

7 Good Answers:

What Design & Facilities
Professionals Need to
Know About LVT





(cover) **M E L A N G E** // P H A N T O M
(left) **P L A Y B O O K** // C O C O A

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Used in the proper application, Luxury Vinyl Tile (LVT) is among the most durable and practical flooring choices in the market. It provides a wide range of aesthetics, ease of installation and maintenance, and a low overall total cost of ownership making LVT an increasingly specified product.

There are a multitude of LVT products available—sourced globally and constructed with different engineering and manufacturing techniques. Due to these variables, not all LVT is designed to meet the demands and requirements of high-traffic commercial spaces.

This guide is provided to equip design and facilities professionals with the knowledge to make informed and appropriate product selections. It addresses common misconceptions and gives insight into the key performance aspects of LVT.

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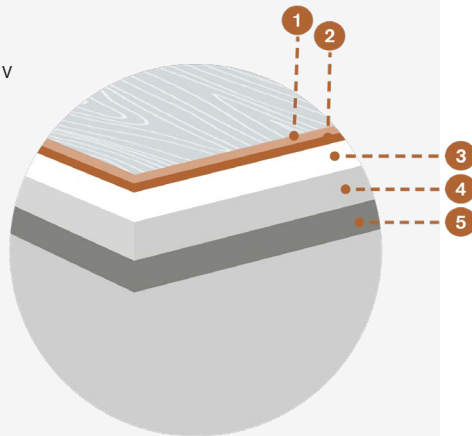
Does LVT Thickness Matter?

LVT is available in a range of constructions from 2mm up to 5mm in thickness. The thickness of the LVT has different benefits to consider when selecting product for the unique needs of your project.

TIP: Thickness does not mean the product will wear better.

2.5mm thickness

- 1 TOP COAT—PROTECTIVE UV CURED URETHANE WITH CERAMIC BEAD & ANTI-MICROBIAL
- 2 20MIL WEAR LAYER
- 3 HIGH DEFINITION PRINT FILM
- 4 IMPACT RESISTANT CORE LAYER
- 5 FOUNDATIONAL BASE LAYER

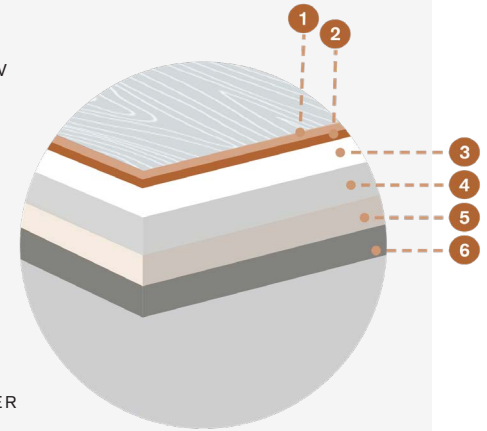


2.5mm benefits

- High-performance construction
- Dimensionally stable
- Flexible
- Cost-effective
- Glue down installation—ideal for heavy rolling loads

5mm thickness

- 1 TOP COAT—PROTECTIVE UV CURED URETHANE WITH CERAMIC BEAD & ANTI-MICROBIAL
- 2 20MIL WEAR LAYER
- 3 HIGH DEFINITION PRINT FILM
- 4 IMPACT RESISTANT CORE LAYER
- 5 FIBERGLASS REINFORCEMENT LAYER
- 6 FOUNDATIONAL BASE LAYER



5mm benefits

- Smooth transition to modular carpet and textile composite flooring. With minimal height differential between products, there is reduced trip hazard, better wear at the seam and no need for transition strips.
- Greater comfort underfoot
- Allows loose-lay format for a quick installation and ease of replacement
- Improved acoustic properties—LVT has a High Impact Insulation Classification (IIC) rating for reduction of noise levels
- Better able to mask imperfections in the subfloor

2 What is the Difference Between Topcoat and Wear Layer?

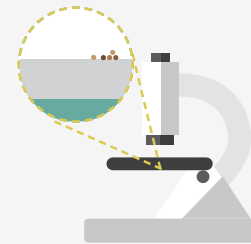
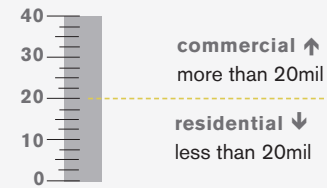
The surface of LVT consists of two parts—the wear layer and the topcoat. The wear layer is the transparent vinyl film built to protect the printed design. Applied on top of the wear layer is the UV-cured urethane topcoat. This is the uppermost layer of LVT that enhances durability and resistance to scratches and scuffs.

Wear layer thickness is measured in “mils,” or one thousandth of an inch. A 20 mil wear layer is engineered for high-traffic commercial use. Products with less than a 20 mil wear layer are used in residential installations. Some wear layers can be texturized to enhance the pattern visuals on the printed film.

When it comes to topcoats, there are different durability factors to consider. Most topcoats are UV-cured urethane. This is applied to make the LVT less susceptible to scuffs and scratches. However, additional additives in the topcoat can affect performance.

Some additives are irregular in shape, more like gravel, and can become displaced from the topcoat with foot traffic. Look for a topcoat with a high immersion rate of a durable additive such as ceramic bead. It is important to verify consistent dispersion of the ceramic bead throughout the topcoat. This will provide optimum scratch and scuff resistance and enhance long-term appearance retention.

wear layer thickness



ceramic bead topcoat

smooth, consistent
surface area



topcoat with additives

rough surface area,
susceptible to displacement
from foot traffic

flooring facts: mils vs. mm

There are two primary units of measurement in LVT—both of which are used for thickness specifications.

The first is mils. This is measured as one thousandth of an inch and is the unit of measurement used for the wear layer. Mils is a unit of measurement that is typically used to measure flat objects. With LVT, a higher mil means more protection for the printed pattern film.

The other unit of measurement in LVT is millimeter (mm). This is measured in one thousandth of a meter. The mm measurement is used to denote the overall thickness of the finished LVT module in commercial applications overall.



3 Is there a Benefit to having an Antimicrobial in the Product?

Vinyl in LVT is inherently inert and does not support the colonization of microbes; however, the exposed urethane in the topcoat is susceptible.

Microbes left in the topcoat layer from contaminants such as simple food and beverage spills can cause odor, color degradation and, ultimately, degradation of the product. An antimicrobial added to the topcoat of the LVT will combat these negative effects.

Antimicrobials can inhibit the growth of these bacteria and fungi by forming a resistance shield—contributing to the overall well-being of those in the space.

benefits of antimicrobial



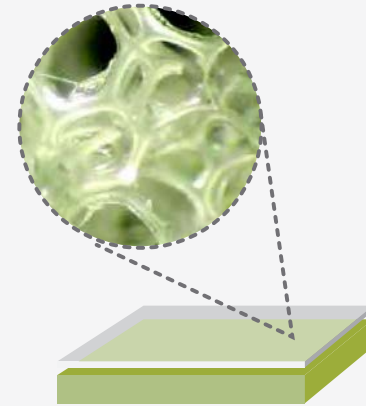
combats odors



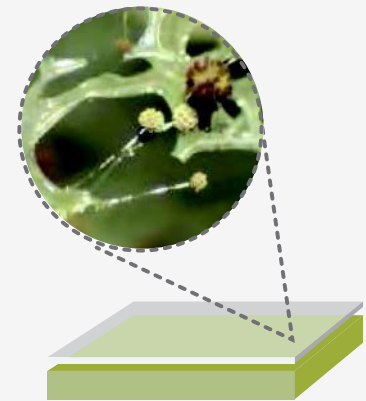
combats color degradation



combats overall product degradation



with antimicrobial



without antimicrobial

4 Does the Flexibility of LVT Matter?

Yes. High quantities of filler in LVT make the product stiff and less flexible and more prone to crack or break with the normal expansion and contraction of the building.

Additionally, selecting a more flexible product makes it easier to install and more stable. Dimensional stability in the product comes from the curing (annealing) process—aligning the molecules in a gradual, precise process over a minimum of 150 meters.

To specify a higher performing, flexible, and dimensionally stable LVT, the ASTM F137 test for flexibility is a good reference. Standard products pass a F137 1 inch mandrel test; EF Contract LVT passes a 6mm mandrel. Our LVT uses more vinyl and less cheap filler, making it more flexible.



ASTM F137 Mandrel Test



**High Performance LVT
passes the standard
1in Mandrel**



**EF Contract LVT
has more flexibility and
passes the 6mm Mandrel test**



5

What Should I Look for When Comparing Warranties?

A wear layer warranty is the industry standard warranty for LVT. This guarantees the product wear layer will not wear through the print layer under normal commercial traffic.

Most warranties only cover the replacement of product. If there is a defective product claim that does require replacement then there will also be associated labor charges to remove and replace the defective product.

It is important to select a product with a warranty that covers both the wear of the product and a non-prorated labor warranty to replace it.

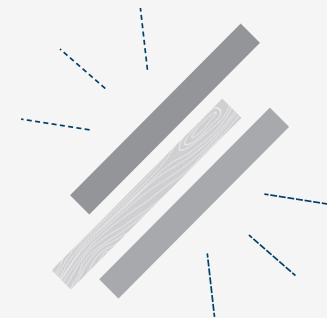
- ✓ Wear
- ✓ Replacement
- ✓ Labor

Wear Layer Warranty

EF Contract's LVT warranty



effective for manufacturing defects and wear for the first 10 years.



covers the cost of new replacement material.



includes labor required to install replacement product.

6

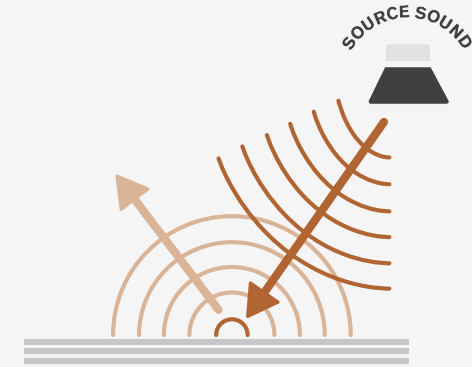
Can an LVT Installation Affect the Acoustic Properties of a Space?

Numerous studies today are examining the adverse impacts of noise pollution on a person's health and well-being. With the increasing magnitude of unwanted noise in today's environments, strategies to enhance the acoustic properties in commercial spaces is an important consideration.

A properly constructed 5mm LVT can contribute to better acoustic properties. EF Contract's 5mm LVT has a High Impact Insulation Classification (IIC) rating of 48. This classification ensures optimum acoustic performance without the need for an added underlayment.

For jobs that require a IIC rating of up to 73, install EF Contract SoundCheck™ acoustical underlayment. Its high-density and heavy weight construction ensures durability as well as reduction of sound transmission—especially in multi-level structures.

EF Contract LVT and noise reduction



**EFC 5mm
Playbook or Melange LVT**



**EFC 5mm
Playbook or Melange LVT + underlayment**

■ noise emitted ■ noise reflected



7

How Do I Select the Best Installation Option for My Project?

The standard installation method for LVT is a full-spread, pressure sensitive, adhesive installation. This cost effective and durable installation is ideal for areas with high traffic and heavy rolling loads.

A loose-lay installation method is available with 5mm LVT. Adhesive is used around the perimeter of the space and planks or tiles are loose-laid throughout. Benefits of this type of installation are a quick installation that allows for immediate occupancy in the space and ease of replacement. The 5mm construction also provides a seamless transition to other flooring types, enhanced acoustical properties and helps mask any imperfections in the subfloor.

Click LVT installation systems are another method that allows for a quick, adhesive-free installation. Planks are “clicked” together with a locking profile along the edge of the plank; however, this type of installation has been proven problematic in areas with high traffic or heavy rolling loads. In heavy rolling areas it is recommended to use a full spread “wet set” adhesive to limit shifting and maximize floor stability.

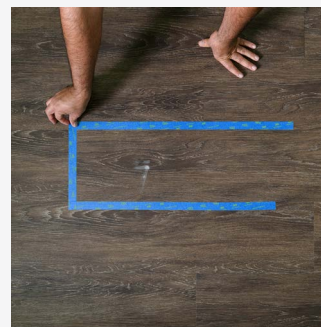


Loose-Lay Installation



Click Installation

LVT Loose-Lay Replacement



Step 1

Tape around the edges of the damaged plank. This protects the edges of the surrounding planks.



Step 2

Pierce the damaged plank with a sharp object.



Step 3

Pull back and remove damaged plank and replace with new plank.



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Your flooring is one of the largest investments in the commercial interior space. We know that each project has unique performance, aesthetic and budget requirements and we have developed a broad portfolio of high-performance LVT solutions to meet those needs. Our collections are crafted with a range of classically styled hardwood visuals as well as modern, tailored abstracts—all designed with durability to ensure that your investment is sound. Our goal is to work with you to select the best product for your application.

We stand for confidence in quality, relentless service and doing right by all. Every collection, pattern and colorway are created with best in class performance and in pursuit of design that is simply beautiful. We are committed to partnering with you to bring the right flooring choices to today's workspaces.



(right) ALL THAT JAZZ // MILESTONES
(back cover) STAINED CONCRETE // WHITEWASH

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