

CASE STUDY

Acoustic Panels Enhance Multi-Purpose Use of Colgate University Fieldhouse

Quick and easy installation assured that the facility would be completed in time for Commencement.

Colgate University is nestled in a pastoral setting in Hamilton, NY. Dating back to 1819, the school, first started as a Baptist Seminary, is now a liberal arts college with nearly 3,000 students. The school's campus comprises 88 buildings in a 575-acre tract.

Among those buildings is the Charles H. Sanford Fieldhouse. The fieldhouse is an athletic facility that houses four tennis courts, softball batting cages, an indoor track, and areas for other gymnastic activities. With dimensions of 301 ft. in length, 186 ft. in width and a ceiling height of 38 ft., the fieldhouse is, without exaggeration, a cavernous space.

Besides athletic events, the facility is used as a venue for graduation, concerts and as a hall for keynote speeches by visiting global academics and dignitaries. However, having not been designed for these purposes, the acoustics of the facility were not very good. The audible echoes reduced the quality of the sound in the facility, distracted attendees and even confused speakers as they were delivering their speeches. Walls in the facility are made of concrete, the cathedral ceiling is made of suspended mineral tile and the floor is Astroturf; all surfaces that reflect sound and thereby create reverberant noise.

"We had noticed the echo for many years, and finally decided to look into solving the problem," according to Joseph M. Inman, Project Manager, Planning, Design and Construction at Colgate. The Colgate Engineering Club was then tasked with analyzing the acoustics of the space and coming up with a solution.

The Club's analysis revealed a reverberation time of 3.3 sec., clearly demonstrating that there was indeed an acoustic problem in the facility. Reverberation time in a space is the key parameter in determining the ability of people within the space to clearly hear speech and music. Typically, a reverberation time of about 1.9 sec. provides that clarity. The Club then recommended contacting an acoustic consultant to formulate a solution.

In late Spring 2017, Inman contacted Glen LaVallee, of Oshex Associates, Inc. (Baldwinsville, NY; www.oshex.com), who had done acoustic remediation for some of Colgate's other facilities. After reviewing the facility and the test results, LaVallee recommended the use of Eckel Eckoustic Functional Panels (EFPs) to solve the problem.

Eckel's engineering team created an acoustic model of the facility and came up with a predicted reverberation time that was very close to the Engineering Club's measured reverberation time. To achieve the 1.9 sec. reverberation time goal, the Eckel team recommended the installation of 540 EFPs in the following layout: 366 30 in. x 10 ft. panels on the ceiling, and 174 panels on the side and back walls in a variety of sizes ranging from 30 in. x 10 ft. down to 24 in. x 9 ft. to accommodate structural aspects of the building.



Colgate wanted to complete the project so that it could hold graduation exercises in the facility on May 20, 2018. The order was placed, and the panels shipped in February 2018. Installation of EFPs is very simple. They install with four brackets that are attached to an existing surface with four bolts. The installation was completed well in time for graduation.

And the results were excellent. According to Inman, "The acoustic panels have really improved our ability to utilize the Fieldhouse as more than just an athletic facility. The acoustics during Commencement as well during our Spring Concert improved drastically, allowing the speaker and attendees to hear and understand the presentations and the music more clearly. We should have done this sooner!"

Alex Eckel, President of Eckel Noise Control Technologies adds, "The Colgate Fieldhouse project demonstrates how schools and universities can turn an existing athletic facility into a more productive multi-use environment for conferences, concerts and other events by simply improving the acoustics within the space".

Eckel Acoustic Panels can be fabricated to custom sizes up to 10 ft. in length and painted to match any room décor. They are available in steel, galvanized steel and aluminum, and install quickly and easily.