



Industry Q&A: Fishman's Hartman Discusses LVT Adhesives and Installation Techniques

Luxury vinyl tile (LVT) is the fastest-growing category of flooring in the U.S. in commercial segments ranging from healthcare to retail to education, and is also experiencing share gains in the residential sector. Given its rapid growth, it is critically important that flooring installation contractors make informed decisions during the installation process and understand the range of adhesives currently on the market for installing LVT in order to ensure a successful installation.

Rich Hartman, territory business manager at Fishman Flooring Solutions, has witnessed the evolution of both LVT and the adhesives used to install it during his more than 30 years in the industry. Hartman recently sat down with *Floor Covering Installer* to share his perspectives on LVT, adhesives and important considerations to ensure a successful installation.

Q: From your vantage point, how do recently introduced adhesives compare with older products?

A: The solvent-based adhesives that were prevalent in the past no longer exist due to regulations pertaining to hazardous chemicals. As a result, adhesive manufacturers have brought us new technologies with low or zero volatile organic compounds and virtually no off-gassing.

These adhesives work very effectively with today's flooring products thanks

Above: New adhesive technologies with open times of four to six hours enable the installation of LVT over much larger spaces. Photo courtesy of Fishman Flooring Solutions.

to extensive product testing. They're also more efficient. For example, newer adhesives are more aggressive, meaning you can use less adhesive. They also have longer open times of four to six hours, which enables you to install LVT and other types of flooring over much larger spaces.

Q: How does the substrate come into play when installing LVT?

A: The nature and condition of the substrate are extremely important to the LVT installation process. Let's take plywood for example. Plywood used for underlayment must be the associated grade meant for floor covering. Pine, for example, should never be used as a substrate, because the acids in the pine will burn the adhesive.

Oriented strand board or OSB is another example. Many adhesive manufacturers do not recommend installing over OSB, because the resins that are used to make it can't be identified to see if they are compatible with the adhesive. In another new wrinkle, some OSB is now waterproof, so latex-based adhesives won't bond to it.

With concrete, moisture in the slab is a critical consideration, because if relative humidity levels exceed manufacturers limitations, the LVT installation will fail. Today, most adhesive manufacturers require more stringent pre-installation moisture testing than in the past, not only on the surface of the slab but deeper into it.

If the LVT is going over a gypsum product, the gypcrete needs to be sealed, so the adhesive will not be absorbed into it. Applying one or two coats of acrylic sealer to the gypcrete generally solves the problem.

When the LVT is to be installed over an existing floor that is non-cushioned, it is critical to ensure that the floor is free of waxes and any other foreign substances that would affect the efficacy of the adhesive.

Q: Can you tell me a little bit about pressure-sensitive adhesives and when they should



Rich Hartman

be used in the installation of LVT?

A: I believe many installers (and others) don't understand pressure sensitive adhesives, or PSAs as they're called. Unlike adhesives for carpet tile, a PSA for luxury vinyl tile is designed to provide a permanent bond. In other words, it is not releasable.

There are two kinds of PSAs for LVT. Hard-set PSAs that when cured, dry hard. They should be used when high point loads are an issue, because the adhesive will not indent which, in turn, eliminates the possibility of indentations in the LVT.

Conversely, soft-set PSAs, which have been on the market longer, stay pliable when they dry. They should not be used in places like hospitals, for example, where heavy gurneys and movable equipment rolled over the LVT will cause indentations.

Q: When should transitional adhesives be used in the installation of LVT?

A: Transitional adhesives are solvent-free latex adhesives that are frequently used with porous or non-porous substrates. They can be either wet or dry, but most people prefer to go into them dry to keep the vinyl from sliding. Dry is also better suited for larger installations. It's important to understand the porosity

of the substrate when using transitional adhesives, because the more porous the floor, the more adhesive you need to put down.

Q: Aside from choosing the right adhesive, how important is technique when applying the adhesive to the substrate?

A: Technique becomes very important, because the newer adhesive technologies require less glue to do the job. When using these new glues, it's necessary to scrape the substrate surface to smooth any lumps or bumps, which enables you to get 100% transfer to secure the LVT. Many of the newer roll-on or spray adhesives are unforgiving when it comes to substrates that are not clean or have lumps or bumps. With the older adhesives, you would catch those lumps or bumps as you troweled the adhesive.

Q: Are there any other factors involved in the successful installation of LVT?

A: Yes, two other things are critically important when it comes to installing LVT.

The first is acclimating the LVT to the indoor temperature at the jobsite. Flooring manufacturers specify a range of temperatures for installing their floors. Typically, that temperature range must be maintained for 48 to 72 hours before installation and for the same period of time after installation to ensure the LVT remains stable. I recently saw an LVT installation that was a total failure, because they installed the LVT the same day it was delivered to the jobsite.

The second factor is maintaining the temperature range recommended by the manufacturer over the life of the product. That temperature range for most of today's LVT products is from 65 to 85 degrees Fahrenheit. I've seen cases where direct sunlight hitting LVT raised the temperature above 85 degrees and the floor became unstable. I've also seen cases where a summer home was locked up for the winter, so the temperature in the home went below 65 degrees for a period of time and the LVT shrunk, causing serious problems.

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