDITIONAL CONSIDERATIONS FOR FLOOR CARE:

- Never use a steam mop on the flooring. Use of steam mops may cause damage to your floor.
- Always use clean floor care applicators. Use of dirty applicators redistributes the dirt throughout the floor surface.
- Do not mix cleaning products from different manufacturers – they may not be compatible.
- Wipe up spills immediately.
- Take precautions to prevent dark rubber from coming in contact with the floor.
- Protective mats are recommended under castor chairs or wheeled furniture.
- Never deviate from the manufacturer's recommended instructions for use of maintenance products.
- Use warning signs to advise that cleaning is in progress – damp floors are slippery and may present a slip/fall hazard
- Use curtains, blinds or solar film to protect against thermal dimensional changes and discoloration of the flooring from exposure to direct sunlight.
- Retain several planks for repairs in case of accidental damage.

FLOATING INSTALLATION - WPC & SPC PRODUCTS

READ BEFORE INSTALLING:

- Vinyl Plank flooring is designed to replicate the look of a real wood floor. Our intention is to include variations in surface texture, color, grain patterns, and gloss levels. To make the floor look as realistic as possible, we recommend working from several cartons at once for a natural look.
- The installer and/or end user is responsible to inspect the floor before installing the planks. If a plank is questionable in terms of color, pattern, texture, gloss level, or milling, do not install it. The Manufacturer cannot be responsible once the plank is installed.
- Due to the precise milling of the tongue and groove clic system, subfloor flatness needs to be within 3/16" in a 10' radius for best product performance. The Manufacturer also recommends maintaining a 1/4" expansion space along both edges and ends of the boards and between any walls or vertical obstructions. And while our floor is waterproof, it is not a proper moisture barrier. Proper waterproofing practices should be followed to protect the home from moisture issues.

Three Season rooms & Cottages: Titan Surfaces Luxury Vinyl Flooring can be installed in 3 season environments. It is important to understand; all Luxury Vinyl Flooring approved for areas such as Solariums, Sunrooms, three season rooms and seasonal cottages can withstand temperature variations ranging from a low -20°F (-29°C) to a high temperature of 150°F (65°C) when not occupied. While occupied, the temperature range requires being maintained between 55°F (13°C) to 100°F (38°C) *Note: Special considerations need to be given to proper acclimation and temperature ranges prior to installing in 3 season environments. Verify the temperature fluctuations prior to installation to determine if the area is suitable for LVP flooring. If you select to install in an environment that will be subject to fluctuating temperatures, Titan Surfaces recommends an expansion gap of 5/8" (16mm) for areas that will be exposed to temperatures greater than 100°F (38°C) to allow expansion and contraction of the subfloor.

Acclimation: (Uncontrolled storage) Acclimate all materials in the area to be installed between the temperatures of 55°F to 100°F (12.78°C to 38°C) a minimum of 48 hours before, during, and after the installation. Protect flooring from excessive heat/cold during storage. If the product is stored in an environment different from the installation site and the temperature ranges are controlled within the 55°F to 100°F (12.78°C to 38°C) The offsite acclimation can be considered acceptable. Please note the material will need to be delivered directly to the installation site with no stops in between.

PRE-INSTALLATION JOBSITE CHECKLIST:

- Jobsite conditions are beyond the control and responsibility of the Manufacturer.
- Inspect each piece before installing and do not install any questionable/objectionable pieces.
- Crawl spaces below flooring must be properly ventilated and covered with black polyethylene film.
- Room temperature in the home, before, during, and after installation needs to be consistent with normal living conditions. (approximately 65-75 degrees and 30 to 50% humidity levels)
- Vinyl flooring can be susceptible to thermal degradation if subjected to long periods of direct exposure to excessive heat and sunlight. Use of shades/blinds/drapes, or other window treatments is suggested to avoid exposing the floor to extreme sunlight conditions.

The installer/owner assumes full responsibility for the final inspection of this product. Inspection should be done prior to installation and should include print/color/texture/ factory finish /visible conditions (please note the installation site requires proper lighting). 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. Titan Surfaces will not accept any responsibility for any flooring installed with visible defects. Your Luxury Vinyl Flooring is waterproof but is not a moisture barrier. Water traveling over or around the outer edges of the flooring can damage the subfloor. Water damage and or associated conditions are not warranted. In addition, other contaminants could migrate up as well. These are not manufacturing related conditions.

When installing in a lavatory, bathroom, laundry room, or other area with frequent water usage, fill expansion spaces around potential wet areas only with premium waterproof 100% silicone caulk. This will lower the possibility of the water traveling under the floating floor and help to reduce bacterial growth and problems associated with it. Do not install fixed objects, such as cabinets, islands, wall units etc. on top of the flooring or fasten trim/molding/ transition pieces directly to the floor. Please refer to our warranty for information regarding rolling loads.

SUBFLOOR REQUIREMENTS:

- Subfloor must be clean, structurally sound/tight, and visibly dry.
- Floor must be flat to within a 3/16" in 10' radius tolerance.
- Acceptable Substrates include: Concrete Slab, Sheet Vinyl, Ceramic Tile, CDX Grade Plywood, OSB (3/4" Min), Underlayment grade Particleboard, and existing Hardwood or Laminate floors.

Concrete: Must be fully cured (at least 60 days old). The flatness of concrete subfloors must meet or exceed the requirements of ACI FF25. Most concrete subfloors are not flat/smooth and must be properly prepared before installation. In all cases, verify the substrate is flat (See above subfloor and substrate requirements). Fill all holes and cracks with a latex fortified Portland cement-based patching compound. Titan Surfaces only recommends the use of latex fortified Portland cement-based products as a satisfactory patching or leveling compound. Grind down high areas and fill any low areas with a Portland-based patching compound. (Do not use solvents or chemical adhesive removers to remove paint residue or adhesives).

While the product is a waterproof flooring it is required that concrete slabs be tested for moisture vapor emissions with either a Calcium Chloride or an In Situ Relative Humidity test. Moisture in the substrate will not damage the panels. However, excessive moisture in the substrates may migrate to the walls and structure and cause bacterial growth issues if left unattended. This may lead to dimensional instability issues with the product such as curling, cupping, doming, etc. It is up to the installation contractor to determine if the subfloor exceeds the maximum moisture levels of 8 lbs. Calcium Chloride or 85% Relative Humidity. Should the subfloor not meet the moisture level requirements, Titan Surfaces recommends using a 6 or 8 mil vapor barrier under the Luxury Vinyl Flooring. Claims determined to be caused by moisture related site conditions may be denied.

With respect to environments with rolling traffic, glue down applications will help reduce the effects of rolling traffic. For glue down installations refer to Titan Surface's "Luxury Vinyl Flooring Glue Down Installation Guidelines". If your Luxury Vinyl flooring comes with the attached back it will be necessary to remove the backing for glue down installations.

Existing Ceramic Tile, Quarry Tile, and Terrazzo Flooring: All existing tile must be well-bonded to the subfloor or substrate. Terrazzo flooring should be sound and stable. Any weak area should be filled in using a Portland based patching compound. The floor must be cleaned and contaminate free. Titan Surfaces recommends that you skim coat any existing grout lines exceeding the specifications with a latex fortified Portland cement-based patching compound. Grind any irregular surfaces.

RADIANT HEAT:

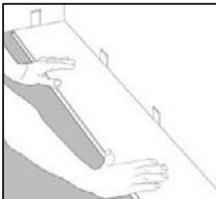
- The heating system should be turned off during the installation, as well as 24 hours before, and 24 hours after.
- After installation, the system should gradually be brought up to temperature, and should never exceed 85 degrees.
- Surface applied heating mats are not an acceptable type of radiant heat.

BEFORE INSTALLING YOUR FLOOR:

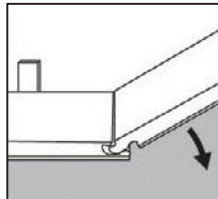
- Plan your layout to allow for a 1/4" expansion space from all vertical obstructions
- Dry lay several cartons of flooring to get a feel for color and surface variations and to make sure the floor meets the end users satisfaction. Claims for color, surface, and grain variations cannot be accepted once the floor is installed.
- If color coordinated molding is to be used, first select panels that best match the available molding and make sure these panels are installed adjacent to the molding.

FLOOR INSTALLATION:

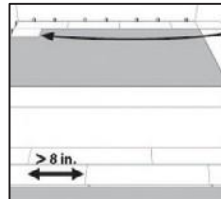
- Carefully follow the installation graphics and printed instructions below each picture.
- Take precautions with tapping blocks and pull bars so that the Unilin Angle/Tap tongue and groove system is not damaged.
- NEVER TAP DIRECTLY AGAINST THE PROFILE.
- To start the second row, use the remainder of the last panel of the first row if it is 12" or longer, otherwise, cut anew panel in half and proceed. To ensure structural integrity of your floor, it is mandatory to ALWAYS STAGGER THE END JOINTS FROM ROW TO ROW BY AT LEAST 8".
- Install one panel at a time, so that the end with the groove is exposed to receive the next panel. Place the profile of the scrap section along the large end of the next panel (groove) gently tapping on the scrap piece until the ends of the two panels lock together. Avoid locking the scrap section and panel being installed. Should it become locked you will need to gently slide it away from the former row. NEVER USE EXCESSIVE FORCE when tapping the panels together, as this may damage the locking profile. Continue and repeat for the remainder of the installation. Hint: For the final piece in a row, use a pull-bar to pull it tight and lock the end profiles. DO NOT strike directly on the locking profile to tap the pieces together, as this may damage the locking profile or the panel.
- Always check to assure your end joints remain properly engaged and the length joint is straight.
- Replace or install new coordinating baseboards and quarter rounds in all areas. Baseboards are to be nailed into the wall and quarter rounds into the baseboards. DO NOT nail either of these into the flooring. Hint: When possible, select a tile or plank from the cartons that will best coordinate with the molding to avoid moderate and above variances.



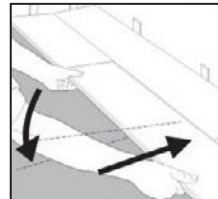
STEP 1: Begin installation working from left to right. Insert 1/4" wide spacers at ends and edges where planks meet wall.



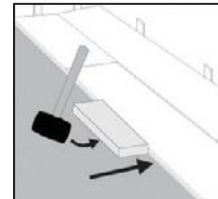
STEP 2: Lock short end of plank by inserting tongue into groove at an approximate 30 degree angle and drop into place. Continue this process throughout the installation.



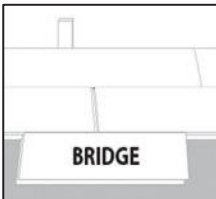
STEP 3: Use the remaining plank from your cut piece to begin the next row (you will repeat this process throughout the installation.) Note: It is recommended that you space end-joints by a minimum of 8 inches.



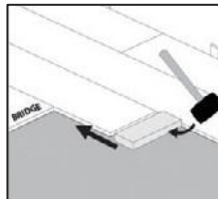
STEP 4: Lock long edge of plank by inserting tongue into groove at an approximate 15 degree angle and drop into place. Next slide toward end of previously installed plank until the tongue touches the groove.



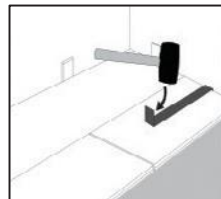
STEP 5: IMPORTANT! Use a rubber mallet and tapping block to tap the long edge of the plank to ensure a tight fit. Note: Tapping block should be a minimum of 10" to 12" long. It is important to note that any/all gapping can/will compromise the locking system.



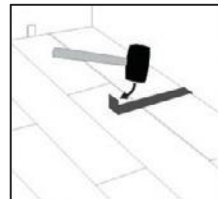
STEP 6: Attach a scrap piece of floor to bridge gap between ends of planks.



STEP 7: Tap end of plank with rubber mallet and tapping block to lock ends of planks together. Remove support bridge and continue with this method until you have completed installing the row. Note: BE SURE TO TAP ON EDGE OF VINYL SO AS NOT TO DAMAGE LOCKING PROFILE.

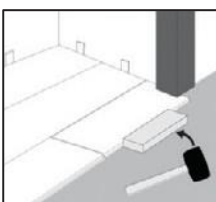


STEP 8: Use rubber mallet and pull bar to lock final piece in row. Insert spacer at end of row. Continue installation to final row.

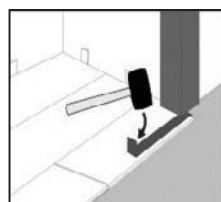


STEP 9: Use rubber mallet and pull bar to lock long edges of planks on final row.

INSTALLING UNDER DOOR JAMBS:



STEP 1: Undercut door jamb to provide space to allow plank to slide freely. Tap long edge with rubber mallet and tapping block to lock long edge.



STEP 2: Use rubber mallet and pull bar to draw in and lock short end of plank.

MAINTAINING AND PROTECTING YOUR FLOOR:

- As with any fine floor covering, care should be taken when moving heavy furniture or appliances back into the room. Use wood panels to protect the floor when rolling heavy appliances back into place.
- Proper floor protectors should be used under any furniture which is regularly moved, or which is heavy and may dent the floor.
- Non staining, non-rubber backed protective mats should be used under rolling office chairs, and any rolling furniture/carts need to have wide, flat wheels.
- Protective walk off mats should be used at all exterior doors.
- Sweep or vacuum the floor regularly to remove dirt/grit. Do not use a vacuum with a revolving beater bar.
- Oil and petroleum based driveways can stain vinyl floors. Do not track petroleum based products onto a floor.
- It should be regularly cleaned with a low PH neutral cleaner such as Bona Professional Series Stone, Tile & Laminate Cleaner, ZEP, etc. Follow the manufacturer's instructions.