

# PUREGRAIN

## HIGH-DEF

### PureGrain High-Def® Digital Luxury Vinyl Tile Flooring Angle/Angle Installation Instructions

Engineered Floors LLC® (“EF”) requires all vinyl flooring supplied by EF be installed according to our most current installation instructions to maintain full product warranty coverage. The most current installation documents and videos can be found online at [www.engineeredfloors.com](http://www.engineeredfloors.com). Instructions on replacing damaged planks as well as maintenance and warranty documentation are also available online. The best practice is to have the flooring installed by professional installation technicians. Keep the original sales receipt (proof of purchase), all moisture/relative humidity testing, and installers receipt for warranty purposes. EF requires that the flooring be maintained according to our most current care and maintenance guidelines. Please contact [info@engineeredfloors.com](mailto:info@engineeredfloors.com) or 866-706-9745 option 7 for any additional questions not covered in this document.

#### GENERAL INFORMATION

- Acclimation of material prior to installation is recommended (24 hours) but not required.
- The HVAC system should be operational and set between 55°F - 85°F (18.3°C - 29.4°C) before, during and after the installation period. Keep in mind a concrete floor can be up to 10° colder than the ambient temperature.
- PureGrain High-Def can be installed on subfloors that are on, above, or below grade.
- PureGrain High-Def is intended for indoor use only and is warranted as floor covering only.
- PureGrain High-Def should only be installed after all the other trades have finished and the job site has been cleared of any debris that could damage a finished installation.
- Install cabinets and/or permanent ‘islands’ prior to installing flooring. Do not install cabinets, islands and such on top of floating flooring.
- Do not install PureGrain High-Def in areas subject to frequent standing water or in high moisture areas. This flooring is waterproof from topical moisture, when installed properly, and secures the flooring on all four sides. However, excessive moisture in the subfloor could promote mold, mildew, and other moisture related issues by trapping moisture emissions under the flooring, which may contribute to an unhealthy indoor environment.
- PureGrain High-Def has an attached underlayment. Do not install over an additional cushioned underlayment.
- Cartons should be stored horizontally on a flat and level surface with the corners protected from damage. Do not store cartons on their sides.
- When ordering flooring, order 5% more footage than the measured space to receive flooring. Where multiple angles or obstacles exist, more than 10-15% overage may be necessary.
- EF recommends the homeowner keep a minimum of one full carton for future repair or replacement.
- Inspect all flooring. Confirm the product to be installed is the correct style and color. Do not install flooring that is not the correct style and color or that is from multiple production runs. Do not install damaged or defective flooring. EF will not be liable where incorrect flooring, damaged flooring, or flooring with visible defects have been installed.
- Heavy loads can pin the floating product to the substrate which may prevent the product from expanding and contracting evenly, causing side or end separation, peaking, or gapping.

#### MOISTURE BARRIER

- EF requires a 6-8 mil polyethylene vapor barrier or concrete moisture sealer be used under our floating floors that are installed on concrete that is on or below grade.
- The proper application and subfloor requirements of the moisture sealer are the sole responsibility of the dealer/installer.
- EF will not be responsible for flooring failures due to subfloor moisture issues when a moisture sealer has been applied incorrectly.

#### POLYETHYLENE VAPOR BARRIER INSTALLATION

- Begin at starting Wall. Roll out the poly parallel to the starting wall and allow it to run up the wall 2”.
- Smooth out any creases or wrinkles.
- Roll out the next run and overlap the seam a minimum of 4”.
- Smooth out any creases or wrinkles.
- Use a tape of sufficient width to tape the seams together.
- Install the flooring over the poly taking care not to damage the poly.
- *Note:* To prevent a trip hazard, do not install the poly over the entire subfloor. Roll the poly out one row at a time as needed.

#### TRANSITIONS

- The transitions for EF DLVT are color coordinating. The trim pieces will be close in color and grain but will not be an exact match to the flooring.
- Using the trim as a guide, installers will need to find the planks that have a similar grain and color as the transition. These pieces will need to be put in the area where they will be installed.
- The ¼” expansion gap must be maintained between the transition and the flooring.

#### COTTAGES AND THREE SEASONS ROOMS

EF DLVT can be installed in fully enclosed 3 season environments such as solariums, sunrooms, three season rooms, and seasonal cottages. Installation in these environments should occur while HVAC is operational and set between 65°F - 85°F (18.3°C - 29.4°C). These products can withstand ambient temperature variations from -20°F (-29°C) to 176°F (80°C) when not occupied. While the space is occupied, the ambient temperature must be maintained between 55°F (13°C) and 100°F (38°C). See the Conditions and Exclusions section of the PureGrain Warranty Guide.

#### GENERAL SUBFLOOR PREPARATION

- The subfloor must be clean, dry, structurally sound, firm, and secure.
- The subfloor must be flat within 3/16" per 10' radius (4.7 mm per 3 m). High areas should be ground, and low areas should be filled.
- All construction seams, expansion joints, low areas, grout lines, etc. larger than 1/4" should be filled to level with the surrounding surface using cementitious patching and leveling compounds that meet or exceed 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.
- The subfloor should be free of dust, debris, paint, varnish, wax, grease, oils, curing agents, sealers, solvents, and other foreign matter. Any adhesive residue should be reduced to a thin well-bonded residue.
- Never use solvents or citrus adhesive removers to remove old adhesive residue. Solvent residue left in and on the subfloor may affect the new floor covering.
- The final responsibility for determining if a subfloor is acceptable for installation of the DLVT lies with the floorcovering installer

# PUREGRAIN

---

## HIGH-DEF

### WOODEN SUBFLOORS

- Do not install material over wood subfloors, dimensional lumber, or plywood that lies directly over concrete. Refer to ASTM F1482 for panel underlayment recommendations.
- Basements and crawl spaces should be dry. Crawl spaces must have a minimum of 18" (46 cm) clearance from the ground to the underside of the joists. The crawl space should have perimeter venting equal to a minimum of 1.5% of the crawl space square footage. A vapor barrier of 6 mil (minimum) black polyethylene film is required to cover the entire crawl space. Film seams must overlap 6" (15 cm) and must be sealed with moisture resistant tape. Where necessary local regulations prevail.
- We do not require a 6-8 mil poly moisture barrier for wood subfloors. The installation of a moisture barrier on wood subfloors will not void the product warranty.
- Plywood, OSB, particleboard, chipboard, wafer board, etc. must be structurally sound and must be installed following their manufacturer's recommendations. Local building codes may only establish minimum requirements of the flooring system and may not provide adequate rigidity and support for proper installation and performance. It should have a smooth finish and be free from spring and deflection. If this requirement is not met or known, a minimum of 1/4" (6.35 mm) APA approved underlayment grade wood must be adhered to the existing subfloor.
- All fastener indentations and joints should be level and smooth. Use an appropriate patching compound as necessary.
- We do not recommend installing our DLVT over pressure treated or fire-retardant treated plywood. An additional layer of 1/4" APA approved plywood should be installed over these types of plywood.

### CONCRETE SUBFLOORS (PORTLAND OR GYPSUM BASE)

- New concrete slabs must be dry and completely cured prior to installation of flooring.
- Concrete should meet the guidelines of ASTM F 710 "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring" (see [www.astm.org/standards/F710](http://www.astm.org/standards/F710)).
- Engineered Floors require that all concrete subfloors be tested for moisture. The moisture vapor emission rate should not exceed 8 lbs. /1000 sq. ft. per ASTM F1869, and the internal relative humidity should not exceed 90% per ASTM F2170. Records of the testing locations and results should be documented. Three internal relative humidity tests should be conducted for areas up to 1000 sf and one additional test, for each additional 1000 sf after the first 1000 sf.
- The pH level should be between 5 and 9.
- Do not install over concrete with a history of high moisture or hydrostatic conditions. Excessive moisture in the subfloor could promote mold, mildew, and other moisture related issues like the trapping of moisture emissions under the flooring, which may contribute to an unhealthy indoor environment. EF does not warrant nor is responsible for damage to floor covering due to moisture related issues.
- EF requires a moisture barrier be installed under our floating floors that are installed on concrete that is on or below grade.
- 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 concrete product may be required to be authorized or certified by the manufacturer. Correct on-site mixing ratios and properly functioning pumping equipment are critical. Slump testing is recommended.
- Lightweight aggregate concretes having dry densities greater than 90 lbs. per cubic foot may be acceptable under resilient flooring.
- Concrete slabs with heavy static and/or dynamic loads should be designed with higher strengths and densities to support such loads.

### EXISTING FLOORCOVERINGS

- PureGrain High-Def can be installed over most existing hard surface flooring if it is clean, dry, flat, structurally sound and free from deflection.
- Existing sheet vinyl flooring should not be cushioned and not exceed one layer in thickness. Soft underlayment and soft substrates will compromise the product's locking ability as well as diminish its indentation resistance.
- This product can be installed over existing ceramic/porcelain tile products with up to a 1/4" wide grout joint. If the grout joint width exceeds 1/4", a Portland based cementitious patching compound should be used to fill the grout joint to make it smooth with the surface of the tile.
- Properly cleanse any existing marble/terrazzo flooring using a commercial degreasing/dewaxing solution. Rinse thoroughly then dry thoroughly. Grind or abrade any highly polished or irregular surfaces.
- Do not install directly over hardwood/engineered hardwood floors. We recommend installing 1/4" APA approved plywood over these types of existing floors.
- Do not install over cushion-backed vinyl flooring, asphalt-based floors, carpet and/or carpet pad, self-adhering plank or tile, laminate, other floating flooring, or structurally- damaged concrete.

### RADIANT-HEATED FLOORS

EF DLVT can be installed over embedded radiant-heated floors provided the operating temperature never exceeds 85° F (29.4° C). The heating system can be hydronic or an electric mat system. These systems are installed in channels under the subfloor or embedded in concrete, thin set, or patching compound. The heating components must have a minimum of 1/2" separation from the flooring product. The radiant system should be in operation for three weeks prior to installation of the flooring to reduce any residual moisture in the subfloor. 48 hours prior to and during installation, the system should be kept at 65° F (18.3° C). Once the installation is completed, the heat should be gradually increased in 5° (2.8°) increments per day until the desired setting is reached. Where floor heat is present, be mindful that loose rugs or carpets may function as heat insulators and raise the temperature above the tolerated maximum surface temperature of 85° F (29.4 C). Contact the manufacturer of the heating system for further recommendations.

### RECOMMENDED TOOLS AND MATERIALS

Tape Measure, framing square, utility knife, straight edge, spacers, chalk line, embossing leveler/floor patch (if necessary), rubber mallet, tapping block, tile cutter (optional), table saw, jigsaw

### INSTALLATION – GENERAL

- Areas up to 2500 sq. ft. require a minimum of 1/4" (6.35 mm) expansion space around the perimeter of the room and all permanent vertical obstructions. Areas larger than 2500 sq. ft. require 1/2" (12.7 mm) perimeter expansion.
- Make certain that doors, moldings, etc. allow sufficient clearance above the flooring.
- It is recommended that the flooring be installed running parallel to the longest wall and into the light source when possible.
- When installing, work from several boxes at a time for best results and overall appearance.
- Remove existing floor moldings (where applicable) and undercut doorway moldings to the thickness of the subfloor.
- Cartons should be stored horizontally on a flat and level surface with the corners protected from damage. Do not store cartons on their sides.
- EF DLVT should never be nailed to the substrate.
- Planks can be cut across the width using a sharp utility knife and a framing square. Score the surface of the plank with the knife and snap the plank at the score line. A tile cutter or powered saw should be used for cutting along the length.

# PUREGRAIN

---

## HIGH-DEF

### INSTALLATION – PROCEDURE

1. Carefully measure the room to determine the width of the last row of flooring. If the width is less than 2" (50 mm) excluding the tongue, the width of the first row will have to be cut to increase the last row to more than 2".
2. The tongue of the plank should face the starting wall. Make certain that the first row (tongue side) is perfectly straight to ensure subsequent rows properly align. Inspect the groove area and remove any debris that may prevent proper assembly of planks.
3. The joints must be installed at an angle. Any other method will damage the locking system
4. To lock the end joints together, insert the tongue into the groove at a slight angle and rotate downward holding pressure to keep the joint together. Continue installing planks to complete the first row.
5. Install the first plank of the next row by inserting the long edge at a slight angle. Maintain pressure and rotate the plank downward to fully engage the joint. Insert the end joint of the next plank, keeping it close to the locking system on the long joint and rotate downward. Slightly raise the plank and use a tapping block to fully engage the long joint.
6. Install adjoining rows one piece at a time. Holding the plank at a slight angle, place it against the profile in the first row. Rotate the plank down to secure the length joint assuring there are no gaps along the joint.
7. If there are any gaps, we recommend using a tapping block and rubber mallet to lightly tap on the edge of the material. This will bring the plank edges tight together.
8. To install the final row of planks, you will usually need to cut them. We recommend the following: lay a panel on top of the last row installed. Lay another plank against the edge of the wall. Mark the plank underneath.
9. Continue working from left to right, row by row. Be sure to maintain the expansion space around all walls and vertical objects. To maintain a random appearance, remember to offset the end joints a minimum of 8" (20 cm).
10. If the panels can't be angled to engage the joints (e.g. under a door jamb or low fitted radiator) the installer will need to shave the raised portion of the receiving edge off the installed piece by using a chisel or a small block plane. Dry fit to make sure the piece fits. Run a bead of tongue and groove adhesive on the modified groove of the installed piece. Install the piece and use a few pieces of painter's tape to hold the plank in place until the adhesive has dried and cured. The curing and setup times vary depending on the adhesive used.

### FINISHING THE INSTALLATION

- After all planks have been installed, remove spacers from perimeter of room.
- Installers can cover the gap between the bottom of the door jamb and flooring with a silicone caulk. Make sure the caulk does not impede the expansion space.
- Install quarter-round or baseboard molding. Molding should be of sufficient size to cover the expansion space and should be fastened to the wall, not to the flooring. Do not fasten any moldings through the flooring.
- When moving heavy items, always carry them. Never push or pull furniture or other heavy items over DLVT.
- Use floor protectors under the legs of furniture and chairs. Use chair pads where concentrated roller traffic will occur.
- Installations in wet areas such as bathrooms should be caulked around the perimeter and around the toilet flange using a silicone caulk that remains flexible when dry to retard moisture from getting under the flooring.
- Protect the flooring from subsequent projects using a non-adhering temporary protective material such as Ram Board®.
- UV protective film, blinds, curtains, or shades must be used to assure that DLVT products are protected from direct sunlight.
- Consult the PureGrain High-Def Care and Maintenance document for complete cleaning and care.