

# Dry Back Glue Down Installation

## **GENERAL CONDITIONS**

- a. Ensure that moisture tests have been conducted and that the results do not exceed the acceptable moisture limit for the adhesive used.
- b. pH of concrete sub-floor needs to be between 5&10.
- c. Use appropriate trowel size regarding substrate porosity
- d. Material should always be visually inspected prior to installation. Any material installed with visual defects will not be considered a legitimate claim.
- e. Install planks running in same direction.
- f. Ensure that all recommendations for sub-floor and jobsite conditions are met prior to beginning the installation. Directional designs are optional, however, once the installation is started, you have accepted those conditions.

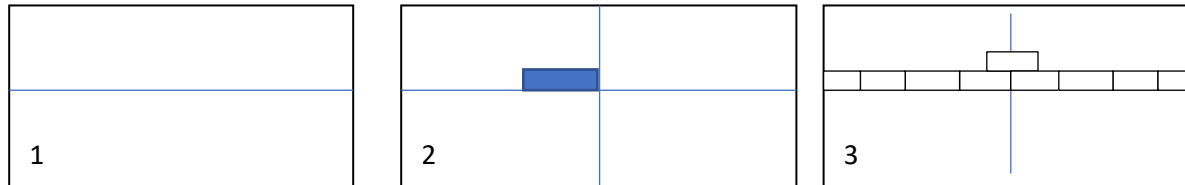
## **LAYOUT AND INSTALLATION/GENERAL RULES**

- a. Install using conventional plank installation techniques. Plank products should have a minimum of 6 –8" seam stagger.
- b. Carefully determine where to begin plank installation.
- c. It is customary to center rooms and hallways, so borders are not less than half a tile or plank.
- d. Working out of multiple boxes at a time is recommended.
- e. In hallways and small spaces, it may be simpler to work lengthwise from one end using a center reference line as a guide.
- f. Ensure cut edges are adjacent to walls & factory edges meet factory edges
- g. To properly cut LVP products score the top side of the material with a utility knife. Bend the product and finish the cut through the backside. This will ensure the cleanest cut. It may be necessary to use a heat gun to cut around vertical obstructions. Allow the heated LVP to return to room temperature before installation.
- h. Cutting the product into a fine point may lead to delamination. Use an ethyl cyanoacrylate based super glue to help fuse the LVP point together. Be sure to clean all glue from the top surface immediately.
- i. Note: Alcohol based super glues may cause vinyl to swell.
- j. For random width plank begin installation with the widest plank first.

## INSTALLATION FOR VINYL PLANKS/LAYOUT OF THE ROOM

1. Find the center point of the room. Strike a line.
2. Obtain a true 90° angle by using the 3 - 4 - 5 rule.
3. Strike a second line which will divide the room in to four equal parts.

### CENTER" LAYOUT:



LVT vinyl planks can be installed in the center of a large room working outwards Find the center of the floor by measuring and marking vertical & horizontal lines across the floor (Pic 1 and 2).

- Adjust layout lines to minimize perimeter planks less than 2.5".
- Make sure lines are square & work from the center layout lines outwards.
- The First row of planks must be laid perfectly on the guideline as this will affect the entire installation (pic 2). Make sure each plank is flush against the adjoining plank. Lay planks in a pyramid fashion (pic 3).
- If "directional arrows" are printed on the back of the Luxury Vinyl (pic 3) point these arrows in the same direction.
- When installing planks, stagger the end joints a minimum of 8" away from the end joints in the previously installed row.

4. CUTTING END-OF-ROW BOARDS: The last board in each row must be cut to fit, while still maintaining a 1/2" expansion gap at the walls.

Here's how:

1. Flip the plank over, end-to-end.
2. Lay the flipped board next to the row of planks and mark it on the face.
3. Cut the plank at the mark.
4. Flip the plank back over and install as normal.

5. Applying Adhesive:

- Spread adhesive evenly with the proper trowel as described in manufacturers guidelines. Open time is influenced by substrate porosity and atmospheric conditions (i.e., temperature, humidity, and air movement). For best results maintain adhesive, floor covering, and room at a stable temperature of 65°F – 85°F (18°C - 30°C) continuously for 48 hours before and after installation Relative humidity must be maintained at

adhesive manufacturer recommended levels before and after installation for proper adhesive cure. Flooring is installed when the adhesive has flashed off sufficiently to prevent adhesive transfer to the fingertips, Flooring must be installed within the working time. See adhesive manufacturer Technical Data Sheets / Installation Guidelines for more information.

- NOTE: Depending on layout installed, when installing for the first few rows, at the starting wall (non-"CENTER" LAYOUT"), only apply enough adhesive that you can comfortably "reach and lay" into (typically 2' - 3').
- When product is installed on pressure sensitive adhesive, it is ok to work off the installed floor allowing more adhesive to be spread.
- For best results maintain adhesive, floor covering, and room at a stable temperature of 65°F – 85°F (18°C - 30°C) continuously for 48 hours before and after installation Relative humidity must be maintained at adhesive manufacturer recommended levels before and after installation for proper adhesive cure. Flooring is installed when the adhesive has flashed off sufficiently to prevent adhesive trans-fer to the fingertips, Flooring must be installed within the working time. See adhesive manufacturer Technical Data Sheets / Installation Guidelines for more information.

#### **IMPORTANT:**

All flooring must be rolled with a minimum 75 - 100lb. roller after installation. Use a hand roller in areas not reached with a 75 - 100lb. roller.

- During Construction, use ram board or similar to protect the floor.
- Always use floor protection to roll heavy items like refrigerators.
- Do not "flood mop." Do not begin damp mop maintenance for at least 48 hours after installation is complete.

#### **INSTALLING AROUND IRREGULAR OBJECTS/PIPES**

- a. Make a pattern out of heavy paper to fit around pipes and other irregularities.
- b. Place the pattern on the plank, trace cutting along the trace lines.
- c. When a pipe is passing through the floor make a hole on the plank 1" greater than the diameter of the pipe, cut the plank with a 45° angle towards the hole. The cut-off piece edges are glued in the position again.

#### **Moldings/Transition Pieces**

Be sure to affix baseboards or moldings to the walls, not to the floors. In areas where your new floor meets other types of flooring, such as carpet or

tile, select an appropriate molding to get a professional looking and safe transition.

## **GENERAL REQUIREMENTS:**

### **TEST BEFORE STARTING INSTALLATION**

Note: All substrates to receive moisture sensitive floor covering must be tested for moisture.

### **CONCRETE SUBSTRATES**

All concrete substrates should be tested for IRH (Internal Relative Humidity) according to ASTM F 2170. Calcium Chloride tests may be conducted in addition to IRH and must be performed per the latest edition of ASTM F 1869. NEW AND EXISTING CONCRETE SUBFLOORS SHOULD MEET THE GUIDELINES OF THE LATEST EDITION OF ACI 302 AND ASTM F 710, "STANDARD PRACTICE FOR PREPARING CONCRETE FLOORS TO RECEIVE RESILIENT FLOORING" AVAILABLE FROM THE AMERICAN SOCIETY FOR TESTING AND MATERIALS, 100 BARR HARBOR DRIVE, WEST CONSHOHOCKEN, PA 19428; 610- 832-9585; [HTTP://WWW.ASTM.ORG](http://www.astm.org).

**Substrates shall be smooth, structurally sound, permanently dry, clean, and free of all foreign material such as dust, wax, solvents, paint, grease, oils, old adhesive residue, curing and hardening/ curing compounds, sealers and other foreign material that might prevent adhesive bond.** If the adhesive residue is asphalt-based (cut-back), or any other type of adhesive is present, it must be removed by industry accepted methods such as mechanical removal or wet scraping. If a chemical abatement has been performed, use mechanical means or a suitable chemical etching system to prepare surface. Adhesive removal through the use of solvents or citrus adhesive removers is not recommended. **Solvent residue left in or on the subfloor may affect the new adhesive and floor covering.**

- Concrete floors shall be flat and smooth within 1/8" in 6 feet or 3/16" in 10ft.
- F-Number System: Overall values of FF 36/ FL 20 may be appropriate for resilient floor coverings.
- Moisture Vapor Emission Rate (MVER) – Conduct either in-situ RH test (ASTM F-2170) or CaCl MVER test method (ASTM F1869) Refer to the adhesive information for the acceptable moisture limits. Use cementitious patching and leveling compounds that meet or exceed Diamond Living's maximum moisture level and pH requirements. Use of gypsum-based patching and/or leveling compounds which contain Portland or high alumina cement and meet or exceed

the compressive strength of 3,000 psi are acceptable. Perform Bond testing to determine compatibility of adhesive to the substrate. Bostik Primer Pro can be utilized to promote adhesion.

- Porosity – water drop test will help determine porosity – if drop remains on the surface after 1-2 mins concrete should be considered non-porous.
- Working and open times of adhesives may vary based on job conditions, substrate, temperature, and humidity.
- Areas to receive flooring should be adequately lighted during all phases of the installation process.
- It is recommended that resilient floor covering installation shall not begin until all other trades have completed.

## TEMPERATURE - AMBIENT

- Product does not have to be acclimated on site but must be installed into a controlled environment where temperatures are kept between 65F and 85F for at least 72 hours after installation. Post installation ambient temperature range allowed is 45°F to 115°F. A Diamond Living, LLC (DL) approved adhesive must be used and usage instructions followed. All other installation instructions must be followed.

## PH

- Concrete floors must be tested per the latest edition of ASTM F 710. pH reading must not exceed 10.0. Readings below 7.0 and in excess of 10.0 affect resilient flooring and adhesives negatively. If high pH reading is present, correct using suitable method. E.g., Rinsing the surface with clear water may lower alkalinity. “DAMP MOP”

**NOTE: IT MAY NOT BE THE FLOOR COVERING INSTALLER'S RESPONSIBILITY TO CONDUCT THESE TESTS. IT IS, HOWEVER, THE FLOOR COVERING INSTALLER'S RESPONSIBILITY TO MAKE SURE THESE TESTS HAVE BEEN CONDUCTED, AND THAT THE RESULTS ARE ACCEPTABLE PRIOR TO INSTALLING THE FLOOR COVERING. WHEN MOISTURE TESTS ARE CONDUCTED, IT INDICATES THE CONDITIONS ONLY AT THE TIME OF THE TEST.**

## SUBSTRATES

Note: All substrates to receive resilient flooring shall be dry, clean, smooth, and structurally sound. They shall be free of dust, solvent, paint, wax, oil, grease, residual adhesive, adhesive removers, curing, sealing, hardening/parting compounds, alkaline salts, excessive carbonation/laitance, mold, mildew, and other foreign materials that might prevent the adhesive from bonding. Crumb rubber underlayments are not an acceptable option for use with resilient floor coverings due to performance issues resulting from chemical incompatibilities.

## WOOD SUBSTRATES

- Wood subfloors must be structurally sound and in compliance with local building codes.
- a. Double-Layered APA rated plywood subfloors should be a minimum 1" total thickness, with at least 18" well ventilated air space beneath.
- b. Chip board, OSB, particleboard, construction grade plywood are generally not acceptable substrates – add a layer of APA underlayment grade plywood that is dimensionally stable, non-staining, with a smooth fully sanded face.
- c. Underlayment panels can only correct minor deficiencies in the sub-floor while providing a smooth, sound surface on which to adhere the resilient flooring. Wood subfloors should be flat –3/16" in 10' or 1/8" in 6'.
- d. Crawlspace must be dry with a minimum 18" from the bottom of the floor joist to the ground, Crawl space earth (or thin concrete slab) should be covered 100 percent by a vapor retarder of black polyethylene (minimum 6 mil) or any recommended puncture-resistant membrane, such as Class C, meeting ASTM D1745. Ventilation shall be per local building codes.
- e. DO NOT install over sleeper construction subfloors or wood subfloors applied directly over concrete.
- f. Underlayment panels can only correct minor deficiencies in the sub-floor while providing a smooth, sound surface on which to adhere the resilient flooring.
- g. Any failures in the performance of the underlayment panel rest with the panel manufacturer and not with Diamond Living, LLC (DL).
- h. It is recommended that your chosen APA underlayment grade panels be designed for installation under resilient flooring and carry a written warranty covering replacement of the entire flooring system.
- i. DL resilient flooring is not recommended 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 APA rated 1/4" thick underlayment should be installed.
- j. Always follow the underlayment manufacturer's installation instructions.

## STRIP – PLANK WOOD FLOORING

- Due to expansion/contraction of individual boards during seasonal changes, DL recommends 1/4" or thicker APA rated underlayment panels be installed over these types of subfloors.

## CONCRETE

- New or existing concrete subfloors must meet the guidelines of the latest edition of ACI 302 and ASTM F 710, "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring".
- 1. On or below-grade slabs must have an effective vapor retarder directly under the slab.
- 2. Wet curing 7 days is the preferred method for curing new concrete.

- 3. Curing compounds (DO NOT USE). If present, they can interfere with the bond of the adhesive to the concrete. Seek assistance from a substrate manufacturer if curing agents are detected.
- 4. Remove curing compounds 28 days after placement, so concrete can begin drying.
- 5. Concrete floors shall be flat and smooth within 1/8" in 6 feet or 3/16" in 10 feet.
- 6. F-Number System: Overall values of FF 36/ FL 20 may be appropriate for resilient floor coverings.
- Note: Perform Bond testing to determine compatibility of adhesive to the substrate. Bostik Primer Pro can be utilized to promote adhesion. Expansion joints in concrete are designed to allow for the expansion and contraction of the concrete. Resilient flooring products should never be installed over expansion joints. Expansion joint covers designed for use with resilient floorings should be used. Control joints (saw cuts) may be patched and covered with resilient once the concrete is thoroughly cured, dry and acclimated.

## LIGHTWEIGHT CONCRETE

- All recommendations and guarantees as to the suitability and performance of lightweight concrete under resilient flooring are the responsibility of the lightweight concrete manufacturer. The installer of the lightweight product may be required to be authorized or certified by the manufacturer. Correct on-site mixing ratios and properly functioning pumping equipment are critical. To ensure proper mixture, slump testing is recommended.
- A. Lightweight aggregate concretes having densities greater than 90 lbs. per cubic foot may be acceptable under resilient flooring.
- b. Concrete slabs with heavy static and/or dynamic loads should be designed with higher strengths and densities to support such loads.
- c. Surface must be permanently dry, clean, and smooth, free of all dust, and structurally sound.
- d. Perform Bond testing to determine compatibility of adhesive to the substrate.

## RADIANT HEATING:

Radiant-heated subfloor systems can be concrete, wood or a combination of both. The heating systems components must have a minimum of 1/2" separation from the flooring product. The system must be on and operational for at least 2 weeks prior to installation to reduce residual moisture. Three days prior to installation lower the temperature to 65 degrees, after installation gradually increase the temperature in increments of 5° F to avoid overheating. Maximum operating temperature should never exceed 85°F. Use of an in-floor temperature sensor is recommended to avoid overheating. Contact the manufacturer of your radiant heating system for further recommendations. Electric Radiant Floors: consist of electric cables (or) mats of electrically conductive materials mounted on the subfloor below the floor covering. Mesh systems are typically

embedded in thin-set. When embedding the system components, use cementitious patching and leveling compounds that meet or exceed DL's maximum moisture level and pH requirements. Use of gypsum-based patching and/or leveling compounds which contain Portland or high alumina cement and meet or exceed the compressive strength of 3,000 psi are acceptable. Hydronic Radiant Floors: pump heated water from a boiler through tubing laid in a pattern under the flooring. Typically installed in channels under a wooden subfloor (or) imbedded in concrete slabs. Requires the installer follow a specific nailing pattern to avoid penetration of the heat system.

### Quarry Tile, Terrazzo, Ceramic Tile, Poured Floors (Epoxy, Polymeric, Seamless)

- a. Must be totally cured and well bonded to the concrete.
- b. Must be free of any residual solvents and petroleum derivatives.
- c. Waxes, polishes, grease, grime, and oil must be removed.
- d. Show no signs of moisture or alkalinity.
- e. Cuts, cracks, gouges, dents, and other irregularities in the existing floor covering must be repaired or replaced.
- f. Fill any low spots, holes, chips, and seams that may telegraph through the new flooring.
- g. Grind any highly polished or irregular/smooth surfaces. Quarry tile or Ceramic tile grout joints and textured surfaces must be filled with an embossing leveler or substrate manufacturer approved material.

**NOTE: THE RESPONSIBILITY OF DETERMINING IF THE EXISTING FLOORING IS SUITABLE TO BE INSTALLED OVER THE TOP OF WITH RESILIENT, RESTS SOLELY WITH INSTALLER/FLOORING CONTRACTOR ON SITE. IF THERE IS ANY DOUBT AS TO SUITABILITY, THE EXISTING FLOORING SHOULD BE REMOVED, OR AN ACCEPTABLE UNDERLAYMENT INSTALLED OVER IT. INSTALLATIONS OVER EXISTING RESILIENT FLOORING MAY BE MORE SUSCEPTIBLE TO INDENTATION.**

### **ADHESIVES & PRIMER**

Recommended Adhesives: Bruce Bondlink and Bruce Apex Pro

Recommended Primer: Bostik Primer Pro

Please review adhesive manufacturer's technical data sheet Prior to application of adhesive determine if the substrate is a porous or non-porous substrate. Follow instructions on the adhesive label for porous or non-porous subfloor.

**IMPORTANT:** Recommended to perform a bond test in order to determine adhesive working time per job site conditions. The strength of the bond test will indicate whether Bostik Primer Pro is necessary.



# CARE AND MAINTENANCE GUIDE

DL flooring is designed to bring beautiful wood and stone looks to your environment to fit your flooring needs and style, while also providing a solution with easy maintenance. Created for residential, light commercial applications, this flooring is tough but still requires care and attention to keep it looking beautiful for years to come.

- For day-to-day cleaning we recommend the floor to be swept and/or vacuumed. The vacuum head must be a felt brush type. Do not use vacuum with beater bars / very hard bristles. This will eliminate fine particles of dirt and grit that act like sandpaper which will scratch and / or dull the surface of your flooring.
- Minimize abrasive material and dirt by placing mats on both sides of exterior doors and by using area rugs in high-traffic areas.
- Use BONA Floor Cleaner to deep clean your whole floor and clean spots and soiled areas.
- DO NOT use cleaning agents containing wax, oil, or polish. Leftover residue will form a dull film.
- DO NOT use steel wool or scouring pad, as they will scratch the floor. Occasional wet or jet mopping is allowed.
- This flooring can be dented, gouged, and scratched, this can be caused by but is not limited to: dropped objects, damaged shoe heels / soles, abrasive particles, etc. The following steps will help reduce the risk of this kind of damage: • Floor protectors should always be installed to the bottom of furniture to prevent scratching and marking. • Minimize abrasive material and dirt by placing mats on both sides of exterior doors and by using area rugs in high-traffic areas. • We recommend the use of a hard surface (non-studded), non-rubber chair mat to protect your floor from office chairs with casters. • Light, rolling furniture should be outfitted with broad-surface, non-staining casters that have been engineered for hard surface floors (casters should be a minimum of 1" wide and at least 2" in diameter). • Never slide or roll heavy furniture or appliances across the floor. • If flooring will be exposed to rolling traffic or heavy, appliances protect the flooring with plywood or hardboard panels. • Remove shoes that are damaged exposing sharp metal, have cleats etc. before walking on the floor.
- Your flooring is like other products and is susceptible to fading, with prolonged exposure to sunlight. Use of window coverings, shades or tinting your windows is recommended.
- Pets: • Cleaning the affected area should begin immediately upon discovery: • Use absorbent paper tissue to collect as much of the deposited material as possible and properly dispose of it. Remove any existing residue with a suitable disinfecting cleaner. • Repeat until all residue is removed. Buff dry. Clean, using Bona Floor Cleaner. The more time that elapses before removal, the more difficult a stain will be to remove. Keep pets' nails trimmed.
- Non-staining, vinyl-backed mats or woven rugs should be used at all door entries from outside to avoid discoloration from asphalt driveways, catch dirt, grit, sand, and other debris to help sustain the flooring. We also recommend using protective mats around sinks and tubs to catch excess water and debris.