



# COMMERCIAL DRY BACK LUXURY VINYL TILE (LVT) AND VINYL BASED TILE (VBT) INSTALLATION INSTRUCTIONS

## THANK YOU FOR CHOOSING AHF PRODUCTS FLOORING

If properly installed and cared for, your new flooring will be easy to maintain and will look great for years to come. These directions are based on industry standards and best practices. Failure to follow these installation instructions may result in damage to the flooring and void the floor's warranty.

- For complete warranty information call 1-866-243-2726 or go to [www.ahfproducts.com](http://www.ahfproducts.com).
- For technical or installation questions, or to request a Safety Data Sheet, please call 1-866-243-2726 or visit [www.hardwoodexpert.com](http://www.hardwoodexpert.com), our technical website.
- For general questions or comments, please visit us at [www.ahfproducts.com](http://www.ahfproducts.com) or call 1-866-243-2726.

### WARNING: FOR EXISTING IN-PLACE RESILIENT FLOOR COVERING AND ASPHALTIC ADHESIVES. DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEADBLAST OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVE OR OTHER ADHESIVE.

These existing in-place products may contain asbestos fibers and/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 existing in-place 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 and may govern removal and disposal of material.

Visit [rfci.com](http://rfci.com) to see the current edition of the Resilient Floor Covering Institute (RFCI) publication [Recommended Work Practices for Removal of Resilient Floor Coverings](#) for instructions on removing all resilient floor covering structures or contact your retailer.

AHF floor coverings and adhesives do NOT contain asbestos.

Products	Gauge	Size	Adhesive
VBT	.098 in (2.5 mm)	12" x 12" (304.8 cm x 304.8 cm)	Bruce® BondLink™ & Apex Pro™
LVT		9" x 60" (228.6 x 1524 mm)	
		12" x 24" (304.8 x 609.6 mm)	
		16" x 32" (406.4 x 812.8 mm)	

## ADHESIVES:

Use the recommended adhesive found in the chart above and follow the manufacturer's instruction for the adhesive application.

## INSTALLATION:

Location: All grade levels

Fitting: All methods

## TOOLS:

Tape measure, chalk line, utility knife, pencil, spacers, straight edge, vacuum or broom and optional tile cutter or cutting shear; subfloor prep supplies; recommended adhesives.

## KEYS TO SUCCESSFUL DRY BACK LVT AND VBT INSTALLATION:

### AHF VBT MUST BE INSTALLED WITH ALL OF THE DIRECTIONAL ARROWS ON THE BACK OF THE TILE FACING IN THE SAME DIRECTION.

- Dry Back LVT and VBT should not be exposed to direct sunlight for prolonged periods. Direct sunlight can result in discoloration, and excessive temperatures may cause expansion. The use of drapes or blinds is recommended during peak sunlight exposure.
- Most installations will need approximately a 10% cutting allowance added to the square footage of the room.
- Work out of at least three cartons to mix shade and visual.
- Proper conditioning of both the jobsite and the flooring is necessary. Dry Back LVT and VBT should not be exposed to sudden changes in temperature.
- Store, transport and handle AHF Dry Back LVT and VBT so as to prevent any distortions. Store cartons flat, never on edge. Distortions will not disappear over time. Ensure that the planks/tiles are laying flat at time of installation.
- Installations of carpet, metal strips and other transition moldings should not push fully into the flooring and should allow for some slight movement wherever practical.
- Protect the floor from heavy-rolling loads, other trades and replacement and/or movement of appliances by using sheets of plywood or similar.
- AHF Dry Back LVT and VBT alone is waterproof but excessive subfloor moisture may promote mildew or mold issues.

## GENERAL INFORMATION:

**NOTE:** For all installations open several cartons and mix them as they are installed to help blend any slight shade differences from one carton to the next.

Before starting the installation, verify that the material is of the correct style, color, quantity, and run numbers, and ensure that the correct adhesive has been selected for area of usage. Also, confirm that all pre-installation requirements, as detailed in the remainder of this section, have been satisfactorily completed. Start of flooring installation indicates acceptance of current subfloor conditions and full responsibility for completed work.

## CHECK RUN NUMBERS AND MANUFACTURE DATE:

To determine manufacture date, locate the run number on the short end of the carton. It is the eight-digit number separated by decimal points beginning with the two-digit day, then the two-digit month, and finally the four-digit year: DAY.MONTH.YEAR-29.10.2020.

Locate the run number on the short end of each carton and verify that all of the material for your job is from the same run. Minor shade variations within the same run number contribute to the natural look of Dry Back LVT.

To avoid noticeable shade variations, do not install material from different runs across large expanses.

Upon receipt, immediately remove any shrink-wrap and check material for damage and that the material is of the correct style, color quantity, and run number. Immediately report any discrepancies.

General Storage: Store all materials flat and off of the floor in an acclimatized, weather-tight space between 65°-85°F (18°-29°C).

## SUBSTRATES:

All substrates listed must be properly prepared and meet certain requirements. There may be other exceptions and special conditions for these substrates to be suitable as noted below. The application of subfloor preparation materials must be in strict accordance with the manufacturer's instructions. All warranties and guarantees pertaining to the suitability and performance of any preparation or ancillary product rests with that material manufacturer or the flooring contractor.

Embossing levelers, patches, concrete, gypsum-based products and other such items, are the sole responsibility of the flooring contractor, general contractor, and/or manufacturer of the particular sub-flooring product.

## SUITABLE SUBSTRATES INCLUDE:

- Concrete – dry and smooth on all grade levels
- Suspended wood subfloors with approved wood underlayment – must have minimum of 18" well-ventilated crawl space underneath
- Suspended hardwood flooring that is fully adhered, smooth and square edge without texture
- Single-layer, fully-adhered, existing resilient floors – must not be foam-backed or cushion-backed
- Ceramic tile, Terrazzo, Marble
- Polymeric Poured (seamless) floors
- Fully-sanded OSB
- Steel, Stainless Steel, Aluminum

## DO NOT INSTALL OVER:

- Particleboard or waferboard
- Existing resilient tile floors that are below grade
- Existing cushion-backed vinyl flooring
- Carpet/Carpet pad
- Hardwood
- Floating floors
- Cement tile backer boards
- Ferrous substrates
- Sleeper substrates
- Glass mesh tile boards
- Masonite
- OSB
- Treated plywood
- Rubber tile
- Self-stick tile
- Sleeper substrates
- Strip wood

## DRY BACK LVT and VBT IS NOT RECOMMENDED:

- In locations where the space beneath the building structure is exposed to the elements
- For areas without permanent HVAC

Avoid subfloors with excessive vertical movement. Optimum performance of floor covering products occurs when there is little horizontal or vertical movement of the subfloor. If the subfloor has excessive vertical movement (deflection) before installation of the flooring, it is likely it will do so after installation of the flooring is complete.

**NOTE:** When installing Dry Back LVT and VBT in areas subject to direct sunlight, topical moisture, or temperature fluctuations, Bruce® Apex Pro™ Adhesive must be used.

## JOB CONDITIONS/PREPARATIONS:

- Surface Preparation: The surface must be free of dust, solvents, varnish, paint, wax, oil, grease, sealers, curing compounds, residual adhesive, adhesive removers and other foreign materials that might affect the adhesion of resilient flooring to the substrate or cause a discoloration of the flooring from below. Spray paints, permanent markers and other indelible ink markers must not be used to write on the back of the flooring material or used to mark the substrate as they could bleed through, telegraphing up to the surface and permanently staining the flooring material. If these contaminants are present on the substrate, they must be mechanically removed prior to the installation of the flooring material.
    - In renovation or remodel work, remove any existing adhesive residue\* so that 100% of the overall area of the original substrate is exposed.
  - Temperature: LVT and VBT flooring should only be installed in temperature-controlled environments. It is necessary to maintain a constant temperature before, during and after the installation. Therefore, the permanent or temporary HVAC system must be in operation before the installation of resilient flooring. Portable heaters are not recommended, as they may not heat the room and subfloor sufficiently. Kerosene heaters should never be used.
    - Allow all flooring materials and adhesives to condition to the room temperature for a minimum of 48 hours before starting the installation.
    - The area to receive the resilient flooring should be maintained at a minimum of 65° F (18° C) and a maximum of 85° F (29° C) for 48 hours before, during and for 48 hours after completion. When using Apex Pro Adhesive the maximum room temperature should not exceed 85° F (29° C). When installing AHF LVT and VBT Flooring, the maximum room temperature should not exceed 85° F (29° C).
    - During the installation of the floor, the temperature should never rise above 85° F (38° C). During the service life of the floor the temperature should never rise above 100° (38° C) nor fall below 55° F (13° C). The performance of the flooring material and adhesives can be adversely affected outside this temperature range.
  - Testing: Conduct calcium chloride tests or percent relative humidity tests must be conducted. Bond tests should be conducted for compatibility with the substrate when using the full spread method.
  - Radiant-Heated Substrates: Radiant-heated substrates must not exceed a maximum surface temperature of 85° F (29° C).
  - Concrete Floors: Concrete floors should be tested for alkalinity. The allowable readings for the installation of Dry Back LVT and VBT flooring are 5 to 9 on the pH scale.
  - Use of Adhesive: Use Bruce® Apex Pro™ Adhesive in areas where the product will be subjected to direct sunlight, topical moisture, concentrated static and dynamic loads or temperature fluctuations.
- ATTENTION:** Mold and mildew grow only in the presence of moisture. Jobsite mold and moisture issues must be addressed and corrected prior to installation. Please visit [www.epa.gov/mold](http://www.epa.gov/mold) for information about safely preventing and removing mold, mildew and other biological pollutants.
- Floor Flatness: The surface shall be flat to 3/16" in 10 ft. (3.9 mm in 3 m). Level high spots by sanding, grinding, etc. and fill low spots. Smooth surface to prevent any irregularities or roughness from telegraphing through the new flooring.

## Concrete Floors:

All concrete floors, regardless of age or grade level must be properly cured, free of excess moisture, and prepared in accordance to the most current version of ASTM F710 (Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring). Below and on-grade concrete subfloors must have a suitable vapor retarder properly installed beneath the slab (ASTM E1745). The surface of concrete floors to receive resilient flooring shall be dry, clean, smooth and structurally sound.

**WARNING: Concrete Subfloors Containing Coal Fly Ash:** Fly ash is routinely used in cement in LEED-certified projects. Installing floors on concrete substrates containing coal fly ash can be problematic and therefore may require aggressive scarification or shot blasting prior to installation of flooring materials. Perform bond test prior to the installation of Dry Back LVT and VBT flooring if coal fly ash has or may have been used.

- Concrete PSI: Concrete substrates must have compression strength of 3,000 psi or greater.
- Expansion Joints / Isolation Joints: Such joints (or other moving joints) are incorporated into concrete floor slabs in order to permit movement without causing random cracks in the concrete. These joints must be honored and not be filled with underlayment products or other materials, and floor coverings must not be laid over them.
- Treating Surface Cracks: Cracks, grooves, depressions, control joints, or other non-moving joints, and other irregularities shall be filled or smoothed with high-quality Portland cement-based patching or underlayment compounds for filling or smoothing or both. Some surface cracks may need to be chased and filled. Patching or underlayment compound must be moisture, mildew and alkali-resistant, and must provide a minimum of 3,000 psi compressive strength after 28 days, when tested in accordance with Test Method ASTM C109 or ASTM Test Method C472, whichever is appropriate. Refer to manufacturer's instructions of such subfloor preparation materials for more details.

Concrete Compressive Strengths: Because of traffic loads anticipated for commercial and institutional environments, concrete slabs should meet the requirements for ACI\* Class 2 or Class 4 floors.

**WARNING:** Do not lightly skim-coat highly polished or slick, power-troweled concrete surfaces. A thin film or residue of floor patch will not bond sufficiently to a slick subfloor and may become a bond breaker, causing tiles to release at the interface of the subfloor and patching material.

## Lightweight Concrete:

- The minimum density of lightweight concrete should be greater than 90lbs. per cubic foot, with minimum compression strength of 2,500 psi or greater. Some concrete slabs may require higher dynamic and static loads and should be designed to accommodate these requirements. Lightweight concrete or gypsum substrates may need to be primed prior to the installation of flooring. Contact the subfloor preparation manufacturer for recommendations, and always perform a bond test before proceeding.
- Because lightweight concrete can retain significant amounts of moisture within the slab, the lightweight floors should be tested in accordance with ASTM F2170. Do not use ASTM F1869 test method, as this method does not indicate moisture deep in the concrete slab.

## Tile, Terrazzo, Asbestos Tile, Resilient Tile, and Non-Cushion Sheet Vinyl:

- Existing floors must be firmly attached to the structural floor. They must be clean, smooth, dry, structurally sound and flat within 3/16" within a 10-foot radius with no abrupt height differences.
- The substrate should not slope more than 1" per 6' in any direction. Fill all grout joints on ceramic tiles, terrazzo, quarry tiles and similar floors with a leveling and patching compound.

## Underlayment Panels:

Underlayments for resilient flooring must be:

- Structurally sound
- Specifically designed and warranted for resilient flooring
- A minimum of 1/4" (6mm) thick
- Of a smooth surface, so as to prevent telegraphing
- Able to resist indentations
- Free of any substances that may cause flooring to stain

## AHF Products is NOT responsible for:

- Joint or texture show-through
- Tunneling and ridging over underlayment joints
- Discoloration from stain sources in the panel, regardless of the type of underlayment panel used
- Underlayment panel problems caused by local climate conditions, basement wall and subfloor construction, or improper installation.

*We strongly suggest that you secure a written guarantee and installation instructions from the supplier or manufacturer of the underlayment board being used.*

## Plywood:

Use only American Plywood Association (APA) rated underlayment grade plywood, with a minimum grade of "BB" or "CC", and minimum 1/4" thickness. Allow expansion spacing between plywood butt joints of 1/32"-1/16" or follow manufacturer's instructions. When installing underlayment, stagger cross-joints 4' on an 8' panel (minimum 16"), lightly butt the panels, and set fasteners flush or slightly below the surface level of the underlayment. Fill underlayment seams, nail holes and any indentations with an approved Portland cement-type floor patch; allow recommended drying time and sand the patch until smooth. Otherwise, use manufacturer-certified poplar, birch, and spruce plywood underlayment, with a fully sanded face and exterior glue.

All dust must be COMPLETELY removed to ensure a strong adhesive bond. Vacuum or sweep thoroughly, then apply adhesive.

## Lauan Plywood:

Use only Type 1 lauan exterior grade "BB" or "CC" for underlayment. The use of lesser grades of lauan plywood is unacceptable and may cause severe problems when used as an underlayment, including discoloration, indentation, loss of bond and delamination.

**NOTE:** The use of lauan plywood and other extremely porous wood underlayments will reduce the flash and working time of adhesives. It is best to apply an acrylic-based primer-sealer to any porous substrate prior to installing AHF LVT and VBT. A manufacturer's certification of lauan grade must accompany any claim involving the use of a lauan underlayment.

## Treated Plywood:

Dry Back LVT and VBT flooring is not recommended for installation directly over fire-retardant treated plywood or preservative treated plywood. The materials used to treat the plywood may cause problems with adhesive bonding. An additional layer of at least 1/4" thick underlayment should be installed so that the construction still meets the applicable building or fire codes.

- Oriented Strand Board (OSB):** OSB is made of thin narrow strands of hardwoods and softwoods that are longer than they are wide. The strands are dried, screened, blended with adhesive, and formed into a multilayered mat. In the surface layer, the long axes of the strands are oriented so that they are, in general, parallel with the long direction of the panel. The strands in the inner layers may not be oriented in any particular direction or may be generally oriented perpendicular to the long direction of the panel. OSB subfloors require an additional recommended underlayment to install AHF Dry Back LVT and VBT.
- Fiber Reinforced Gypsum Underlayment, Fiber Cement Board and Cementitious Backerboard:** These products must be designed specifically for vinyl floor coverings. Written installation instructions and a guarantee for the product's use in conjunction with vinyl floor coverings should be provided by the manufacturer.
- Wood Subfloors with Concrete or Gypsum Toppings:** These subfloors consist of lightweight concrete or gypsum-based topping over plywood on wood joists or trusses.

## Raised Access Panels:

- Inspect the subfloor thoroughly. The access panels should be structurally sound, smooth, level, clean, dry and free of any foreign loose matter or defects. The raised panels should meet the following standards:
- The entire raised access floor must be clean, smooth, dry, structurally sound, and flat within 3/16" within a 10-foot radius with no abrupt height differences.

- Gaps between panels should not exceed .04" (1 mm).
- Lipping of panels and the height differences between adjacent panels should not exceed .03" (.075 mm).

## Metal Substrates:

- Dry Back LVT and VBT flooring may be installed directly over steel, stainless steel, aluminum and lead substrates using the appropriate adhesive. These types of substrates must be thoroughly cleaned, dried and free of dust, dirt, wax, paint, grease, or any other contaminants that may interfere with the adhesive bond. The surface may require cleaning with mineral spirits to remove oil or grease prior to abrading or lightly sanding the surface to achieve a satisfactory bond.
- A bond test should be performed prior to installation. Metal substrates require the non-porous application method. Due to the softness of lead, it is recommended that it be coated with a minimum of 1/8" cement-based underlayment. While this may not be a requirement for thin applications of lead, it must be understood that lead will indent quite easily. A bond test should be performed prior to installation.

## Polymeric Poured Floors:

- These type of floors are generally two-part, resin-based, epoxy paints or coatings. It's very difficult to tell whether or not they are well bonded to the substrate and are subject to issues with excessive moisture. It is therefore recommended that polymeric poured floors be removed so as to avoid potential problems.

## LAYOUT:

- Layout shall be specified by the architect, designer or end user (refer to architectural drawings).
- Custom LVT installations will use the same layout procedures as standard LVT installations; however, they may require some adjustments once the initial layout is completed. Additional lines may be needed depending on the design of the floor. Once the final layout is determined, the starting point may not necessarily be in the corner or the center of the room. The starting point may be adjusted so that the installation of the design is more easily completed. An example would be to install an inset first and then install the field around the inset, which would ensure proper placement of the inset. It is important that when using this procedure, enough time is allowed for the adhesive to set, whereby any pressure will not cause slipping or shifting of the tile.

## INSTALLATION: LAYOUT, ORIENTATION AND MATERIAL DIRECTION

- Dry Back LVT and VBT should be the last material installed, so as to prevent other trades from disrupting the installation and adhesive set-up, and to prevent damage to the floor.
- AHF Dry Back LVT comes in plank, rectangular, and square tile formats. For AHF Dry Back LVT Only; Install tiles running in the same direction (block or staggered), quarter-turned or as specified by architect. LVT plank flooring should have end-joints offset by at least 6" and should be installed in a staggered manner, so as to create a random appearance that avoids alignment of end-joints. AHF LVT can be laid out to run either parallel or diagonal to the room or primary wall.

### AHF VBT MUST BE INSTALLED WITH ALL OF THE DIRECTIONAL ARROWS ON THE BACK OF THE TILE FACING IN THE SAME DIRECTION.

- Before installing the material, plan the layout so tile joints fall at least 6" (15.24 cm) away from subfloor/underlayment joints. Do not install over expansion joints.

**Use Adhesive Bruce Apex Pro™ in areas where the LVT and VBT product will be subjected to direct sunlight, topical moisture, concentrated static and dynamic loads or temperature fluctuations.**

Adhesive	Set in wet	Dry to touch	Trowel
<b>BondLink</b> 99% RH 12lbs-MVER	20-30 minutes	30-60 minutes	<b>Porous:</b> 1/16" x 1/16" x 1/16" (1.6 x 1.6 x 1.6 mm) <b>Sq. Notch</b> <b>Non-Porous:</b> 1/16" x 1/32" x 1/32" (1.6 x .8 x .8 mm) <b>U-notch</b>
<b>Apex Pro</b> No moisture test needed	10 minutes		<b>Notch:</b> 1/16" x 1/32" x 1/32" (1.6 x .8 x .8 mm) <b>U-notch</b>

**NOTE: The amount of open time will vary according to job conditions — temperature, humidity, air flow and type of substrate. The proper open time will help to minimize tile shifting.**

## Installation: Tile

- STEP 1: SQUARE THE ROOM:** Square the layout of the room, find the center of one end of the room. Locate the same point at the other end-wall. Snap a chalk line between these points to mark the center line on the floor. Then, measure along this center line to find the middle of the room. At the center point, mark off a line across the room at precise right angles to the first line. This can be accomplished using the 3-4-5 triangle method. Starting from the center point, make a mark measuring 4 feet vertically and 3 feet horizontally. Connect the marks with a diagonal line to complete the triangle. If the diagonal line does not measure exactly 5 feet, then the center crossing lines are not at a true right angle.
- TIP:** Multiples of the 3-4-5 triangle method may be used for greater accuracy in large rooms (e.g. 6-8-10, 9-12-15, etc.).
- STEP 2: BALANCE THE ROOM:** Either measure or dry-lay a row of tiles from the center line to the side wall to determine the size of the first and last tiles. If the resulting border is too small in either direction, move the row of tiles over one-half tile width and snap a new line. This becomes your new starting line. **TIP:** Use the dimensions of the room to calculate the size of the first tile without dry-laying.
- STEP 3: INSTALL THE TILES:** After determining the layout and snapping center line, spread adhesive and install flooring as outlined below using the dry to touch or wet-set application method. Whenever possible, plan the layout so that the joints in the planks do not fall on top of joints or seams in the existing substrate. The end joints of the planks should be staggered a minimum of 6" (15.24 cm) apart. Do not install over expansion joints. Pressure Sensitive (dry-to-touch) Applications: Lay tiles from the center of the room in a pyramid fashion while working towards the walls. The dry, tacky adhesive makes it possible to work on top of the material without compromising the installation.
- Wet-Set Applications:** The room layout must be set-up so that all flooring can be installed while working off of freshly installed tiles. This set-up will keep tiles from shifting, minimize adhesive displacement and prevent wet adhesive from oozing up and getting onto the surface of the tiles. This application can be accomplished by creating work zones outlined with parallel chalk lines. Create work zones that are no wider than the installer's comfortable arm reach and in multiples of the tile width. Measure and snap chalk line parallel to the established base line. Spread adhesive within the work zone, and begin installing tiles using the row-by-row method.
- TIP:** Do not apply more adhesive than can be worked within the recommended working time. Always follow the adhesive manufacturer's instructions.

## Installation: Planks

- Determine which direction the planks will run. Find the center of each of the end walls (the walls perpendicular to the long dimension of the planks) and place a pencil mark on the floor. Connect these points by striking a chalk line down the center of the room. Do a dry layout of planks from the center line to the wall running parallel to the long direction of the planks to determine the width of the last row of planks.
- Dry layout to determine width of border plank- Avoid having border pieces less than half the width of the size plank that is being installed. If you find the border planks will be less than 1/2 the width of the plank, the center starting line should be shifted a distance equal to 1/2 the plank width in order to balance the room and provide for a larger cut piece at the wall.
- Wet-Set Applications:** The room layout must be set-up so that all flooring can be installed while working off of freshly installed planks. This set-up will keep planks from shifting, minimize adhesive displacement, and prevent wet adhesive from oozing up and getting onto the surface of the tiles. This application can be accomplished by creating work zones outlined with parallel chalk lines. Create work zones that are no wider than the installer's comfortable arm reach and in multiples of the tile width. Measure and snap chalk line parallel to the established base line. Spread adhesive within the work zone, and begin installing tiles using the row-by-row method.

- LVT and VBT flooring must be rolled with a minimum 100lb roller after installation. Use a hand roller in areas that cannot be reached with a 100-lb. roller. Roll the flooring installation in both directions.
- Wall Base can be mitered or formed and wrapped around outside corners. Shave a strip approximately 1/4" (6.4 mm) wide and one quarter of the thickness from the back of Wall Base where the corner will be positioned. This will reduce the thickness to make bending around the corner easier and neater. Do not cut behind the coved toe.
- Wall Base can be mitered, scribed or wrapped with a V-shaped notch in the toe at inside corners. Use an adhesive such as Taylor 2040 wall base adhesive.
- Fitting should be completed for each piece before applying adhesive. Immediately remove any adhesive from the surface of the flooring using a clean, white cloth dampened with a neutral detergent and water. Roll the Dry Back LVT in both directions after the installation using a 100-lb. roller.

#### Bruce® Apex Pro:

- Move the chalk lines to the corner or end of the room farthest from the doorway. These lines should be 2' or 3' from the wall depending on your reach.
- Apply the adhesive in 2' or 3' bands, being careful not to cover the chalk lines. Do not apply more adhesive than you can cover within 45 minutes. Allowing a 20-minute open time and fitting the border tile tightly will reduce tile shifting and adhesive oozing. DO NOT allow the adhesive to completely dry.
- Install the tile along the chalk lines. Wood plank visuals must be installed with the arrows pointing in the same direction. Square and rectangle tiles may be installed with arrows pointing in the same direction, quarter turned or randomly installed for customized visuals. Install the field area first and then fit in the border tile.
- Immediately remove any adhesive from the surface of the flooring using a clean, white cloth dampened with a neutral detergent and water. Roll the Dry Back LVT in both directions after installation using a 100-lb. roller.
- Do not work on newly installed tile except to roll tile. If unavoidable, use a kneeling board.
- Repeat steps 1 through 4 until the installation has been completed.
- The planks may be walked on immediately; however, the floor should not be exposed to heavy rolling load traffic for 8 hours after the installation. Use pieces of hardboard or underlayment panels to protect the floor when moving heavy furniture and appliances back into the room.

#### BondLink™:

##### Dry to touch:

- Line off entire area to be installed.
- Apply the adhesive over the area, being careful not to cover the chalk lines.
- You may prefer to install one quarter of the room at a time by starting in the center of the room.
- Allow the adhesive to set until dry-to-touch, following the recommended open time. To test, press your thumb lightly on the surface of the adhesive in several places. If the surface feels slightly tacky as your thumb is drawn away and does not stick to your thumb, the adhesive is ready for installation.
- Install the Dry Back LVT or VBT along the chalk lines. All planks must be installed with the arrows pointing in the same direction. Dry Back LVT planks can be installed randomly. Install the field area first and then fit in the border tile.
- Immediately remove any adhesive from the surface of the flooring using a clean, white cloth dampened with a neutral detergent and water. Roll the tile in both directions after installation using a 100-lb. roller.
- Do not allow traffic for 24 hours after installation. Tile should not be exposed to rolling load traffic for at least 72 hours after installation to allow setting and drying of the adhesive.

##### Semi-wet set:

- Wait 20-30 minutes after adhesive is spread to allow it to skin over.
- Working time is approximately 20-30 minutes under acceptable temperature and humidity conditions.
- The condition of the subfloor and bond issues resulting from the use of non-recommended, improper, or incorrectly prepared adhesives, sealers, embossing levelers, patches, concrete, gypsum-based products and other such items are the sole responsibility of the installer and/or manufacturer of the particular subflooring product.

#### Installation Keys

<b>Substrate Flatness Tolerances</b>	3/16" in 10' with no abrupt height differences. Slope no more than 1" in 6'
<b>Is Underlayment (Pad) Required?</b>	Not Required
<b>Acclimation Requirements</b>	Minimum 48 hours
<b>Transition Requirements (T-Mold) for Large Spaces</b>	Not Required
<b>Transition Requirements (T-Mold) Doorways/ Thresholds</b>	Not Required
<b>Installation Over Existing Ceramic Tile Floor</b>	Filling grout joints required. Follow subfloor flatness tolerances.
<b>Subfloor RH/MVER Recommendations</b>	85% RH, 8lbs. MVER
<b>Radiant Heat</b>	Approved – Substrate surface temperature not to exceed 85°F (29°C)
<b>Required Interior Environmental Conditions</b>	Interior environmental conditions must be maintained at 65°-85°F (18°-27°C) and 35%-85% RH a minimum of 48 hours before testing, and at all times during testing (ASTM F710).
<b>Definition of "Waterproof"</b>	Structural integrity of flooring will not degrade due to contact with moisture/water.

#### INSPECT THE WORK:

- Inspect your workmanship. Was the floor properly rolled into the adhesive as required for most products? Check for loose edges or seams and correct as necessary. Are there trapped air blisters, buckles, dirt, or debris particles under the flooring? Is there adhesive on the surface? Take care of any problems immediately.
- By inspecting the completed installations, you often avoid future problems by making minor adjustments to your installation techniques, such as adjusting adhesive open times, proper trowel notching, conditioning the material, or subfloor preparation.

#### FINISHING THE JOB:

- Replace any molding. Nail the molding to the wall surface (not through the flooring). At doorways and at other areas where it may meet other flooring surfaces, it is preferable to use a trim to cover the exposed edge but not pinch the planks/tiles. Leave a gap between the planks/tiles and the adjoining surface.
- Once installed, protect your Dry Back LVT floors from heavy rolling loads, other trades and appliances by using sheets of plywood or MDF.
- When replacing appliances or whenever moving heavy furniture over the flooring, place a wood panel under the object. Without moving the panel, slide or roll the object over it. Follow with additional panels as needed. Taking this precaution will help reduce scratches, tears or buckling of the flooring material.

#### CLEAN-UP:

- The most obvious consideration in clean-up is trash and waste product removal. Tools, equipment, adhesive, or any chemicals that may present safety hazards should be properly stored or disposed of. Be alert to such materials and conditions when other trades are working in the same area and in occupied homes. Keep all walkways, work areas, stairways and doorways free of obstruction or trash. In residential work, remove all items except for a few square yards of material in case repair insets are needed in the future.
- Check surrounding walls, cabinets and fixtures for adhesive smears or accidental damage that may have occurred during the installation. Correct as necessary, and show the owner any conditions that require further attention by plumbers, electricians, etc.

#### PROTECT THE FLOOR:

##### Traffic, Dirt and Discoloration:

- In new construction, you may provide a protective covering of plain, undyed kraft paper in high traffic areas to guard against damage to the new floor. Be sure the covering does not contain any inks, markings, or other agents that could stain the new floor. AHF Products does not recommend the use of mats or rugs with rubber or latex backings since they may cause permanent discoloration. Protect all products from the direct flow of heat from hot-air registers, radiators, or other heating fixtures or appliances.

##### Moving Heavy Appliances and Equipment:

- When moving heavy or sharp objects (such as appliances) over resilient flooring installations, place a wood panel under the object. Without moving the panel, slide or roll the object over it. Follow with additional panels as needed. This prevents scratches, tears, or buckling of the flooring material.
- Before moving wheeled or castered objects over newly adhered flooring, use wood panels to protect the floor by distributing the load. Otherwise, permanent wheel tracking could develop in the flooring, caused by movement in the fresh adhesive. **We recommend protecting the resilient flooring with wood panels whenever heavy objects are moved across it.**
- On residential installations, it is especially important for the installers to move appliances whenever possible. If this cannot be done on new construction work, you must instruct the responsible persons about the precautions for moving heavy appliances and furnishings.
- Newly installed commercial flooring should not be exposed to routine rolling load traffic (carts, lifters, etc.) for at least 72 hours after installation to allow setting and drying of adhesives. If rolling loads cannot be avoided, protect the newly installed commercial flooring for 72 hours after installation by covering with wood panels. Equip table and chair legs with floor protectors to minimize scratches and indentations.
- Take care to prevent damage to resilient flooring by wheeled vehicles, castered furniture, and appliances and dollies. Wheels or casters should have widths and diameters suitable for the loads to be carried. This will reduce rolling resistance and minimize or eliminate the risk of cutting or permanently indenting the flooring.

**NOTE:** Since rolling-type casters and certain feet on furniture, and appliances may damage resilient flooring, any warranty as to their suitability rests with the furniture or appliance manufacturer.

##### Guidelines for Floor Protection Devices (furniture feet, rests, casters, wheels, etc.):

- The contact area should be smooth and flat to provide full contact and be free of small protrusions, irregularities, roughness, depressions, mold lines, embedded dirt, grit etc.
- The contact area should be large enough to distribute the load evenly without damaging the floor.
- All edges should be slightly rounded to prevent damage if briefly turned on edge.
- Floor contact devices should be manufactured from non-staining materials.
- Floor contact devices should be properly maintained. Worn, damaged and missing devices should be replaced.
- Furniture, appliances, equipment, etc. should be properly leveled so that all floor contact devices rest fully and firmly on the floor at all times.