

Q I am putting a ground-level deck on a client's home that's located next to a busy road. Besides plantings, what is the best strategy for reducing the road noise on the deck?

A Dr. Bonnie Schnitta, president of Sound Sense, a company that specializes in acoustic engineering and consulting, responds: It takes roughly 200 feet of dense foliage to equal the sound reduction of an acoustic barrier that can be as thin as $\frac{1}{8}$ inch. Plants don't stop sound, but they can help to diffuse it and prevent a fence or wall from becoming a reflective surface—particularly important on the client's side of the fence, because any noise that goes over the fence will hit the house, bounce back, and then reflect off the fence, amplifying the sound. So while plants themselves aren't great at reducing noise, they can help to make your solution work.

When you're building a barrier to reduce noise, whatever is built needs to have the right transmission loss in the frequencies (such as car exhaust noise) that are disturbing. For an outdoor wall or fence, I recommend a minimum sound transmission class (STC) of 30. (STC is the rating of an object's ability to block sound.) The next goal is to make certain that the barrier provides a level of reduction that is perceivable to the client.

A barrier or fence that's intended to reduce outdoor noise should be placed as close to the noise source (the road) or to the receiver (the client on the deck) as possible. Placing the fence close to the road would be preferable, but setback requirements might reduce the effectiveness of a roadside barrier. Having a barrier in both locations would provide even greater noise reduction, whereas a fence placed halfway between the deck and the road would be far less effective, if at all.

Taller fences provide greater noise reduction, but if you are building a fence next to the road, zoning requirements or visibility issues may restrict its height, making it less effective. To provide perceivable noise reduction, an acoustic fence placed next to the road would need to be at least 8 feet tall.

A wooden fence does not have sufficient STC by itself, so it should be lined with an acoustic barrier having an STC of at least 30. Typically, we use a mass-loaded vinyl barrier, such as the SoundSense NoiseOut2 or the equivalent. (If the barrier is not UV-resistant, be sure to keep direct sunlight off it.) A mass-loaded vinyl barrier works



by providing a dense, resilient layer as well as a surface free of voids to block the sound. This approach lets the client and contractor choose the fence style they like and then line the fence with a vinyl barrier (usually black). In order to have sufficient transmission loss in the lower frequency of car exhaust, use a mass-loaded vinyl with a weight of $1\frac{1}{2}$ pounds per square foot or greater. Most loaded vinyl products are lighter, so be sure to choose the heavier product (for more about this material, see "Retrofit Soundproofing," Jan/15).

If an 8-foot fence is not possible, then I'd locate the barrier beside the deck or on the deck. For a fence that doesn't block the light, use Plexiglas, laminated glass, or clear mass-loaded vinyl intended for outdoor applications, with an STC rating of 27 or greater. One strategy we've used is building a lattice planter with a clear acoustic material attached. The vines that grow in the planter and on the lattice prevent the acoustic barrier from becoming too reflective, while the transparent material allows dappled light through.

Finally, when a client voices concerns about noise in a finished product, we recommend that the contractor hire an acoustic engineer to review the situation and recommend a solution. An expert's opinion can be a reality check and adjust the client's expectations for whatever solution they decide to pursue.



Q In a recent remodel, I needed to repaint a single wall. The client still had a half-gallon of good-quality paint in a can that had been opened and then resealed. The paint inside was still good, but very thick. Is there anything that can be added to latex paint to make it flow more easily after it's been open and stored?

A Scott Burt, owner of Topcoat Finishes, a high-end residential paint company in Jericho, Vt., responds: When paint has been left behind from a previous paint job and properly stored, verify that it is the exact batch that was mixed initially, so the paint color and sheen will match the other walls as closely as possible.

"Properly stored" means that the can of paint has been kept indoors and hasn't been frozen or exposed to excess moisture. It also means that the previous painter properly cleaned any excess paint out of the rim of the can and then tapped the lid down securely for a tight seal.

But even under the best circumstances, stored paint changes over time. Because the can is no longer full, air inside the container can cause evaporation of the driers from the leftover paint. (Driers, or drying agents, are the chemicals in all paint formulations that cause the paint to turn from liquid to solid on the wall.) These driers are part of the off-gassing that happens when paint is applied and left to dry. When the drying agents are compromised in the can through evaporation, the paint becomes a bit thicker and less fluid.

Before I open a stored can, even from my own shop inventory, I first inspect the rim to make sure it was cleaned for storage. A clean rim means that there is no dried paint or debris to fall into the paint when the lid is removed.

The second thing I check for is rust on the rim or the lid. Rust occurs naturally over time because of moisture present in waterborne/latex paint. If I do see any rust, I immediately strain all of the paint into another vessel. Any rust particle that makes

its way to the roller tray will transfer to the wall and bleed through the paint on the wall endlessly.

After inspecting for paint debris and rust, I open the can and stir the contents thoroughly with a stir stick. I feel around the bottom of the can with the stick, looking for any solids that may have settled. I stir until the paint feels like it's as liquid as it can be. Then I slowly lift the stir stick out of the paint and watch how it flows off the stick back into the can. After storage, it's usually a bit on the slow side.

At this point, the best way to revive the paint is by adding small amounts of water. I stir in a few ounces at a time until the paint flows readily off the stick. Be careful not to add too much water. Thinning the paint excessively can compromise the color and the sheen. I also allow for more drying time than usual because of the reduced concentration of drier in the paint.

If there isn't enough paint in the can to complete the task at hand, tightly reseal it and take it to a paint store that sells the same brand of paint. The store can create a new batch and match it exactly to the old one.

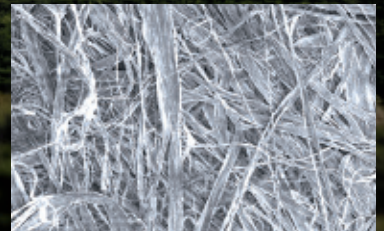
I dealt with this issue recently with a batch of paint in a custom color from nine years ago. The particular line of paint had changed, and the color fans had also changed. I couldn't even count on the color codes being the same. If I had just called and ordered 3 gallons of the color and didn't get an exact match, I would still have needed to pay for it. If I'd used the unmatched paint, it would have taken more coats (labor and materials) to cover the walls. So, the time taken to get the right match is always time very well spent.

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