I have a client who is debating the use of three-coat stucco vs. one-coat stucco vs. an EIF system for a four-story motel. They will most likely go with the product that has better sound control/sound transmission properties. Do you have any information pertaining to this?

Determining the answer to this question starts with a test known as ASTM E90, in which a wall assembly is evaluated for its sound blocking properties. In ASTM E90, the assembly to be tested is constructed to divide two rooms, each a similar volume of 1,765 cubic feet or more. In one room, a sound source generates sound at several wavelengths while the sound pressure level is measured with microphones and sound pressure level meters.

In the room on the other side of the test assembly, more microphones and sound pressure meters measure the amount of sound that comes through the partition at several wavelengths while the sound pressure level is measured with microphones and sound pressure level meters.

Independent test reports I received from an EIFS manufacturer showed EIFS to be a close second. The sound transmission coefficients of both 1-inch and 4-inch systems using 5/8-inch gypsum sheathing were very close to each other, with an STC of 45 for an EIF system using 1 inch expanded polystyrene board, and a 47 for the same system using 4 inch EPS.

In the same book, there are also interior plaster over gypsum lath and veneer plaster designs as well. Their STCs vary from 50 to 64.

The main variable in all these systems, whether interior or exterior, EIFS or some type of plaster, was the way the wall was constructed. A cursory reading about the different assemblies showed that those designs employing staggered studs and lots of fiberglass insulation, regardless of the skin, yielded the best sound-dampening results.

Of the claddings mentioned, three coat portland cement plaster actually fared better in several instances. The Plaster and Drywall Systems Manual shows six different exterior three-coat plaster systems with STCs ranging from 41 to 54, and a note with a couple of the designs indicating that the STC rose six points when the perimeter was caulked.

According to the technical services department at a large ceiling tile manufacturer, the different manufacturers have the ability to match each other’s colors, but they do not all have the same standard white.

As for plaster ceilings, my belief is that as often as not, they are painted to whatever color suits the design professional to coordinate the rest of the decor. Most paint manufacturers have a “ceiling white,” but each manufacturer’s idea of what is a good “ceiling white” differs and may change from time to time. In fact, the paint manufacturer that I once worked for used an off-white as its standard ceiling white for almost 50 years, and a few years ago changed it to a brighter white. But in neither case did those ceiling whites match those of the competition’s whites. Also, that color will look different in a flat finish vs. a finish with any level of gloss. As the gloss level increases, the color will appear lighter when exposed to direct light.

About the Author
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