

Levelrock™ SRB™ Sound Reduction Board Levelrock™ SRM-25™ Sound Reduction Mat

Application/Building Type
Multi Family Construction

Project
Multi-family projects around New England

Location
Various locations

Product(s)
LEVELROCK™ SRB™ sound reduction board
LEVELROCK™ SRM-25™ sound reduction mat

LEVELROCK Applicator
New England Gypsum Floors, Inc.



A Connecticut contractor's flooring systems use LEVELROCK™ SRB™ sound reduction board and LEVELROCK™ SRM-25™ sound reduction mat to help builders and architects significantly reduce sound transmissions in various multi family projects.

For three decades, Greg Peck, president of New England Gypsum Floors Inc., said his company has poured cementitious floors in "a little area between Boston and Northern New Jersey." One day's pour for the East Hartford, Connecticut, firm may be 400 square feet in a home, while the next may be a 15,000-square-foot leveling job at a school. But lately, demand for flooring with sound control systems is all the rage, especially in multifamily construction.

"When I first marketed sound control, everybody looked at me like I had three heads," said Peck. "Sound materials have always been around, but suddenly, everyone wants them."

Sound Reduction Systems

Twenty-five years ago, controlling the footstep noise in lightweight, multifamily construction was not an issue for most architects and developers. Many building codes at the time did not regulate the type of footstep noise that passed from floors to the ceiling below. However, today's more stringent building codes now impact the effects of noise from footsteps and other sources.

Developers have had to be careful about meeting the expectations of their clientele. Many people buy condos at prices that are many times more expensive than what they were 25 years ago, and are consequently more aware of and concerned about the noise around them.

An affordable solution for reducing footstep noise involves combining a poured cementitious underlayment with a sound control mat or a sound control board. Such combinations enhance a floor system's sound attenuation properties, raising the sound control ratings above the IIC 50 and STC 50 levels required by the International Building Code (IBC).

Of course, liability concerns are not the only motivation for seeking a sound control solution. Many developers simply want to provide an enhanced experience for occupants of their multifamily residences and expensive condominiums.

"We have found that sound attenuation is the No. 1 issue in multifamily construction," said Bob Houlihan, vice president at Heritage Development Group, a luxury housing developer in Southbury, Connecticut.

That appears to be true at all ends of the market. In 2003, for example, the University of Connecticut built a large, four-section housing project at its north campus in Storrs, Connecticut. Dubbed "North Campus Suites," the structure had a first-floor concrete slab with three floors of wood-frame construction above it. University



architects hoped to add "a few points to the structure's sound control rating," said Peck, and they wondered what New England Gypsum Floors could do for them.

Peck recommended using **LEVELROCK® 2500 floor underlayment**, along with **LEVELROCK™ SRB™ sound reduction board**, products manufactured by the Performance Substrates and Specialty Products Division of United States Gypsum Company.

The university wanted an economical sound control material to take the sound transmission out of the system, and that's what we gave them," said Peck.

By pouring a gypsum concrete floor and adding a sound reduction material, New England Gypsum Floors significantly dampened the sound transmissions at North Campus Suites. Students can stomp all they want, but the footstep noise vibrating in the new residence hall is barely perceptible.

Extraordinary Compressive Strength

Gypsum concrete underlayments have been in use for about 50 years. But for most of that time, the compressive strength ratings of these systems have remained in the 1200 to 1500 psi range. While such ratings may have been acceptable for light-duty, residential applications previously, LEVELROCK floor underlayments have raised everyone's expectations.

LEVELROCK 2500 floor underlayment, for example, has a base strength of 2500 to 3500 psi when applied. **LEVELROCK® 4500 NXG® floor underlayment** delivers strengths from 4500 to 5500 psi. **DUROCK™ PROFLOW™ floor underlayment** carries the highest compressive strength rating in the industry - 6,000 to 8,000 psi.

"USG knows its products will take far more abuse than what is typical for most gypsum underlayments," said Peck. "Their research is extraordinary."

In Providence, Rhode Island, where the seven-story Peerless Building is being converted into artist's loft-style apartments, New England Gypsum Floors has poured **LEVELROCK® 3500 floor underlayment** over the 1/4-inch **LEVELROCK™ SRM-25™ sound reduction mat**.

Peck said that LEVELROCK 3500 floor underlayment's higher compressive strength has the advantage of offering exceptional durability during the construction cycle.

This was a key feature at the Courtyard at Heritage Green, a mixed-used development in Southbury, Connecticut, featuring five, 14-unit multifamily buildings. Constructed by Heritage Development Group,

Courtyard at Heritage Green's luxury condominiums feature LEVELROCK 2500 floor underlayment, along with the SRM-25 sound reduction mat. The mat has attained scores of IIC 60 and STC 60 in tests performed by USG and witnessed by an independent testing agency. These values exceed the new minimum ICC code criteria of IIC 50 and STC 50 for flooring assemblies.



The first-floor living spaces of each building in Courtyard at Heritage Green sit over a parking garage and feature steel bar joists and a 3-inch concrete deck. The second and third floors have 18-inch wood floor trusses, a 3/4-inch tongue-and-groove subfloor and a 1-inch poured LEVELROCK 3500 floor underlayment installed over a 1/4-inch LEVELROCK sound mat system.

Houlihan said the first building completed is nearly silent. While footstep vibrations and other noise transmissions would be normal sounds during the construction phase, Houlihan said he and his associates "just don't hear anything. We decided that we must have done something right."

Installation before Drywall

At the Goodwin Estate Mansion in Hartford, New England Gypsum Floors' customer, GDC Development, is marketing luxury condominiums in a recently renovated brick-and-wood structure. To reduce sound transmissions, GDC Development chose LEVELROCK 3500 floor underlayment system and installed it over the SRM-25 sound reduction mat.

Interestingly, Peck's crews poured the underlayment flooring at the Goodwin Estate Mansion prior to the drywall crews installing the gypsum board. This LEVELROCK floor underlayment feature virtually eliminates mold issues and permits the product to be installed without holding up the work of other trades.

The Porable Before Drywall™ concept was developed by U.S. Gypsum and is facilitated by the high compressive strengths of LEVELROCK gypsum concrete products. This aspect was also important at the Courtyard at Heritage Green. Rather than pour cementitious underlayments only in areas where customers might upgrade their flooring to hard surfaces, such as marble or wood, Heritage Development Group chose to apply a sound reduction system throughout the entire square footage of each unit. The underlayment upgrade was not a high premium to pay, Houlihan said, and it cost less than \$1,000 per unit. Still, by pouring the underlayment prior to beginning the drywall work, Heritage Development Group saved time on the job. The workflow was never interrupted.

Clearly, poured cementitious floors with sound reduction systems offer architects and developers many benefits. Not only do they reduce sound transmissions in multifamily projects, but the newer products can even enhance the construction process by lowering installed costs.

"I look at these new sound control systems as one more arrow in my quiver," said Peck. "Yes, it's a way for me to add a little more profit to a job, but it's also a way to make sure that my customers are happy with the results."

