

“HAPPINESS” INSTALLATION

No floor covering is better than the substrate over which it is installed. The finished appearance and performance of the floor covering will be affected by the condition of the substrate. It is essential that all substrates be permanently dry, clean, smooth, and structurally sound. Substrates shall be free of all foreign materials such as dust, solvent, paint, wax, grease, oil, residual adhesive, adhesive removers, curing, sealing, hardening, or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, and other foreign materials that might prevent adhesive bond. Substrate preparation should be done while the permanent HVAC is set at a minimum 68°F. Vacuuming the substrates with a commercial shop vacuum is a preferred method of removing dirt and dust. For concrete floors, damp mopping is an excellent way to remove fine dust. A clean substrate is essential for proper bonding of the adhesive to the substrate.

GRADE LEVEL DEFINITIONS

1. **On Grade**

A location for a finished floor with no portion below ground level, and with the floor and the ground in contact or separated by less than 18 inches of well ventilated space between the bottom of the lowest horizontal structural member and the ground at any point.

2. **Above Grade**

A location for a finished floor where the floor is not in contact with the ground and which provides at least 18 inches of well-ventilated space between the bottom of the lowest horizontal structural member and the ground at any point.

3. **Below Grade**

A location for a floor structure which is in contact with the ground or with less than 18 Inches of well-ventilated space between the bottom of the lowest horizontal structural member and the ground at any point, or the entire floor is below ground level.

SUBSTRATE DEFINITIONS

1. **Subfloor**

Structural layer intended to provide support for design loadings, the substrate for the underlayment.

2. **Underlayment**

The layer of material installed on or over the subfloor to provide a smooth, sound, clean surface to receive the resilient floor covering.

3. **Subfloor/Underlayment Combination**

Designed to meet the structural requirements and provide a smooth surface to receive the floor covering.

Wooden Subfloors

Wood floors should be double construction with a minimum thickness of 1". The floor must be rigid, free from movement and have at least 18" of well-ventilated air space below. LG floor coverings should not be installed over wooden subfloors built on sleepers that are over, on grade, or below grade concrete floors unless specific designs have been undertaken to eliminate the chance of failure due to the excessive moisture vapor emissions from the concrete.

Underlayment

Underlayment panels of ¼" thickness will not correct major deficiencies in the subfloor. Underlayment provides a smooth, sound surface on which to adhere the resilient flooring. APA underlayment grade plywood, minimum ¼" thickness, with fully sanded face is the preferred panel. The underlayment must be free of any foreign material that may cause staining, such as patching compounds, sealers, inks, solvents, etc. **Always install and fasten underlayment panels according to the manufacturer's instructions. Particle board/chip board, and tempered hardboard is not suitable to install LG floor coverings over. Lauan panels may not be suitable underlayment to install LG floor coverings over. Regardless of which underlayment product is used, any failure in the performance of the underlayment is the responsibility of the underlayment manufacturer and not LG Floors.**

Strip Wood/ Plank Flooring

Due to expansion and contraction of the boards during seasonal changes, LG recommends the use of ¼" or thicker underlayment panels be installed over these type subfloors.

Concrete Floors

Concrete floors to receive resilient flooring shall be permanently dry, smooth, clean, and structurally sound. They shall be free of all foreign materials such as dust, paint, grease, oils, solvent, curing and hardening compounds, sealers, bond breakers, old adhesive residue, and adhesive removers. Imperfections such as chips, spalls, cracks and/or corrective leveling shall be repaired with Portland-based patching and/or underlayment material. Expansion joints in concrete are designed to allow for the expansion and contraction of the concrete. Flooring products should not 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 vinyl once the concrete is thoroughly cured, dry and acclimated.

Patching Materials

There are many available brands. DO NOT use **gypsum** based compounds. This type of patch may harbor and promote mold and mildew growth, have low indentation resistance and poor bond and adhesion strength.

LG Floors recommends the use of Portland based patching and leveling compounds.

Regardless of which patching or leveling compound is used, any failures in the performance of the compound or LG floor coverings due to the compound is the responsibility of the compound manufacturer not LG Floors. Many failures have been directly attributed to the incorrect mixing of the patching product; closely follow the mixing instructions from the patch or leveling compound manufacturer.

Old Adhesive Residue

If a residue of adhesive is present, it must be dealt with.

It may be mechanically removed by bead blasting or scarifying.

Some patching and leveling compounds may be applied over it. Check with the underlayment manufacturer for suitability, application instructions and warranties.

Existing Resilient Floors

Most LG Floor Covering can be installed over a single layer of non-cushioned resilient flooring provided it meets certain conditions:

1. Concrete substrates must be dry. Moisture test results should not exceed 5 pounds per 1000 square feet during a 24 hour period for the calcium chloride test and 85% for the in situ relative humidity. The existing flooring must be removed where the calcium chloride test is conducted.
2. The existing flooring must be fully adhered and well bonded.
3. The existing flooring must not be embossed or textured enough that it will telegraph through the new flooring.
4. All waxes and finishes must be removed and rinsed with clean water.
5. All cuts, gouges, dents and other irregularities must be repaired or replaced.
6. The use of embossing levelers is not recommended for commercial installations.

Note: The responsibility of determining if the existing flooring is suitable to be installed over 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.

POURED FLOORS

(Epoxy, Polymeric, seamless)

LG floor coverings may be installed over most poured floors provided they meet the following conditions:

1. They must be cured and well bonded to the concrete.
2. Loose, damaged areas and irregularities must be repaired with an approved patching compound.
3. The surface texture must be smooth.
4. All waxes, finishes, and surface contaminants must be 100% removed.
5. No history of moisture related issues.

Radiant Heated Floors

LG floor coverings may be installed over radiant heated floors provided the operating temperature does not exceed 85° F. Radiant heating systems should be lowered or turned off at least 48 hours prior to installation of flooring material. This is to ensure the surface temperature of the subfloor does not exceed 70° F during the installation of the flooring material. The room temperature must be maintained at a minimum of 65° F prior to, during, and after installation. After 72 hours, the temperature of the radiant heating system can be slowly increased. When raising the floor temperature, do so gradually so that the substrate and the flooring material can adapt to the temperature change together.

Moisture Test

Moisture tests are required on all concrete floors regardless of age or grade level, with a minimum of three tests for the first 1000 square feet. One additional test should be conducted for each additional 1000 square feet or fraction thereof.

Calcium chloride tests must be conducted according to ASTM F 1869.

The results of Calcium Chloride moisture vapor emissions shall not exceed 5.0 lbs. per 1000 sq. ft. during a 24 hour period.

Relative Humidity tests must be conducted according to ASTM F 2170.

The results of In-Situ Relative Humidity tests shall not exceed 85% when using LG 4100.

A diagram of the area showing the location and results of each test should be submitted to the architect, general contractor or end user. If the test results exceed the limits, the installation should not proceed until the problem has been corrected.

Note: It may not be the flooring installer's responsibility to conduct the test. It is, however, the floor covering installer's responsibility to make sure the tests have been conducted and that the results are acceptable prior to installing the floor covering.

pH Test

It is essential that pH tests be taken on all concrete floors regardless of the age or grade level.

pH tests must be conducted according to ASTM F 710.

Surface pH must not exceed 10.

Job Conditions

The installation of the resilient flooring should not begin until the work of all other trades has been completed, especially overhead trades. Areas to receive flooring shall be clean, fully enclosed with the permanent HVAC set at a uniform temperature of at least 68° F. The flooring material should be conditioned in the same environment a minimum of 48 hours before starting the installation. Areas to receive flooring should be adequately lighted to allow for proper inspection of the substrate, installation and seaming of the flooring.

MATERIAL STORAGE, HANDLING AND INSPECTION OF MATERIAL

Store all rolls standing upright, do not lay rolls down for long periods.

When more than one roll of a color is being installed, the material should be from the same batch and the rolls must be installed in consecutive order. If material from more than one batch is to be used, the job should be laid out so that different batch numbers are not installed side by side.

When installing sheet products, all sheets must be installed running in the same direction.

Any material installed with visual defects will not be considered a legitimate claim as it pertains to labor cost.

INSTALLING “HAPPINESS” SHEET VINYL FLOORING

- Use only LG 4100 adhesive for Happiness installations.
- Use a 1/32” Deep x 1/16” Wide x 1/32” Apart (U) notched trowel only.
- Follow instructions on the adhesive container.
- Happiness sheet vinyl is dimensionally stable and will not shrink or compress. If cut too full, it may result in a bubble.
- Install all cuts and rolls in consecutive sequence.
- Do not reverse sheets for seaming.

CUTTING AND FITTING SHEETS

Happiness is very flexible and easy to handle. In most cases, an experienced installer will be able to hand fit the material in areas where base or trim moldings will be installed later.

Factory edges may be used for seaming, provided:

- Edges are not damaged in any way.
- Factory edges are laid together with uniform gaps the entire seam length.
- Uniform gap between sheet edges is no wider than a business card is thick.

Seams may also be cut by straight edging one side and under scribing the second sheet.

Chalk lines along where adhesive will be spread can assure an even and straight line of adhesive.

Spread adhesive with proper-notched trowel over entire area. Be very careful not to leave any adhesive ridges, skips or puddles.

Allow adhesive open time before laying flooring in it.

Note: The subfloor porosity and room conditions (temperature, humidity, air movement, etc.) can affect the open time and working time of adhesive.

Roll floor with a minimum 100 lb roller in both directions. Roll across width first, then along length.

Roll in the material next to the walls with a hand seam roller.

HEAT WELDING

Heat welding Happiness is the preferred seaming option. On large installs the use of automatic welding equipment is strongly recommended.

Heat welding provides for strong, watertight and hygienic seams.

The welding cord is made from pure PVC, which is designed to melt at the same temperature as the PVC of the sheet flooring.

Heat welding should be done after the flooring adhesive has set up, usually the following day.

It's always a good idea to practice on a scrap piece of material first to ensure proper temperature and speed.

- Seam edges should be tight. Large gaps in the seams will prevent a quality weld.
- DO NOT groove into the "Closed Cell Foam Backing".
- Groove seams using a hand groover or electric router. The depth of the groove should be about 2/3" the thickness of the vinyl layer. Be careful not to go too deep. This is very important to ensure proper strength and bonding.
- Clean out all grooves thoroughly.
- Use only professional quality welding equipment that will maintain proper temperatures.
- LG weld rod is 4mm, use 4mm tip.
- Preheat welding gun for several minutes before beginning.
- Temperature should be set at 700° - 800° F. Setting of 5 ½ - 6 using green Leister gun.
- Determine the correct welding speed.
- A small bead must form on either side of the welding rod.

Skiving

- Skiving vinyl weld rod should be done in two passes.
- First pass - while the welding rod is still warm, trim the top part using knife and trim plate.
- After the rod has cooled to room temperature, remove the remaining rod using only the sharp spatula knife. Smooth continuous passes result in smooth seams.

MAINTENANCE

- Happiness does not require a floor finish. However, in certain applications a floor finish may be desirable to aid in stain resistance, resistance to abrasion or increase gloss level.
- The single greatest cause of damage to any flooring or floor finish is abrasion from dirt and grit. Wherever possible, use walk off mats at entrances and doorways. Vacuum or sweep the floor often to remove any dirt and grit.
- Every application and every building can present different issues which may require variations in the maintenance procedure. The following are general guidelines, which will cover the majority of applications. If you feel your situation is not covered by these guidelines, please contact LG Floors technical service for advice before beginning your maintenance procedures.

Initial Maintenance

Note: Do not begin wet maintenance for at least 3 days after installation is complete, this is to assure the adhesive has had sufficient time to dry and cure.

Damp mopping is allowed after 12 hours.

Daily Maintenance

Remove surface soil, dirt, sand and grit by vacuuming or dust mopping.

General Maintenance

Use standard Maintenance Industry safety practices and precautions whenever performing maintenance procedures.

- Remove surface soil, dirt, sand and grit by vacuuming or dust mopping.
- Before selecting an Option, determine what the visual expectations are, e.g. Shiny, Medium, or Matte finish.

Option 1 - No Wax & No Buff Methods (Matte Finish)

- *Damp Mop*: Clean floor with a neutral pH detergent such as Johnson Diversey 'Stride'.

Follow manufacturer's directions for mixing and using.

And/Or

- *Machine (Auto Scrubber)*: If desired, scrub with a rotary scrubber using a 3M red type scrubbing pad or automatic scrubber with equivalent scrubbing pads or brushes.

Option 2 - Floor Finish (Shiny or Matte)

- Apply 2-3 coats of high quality floor finish such as Johnson Diversey's 'Carefree' or Taski's 'Vision Matte', or equivalent. Apply with a clean finish mop or finish applicator. Follow finish manufacturer's instructions.

- Allow each coat to dry completely before applying the next coat.

* Spray Buffing in lieu of Option 2 is acceptable and will leave a slight luster on the floor.

**LG FLOORS
INSTALLATION TECH
1 888 543 5872 x 2**