

# Noise Control in Classrooms

## Classroom Design Noise Control & Soundproofing Solutions



Classroom Acoustics

Classroom design and layouts with good acoustics help students understand what educators are teaching and allows students to have a better understanding of the lessons with fewer distractions.

Proper design and layout in a classroom environment will add acoustical wall panels or acoustical ceiling tiles to break up the hard wall and ceiling surfaces used in typical classroom environment.

Materials to reduce noise and to create a learning-friendly classroom design include Soundproofing and Isolation products materials:

- Vinyl Sound Barrier
- Hanging baffles and banners
- Wall panels
- Acoustical wall fabrics
- Ceiling tiles



# Acoustical Ceiling Panels

## Acoustical Ceiling Panels ANC-4000: Standard Ceiling Panel

Acoustical Ceiling Panels ANC-4000 is our standard absorber panel that is perfect for most applications with the exception of use in high abuse areas. Acoustical Ceiling Panels ANC-4000 panel is available in 1" and 2" thickness with sizes up to a maximum of 4' x 10'.

## Acoustical Ceiling Panels ANC-3000 Acoustic Ceiling Panel Details:

Ceiling Panel Substrate: 6-7# PCF rigid fiberglass core with optional chemically hardened edges.

Ceiling Panel Mounting: WZ clips.

Acoustical Ceiling Panel Finishes:

Guilford of Maine FR 701 Style 2100 is standard

Designer and customer specified fabrics are available

## Acoustical Ceiling Panel NRC Ratings

1" : .80 - .90

2" : 1.05 - 1.15

Acoustical Ceiling Panel Edge Details: Square, Bevel, Radius, Miter

# Ceiling Baffles

Why Choose Ceiling Baffles? Besides our acoustical noise control experts and their courteous assistance... Our ceiling baffles are lightweight ceiling baffles and banners you can create unlimited architectural effects that improve sound quality as well as the spaces aesthetics resulting in an ideal acoustical environment.

Ceiling Panels are designed to acoustically treat and soundproof interior wall and ceiling spaces including; schools, music rooms, universities, churches, offices and any space that has reverberation problems.

## Ceiling Baffles & Banner Models Available:

ANC - 600 Premium Ceiling Baffles

ANC - 600P Standard Ceiling Baffles

ANC - 700 Ceiling Baffles

ANC - 800 Standard Ceiling Baffles

## Physical Properties

Dimensions: 24" x 48"

Thickness: 1.5"

Weight: 4 pounds

Fire Rating: ASTM E 84 Class A rated

Edge Construction: Heat sealed seams

Core: 2 pound fiberglass

Surface Finish: PVC vinyl covering

Density: 2 pounds per cubic foot

# Soundproofing Wall Panels

Acoustical Wall panels are sound absorbing panels that can mount directly to walls or ceilings through a variety of adhesives, impaling clips, hook & loop fasteners etc. They are designed to stop noise control issues with their powerful sound absorbing acoustical materials. They are frequently used in offices as they not only prevent noise pollution but increase speech intelligibility by reducing reverberation and echoes

- Improving sound and clarity for movies, sports, video games and a home theater
- Reduces echo and reverberation in large halls, gymnasiums, classrooms, auditoriums, and churches
- Reduces noise in crowded spaces, restaurants and bars
- Provides perfect conditions in recording studios and control rooms

## What is Soundproofing?

Soundproofing prevents sound from traveling. Soundproofing products block sound from leaving or entering a room and typically located inside walls.

## What is Sound Absorption?

Sound absorption is the process by which sound waves are being blocked by a soft surfaces. Sound absorption products are intended to absorb unwanted noise, like echo, within a space. Sound absorption material is often called soundproofing.

## Why Choose ANC Sound Absorbing Acoustical Wall Panels?

- Our sound absorbing wall panels are Class A FIRE RATED per ASTM E-84
- Light weight easy to install on walls or ceiling applications
- Available in 1" and 2" thickness
- Sizes from 2' X 2' to 4' X 10' and custom sizes all available
- Hardened Wrapped Edge

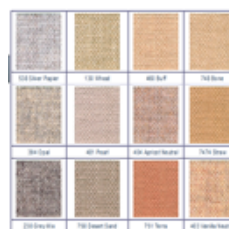
## Acoustical Wall Panel Models Available:

- Acoustical Standard Wall Panels ANC-3000
- High Impact Acoustical Wall Panels ANC-3100
- Stop Noise Wall Panels ANC-3500
- Partition Kits for ANC-3000 Wall Panels
- Custom Printed Acoustical Wall Panels

Fabric Color ChartAcoustic Fabric Chart



Guilford Acoustic FabricAcoustic Color Fabric



# Ceiling Clouds

Ceiling Clouds are perfect for the reduction of sound in ceiling areas. They are suspended horizontally with D-Rings (for panels up to 4' x 4') or T-grid attachment for larger panels.

Ceiling Clouds are constructed with a 6-7# PCF rigid fiberglass absorber core. The edges are available in natural or chemically hardened and are available in 4 edge profiles.

## Suspended Acoustic Solutions

Sound Absorption Ceiling clouds are a very effective treatment for the reduction of sound in ceiling areas. All Noise Control Sound Absorption Ceiling clouds are suspended horizontally, with our eye hook or t-grid attachment mounted to the cloud at the time of shipment.

Sizes: Standard up to 4' x 10' (custom sizes & shapes available)

Face & edges are wrapped in fabric or perforated vinyl to match or accentuate the room design.

Acoustic Applications - Auditoriums, Industrial Acoustics and more

Sound Absorption Ceiling Cloud Details:

## Wall Panel Substrate

6-7# PCF rigid fiberglass core with optional chemically hardened edges.

Sound Absorption Ceiling Cloud Mounting:

Eye hooks

T-grid

## Acoustical Ceiling Cloud NRC Ratings

1/2"	.50-.60
1"	.80-.90
1 &frac12"	.90-1.00
2"	1.05-1.15

Sound Absorption Ceiling Cloud Edge Details

Square, Bevel, Radius, Miter





# Mass Loaded Vinyl Barrier, MLV

**What is MLV?**

Mass Loaded Vinyl (MLV) is a safe, non-toxic noise barrier designed to hang as a limp mass in a variety of soundproofing applications.

**What is a soundproofing barrier?**

Noise barrier or sound barrier products add mass to a wall, ceiling, floor, or enclosure serving as a highly effective soundproofing solution - at an affordable price. Soundproofing barriers are typically installed directly on the studs or joists to reduce noise transmission between the source of the sound and the destination.

**What is STC?**

Sound Transmission Class (STC) is a rating assigned to a material or an assembly of materials representing the transmission loss or reduction in sound between the source and the target. A standardized test, performed in an acoustics lab, measures the transmission loss between a Sound Source and a room. Measurements are taken over a range of 6 different frequencies ranging between 125Hz and 4000Hz. This frequency band covers the speech range.

**Vinyl Sound Barrier** - This high density thin, weighted Soundproofing barrier, constructed of non reinforced high temperature fused vinyl with no lead filters. Weighs one pound per square foot and is 1/8" thick. Apply to block transmission of sound through walls, floors, and ceilings. Also effective as a pipe and duct wrap to damper vibrations and reduce noise. Also available in a reinforced version designed to sustain it's own vertical weight for suspension.

**Clear Vinyl Barrier Flexible Reinforced Material**

ANC's Industrial ANC-VB60R flexible noise barrier is a 1 lb psf reinforced loaded vinyl barrier used to stop the transmission of noise from one area to another. Typically used as Barrier panels in an acoustical enclosure, or as the barrier component in Industrial composite products. Curtain panels are typically constructed with grommets across the top and mating hook and loop closures on the vertical edges. Standard rolls measure 54" wide x 30' long or 54" wide x 60' long.

**Mass Loaded Vinyl Barrier, MLV**

Mass Loaded Vinyl (MLV) is a safe, non-toxic noise barrier designed to hang as a limp mass in a variety of soundproofing applications. **Vinyl Sound Barrier** - This high density thin, weighted Soundproofing barrier, constructed of non reinforced high temperature fused vinyl with no lead filters. Weighs one pound per square foot and is 1/8" thick. Apply to block transmission of sound through walls, floors, and ceilings. Also effective as a pipe and duct wrap to damper vibrations and reduce noise. Also available in a reinforced version designed to sustain it's own vertical weight for suspension.

**Ceiling Tile Barrier**

**Ceiling Barrier Tiles with Soundproofing Vinyl Sound Barrier:** We carry a ceiling tile barrier tile with 1" fiberglass & 1 pound scrim faced Vinyl Sound Barrier material. Call our specialist for details or view a usage diagram [here](#).

**Mass Loaded Soundproofing Vinyl Barrier Material Test Specs**

**Sound Transmittion Loss Specs - Mass Loaded Vinyl Barrier Material**



# Schools Case Studies

## University of Michigan restores harmony in band room with ANC Foam....

Educational facilities always have acoustic problems to solve. Whether it's multi-purpose rooms, gymnasiums or sports centers, theaters, auditoriums or music and band rooms, there's a lot of noise in the educational industry. University of Michigan needed to find harmony in their frequently used band room. With the array of instruments, variety of noise levels and active students, the sound in their band room has serious reverberation problems. Another major contributing factor in these types of rooms are the construction materials, most often exposed concrete which offers a disadvantage by promoting reverberation, echo and distortion of sound.

Mr Wilson of the University of Michigan contacted All Noise Control with the problems they were experiencing in their band room. It was a classic acoustic solution to provide foam to both balance and absorb the sound in the room. We provided the University with the newest pyramad foam in 2' x 2' sheets offering a simple and budget conscious acoustical solution. Harmony was restored in the U. Michigan band room with little impact on often strict educational budgets. The foam panels were also simple to install and handled by the internal maintenance staff quickly and easily.

**Institutions / Gymnasiums & Multi-Purpose Rooms** - In the heart of Texas, Milan middle school had a noise reverberation problem typical to institution spaces such as gyms, cafeterias, auditorium and general purpose rooms. We all associate the echoes, noise and reverberation of sound with gyms, pool areas & large auditorium / multipurpose rooms and certainly can relate to the high noise levels in these types of rooms. In this middle school gymnasium (a problem in virtual all gymnasiums), the sound bounces off the walls more than the basketballs. Due to the volume and space in these rooms and lack of noise absorbents, the noise grows and creates echoes and reverberation seriously impeding speech intelligibility. When the gym was in use, the conversation next to you was indistinguishable from the conversation across the floor. During sporting events, the noise became unbearable with the gym full of fans, parents and students. The noise levels at sporting events is already an unhealthy exposure to high decibels especially with no acoustic noise control absorbents in place.

The school reached out to All Noise Control to help them solve their problem. One of All Noise Control's core markets are Institutions be it middle school, college or other. As typical, All Noise Control suggests their Ceiling Baffle products to help these types of institution noise problems due to their cost effectiveness and noise reduction qualities. Ceiling baffles are a great source of noise reduction in these types of applications benefiting a NRC rating of 1.25. A series of 2' x 4' x 1.5" thick ANC-600 acoustical ceiling baffles in between the ceiling trusses was suggested to Milan Middle School. The ANC-600 baffles are constructed of a high density fiberglass core to absorb maximum sound. In addition they have great fire ratings and fire retardant properties. By installing these baffles high in the ceiling, institutions like this Middle School benefit by avoiding most if not all contact between the acoustical baffles and mobile gym equipment such as basketballs, volleyballs, etc.

Once the ANC-600 ceiling baffles were installed the noise quieted down, speech became coherent and their problem was solved. Using the gym for future events was not only healthier for the ears of students and visitors alike, but it also made the use of the gymnasium much more enjoyable.