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Gymnasiums and Multipurpose Rooms
Application Profile

From physical education classes, sporting events and school assemblies, to everyday cafeteria, overflow classroom space and general meeting areas, gymnasiums and multipurpose rooms are some of the most-used and most-populated areas on a school campus. With all the activities, sound levels can quickly build to boisterous levels.

The large, open space, high ceilings, wood or tiled floors and painted concrete walls with school colors and themes give gyms and multipurpose rooms the flexibility to accommodate a wide range of student and community activities. However, these same traits also contribute to excessive reverberation and poor acoustics. Excessive echo, or reverberation, interferes with instruction between students and teachers, inhibits participation and enjoyment during events and reduces speech intelligibility of announcements.

The hard, reflective surfaces commonly found in gyms and multipurpose rooms cause the sound waves to bounce around until they eventually decay or are absorbed. The right balance between absorption and reflection using strategically placed acoustic wall panels and baffles, creates a more functional and enjoyable space.

Elementary school gyms retrofitted with SONEX® Baffles to help instructors communicate

When the elementary schools in Michigan's Van Buren Public School District were constructed, acoustical issues were not taken into consideration. Pete Foster, plant manager for the school district, needed to treat the acoustics in five of the district's elementary school gymnasiums.

Prior to installation of the pinta baffles, testing with an audio spectrum analyzer determined the average reverberation time in the gymnasiums to be twice the industry standard. pinta's SONEXvalueline™ Baffles were installed, reducing reverberation time to an average of 1.0 second.

Using the wall-to-wall cable installation method, installation of the 1,080 baffles in five gymnasiums took just four days to complete. "The installation was during the summer, before school started, so we didn't have any downtime," says Foster. "We were pleasantly surprised at how fast installation was."

The gymnasiums now have less reverberation, which improved communication and instruction between teachers and students. Plus, the baffles are hung high so they don't interfere with physical education classes or school activities.

Sound system needs help from acoustic panels and baffles

The school gymnasium in Chartiers Valley High School, Bridgeville, Pennsylvania, was so noisy that the state-of-the-art sound system was ineffective during sporting events and school assemblies.

"The gymnasium area is huge – it has a main gym with two additional gyms above it. In total, the gym areas seat 5,000 people for sporting events, cheerleading competitions and assemblies," says Bob Gold, facility manager for the school district. "The echo created from sound bouncing off the many hard surfaces – bleachers, concrete walls, wood floors – was so bad that the gymnasium's acoustic problem was the first issue I tackled when I began working for the district."

The recommended reverberation time for a gym is 2.0 seconds; this gym averaged 4.5 seconds. SONEXvalueline Baffles, in school colors of royal blue and white, were hung from the ceiling to absorb airborne sound energy and reduce reverberation. And, matching royal blue FABRITEC™ Wall Panels were installed on the walls to further add to the sound absorption. Testing after installing over 250 baffles and 2,500 square feet of wall panels resulted in a drastic reduction in reverberation time to 1.41 seconds.

Acoustic panels curb noise, not appetites, at elementary school multi-purpose room/cafeteria

Noise in elementary school cafeterias can feed on itself, so to speak. Normal conversation, combined with scraping chairs and clattering silverware, reverberates off concrete walls, tile floors and other hard surfaces. Students and staff gradually raise their voices, the noise escalates, and pretty soon they're speaking loudly just to be heard. Faced with this problem, school officials at Central Elementary School, Norwood Young America School District, Minnesota found their solution in SONEXone™ acoustic wall panels.

"It's our most widely used room, and because of the school's open floor plan, sounds from various activities drift down the hall to classes and offices," said Bob Iverson, principal. "That can interrupt conversation and concentration. Since the panels were installed, we have noticed a significant decrease in distracting noise, and the room is a more comfortable environment for its many uses."

It took a two-man crew at Central Elementary about three hours to install over 500 square feet of panels. "I was impressed with how quickly the panels went up," said Dwight Petty, supervisor of buildings and grounds. "Even though we were installing on painted concrete walls, we had no trouble with pinta's acouSTIC™ adhesive or cutting the panels to fit around conduit."

Now when 150 lively students gather for lunch or other activities, they can talk to each other in normal voices. It's a calmer atmosphere, and if there is a feeding frenzy, it's over school lunch, not noise.

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