Rigid Core Floating Luxury Vinyl Flooring
Installation Instructions

GENERAL INFORMATION

Engineered Floors LLC® ("EF") requires all vinyl flooring supplied by EF be installed according to our most current installation instructions in order to maintain full product warranty coverage. Best practice is to have the flooring installed by professional installation technicians. The most current installation documents and videos can be found online at www.engineeredfloors.com. Instructions on replacing damaged plank as well as maintenance and warranty documentation are also available online. EF LVF is intended for indoor use only and is warranted as a floor covering only. Do not install luxury vinyl flooring in areas subject to frequent standing water or in high moisture areas. Keep the original sales receipt as proof of purchase. Record the date of installation. EF requires that the flooring be maintained according to our most current care and maintenance guidelines. When ordering flooring, order 5% more footage than the measured space to receive flooring. Where numerous angles or obstacles exist, more than 5% overage may be necessary. It is recommended to keep a minimum of one carton for future repair or replacement or for testing purposes

COTTAGES AND THREE SEASONS ROOMS

These products can be installed in fully enclosed 3 season environments such as solariums, sun rooms, three season rooms, and seasonal cottages. Installation in 3 season environments should occur while HVAC is operational and set between 65°F - 85°F (18.3°C - 29.4°C). These products LVF 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). Please see Conditions and Exclusions section of the EF Luxury Vinyl Flooring Warranty.

SUITABLE SUBSTRATES/GENERAL SUBSTRATE PREPARATION

- EF LVF can be installed on, above, or below grade.
- The substrate 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.
- The substrate must be clean, dry, structurally sound, firm, and secure.
- High spots should be ground. The substrate must be flat within 3/16" per 10 foot radius (4.7 mm per 3 m). Deflection should not exceed 3/64" (1.1 mm). All construction seams, expansion joints, low areas, grout lines, etc. larger than ¼" should be filled to level with the surrounding surface using a Portland cement-based patching compound to eliminate telegraphing of such irregularities.
- Do not install EF LVF over cushion-backed vinyl flooring, asphalt-based floors, carpet and/or carpet pad, self-adhering plank or tile, laminate or other floating flooring, or structurally- damaged concrete.
- EF floating LVF has an attached underlayment. Do not install over a separate cushioned underlayment.

CONCRETE SUBSTRATES (PORTLAND OR GYPSUM BASE)

New concrete subfloors must be cured for 60 days prior to installation of flooring. All concrete subfloors should 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. The pH level should be between 5 and 9. If the concrete is a gypsum base, a latex primer may be required to reduce dust (for loose lay) or to reduce porosity (for glue down). 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).

WOODEN SUBSTRATES

Wood floors should be a minimum of 3/4" (19 mm) thick APA approved subfloor grade tongue and groove plywood or 23/32" (18.25 mm) OSB. 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 substrate. All fastener indentations and joints should be level and smooth. Use an appropriate patching compound as necessary. If the new floor will be adhered, a latex primer may be required to reduce porosity and ensure bonding.

EXISTING RESILIENT FLOORS

When installing EF LVF over existing resilient flooring, ensure that the existing sheet good or tile product is in good condition and is fully secured to the substrate. EF LVF can be installed over one layer of non-cushioned sheet vinyl flooring. If the new flooring will be adhered, remove any wax, finish, or other substance that might prevent bonding.

Caution*: If you plan to remove old resilient flooring material or any type of old adhesive, please be aware that it may contain asbestos fibers or crystalline silica. Avoid creating dust. Inhalation of such dust may cause cancer and/or respiratory issues. Local regulations may require professional removal. Instructions for the removal of old flooring materials and adhesives may be found in the RFCI Recommended Work Practices for Removal of Resilient Floor Coverings document. Contact the Resilient Floor Covering Institute at 706-882-3833 or www.rfci.com for additional information.*

MARBLE, QUARRY TILE, TERRAZZO, CERAMIC TILE

Properly cleanse substrate using a commercial degreasing/dewaxing solution. Rinse thoroughly then dry thoroughly. Grind or abrade any highly polished or irregular surfaces.

RADIANT-HEATED FLOORS

EF LVF can be installed over embedded radiant-heated floors provided the operating temperature never exceeds 85° F (29.4° C). The radiant system should be in operation for three weeks prior to installation of the flooring to reduce any residual moisture in the subfloor. For 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. EF does not recommend or approve of installation over wire induction mat heat systems. 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).

RECOMMENDED TOOLS AND MATERIALS

Measuring tape, framing/speed square, utility knife, straight edge, spacers, chalk line, embossing leveler/floor patch (if necessary), rubber mallet, tile cutter (optional), table saw, jigsaw

PRIOR TO INSTALLATION

- Cartons should be stored horizontally on a flat and level surface with the corners protected from damage. Do not store cartons on their sides.
- Install cabinets and/or permanent 'islands' prior to installing flooring. Do not install cabinets, islands and such on top of floating flooring.
- 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 is installed.
- 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.

JOB SITE CONDITIONS

The HVAC system should be operational and set between 65°F - 85°F (18.3°C - 29.4°C) during and after the installation period. Keep in mind a concrete floor can be up to 10° colder than the ambient temperature.

INSTALLATION – GENERAL

- 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.
- Avoid exposure to direct sunlight for prolonged periods as such exposure may result in discoloration. Excessive temperatures can cause the flooring to expand and lift away from the subfloor. During peak sunlight hours, the use of the drapes or blinds is required.
- Remove all existing moldings and undercut doorway moldings to the thickness of the subfloor.

- EF LVF should never be nailed to the substrate.
- Planks/tiles can be cut using a sharp utility knife and a square. Score the surface of the plank/tile with the knife and snap the plank/tile at the score line. A tile cutter or powered saw can also be used.
- All installations that will be subject to rolling loads must be glued to the substrate. Rolling loads include but are not limited to wheel chairs, beds, carts, etc.
- 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. Where heavy objects such as safes will be present, glue the flooring to the substrate.
- Where rigid core LVF will be adhered to the floor due to rolling loads or heavy objects, use one of our recommended adhesives and following the spread rate and other instructions on the adhesive container.

INSTALLATION - PROCEDURE

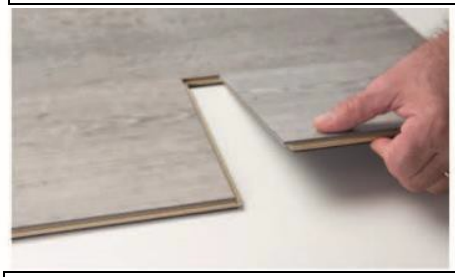
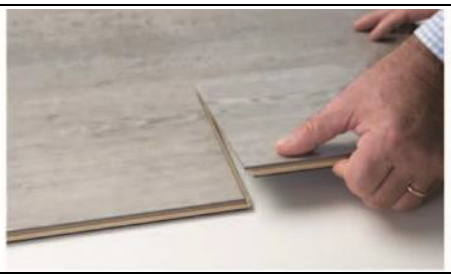
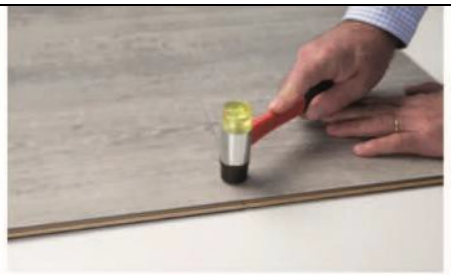
1. Carefully measure the room to determine the width of the last row of flooring. If the width is less than 2" (50 mm) excluding the tongue, the width of the first row of flooring will have to be cut to increase the last row to more than 2".
2. A minimum of 1/4" (6.35 mm) expansion space is required around the perimeter of the room and all permanent vertical obstructions. Make certain that doors, moldings, etc. also allow sufficient clearance above the flooring.
3. Begin laying flooring from the left side (the starting wall) and work to the right side. 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.
4. Inspect the groove area and remove any debris that may prevent proper assembly of planks/tiles.
5. Place 1/4" (6.35 mm) spacers between the short and long side of the planks/tiles and the wall. Always position one spacer between the wall and where the flooring pieces join.
6. The end joints of the planks in the first row are assembled by overlapping the tongue side over the groove side of the previous plank ensuring that the planks are perfectly aligned. With firm pressure, push the end joint downward till the end of the plank snaps in place. End joints may require tapping with a rubber mallet on top of the joint to properly lock. Install the remaining full planks in the first row.
7. The last piece in the first row will need to be cut. Measure the distance between the wall and the surface of the last full piece. Subtract 1/4" (6.35 mm) from this measurement to allow for the spacer. If this measurement is less than 8" (20 cm), the first plank/tile in the row should be cut. The first and last plank/tile in each row should be at least 8" (20 cm) in length.
8. The remaining piece cut from the last plank/tile in the first row may serve as the first plank/tile in the second row provided it is at least 8" (20 cm) long. Always stagger end joints from row to row a minimum of 8" (20 cm).
9. Install the long side of the first plank/tile of the second row. Place a 1/4" (6.35 mm) spacer between the wall and the short side of the plank/tile. Insert the tongue side into the groove side of the plank/tile from the previous row at a low angle and lower flat to the substrate.
10. Install the second plank/tile of the second row. Position the long side of the plank/tile with the tongue side, fully engage into the receiver of the first row of product. Lower the plank/tile with firm pressure to the floor, ensuring that the end joint is overlapping and perfectly aligned. Push the end joint downward till the end of the plank/tile snaps in place. This may require the use of a rubber mallet in order to completely lock in place. Continue installing planks/tiles in the second row. It is important to make sure that the first two rows are straight and square as they can affect the entire installation.
11. Continue working from left to right, row by row. Be sure to maintain a 1/4" (6.35 mm) space around all walls and vertical objects. To maintain a random appearance, remember to offset end joints a minimum of 8" (20 cm).
12. To disengage the end joints, slide the tiles apart horizontally (see images on page 4).

FINISHING THE INSTALLATION

- After all planks/tiles have been installed, remove spacers from perimeter of room.
- Install quarter-round or baseboard molding. Molding should be of sufficient size to cover the 1/4" (6.35 mm) 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 LVF.
- 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 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 LVF products are protected from the direct sunlight.
- Consult the EF Luxury Vinyl Flooring Care and Maintenance document for complete cleaning and care instructions.

Installation illustrations

How to engage.

1. After the first row is down, engage the next row on the long side first.	2. Then slide the plank until it reaches the short side of the next plank and drop gently.	3. Press with your thumb on both ends of the short side.
		
4. Continue pressing until you hear the “click” of the plank falling into place.	5. Hit both sides gently with a rubber mallet on the end joints.	6. Planks are now fully locked.
		

How to disengage.

1. Always disengage the long side.	2. Grab the planks with both hands and gently lift at the same time until the planks disengage.	3. Place the planks gently on the floor.
		
4. To disengage the end joints, slide the planks in opposite directions.	5. Press the planks gently while sliding.	6. Continue sliding until the planks are fully separated.
		

For additional assistance or for the most current Installation, Warranty, and Maintenance information please contact Engineered Floors® Technical Services at eftechservice@engineeredfloors.com or 866-706-9745 Opt. 6.

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