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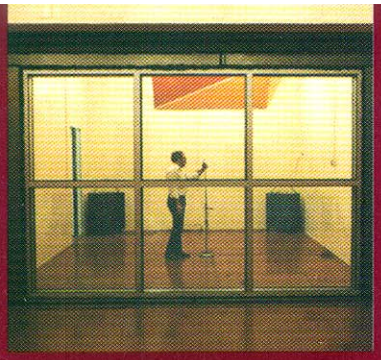

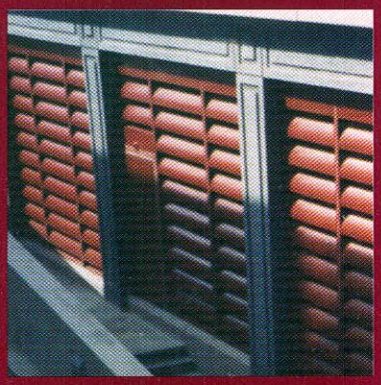

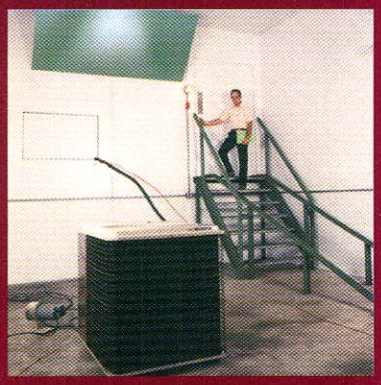

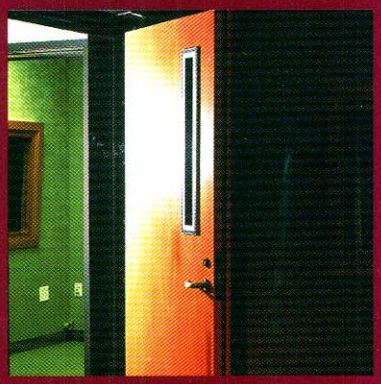

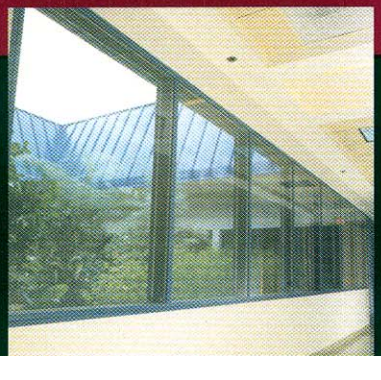

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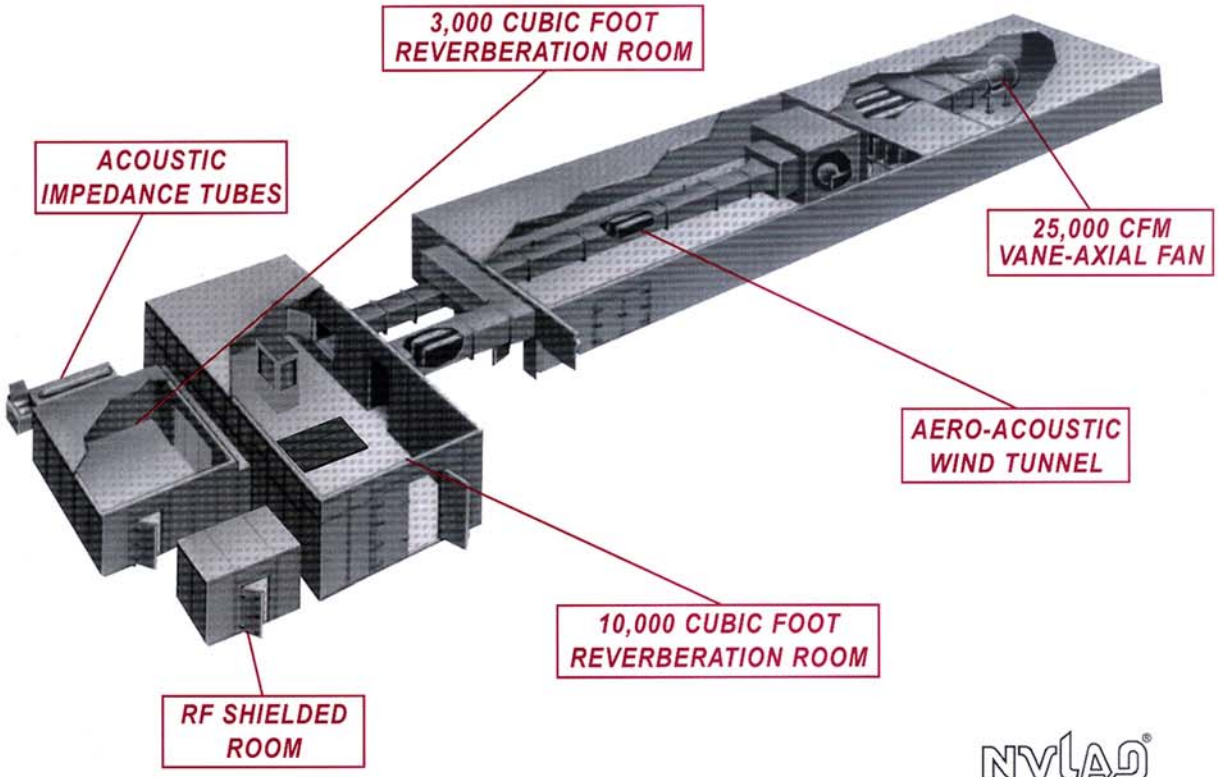

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NVLAP Accredited for these Test Methods

ASTM E477: Standard Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers

This laboratory test represents a typical installation of an air conditioning duct silencer. The test measures the reduction`n of sound pressure levels at various airflow rates due to the presence of the silencer. Airflow generated noise and pressure losses are also measured.

ASTM E90 and ISO140 (part 3): Airborne Sound Transmission Loss of Building Partitions

This test measures the sound isolating properties of a partition by comparing the sound energy in two adjacent chambers separated by the test specimen. Broad band noise is generated in one chamber and sound pressure levels are measured simultaneously in both. After correcting for room absorption and the area of the sample, the difference between the two sets of data is the Transmission Loss in decibels for each test frequency. A single number rating called Sound Transmission Class or STC (described in ASTM E413) is also calculated. The rating is derived by fitting the transmission loss data to a set of standard performance curves.

ASTM C423 and ISO 354: Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method

Sound absorption in a random incidence sound field requires the testing of large samples in a large reverberant chamber. Reverberation times for both the empty roam and the room with the test sample in place are measured over a range of frequencies. The Sabin's of absorption attributed to the sample are divided by the sample's face area to get Sound Absorption Coefficients at each frequency.

ASTM C384: Impedance and Absorption of Acoustical Materials by the Impedance Tube Method

This procedure measures the sound absorbing properties of small samples of acoustic material placed inside a long rigid tube. Normal incidence Sound Absorption Coefficients are derived from measurements of the standing waves developed when a "pure tone" signal is generated in the tube. The method is useful in evaluating the sound absorptive properties of different materials. The IAC Laboratory is equipped with two impedance tubes: A 24" x 24" x 288" tube capable of measurements from 40 Hz to 250 Hz and a 3" diameter tube with a 125 Hz to 2000 Hz range.

ASTM C522: Standard Test Method for Airflow Resistance of Acoustical Materials

The properties of porous materials that absorb sound are related to the viscous resistance offered to small vibratory movements of air. This property can be assessed by passing a controlled airflow through a sample and measuring the resistance it presents to the flow.

ASTM E1408: Laboratory Measurement of the Sound Transmission Loss of Door Panels and Door Systems

The standard adapts the procedure of ASTM E90 specifically to the testing of doors. Requirements are included far operating the door sample and reporting the forces required to open and close the door.

ASTM E596: Noise Reduction of Sound Isolating Enclosures

This standard method is used to rate the performance of sound isolation enclosures used in Audiometry, recording, music practice etc. The test compares the inside and outside sound levels when the enclosure is exposed to random incidence sound in a reverberation chamber. Microphone positions are selected to record average levels consistent with the purpose of the enclosure. Noise Reduction is the difference between outside and inside sound levels in each one third octave band.

ASTM E336: Standard Test Method for Measurement of Airborne Sound Insulation in Buildings

This standard method is used for the in-situ measurement of sound isolation between spaces. Under the right conditions, this method can also be used for in-situ measurements of the sound transmission loss characteristics of partitions.

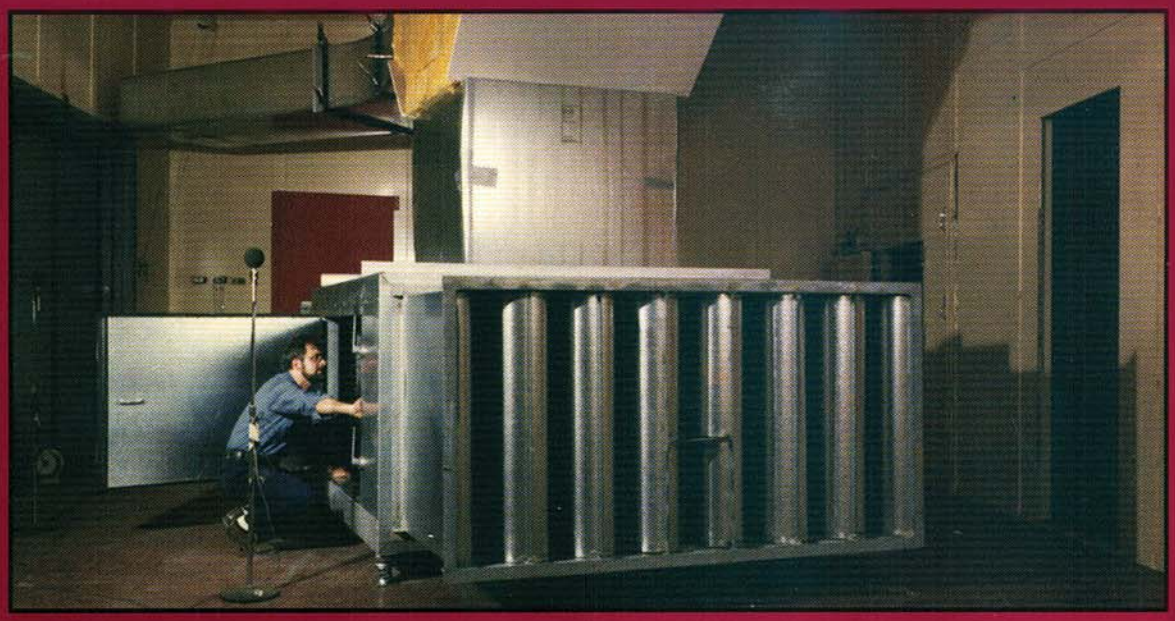
ISO 3741 and ANSI S12.51: Determination of Sound Power Levels of Noise Sources Using Sound Pressure – Precision Methods for Reverberation Rooms

These test standards specify various methods for determining the sound power levels of machines, equipment, and their sub-assemblies using a reverberation test room.

Laboratory Testing Services for

Architectural Doors
Architectural Windows
Wall Partitions
Movable Partitions
Wall Coverings
Ceiling Panels
Floor Coverings
Insulation Materials
Office Furniture
Theater Seats
Curtains
Office Screens
Louvers
Air Filters
Coils
VAV Boxes
Air Handling Units
Engines
Alarms
Smoke Detectors
Industrial Equipment
Power Tools
Lawn & Gardening Equipment

For Information on additional test services, please contact the IAC Lab.



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