

LVT | LVP

**INSTALLATION GUIDE FOR
DRY BACK PLANK OR TILE**

Contents

- PRODUCT USE & RESPONSIBILITIES 3**
- JOB SITE CONDITIONS 4**
 - Pre Existing Conditions 4
 - Removal of Asbestos 4
 - Mold and Mildew 5
 - Considerations 6
 - Existing Resilient Floors 9
- INSTALLATION 10**

INSTALLATION METHOD | FULL SPREAD ADHESIVE

PLEASE READ COMPLETE INSTRUCTIONS BEFORE COMMENCING INSTALLATION

THESE FLOORS MAY BE INSTALLED

- On, above or below grade - for interior applications only.
- Over radiant heated floors where the surface temperature of the subfloor is within specification. See details below.

ADDED SYSTEMS WARRANTY

In addition to the product warranty, your Luxury Vinyl floor may also be covered by a systems warranty if the installation method and materials conform to the manufacturer's recommendations.

- For more information, please contact your distributor.

INSTALLER RESPONSIBILITY

- Inspect all flooring products to ensure they are the correct color, pattern, size and texture ordered.
- Do not mix lot numbers.
- Inspect related installation materials and tools to ensure that they are correct for substrate, application rate and that the correct quantity of materials is on hand.
- Inspect all materials for damage and when adhesives are used, check the expiration date of the adhesive
- Do not use if expired.
- Review warranty of products to ensure that the proper flooring and sundries are being used for intended application.
- I.E. residential or commercial use including static and dynamic load expectancy.
- Ensure that the job site is ready for the installation of floor covering
- Underlayment compatibility, signs of moisture or alkalinity and other conditions that may prevent the successful installation and performance over the life of the floor.

STORAGE AND HANDLING

- Carry/transport luxury vinyl flat at all times.
- Remove flooring and sundries from your vehicle immediately after transporting.
- Do not carry cartons without use of a carry board. Store on a flat level surface in a dry environment. Stack squarely, no more than 15 cartons high. Do not store or turn on edges. Do not store directly on any concrete surface.
- Store in a dry, temperature controlled environment out of direct sunlight. Maintain temperatures between 65°F (18°C) and 85°F (29°C) at all times.
- For more on acclimatizing of all materials see section: Planning, Layout and Installation (Page 10)

JOB SITE CONDITIONS

- Intended for interior applications only.
- These floors should not be used in garages, commercial kitchens, food processing areas, heavy industrial areas or where spiked shoes are worn.
- Do not begin installation or floor preparation before other trades have completed their work.
- All areas should be fully enclosed, weather-tight with the permanent HVAC in operation.
- For more on radiant heated floors see section: Subfloors & Underlayment / Radiant Heated Subfloors (Page 6)
- The finish on Luxury Vinyl floors contains a UV inhibitor to help minimize fading over time. To further reduce fading and excessive heat buildup on the floor, use UV glass, shades or blinds to minimize the floor's exposure to direct sunlight.
- Substrates must be clean, dry, sound, smooth and flat (1/8" in 6' and 3/16" in 10').

PRE-EXISTING CONDITIONS

- Do not sand, dry sweep, dry scrape, drill, saw, bead blast, or mechanically chip or pulverize existing resilient flooring,
- backing, lining felt, asphaltic "cutback" adhesive, or other adhesive.
- These 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 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.
- The Resilient Floor Covering Institute's (RFCI) Recommended Work Practices are a defined set of instructions addressed to the task of removing all resilient floor covering structures whether or not they contain asbestos.
- The publication can be found at <http://www.rfci.com/recommended-work-practices/>

THE REMOVAL OF ASBESTOS-CONTAINING MATERIAL

Various Federal, State and local government agencies have regulations governing the removal of in-place asbestos- containing material. If you contemplate the removal of a resilient floor covering structure that contains (or is presumed to contain) asbestos, you must review and comply with all applicable regulations.

Please note that these recommended work practices are subject to change as new practices are incorporated. It is your responsibility to determine that the recommended work practices you use are those in effect.

Important Information for Installers of Resilient Floor coverings Concerning Existing Resilient Floor Covering Structures

- Vinyl-asbestos tile and asphalt tile contain asbestos fibers, as did some Asphaltic "cutback" adhesives and the backings of many sheet vinyl floorings and lining felts. The presence of the asbestos in these products is not readily identifiable.
- While resilient floor covering products manufactured today do not contain asbestos, the asbestos used in the older products was encapsulated in the matrix of the product. The Environmental Protection Agency (EPA) recognizes that those products are non-friable (i.e. when dry cannot be crumbled, pulverized or reduced to powder by hand pressure) unless certain activities prohibited by the removal practices in the booklet occur.

- Unless positively certain that the product you intend to remove is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.
- RFCI's Recommended Work Practices are a defined set of instructions addressed to the task of removing all resilient floor covering structures whether or not they contain asbestos. When RFCI's Recommended Work Practices are followed, resilient floor covering structures that contain (or are presumed to contain) asbestos can be removed in a manner that will comply with the current Occupational Exposure to Asbestos Standard's Permissible Exposure Limits (PEL) issued by the Occupational Safety and Health Administration (OSHA).
- Numerous products, devices and techniques have been recently introduced and/or recommended for the removal of resilient floor covering structures. Before you use any practices other than those identified in the booklet for the removal of an in-place resilient floor-covering product that contains (or is presumed to contain) asbestos, you must determine that the practice meets all applicable regulations or standards including the OSHA standards for occupational exposure to asbestos and the EPA asbestos regulations. You must also determine that any materials used during the removal practice will be compatible with the new floor covering to be installed.

For more information, refer to the Resilient Floor Covering Institute Website at: <http://www.rfci.com>

MOLD AND MILDEW

Prior to removing an existing resilient floor following the RFCI Recommended Work Practices for Removal of Resilient Floor Coverings (unless state or local law requires other measures) or installing a new floor, if there are visible indications of mold or mildew or the presence of a strong musty odor in the area where resilient flooring is to be removed or installed, the source of the problem should be identified and corrected before proceeding with the flooring work. In virtually all situations, if there is a mold issue, there is or has been an excessive moisture issue. Visible signs of mold or mildew (such as discoloration) can indicate the presence of mold or mildew on the subfloor, on the underlayment, on the back of the flooring, and sometimes even on the floor surface. If mold or mildew is discovered during the removal or installation of resilient flooring, all flooring work should stop until the mold/mildew problem (and any related moisture problem) has been addressed. Before installing the new resilient flooring, make sure the underlayment and/or subfloor is allowed to thoroughly dry and that any residual effect of excessive moisture, mold, or structural damage has been corrected.

To address mold and mildew issues, you should refer to the U.S. Environmental Protection Agency (EPA) guidelines that address mold and mildew. Depending on the mold or mildew condition present, those remediation options range from cleanup measures using gloves and biocide to hiring a professional mold and mildew remediation contractor to address the condition. Remediation measures may require structural repairs such as replacing the underlayment and/or subfloor contaminated with mold and mildew as a result of prolonged exposure to moisture.

The EPA mold guidelines are contained in two publications "A Brief Guide to Mold, Moisture and Your Home" (EPA402-K-02-003) and "Mold Remediation in Schools and Commercial Buildings" (EPA 402-K-01-001). Appendix B of the "Mold Remediation in Schools and Commercial Buildings" publication describes potential health effects from exposure to mold, such as allergic and asthma reactions and irritation to eyes, skin, nose and throat.

These publications can be located on EPA's website at www.epa.gov/iaq/molds

LEAD SAFE HOUSING RULE

It is the contractor or installer's responsibility to comply with the Lead Safe Housing Rule and RRP regulations linked at http://www.hud.gov/offices/lead/enforcement/lshr_rrp_changes.cfm

SILICA DUST RULE

It is the contractor or installer's responsibility to comply with the OSHA Crystalline Silica Rule. <https://www.osha.gov/dsg/topics/silicacrystalline/>

CONSIDERATIONS

STATIC OR DYNAMIC LOADS

To help prevent damage from heavy static loads such as hospital beds or heavy dynamic (rolling) loads, use devices and rollers/casters that dissipate concentrated weight loads. It is the furniture, appliance or equipment manufacturer's responsibility to warrant the suitability of their device against any damage that may occur to the flooring due to the use of their equipment.

- For more information see section: Subfloors & Underlayment / Acoustical Underlayment (page 6)

SUBFLOOR & UNDERLAYMENT

The installer should take care to ensure that the subfloor and substrate are properly prepared to receive the new flooring. Adequate and careful attention to this will help prevent ridging and tunneling; bumps caused from dirt or other textures; discoloration from residual adhesives, nails or other fastening devices and improperly used underlayment panels, alkali deposits, mold and mildew.

DEFINITIONS

- Subfloor is defined as being a part of the structural support of the building.
- Cementitious underlayment is poured or troweled over a subfloor, existing floor or underlayment to ensure a smooth surface to which the vinyl can be installed over.
- Acoustical underlayment is an added component to the overall flooring system. It is laid over the top of the substrate to reduce the transmission rate of impact sound.
- Wood Underlayment is laid over the top of the subfloor and becomes the substrate on which the vinyl plank or tile is installed over.

WOOD SUBFLOORS

- Wood Subfloors must have a minimum of 18" of ventilated air space below (crawl space). Crawl space must be covered with a suitable vapor barrier.
- Must be structurally sound with minimal movement and deflection. Minimal thickness is ¾" (19mm).
- Moisture content should not exceed 13%

WOOD UNDERLAYMENT

All underlayment panels must be rated as "Underlayment Grade" and warranted by the manufacturer as suitable for the installation of glue down Luxury Vinyl Flooring.

Panels must not be treated with any substance including preservatives, moisture inhibitors, and free of any wax, silicone, solvents, dyes or other materials that may stain the flooring.

Nails or other fasteners that do not bleed or rust should be used when installing underlayment panels. Follow underlayment manufacturer instructions. Moisture content should not exceed 13.

Luxury Vinyl floors can be installed over most structurally sound, flat subfloors with minimal deflection. The table below is intended only as a guide. Performance for the underlayment rests with the underlayment manufacturer and is not warranted by the flooring manufacturer.

Follow underlayment manufacturer's recommendations.

The criteria below are intended to prevent upward staining or unhealthy living environments.

Type of Wood Substrate	Notes
Composite Underlayment	Recommended, see your local representative
Plywood - APA rated - smooth face, exterior exposure classification	Yes - but manufacturer must warrant that it will not stain the flooring
Plywood - Poplar or Birch smooth face with exterior rated glue	No - not healthy for indoor living environments
Plywood - Treated, lauan or Hardboard	Yes - but manufacturer must warrant that it will not stain the flooring
Particleboard	Yes - but manufacturer must warrant that it will not stain the flooring
OSB	Yes - but manufacturer must warrant that it will not stain the flooring and is rated as underlayment grade. OSB board edges may need additional prep if it was ever exposed to moisture.

CONCRETE SUBFLOORS

Follow all guidelines listed in the most recent ASTM F710 “Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring” and the American Concrete Institutes ACI 302.1R-08 “Guide for Floor and Slab Construction”. It is the installer’s responsibility to determine whether the subfloor is suitable for installation of vinyl tile or plank. If site conditions are not appropriate do not install the floor; inform general contractor and do not proceed until remedial actions to correct improper subfloor conditions have taken place.

For all installations where subfloor is below or on grade, determine if there is a physical vapor retarder in place that will prevent the continuing release of moisture through concrete.

These tests must be done to ensure a proper installation:

- Moisture or Relative Humidity Testing
- Residential Space Minimum Requirements
- According to the most recent ASTM F1869 “Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride”. Results must not exceed (3lbs/1000sq.ft./24hrs).
- Commercial Space Minimum Requirements
- According to the most recent ASTM F2170-02 “Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes”. Internal Relative Humidity levels must not exceed 80%
- 72 hour bond test must be performed when using products that are directly adhered to substrate.
- Alkalinity test to measure pH of concrete according to ASTM F710.

Manufacturer, distributor or dealer is not responsible for any floor installation failures associated with unaddressed site conditions such as, but not exclusively: vapor transmission, moisture permeation, improper pH levels, and contaminated concrete or damaged subfloors.

The ultimate responsibility for subfloor acceptability and compatibility resides with the architect, designer, contractor and installer. Note that tests done today do not guarantee long term performance of substrate. Guard against long term exposure to moisture by installing proper vapor retarder and channeling water away from building.

The following table is intended only as a general guide.

Considerations for Concrete	Specification	If out of spec, look for these problems
Moisture Content	<ul style="list-style-type: none"> Commercial applications: RH in situ probes - not to exceed 80° in sleeve. Residential applications: Calcium Chloride 5lbs/1000sqft/24hrs and diminishing 	<ul style="list-style-type: none"> Slab too new - hasn't cured, Physical Moisture Vapor Retarder is compromised or missing. 60 days minimum High water table?
Alkalinity	PH between 7-10	<ul style="list-style-type: none"> Slab too new - hasn't cured. Ongoing water or vapor source can carry alkali into the slab.
Compressive Strength Minimums	3500 psi or more	Refer back to architect and contractor.
Hydrostatic Pressure	None should exist	Physical Moisture Vapor Retarder is compromised or missing. Refer back to architect contractor.
Bond Test	Securely bonded after 72 hours	<ul style="list-style-type: none"> Curing agents used, especially those with wax, silicone or soap, etc. Will prevent bond. Dirt, debris or other foreign materials present. Moisture levels too high

Considerations for Lightweight Concrete (Gypcrete)	Specification	If out of spec, look for these problems
Moisture Content	<ul style="list-style-type: none"> Above grade, dry, cured Follow Lightweight Concrete Manufacturer recommendation for dry, cured. One manufacturer recommends readings using Delmhorst BD2100 Meter not to exceed 5° 	Sources of moisture
Compressive Strength Minimums	2500 psi or more	Crumbling, cracking, dust

Considerations for Patching and Leveling Compounds	Specification	If out of spec, look for these problems
Gypsum Based	Do not use any gypsum based materials	Mold and mildew growth
Cracks, Voids, Depressions	Floor flat, sound fill cracks, voids, depressions except expansion zones	<ul style="list-style-type: none"> Flooring not smooth. Determine if uneven floor is structural or topical

Considerations for other Site Conditions	Specification	If out of spec, look for these problems
Relative Air Humidity	75° or less	Indicates high vapor levels - may effect adhesives and other installation accessories
Expansion Zones/Strips or active concrete joints	Do not install over	No flooring should be installed over expansion zones/strips unless specified and warranted by architect/designer/general contractor.
Suspected asbestos	None	Refer to RFCI Recommended Work Practices
Flatness	1/8" in 6' and 3/16" in 10' in all directions	

EXISTING RESILIENT FLOORS

Okay to install over existing resilient flooring provided that it is adequately adhered to the subfloor and that it is solid and has no deflection. Fill with embossing leveler and or premium modified cementitious patch to fill depressions, cracks and voids.

- Fill until all areas are smooth, let dry and prime if necessary.

ACOUSTICAL UNDERLAYMENT

Luxury vinyl should only be installed over approved acoustical underlay.

- For additional information, please contact your distributor
- Do not use acoustical underlayment where heavy static or dynamic loads are present.
- Use furniture leg and appliance feet protectors to dissipate heavy static weight loads.
- Use flat, not domed protectors with felt pads.
- For more information on this subject read luxury vinyl product care & maintenance instructions.

CERAMIC OR QUARRY TILE, TERRAZZO AND MARBLE

Okay to install over providing that tile is well bonded to structurally sound subfloor.

- Use an appropriate patching compound to fill depressions, cracks, voids and grout lines.
- Fill until all areas are smooth.

POLYMERIC POURED FLOORS

Okay to install over providing floor is well bonded to structurally sound subfloor.

- Must be clean, dry, flat and free of bumps, cracks or depressions.

RESIDUAL CUT BACK ADHESIVE

- Refer to RFCI "Recommended work Practices for the removal of resilient flooring" Section on Residual Asphaltic "Cutback" Adhesives. <http://www.rfci.com>

RADIANT HEATED SUBFLOORS

- Floor temperature not to exceed 85°F (29°C).
- The heating wires that are a part of the radiant system should be separated from the flooring by a minimum of ¼" (cementitious, or other).
- Newly installed concrete floors with radiant heat shall have been operational for a period in which is sufficient to dry and cure slab so that accurate relative humidity, moisture, pH and bond tests may be performed.
- Manufacturer of radiant heat must warrant that their system is compatible with luxury vinyl plank or tile.
- It is recommended that you contact your distributor technical services department for further information about your specific project.

PLANNING, LAYOUT AND INSTALLATION

ACCLIMATION

Condition flooring and associated sundries to the proper room temperature between 65°F (18°C) and 85°F (29°C), 48 hours before, during and thereafter.

INSTALLATION MATERIALS

For added assurance and warranty use recommended installation and maintenance materials that are listed below.

- LV coordinated caulking.
- LV coordinated transitions.
- LV coordinated repair pens and scratch repair stick.
- Contact your Distributor for approved adhesives and underlayments

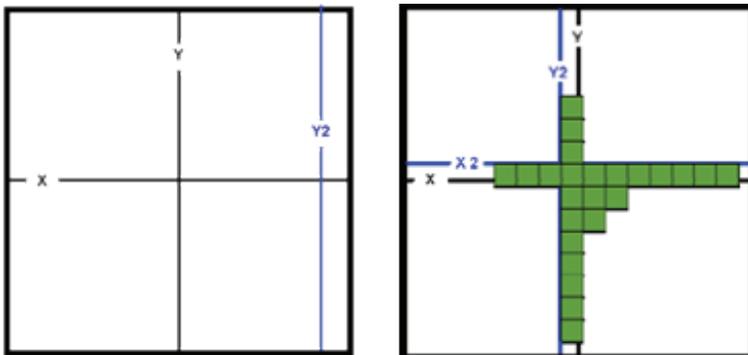
LAYOUT

If you will be installing acoustical underlayment, do it now. Mark your layout directly onto the underlayment. Precise and careful measurements are very important. Plan your layout so that the edges of the flooring tiles or planks do not sit directly over the top of underlayment joints.

For Planks and Tiles

Begin by squaring off and finding the center point in the room. Snap chalk lines on X (horizontal) & Y (vertical) planes.

- Measure out from center in both directions to determine if planks that are closest to walls will be at least 6" in length and half the width of the plank and that they are equally balanced on each side of the room. This will determine if you need to cut planks to partial widths at the perimeter of the installation and determine the placement of your starter row.
- Using this information, measure from the original Y plane, a distance from the wall that is equal to the width of one full planks plus the width of the partial plank size you determined in the last step, plus the expansion area. Snap a chalk line Y2 at this measurement.
- Determine if beginning plank should be cut in length. Retain piece if larger than 6" because you can use it to start or end another row of planks.



INSTALLATION

- Planks or Tiles should be cut using the score and snap method or by using a vinyl tile cutter.
- Undercut door jambs where applicable. Maintain a 3/16" expansion zone at all walls and other vertical obstacles. Installations where rooms are very large may require a larger expansion zone or expansion joints.
- Install by pulling planks or tiles from several cartons concurrently. This important step will assure a random and natural appearance. For flooring that has a wide variety of visual character, installer should do a rough layout to achieve best visual appearance prior to permanently installing floor.
- If installing on a landing or on a stair tread, flooring must be glued directly to the stair tread using hard-set adhesive. Special procedures must be followed. Request more information from our technical department.
- Typical trowel size will be U 1/32" x 1/16" x 1/32". Follow adhesive manufacturer recommendations and adjust for substrate conditions.
- FOLLOWING INSTALLATIONS
 - In bathrooms or other areas where moisture could reach the subfloor by migrating to the perimeter of the installation: caulk around the perimeter of the installation with 100% silicone or coordinated caulking. Be careful to not caulk above the flooring height as it may impede the installation of wall base.
 - Install specified transition strips where applicable.
 - Never slide appliances or other heavy items across the floor. Use plywood and a hand dolly or an approved air ride appliance moving device.
 - Use walk-off mats with backings that are sold "Will not stain the floor" to control grit.
 - Use furniture glides and protectors to prevent scratching and indentations.
 - Read and understand all maintenance and warranty information.

Do not wet mop or flood the floor with cleaning solution; mist it with the Spray Cleanser and damp mop as instructed.

Commercial applications: while all Luxury Vinyl floors have durable polyurethane finishes, users in some commercial applications may wish to wax the floor for added protection. If the Luxury Vinyl flooring was installed with adhesive (Dry back) DO NOT wet wash or strip the floor for seven days after installation. This will ensure the adhesive has sufficient time to cure completely.

Follow a regular maintenance routine.

CARE & MAINTENANCE / PRODUCT WARRANTY

For complete CARE & MAINTENANCE instructions and PRODUCT WARRANTY for your Luxury Vinyl Floor please contact your distributor.

PLEASE NOTE: FAILURE TO FOLLOW THE MANUFACTURER'S CARE & CARE MAINTENANCE INSTRUCTIONS MAY VOID THE PRODUCT WARRANTY.