

Eckel EFPs Transform Malone University Gym into Acoustic Champion

Universities, colleges and schools need to accommodate a variety of academic and extra-curricular functions, as well as community activities. But it's entirely impractical and prohibitively expensive to build a separate venue for each purpose. So, academic facilities are left with a common challenge: How to maximize the usability of on-campus space to serve multiple functions. When the space in question is a gymnasium, it adds extra layers of difficulty. This is the challenge that Canton, Ohio's Malone University faced, and one that Eckel Noise Control Technologies EFPs solved.

Malone University administrators understood the practical need to utilize their gym as not only a gymnasium, but also as a room to host NCAA events and serve as a lecture, music and presentation space. With cavernous dimensions and hard surfaces, however, gyms present significant acoustic challenges for sports events, never mind for events that require precise speech and music intelligibility. Malone recognized these hurdles and sought help from the acoustical engineering firm DH Kaiser Co., also based in Canton.

Bill Hannon, DH Kaiser's president and chief consultant, worked closely with university officials to understand their desired outcomes. He then conducted tests and analysis, which showed a reverberation time of 5.62 seconds at 500 Hz in the existing gym—500 Hz being the center of the speech range—well above the ideal reverb time for intelligibility of speech. Hannon proposed an acoustic design solution that specified the installation of Eckoustic Functional Panels, or EFPs, from Eckel Noise Control Technologies.

"I knew the Eckel EFPs would provide the required acoustic absorption to reduce the reverb time to a level that would allow for the multiple functions stipulated by Malone administrators," said Hannon. *"Eckel EFPs can easily be adjusted in terms of the mounting distance from the ceiling and walls, and even tilted where necessary, to provide*



absorption at the most critical frequency to suit Malone's acoustic requirements. Plus, Eckel EFPs offer superior durability to withstand impacts from basketballs, soccer balls and the like."

With the proposal accepted, installation of the acoustic panels began. Due to Malone's budgetary requirements, the project was conducted in two phases over the course of consecutive summers. The first phase involved installation on the gym ceiling; the second on the gym walls.

"The Eckel EFPs acoustically transformed the gym, resulting in a final reverb time of 1.63 seconds at 500 hertz," Hannon said. *"The gym is now equipped to serve several purposes—including sports events, lectures, multimedia presentations and music performances—all at optimal acoustic enjoyment and intelligibility."*