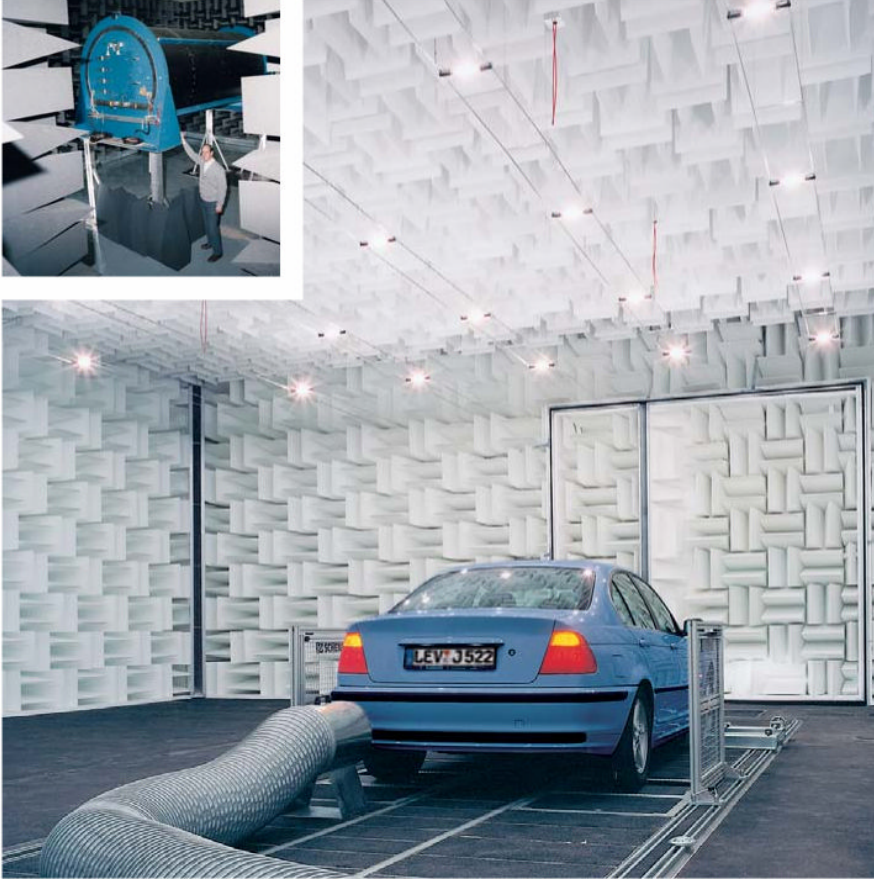




ArtUSA

Noise Control Products Inc.



Complete Acoustic Test
Environment Solutions

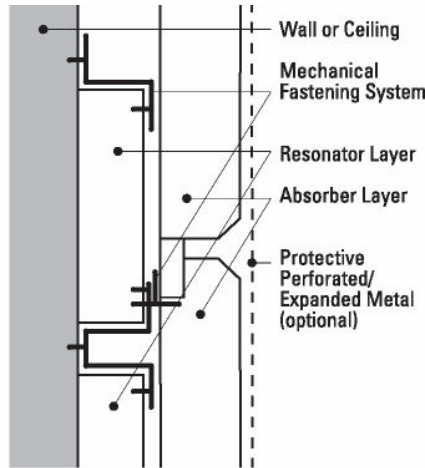
The ArtUSA advantage from concept to completion

To achieve free-field conditions within an acoustic test environment the testing area must be free from reverberation, feedback and resonance. ArtUSA offers optimal full anechoic and hemi-anechoic environments for the most precise testing and benchmarking in aerospace, automotive, electronics, research, government and hard goods manufacturing. In addition to our traditional wedge acoustic solution, our new nontraditional system saves between 30% and 50% of available room volume—a great retrofit solution for an existing space.

ArtUSA offers a complete solution—from facility design through final completion—with products and expertise to meet the most demanding needs. Our traditional solution is designed to meet unique requirements for room and test specimen size, cutoff frequency and your precision test method. Our demanding test environments have exceptional performance from the desired cutoff frequency through the highest frequencies. Offering two decades of experience, ArtUSA's full and hemi-anechoic chambers are the preferred choice for industry-leading companies worldwide.



Hemi-anechoic chamber .



Tri-layer System

The Tri-layer System allows extraordinary space savings thanks to an innovative combination of resonator, barrier and absorptive material layering. This system effectively meets a variety of testing needs and can be easily adapted to existing rooms or areas with limited space. To meet your cutoff frequency and test method requirements, Tri-layer is available in three absorption layer options, all are constructed using an innovative Class 1 fire-rated foam.



Made from acoustical foam, ArtPyramid Panels, as the top absorber layer in a Tri-layer System, provide cutoff frequencies of 63 Hz or higher.

Tri-layer System	Cutoff Frequencies	Test Standard	Thickness of Entire System
with Flat Panel	50 Hz or higher	Measurement according to ISO 3744 engineering method, acceptable for ISO 3745 precision method*	4" to 10" (10 to 25 cm)*
with ArtMax Wedges	50 Hz or higher	Measurement according to ISO 3744 engineering method, ISO 3745 precision method	24" to 61" (61 to 155 cm)*
with ArtPyramid Panels	63 Hz or higher	Measurement according to ISO 3744 engineering method, ISO 3745 precision method	10" to 24" (25 to 61 cm)*

*Exact dimensions depend on the desired cutoff frequency of system selected.

Uni-layer System

The long-established workhorse of the acoustic test chamber, Uni-layer System utilizes either ArtSuper or ArtMax Wedges. The wedges, constructed from foam, have an increased surface area for exceptional acoustical performance. They are lightweight and install seamlessly for a continuous panel look.

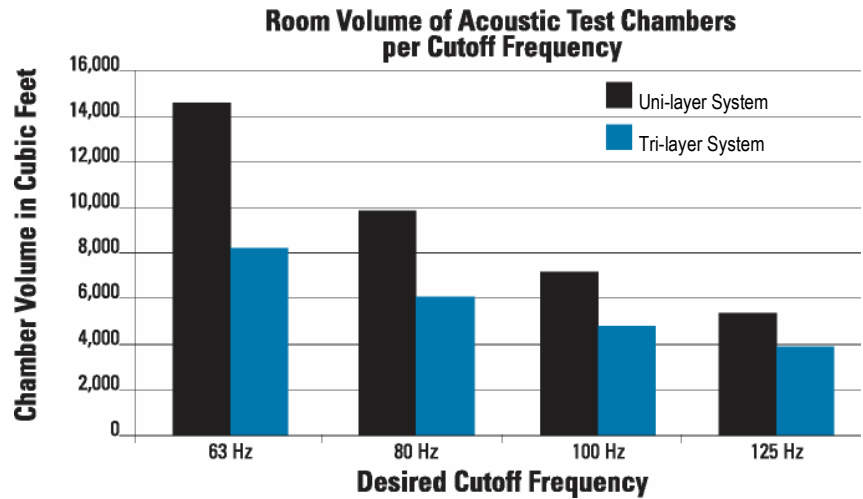


Wedges can be used to create full anechoic or hemi-anechoic chambers.

Wedges provide exceptional low- to high-frequency sound absorption.

Uni-layer System	Cutoff Frequencies	Test Standard	Wedge Thickness
with ArtMax or ArtSuper Wedges	63 Hz or higher	Measurement according to ISO 3745 precision method	6" to 61" (15 to 155 cm)*

*Exact length depends on the desired cutoff frequency of system selected.



Depending on the desired cut off frequency, Tri-layer Systems save between 28 and 44 percent of a room's available testing area.

Applications

Client	Purpose of Facility	Cutoff Frequency	Facility Type	Solution
Sony®	Research voice recording systems	125 Hz	Hemi-anechoic	Tri-layer System with Flat Panels
Müller-BBM	Acoustical engineering and research	200 Hz/80 Hz	Hemi-anechoic	Uni-layer System with Wedges
Continental Tires	Tire research	125 Hz	Hemi-anechoic	Tri-layer System with Flat Panels
Airbus Industries	Commercial aircraft component testing	125 Hz/80 Hz	Full anechoic	Uni-layer System with Max Wedges
Airbus Industries	Commercial aircraft component testing	80 Hz	Full anechoic	Tri-layer System with Flat Panels
NASA ^{Langley} Research Center	Space and aircraft component testing	100 Hz	Hemi-anechoic	Uni-layer System with Wedges
NASA ^{Langley} Research Center	Acoustical research of components	100 Hz	Full anechoic	Uni-layer System with Wedges
Continental Brakes	Road simulation	50 Hz	Hemi-anechoic	Tri-layer System with Flat Panels
Stihl	Chainsaw Testing	100 Hz	Hemi-anechoic	Tri-layer System with Flat Panels

Physical Data—Foam

Material	Open-cell melamine-based foam
Density	0.5 to 0.7 lbs./cubic ft. (ASTM D3574-77)
Long-Term Service Temperature	302° F
Fire Resistance	Class 1 per ASTM E 84 (all finishes), Meets UL 1715 (natural willtec)
Flame Spread per ASTM E 84	Natural: 5 Painted: 10 Hypalon®-coated: 25
Smoke Density per ASTM E 84	Natural: 50 Painted: 10 Hypalon-coated: 65
Microbial Growth	Passes UL 181, section 11
Fungus Resistance	Rating 0 per ASTM G21
Finishes	Natural (white and light grey), Painted or Hypalon-coated