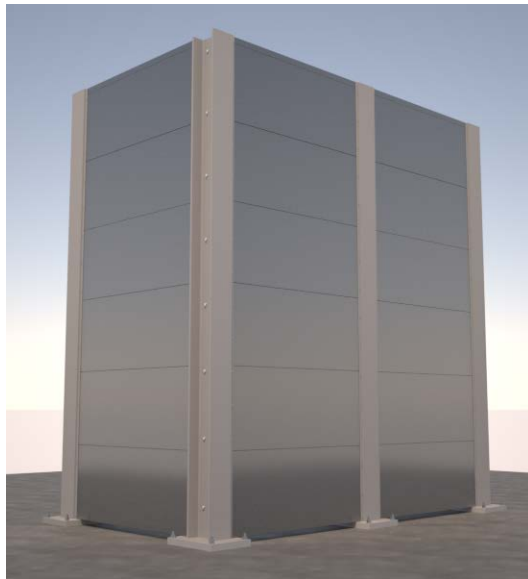


NOISEBLOCK™

Barrier Wall Systems



www.kineticsnoise.com



NOISEBLOCK™ Barrier Wall Systems

Industrial, commercial, and environmental noise control is an important and often overlooked part of the design process. Whether it is to comply with municipal ordinances, conform to OSHA standards or to achieve occupant comfort, it takes knowledge and experience to design an acoustical system that achieves the required sound levels. NOISEBLOCK™ Barrier Wall Systems are modular, cost effective, custom engineered solutions for rooftop equipment, electrical sub-stations, oil and gas compressor stations, residential compliance, loading docks, railways, and airport noise.

NOISEBLOCK™ double-walled acoustic panels are quickly and easily assembled, deliver high levels of sound absorption (noise reduction) and transmission loss (noise blocking). Project management assistance, design, engineering, and manufacturing are included with purchase. Established in 1958, Kinetics Noise Control has the experience and manufacturing capabilities to deliver a noise control solution for your indoor or outdoor application.

Advantages of NOISEBLOCK™ Barrier Wall Systems

- Particularly suitable for outdoor mechanical equipment barriers allowing easy field cutting and sealing for electrical, piping, duct penetrations, etc.
- Panels are shipped knock-down in modular form for inherent freight cost savings.
- Self-draining, “wicking” moisture, durable, easy to install, remove and reuse.
- Acoustic performance is backed by independent tests conducted in a NVLAP accredited laboratory per ASTM E90 (transmission loss) and ASTM C423 (sound absorption). Panel performance is STC 40-43 and NRC 1.0.
- Each system includes AutoCAD submittals and piece-marked installation drawings.
- System structural steel is designed from baseplate upward. The column and base plates are supplied as factory-welded assemblies. The column and angle attachments are factory-punched and supplied with required bolts, washers and nuts. No field welding is required.
- Panels are available in galvanized G90, aluminum and stainless types 304 and 316. Structural steel components are available in various finishes from prime painted, hot dipped galvanized or painted.
- Detailed structural engineering calculations including column baseplate reaction forces.
- Maintenance free

Barrier Wall Comparison

The following tables compare the acoustic performance, physical properties, and application of NOISEBLOCK™ Barrier Wall System to standard concrete, wood, PVC, and metal vision screen barrier walls.

Acoustic Performance

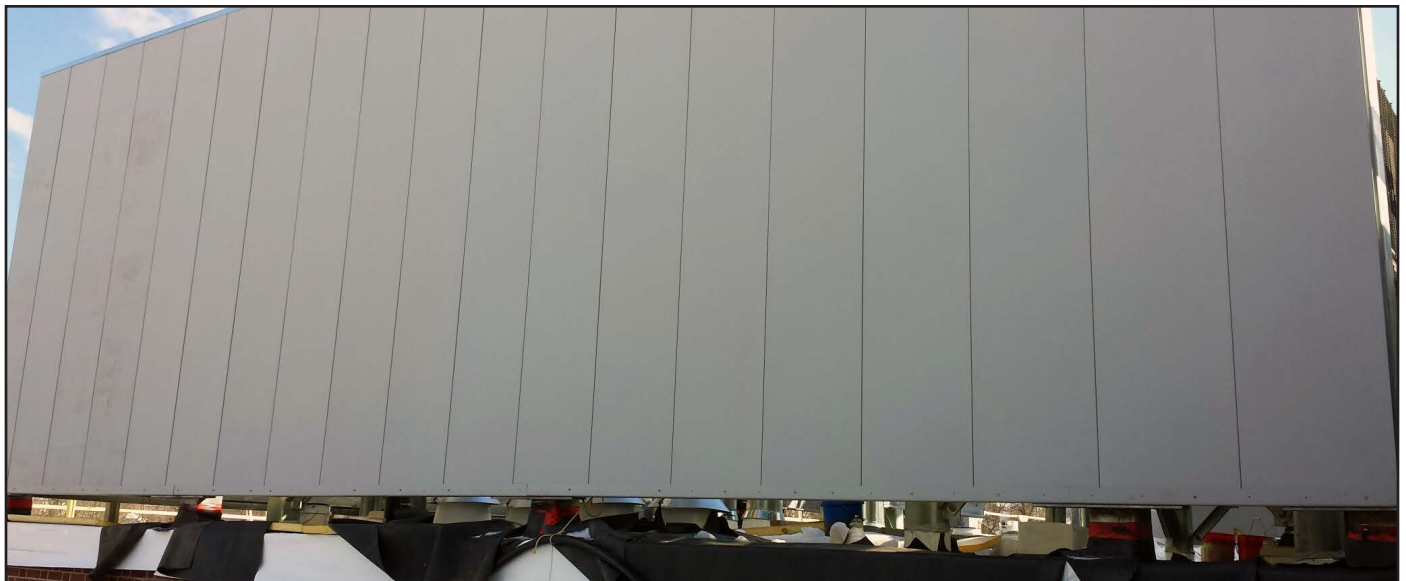
Material	NOISEBLOCK™	Concrete	Wood	PVC	Metal Vision Screen
Type of System	Absorptive/Blocking	Reflective	Reflective	Reflective/Absorptive	Reflective
STC Rating ¹	43	28	26	36	21
NRC Rating ²	1.0	0.0	0.85	1.0	0.0

Physical Properties

Material	NOISEBLOCK™	Concrete	Wood	PVC	Metal Vision Screen
Type of System	Post/Panel	Post/Panel	Post/Panel	Post/Panel	Post/Panel
Moisture Resistance	Excellent	Good	Poor	Good	Good
Freeze/Thaw Resistance	Excellent	Fair	Poor	Fair	Good
Fire Resistance	Excellent	Excellent	Poor	Unknown	Excellent
Weight (lbs./sf)	6-8	100-125	4-5	3-4	1-2

Application

Material	NOISEBLOCK™	Concrete	Wood	PVC	Metal Vision Screen
Heavy Equipment Needed	Some	Yes	Some	Some	Some
Works on Rooftops	Yes	No	Yes	Yes	Yes
Works on Bridges	Yes	No	Yes	Yes	Yes
Works in Challenging Terrain	Yes	No	Yes	Yes	Yes
Ease of Onsite Changes	Yes	No	Yes	No	Yes



NOISEBLOCK™ rooftop barrier wall surface mounted to structural support steel



NOISEBLOCK™ wall system, Hospital Rooftop Equipment Yard

Rooftop Equipment

Chillers, Condensers and Cooling Towers and other mechanical equipment generate unwanted noise negatively affecting surrounding residential and business communities. NOISEBLOCK™ barrier wall systems reduce the noise to acceptable levels.



Air-cooled chiller attenuation systems



Residential Noise Compliance

Many neighborhoods have strict noise ordinances for hearing protection and comfort levels. NOISEBLOCK™ barrier panels are used to control noise at shopping malls, schools, recreational facilities, parks and other outdoor applications.



Power plant process NOISEBLOCK™ wall system

Utilities

Electrical sub-stations, transformers and generators cause unwanted noise and can be unpleasant to view. NOISEBLOCK™ barrier wall systems reduce the unwanted noise to acceptable levels and block the view for increased security.



Midstream compressor NOISEBLOCK™ walls

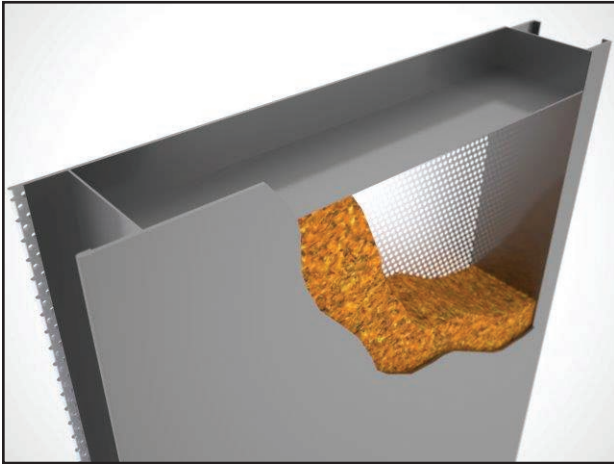
Oil and Gas Compressors Stations

NOISEBLOCK™ barrier wall systems are a cost effective solution to limit oil and gas midstream compressor noise.

Transportation / Drive-Thru Lanes / Loading Docks

Noise from loading docks, traveling motorists on major highways/interstates, airport areas, and railways are effectively reduced using Kinetics reflective or absorptive barrier wall systems.

NOISEBLOCK™ Wall Panel Construction



Panel Cutaway

KINETICS STL panels are fabricated with outer solid shell of 16/18 gage and inner perforated shell of 22 gage. Panels are stiffened with 18 gage internal channels and edge rails. The acoustic grade fill is 2.5 to 6 pcf long strand fiberglass or mineral wool depending on the application and are inert, mildew resistant, vermin proof and incombustible and is suitable for wet/dry and freeze/thaw cycling. Mating panels are attached by inherent tongue and groove panel joints. Typical panel joints are horizontal however vertical panel joints are used depending on the project requirements and aesthetics desired by the architect/owner.

Sound Absorption Coefficients

NOISEBLOCK™ panel acoustic performance is backed by independent testing in a NVLAP accredited laboratory. When tested in accordance with *ASTM C423, Standard Method of Test for Sound Absorption of Acoustic Materials in Reverberant Rooms*, the panel assembly shall have the following minimum airborne sound absorption:

Model	Construction ²	Sound Absorption						NRC ³
		125	250	500	1000	2000	4000	
STL-4 ¹	16 ga. solid / 22 ga. perforated	0.60	1.13	1.12	1.09	1.03	0.91	1.00
STL-4 ¹	18 ga. solid / 22 ga. perforated	0.60	1.13	1.12	1.09	1.03	0.91	1.00

¹ (4) = 4-inch thickness

² solid inner skin available

³ Noise Reduction Coefficient (NRC) is the average of coefficients at 250, 500, 1K and 2K Hz, expressed in the nearest integral multiple of 0.05.

Sound Transmission Loss

When tested in accordance with *ASTM E90, Standard Recommended Practice for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions*, the panel assembly shall have the following minimum airborne sound transmission loss:

Model	Construction ²	Transmission Loss, dB						STC ³
		125	250	500	1000	2000	4000	
STL-4 ¹	16 ga. solid / 22 ga. perforated	24	32	41	51	60	66	43
STL-4 ¹	18 ga. solid / 22 ga. perforated	21	28	39	48	56	58	40

¹ (4) = 4-inch thickness

² solid inner skin available

³ Sound Transmission Class (STC) is determined by comparing test data with a set of standard STC contours as described in *ASTM E413, Standard Classification for Determination of Sound Transmission Class*.

The acoustic performance of NOISEBLOCK™ panel systems is not degraded through prolonged exposure to noise, vibration, pressure differential, rain, wind or snow.

Engineering Performance and Design

NOISEBLOCK™ wall systems are placed between a noise source and a receiver. The barrier creates a “sound shadow” zone of attenuation that can be designed to effectively attenuate an area either indoors or outdoors and at varied distances from the noise source.

Standard Panel Dimensions

NOISEBLOCK™ panels are available in standard designated widths of 21.625” and 45.625” and lengths up to 144”. Other widths and lengths are available by special order. NOISEBLOCK™ wall systems incorporate as many standard panels as possible and then finish with nonstandard panels for cost effectiveness.

Structural Performance

NOISEBLOCK™ wall systems are designed per industry standards following the applicable IBC building codes, referenced standards and guidelines. These referenced codes, standards, and guidelines include wind, snow, and seismic loading conditions. Deliverables include copies of the certified structural steel calculations and P.E. stamp. Kinetics engineering group uses the latest AutoCAD software and can incorporate your equipment or system layout into our submittals to assure proper clearances and access locations.

Structural Steel Components

Structural steel components and welded assemblies are designed for either bolt together (standard) or field welding assembly. Standard structural items are shipped with one factory coat of primer for protection during shipping. Kinetics can supply structural items with hot-dip galvanized coated finish or factory painted with either a wet paint or powder-coat finish depending on size and specification.

NOISEBLOCK™ Panel Joint



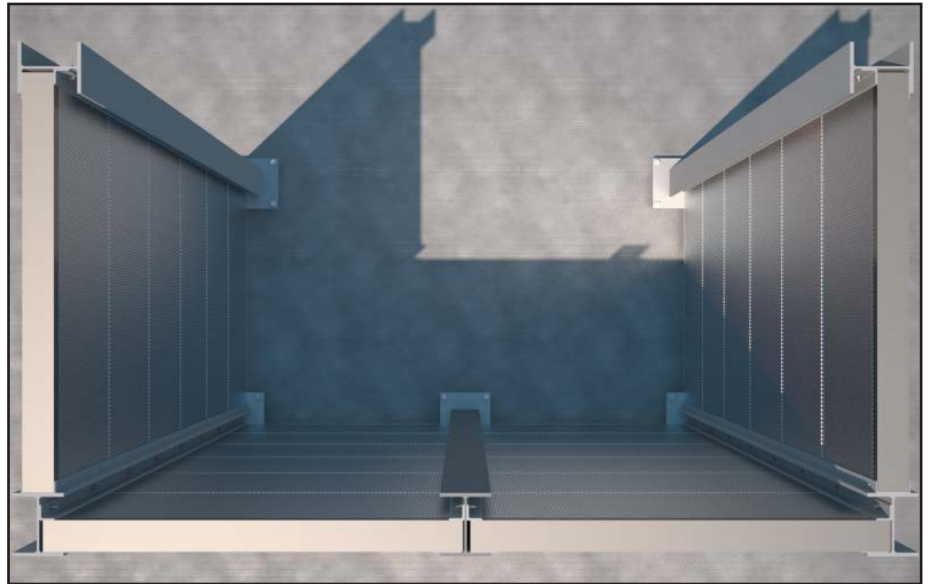
Typical groove and tongue (GT) panel joint

Finish

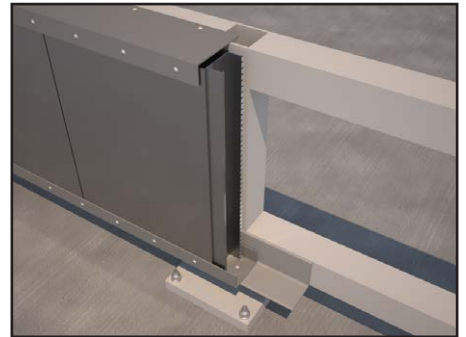
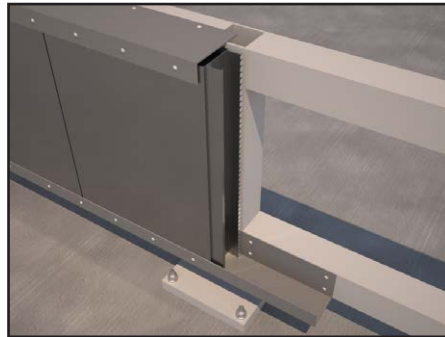
NOISEBLOCK wall systems are available factory powder-coat finish per selection of POWDURA® RAL Series Super Durable TGIC FREE Polyester Powder Coatings, color matching or mill/unpainted.

Typical Panel to Structural Connections

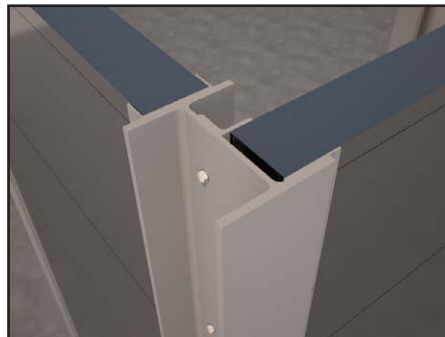
Other connection methods available



Surface connection to HSS steel framing



Standard W-Column to Panel Connection Detail



kineticsnoise.com/noiseblock
sales@kineticsnoise.com
1-800-959-1229