

High School Gym Sounds Better With Baffles

High schools are noisy by nature, but the noise in the Chartiers Valley High School gymnasium was way over the top. The acoustics were so bad that the state-of-the-art sound system was completely ineffective during school assemblies and sporting events.

Now out-of-control noise is an issue of the past. The school's gym has been outfitted with SONEX Valueline Baffles and FABRITEC Wall Panels from illbruck Architectural Products — in the school's colors, no less. "The high school gymnasium area is huge — it has a main gym with two additional gyms above it. In total, the gym areas seat 35,000 people for sporting events, district cheerleading competitions and assemblies," says Bob Gold, facility manager of Chartiers Valley School District, located near Pittsburgh, Penn. "The echo created from sound bouncing off the many hard surfaces — bleachers, concrete walls, wood floors — was so bad that the gymnasium acoustics problem was the first issue I tackled when I began working for the district."

When sound within an interior space is not absorbed by soft material such as furniture and acoustical products, it bounces off hard surfaces and creates echo, or reverberation. The longer the sound is "active," the more severe the echo. Developing an acoustical solution to limit the reverberation for a large gymnasium area was a tall order.

"Oftentimes, people try to compensate for poor acoustics by adding speakers or investing in new sound systems," says Dave Sinneway, president of AVT, Inc. the Pennsylvania-based firm that installed the acoustical products at Chartiers Valley High School. "But amplification was not the problem; excessive reverberation and echo was the reason no one could hear announcements or speeches during events." Sinneway conducted a reverberation test in the gym to determine the actual time it takes for a loud sound to dissipate by 60 decibels. This test, the dimensions of the area and building materials within the gym were used to determine the best acoustic solution.

"The reverberation time in the untreated Chartiers Valley High School gymnasium averaged 4.5 seconds. The recommended time is only 2.0 seconds," says Sinneway. "We selected illbruck's SONEX Valueline Baffles to hang from the ceiling to absorb airborne sound energy and reduce excess noise and reverberation, and FABRITEC Wall Panels for additional sound absorption. We installed more than 250 baffles and 2,500 square feet of FABRITEC absorptive materials in the area."



"Testing after installation of the acoustical products revealed a reduction in reverberation time by more than two-thirds, down to 1.41 seconds," says Sinneway. The acoustical improvements have met with enthusiastic response from the Chartiers Valley High School community."

SONEX Valueline Baffles suspended from the gym's ceiling absorb sound on both sides to provide maximum acoustical control. The Class 1 fire-rated baffles are offered in natural white or painted standard colors. Custom colors also are available to match a school's color theme or complement any decor.

The FABRITEC Wall Panels installed at Chartiers Valley High School are designed to absorb noise at a wide range of frequencies and have a noise reduction coefficient (NRC) of 0.80 to 0.85. The panels absorb 80 to 85 percent of sound directed at them. The impact-resistant panels are made of a willtec® foam core, and can be covered with fabric in a wide range of colors and textures. The 46-inch by 96-inch panels were easily installed on gymnasium walls with Velcro and adhesive.