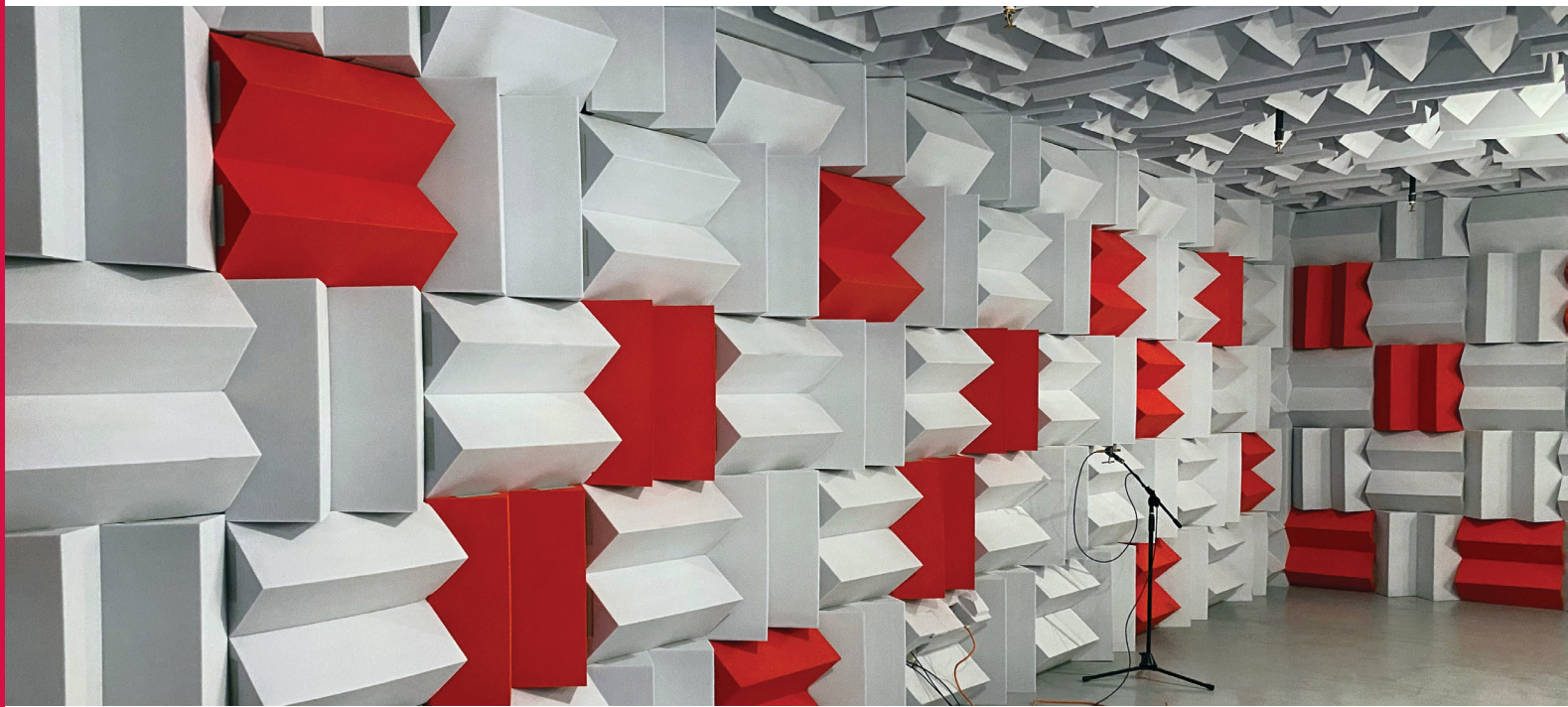


Case Study:

IAC Acoustics Hemi-Anechoic Chamber

» Laitram
New Orleans, Louisiana



IAC Acoustics Microdyne® Wedges

Laitram, a New Orleans-based manufacturing company, was founded in 1947. Through the years, it has added to its breadth of services and production equipment to continue its growth trajectory. Most recently, an acquisition of new machinery necessitated the help of IAC Acoustics. The machinery caused a significant amount of noise just outside the chamber, but it was critical for the chamber to have a very low background noise for precise low level noise measurement. Space constraints required a low profile for the testing facility, with walls as thin as possible, but still providing high sound transmission loss.

The Solution

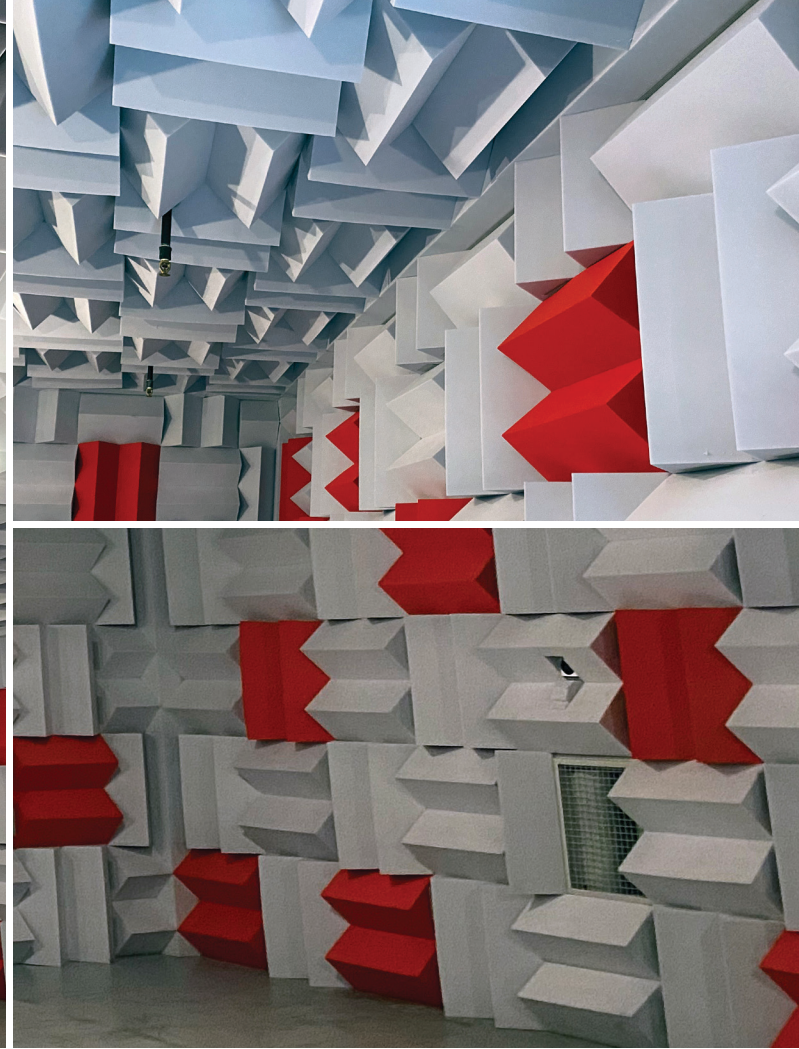
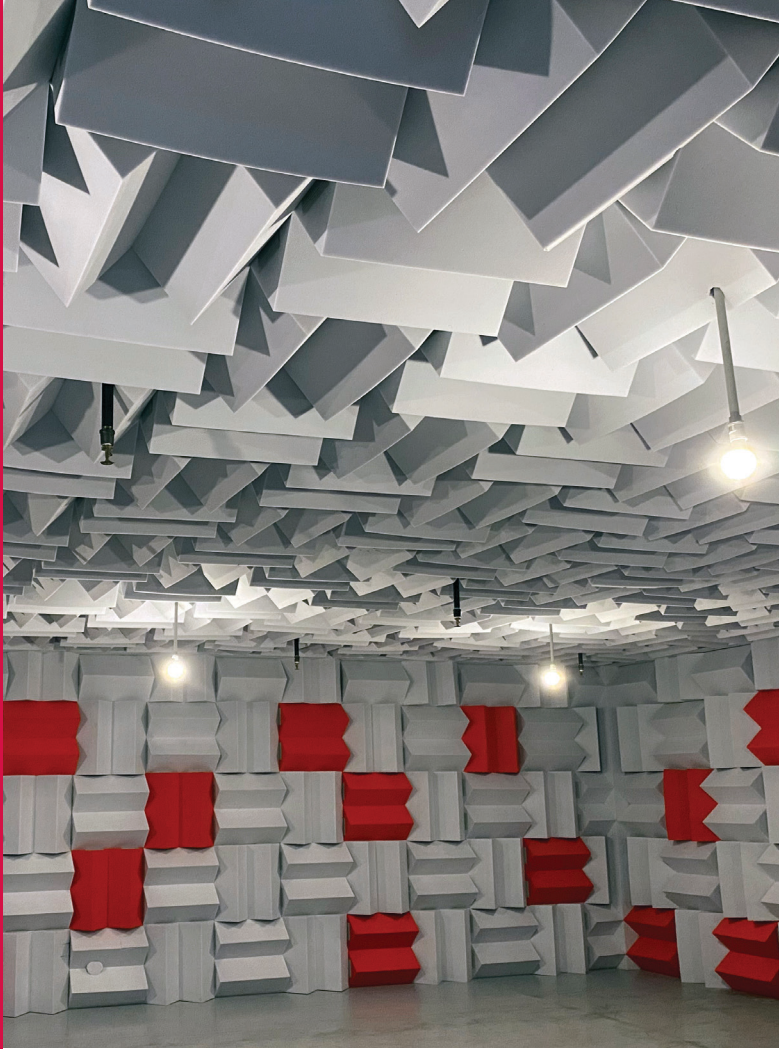
IAC Acoustics supplied a hemi-anechoic testing facility that met all the customer requirements for sound transmission loss, and acoustic absorption requirements. Utilizing IAC

Microdyne wedges, the hemi-anechoic chamber provided an environment suitable for accurate, low noise measurements.

The Microdyne wedges used were constructed of a gray melamine foam, and provided a Class 1 fire rating according to ASTM E84. To the surprise and delight of the customer, IAC's proprietary painting method ensures acoustic performance is not degraded in any way, and the absorption of the foam is maintained. With this knowledge, the customer opted to receive some painted wedges in an aesthetically pleasing shade of red.

The IAC Acoustics Noise-Lock® III Moduline® panels are best in class, providing the highest level of sound transmission loss in the industry, with only a 4" thick wall structure. With an STC-58 rating for the Moduline panels, and an STC-61 rating for the Noise-Lock door, IAC Acoustics provided an answer to

» Continued on next page



maintaining a low noise floor inside the chamber with minimal profile that no other noise control product supplier can match.

The utilities in the room included duplex outlets, light switches, and lighting. The IAC Acoustics solution provided a design that incorporated existing building components while maximizing coverage of the acoustic wedge treatment. A full turnkey system was provided, with materials, installation, and chamber validation testing. The strict requirements of ISO 3744:2011 Annex A had to be met. These requirements included a low background noise, an accurate free field, and being able to measure accurately very near the walls in order to maximize the measurement space. The hemi-anechoic chamber achieved ISO 3744:2011 compliance down to the 150 Hz 1/3 octave band.

Installation

The installation from start to finish was completed in less than two weeks. The wedges utilize a simple mounting system that allows a mechanical connection with no adhesives required. The highly experienced and friendly crew used best practices to keep the project on schedule and coordinated with other contractors in the area to make sure the project was finished on time and on budget.

Conclusion

The constraints of the hemi-anechoic chamber environment allowed IAC Acoustics to be uniquely positioned as best supplier for the chamber. With low profile construction, high sound transmission loss, and ability to manage a turnkey system, IAC Acoustics was the clear choice provider.