





ABOUT UNIGROUP

We consult, manufacture and supply; specialized building solutions such as decorative fit-out material with acoustic isolation properties, aluminum panels for building façades, Thermal breaks which thermally isolate building structures, and vibration isolation solutions for buildings and industrial applications.

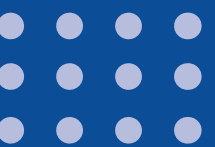





TABLE OF CONTENTS

Structural Thermal Isolation Projects	04
Structural Acoustic Isolation Projects	11
Aluminium Facade Projects.....	22
Fit-out and Decorative Acoustic Projects.....	28
Industrial Vibration Isolation Projects.....	34
STRUKTRA® Thermal Break Solutions.....	37
Fit-out and Decorative Acoustic Isolation Soluitons	41
Acoustic Ceiling Solutions.....	45
Acoustic Wall Solutions.....	54
Acoustic Fabric Solutions	76
Acoustic and Vibration Isolation Floor Solutions.....	88
Acoustic Door Solutions.....	90
Structural Acoustic and Vibration Solutions.....	93
CineFloor Acoustic and Vibration Isolation Solutions	97
CineSteel Acoustic and Vibration Isolation Solutions	99
CineWall Acoustic and Vibration Isolation Solutions.....	101
Acoustic and Vibration Isolation Solutions for Industrial Applications.....	110
Aluminum Panel and Facade solutions	115





STRUCTURAL THERMAL ISOLATION PROJECTS



Riyadh City Metro

Riyadh

Material: Farrat TBK ((steel connections)

Client: Al Ghurair Construction

Type: Pavilion, New Build

Riyadh Metro is one of the giant projects in the world. It includes 85 railway stations, apart from six major metro lines that have been established to cover the capital city of Riyadh from all directions. There is a network of buses, and all these cover an area of 1800 km.



Mohammed VI Tower

Rabat, Morocco

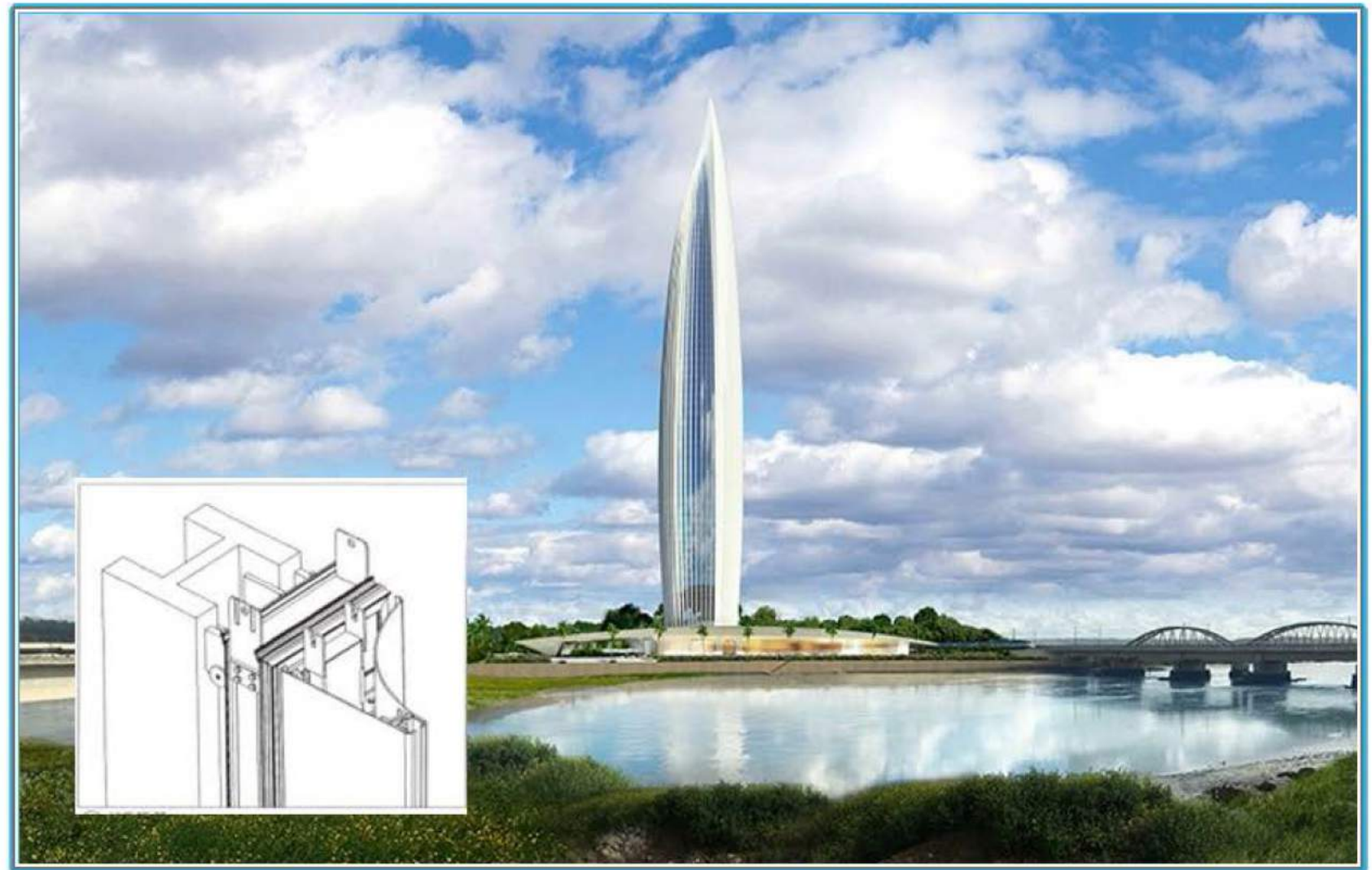
Material: Farrat TBF (façade connections)

Client: Besix

Type: Mixed Use, New Build

BESIX and Six Construct are building the Mohammed VI Tower, the tallest tower in Africa. The tower will meet the highest environmental standards with LEED Gold and HQE certifications and be built to high environmental standards, with a stunning appearance, and packed with innovations developed by BESIX's Engineering Department.

-) 250-meters high Mohammed VI Tower is designed to be visible from 50 kilometers all around.
-) Total area of 102,800 m²
-) Over 55 stories.
-) Facilities include a luxury hotel, offices, high-end apartments, and a viewing terrace.





DUBAI UPTOWN PHASE 2

BESIX

Complete façade is thermally isolated using FARRAT TBK grade thermal break pads.



TM6 MOROCCO BESIX & Glassline

Complete façade is thermally isolated using FARRAT TBF grade thermal break pads.



KASAB & SUWAIQ HOSPITALS

Oman

Al Tasnim


Thermal isolation for the hospital main structure from facades using FARRAT TBK.




SHARP TANKS STRUCTURALS INDIA



Thermally isolated the fuel storage tank from the access ladder using FARRAT TBK.



STRUCTURAL ACOUSTIC ISOLATION PROJECTS





Acoustic isolation for the structure.



MALL OF OMAN ✦ OMAN ✦ VOX, Douglas OHI

- ✦ Acoustic isolation for 15 Cinemas including 4D Max cinemas.
- ✦ Bowling Alley.



ESPLANADE ✦ KSA ✦ VOX, Havelock & AME

- ✦ Acoustic isolation for 8 Cinemas including 4D Max cinemas.
- ✦ Bowling Alley.



GALLERIA MALL
KSA
VOX, IESEST

Acoustic isolation for 12 Cinemas including 4D Max cinemas.



REEM MALL ✦ UAE ✦ AME, Havelock

- ✦ Provided thermal isolation.
- ✦ Acoustic isolation for 12 Cinemas including 4D Max cinemas.



Acoustic isolation for 12 Cinemas including 4D Max cinemas.



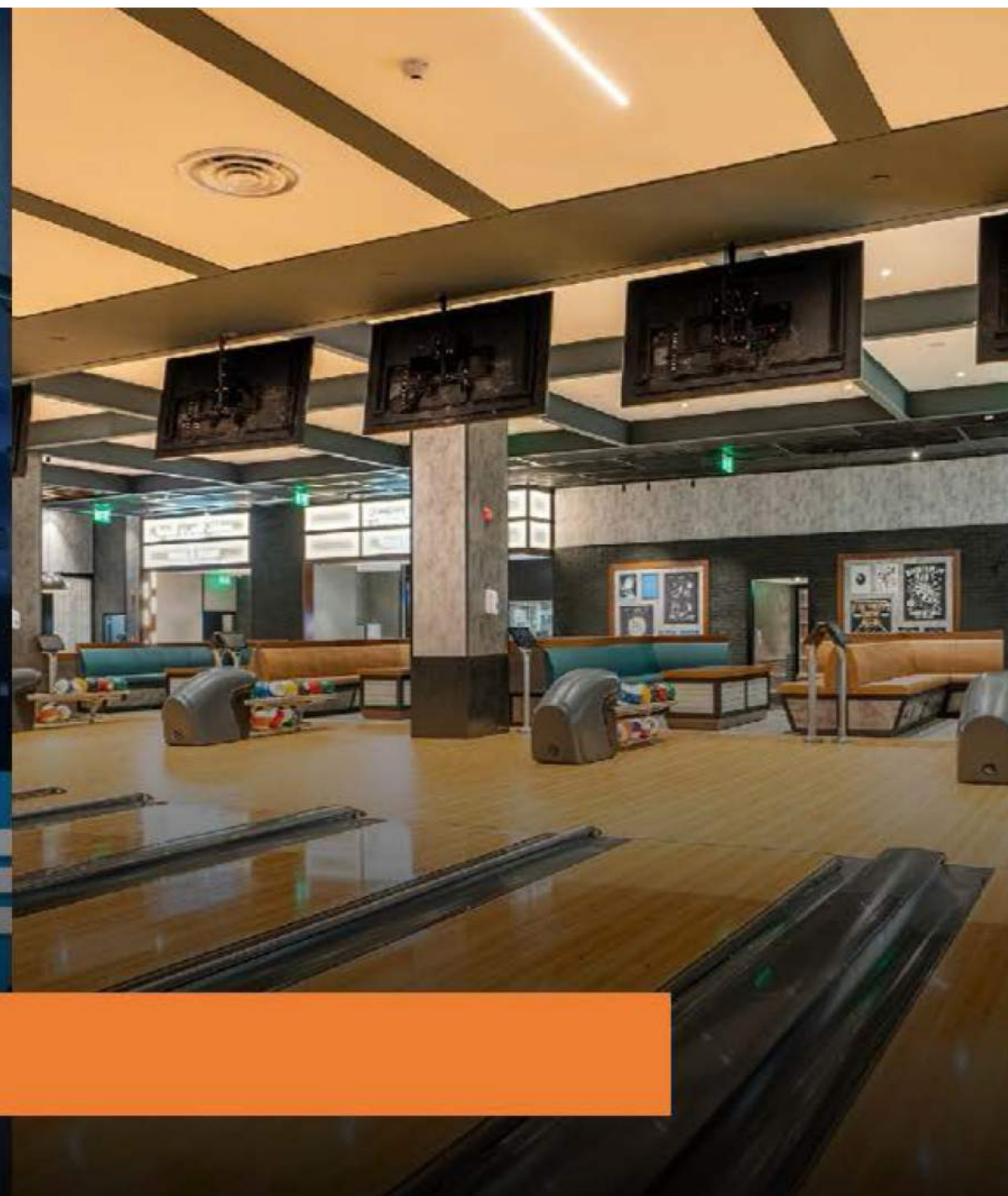
Acoustic isolation for 11 Cinemas including 4D Max cinemas.



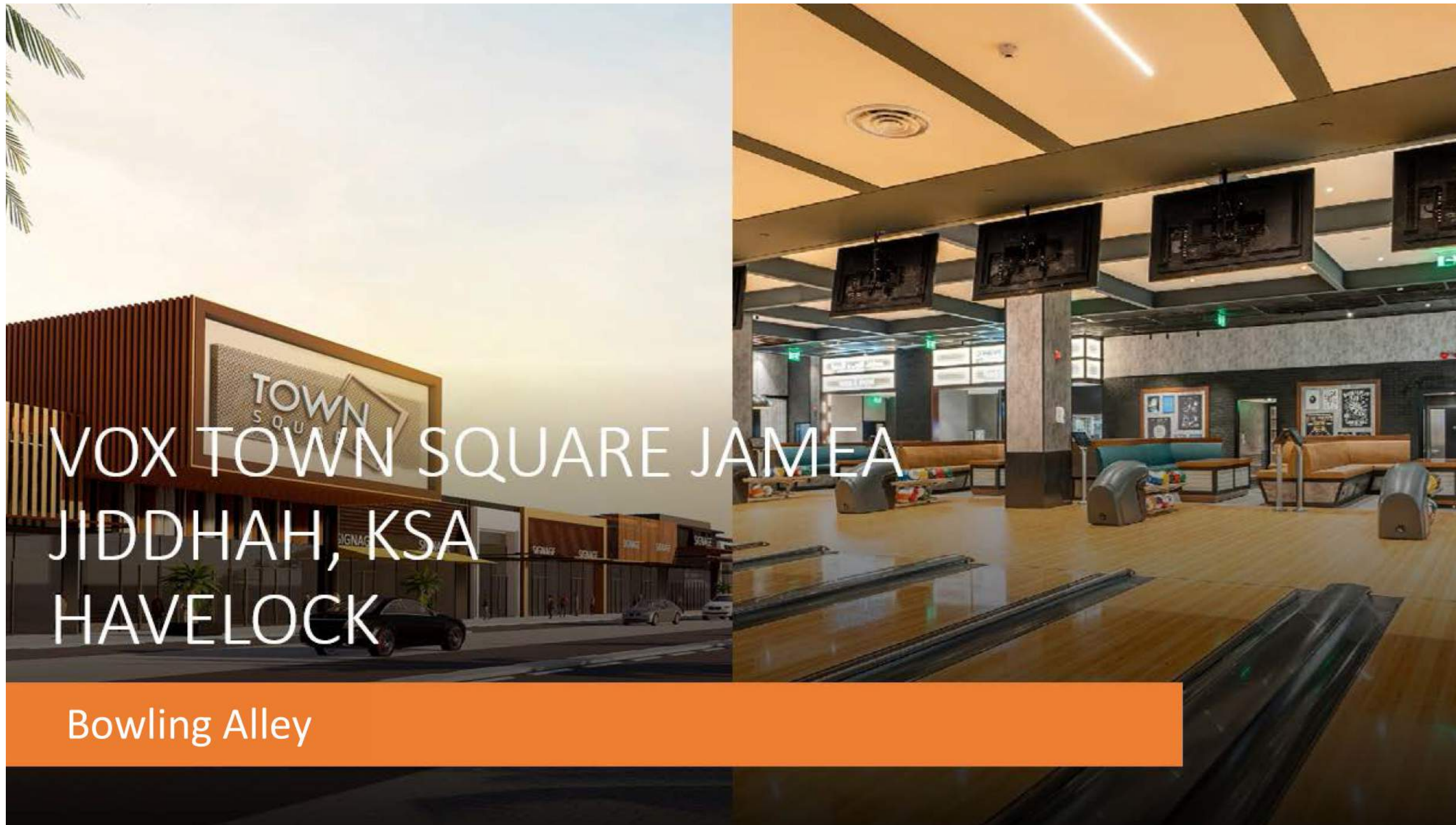
LIWAN PROJECT BAHRAIN KONTRA

Acoustic isolation for Cinemas.





Bowling Alley



VOX TOWN SQUARE JAMEA JIDDAH, KSA HAVELOCK

Bowling Alley

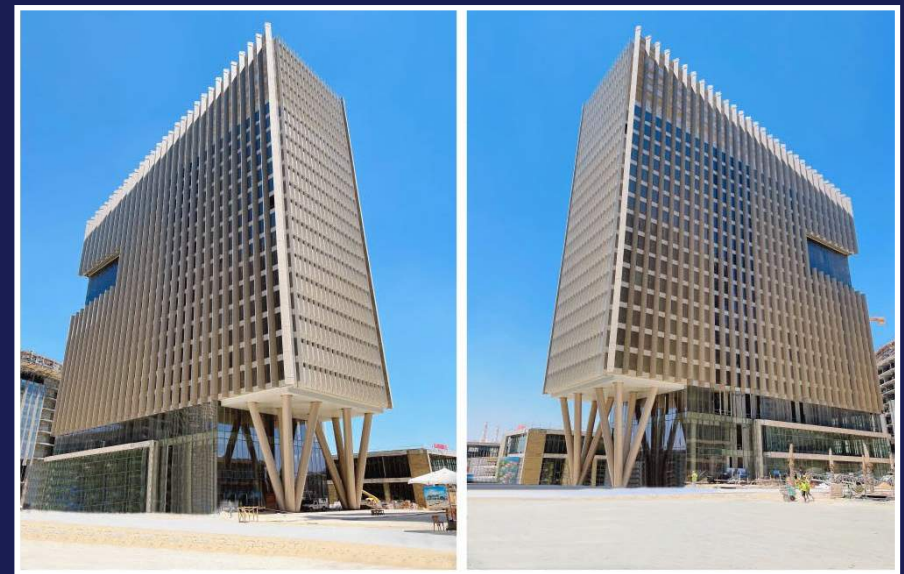


ALUMINIUM FACADE PROJECTS





Iconic Tower of Egypt /58500m²/2021



Egypt New Capital CBD Government Administration Building/76500m²/ Year 2022



● BRT of Riyadh Phase 1, 2 & 3, KSA/ 80000m²/ year 2019



● National University of Singapore/11000m²/ Year 2021

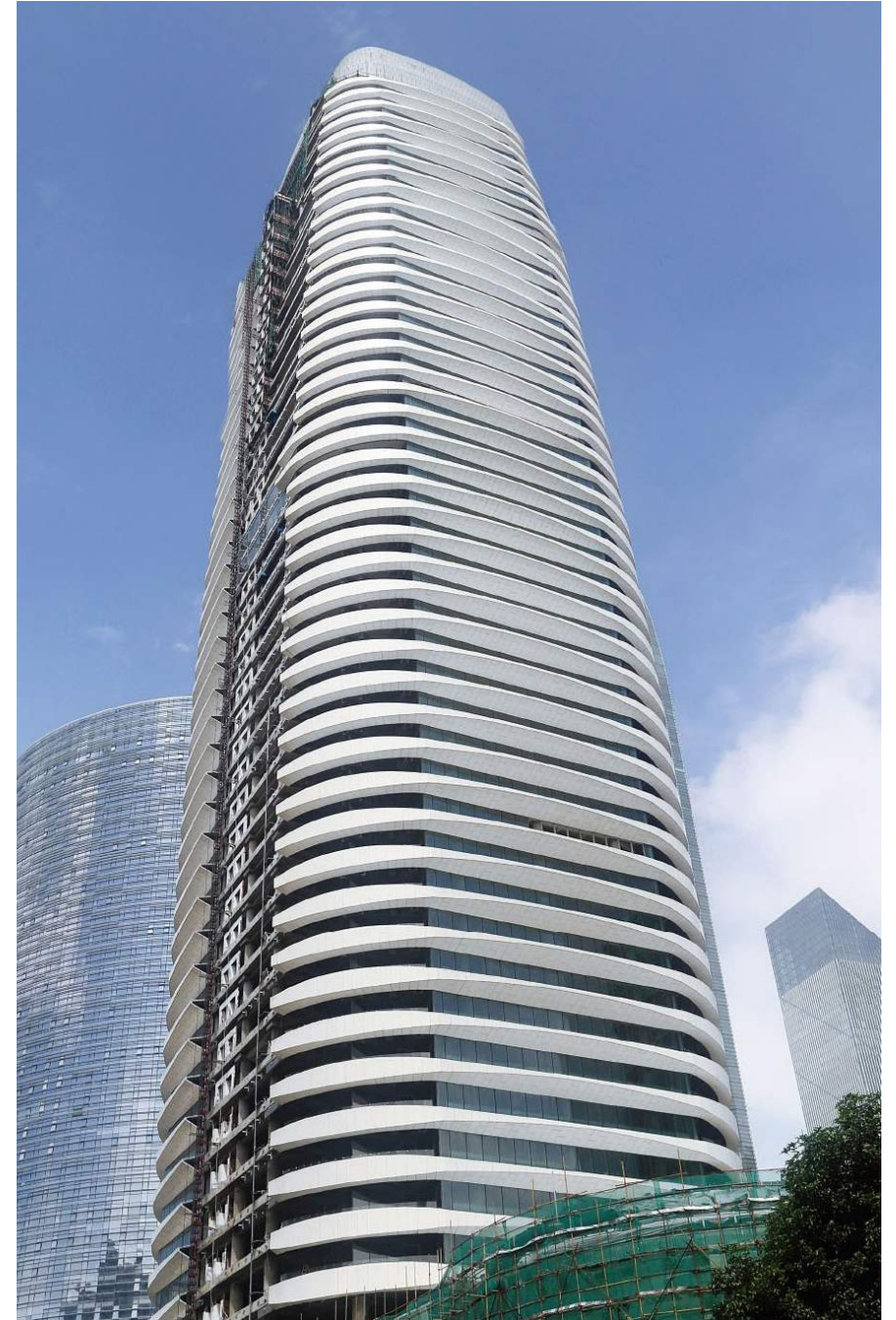




● Philippines Unilab Project / 7000m² / Year 2018



● Matera Cricket Stadium, India / 5000m² / Year 2019



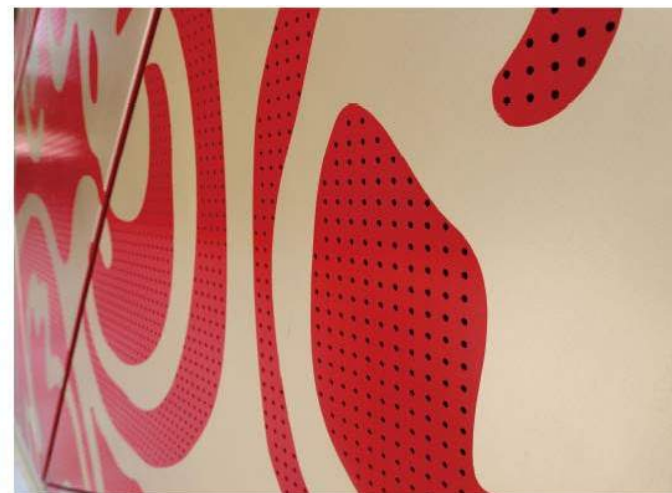
● QiaoXin International Building (Office building) / 131435M² / 2015 Year



Shenzhen World Exhibition & Convention Center / 250,000 / Year 2018



Guangzhou Sunac Wanda / 20000M² / 2019 Year



FIT-OUT AND DECORATIVE ACOUSTIC PROJECTS

AUDITORIUM CASE

WE CAN SUPPLY SERVICE

- 01. Auditorium decoration design service
- 02. Auditorium decoration material.

WHAT PRODUCTS WE INTRODUCE

- 01. Grooved wood acoustic panel
- 02. Curved grooved wood acoustic panel
- 03. Fabric acoustic panel
- 04. Fiberglass ceiling panel
- 05. 3D polyester & MDF structure
- 06. Decoration panel
- 07. Acoustic/Rubber flooring



SCHOOL CASE

WE CAN SUPPLY SERVICE

- 01. School decoration design service
- 02. School audio and lighting services
- 03. School decoration materials

WHAT PRODUCTS WE INTRODUCE

- 01. Flat fiber acoustic panel
- 02. Fabric acoustic panel
- 03. Painting fabric acoustic panel
- 04. 3D polyester & MDF structure
- 05. Curved grooved wood acoustic panel
- 06. Grooved wood acoustic panel
- 07. Perforated wood acoustic panel
- 08. Acoustic reflection panel
- 09. 3D acoustic ceiling tiles
- 10. Ceiling space absorber
- 11. 3D aluminum ceiling
- 12. Wood wool cement board
- 13. Auto Movable acoustic partition
- 14. Acoustic/Rubber flooring



HOTEL CASE

WE CAN SUPPLY SERVICE

- 01. Hotel decoration design service
- 02. Hotel decoration materials

WHAT PRODUCTS WE INTRODUCE

- 01. Flat fiber acoustic panel
- 02. Painting fiber sound-absorbing panel
- 03. Fabric acoustic panel
- 04. Curved grooved wood acoustic panel
- 05. 3D polyester & MDF structure
- 06. Painting fabric acoustic panel
- 07. 3D acoustic ceiling tiles
- 08. Special shape fiberglass ceiling panels



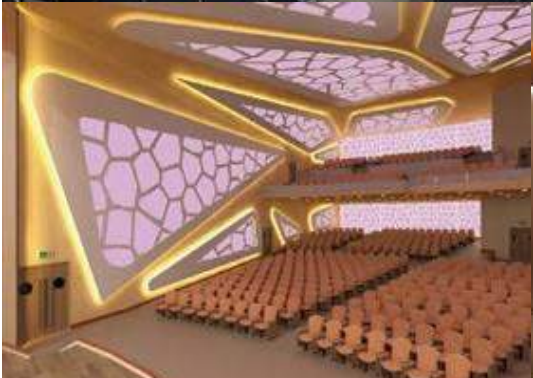
BUSINESS CENTER CASE

WE CAN SUPPLY SERVICE

- 01. Commercial center decoration design service
- 02. Acoustic decoration materials for business centers

WHAT PRODUCTS WE INTRODUCE

- 01. Grooved wood acoustic panel
- 02. Curved grooved wood acoustic panel
- 03. Micro-perforated wood acoustic panel
- 04. Fabric acoustic panel
- 05. Painting fabric acoustic panel
- 06. Microporous melamine foam
- 07. Polyester carved panel
- 08. 3D acoustic ceiling tiles
- 09. 3D aluminum ceiling



BANQUET HALL CASE

WE CAN SUPPLY SERVICE

- 01. Banquet hall decoration design service
- 02. Banquet hall decoration materials

WHAT PRODUCTS WE INTRODUCE

- 01. Fabric acoustic panel
- 02. Flat fiber acoustic panel
- 03. Painting fabric acoustic panel
- 04. Three-dimensional embroidery fiber sound-absorbing panel
- 05. 3D aluminum ceiling



CONFERENCE ROOM CASE

WE CAN SUPPLY SERVICE

- 01. Conference room decoration design service
- 02. Conference room decoration materials

WHAT PRODUCTS WE INTRODUCE

- 01. Grooved wood acoustic panel
- 02. Micro-perforated wood acoustic panel
- 03. Fabric acoustic panel
- 04. Painting fabric acoustic panel
- 05. Microporous melamine foam
- 06. Polyester carved panel
- 07. Flat fiber acoustic panel
- 08. Three-dimensional embroidery fiber sound-absorbing panel
- 09. 3D acoustic ceiling tiles



CINEMA CASE

WE CAN SUPPLY SERVICE

- 01.Cinema decoration design service
- 02. Cinema decoration materials
- 03.Stadia Seating Isolation Structure
- 04. Acoustic/Rubber flooring

WHAT PRODUCTS WE INTRODUCE

- 01.Fabric acoustic panel
- 02.Leather acoustic panel
- 03.Leather hardboard panel
- 04.Polyester fiber acoustic panel
- 05.Flat fiber acoustic panel
- 06.Fiberglass ceiling panel
- 07. Acoustic/Rubber flooring



INDOOR STADIUM CASE

WE CAN SUPPLY SERVICE

- 01.Gymnasium decoration design service
- 02. Acoustic/Rubber Flooring
- 03.Gymnasium decoration materials

WHAT PRODUCTS WE INTRODUCE

- 01.Ceiling space absorber
- 02.3D acoustic ceiling tiles
- 03.Wood wool cement board
- 04.Grooved wood acoustic panel
- 05.Micro-perforated wood acoustic panel
- 06.Fabric acoustic panel
- 07. Acoustic/rubber Flooring

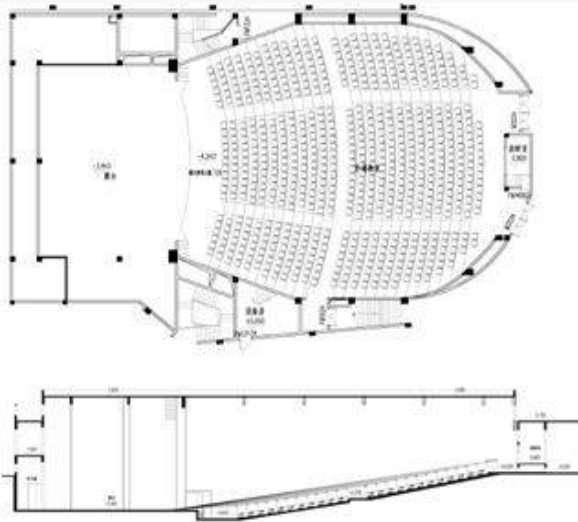


PROJECT CASE

STEP 1: Survey the site or provide basic building plans, photos, and videos of the site.



STEP 2: Communicate functional requirements, usage requirements, visual aesthetic requirements - shortcuts.



REVIEW

PROJECT DESCRIPTION

Acoustic design of Lecture Hall for University

BUILDING OVERVIEW

The auditorium area is 707.5m², the highest floor height is 11.0gm, the lowest floor height is 6.85m, the width is 25.5m, and the length is 30|67m; the stage area is 406.4m², the floor height is 10.29m, the main stage width is 17.8m, and the depth is 12.8m.

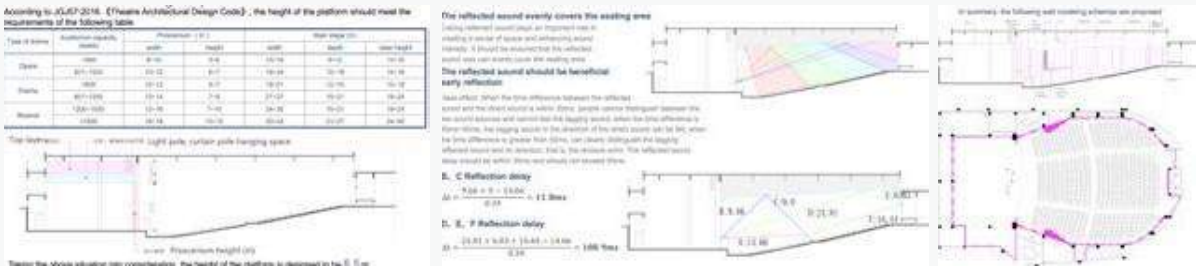
SEAT

726 seats, all pull seats, with total of 26 rows, front and rear elevation difference (total rise) is 4.243m, average rise is 0.17m.

HALL PURPOSE

Multifunctional hall with sound reinforcement system as the main sound source.

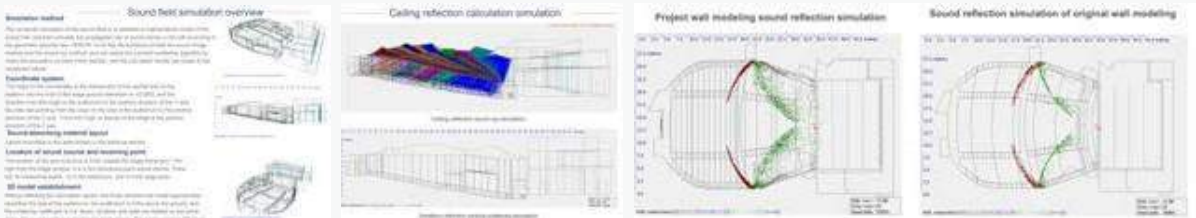
STEP 3: Place interior decoration design, function design, sound design.



STEP 4: 3D modeling of hall.



STEP 5: Simulation of various data analysis.



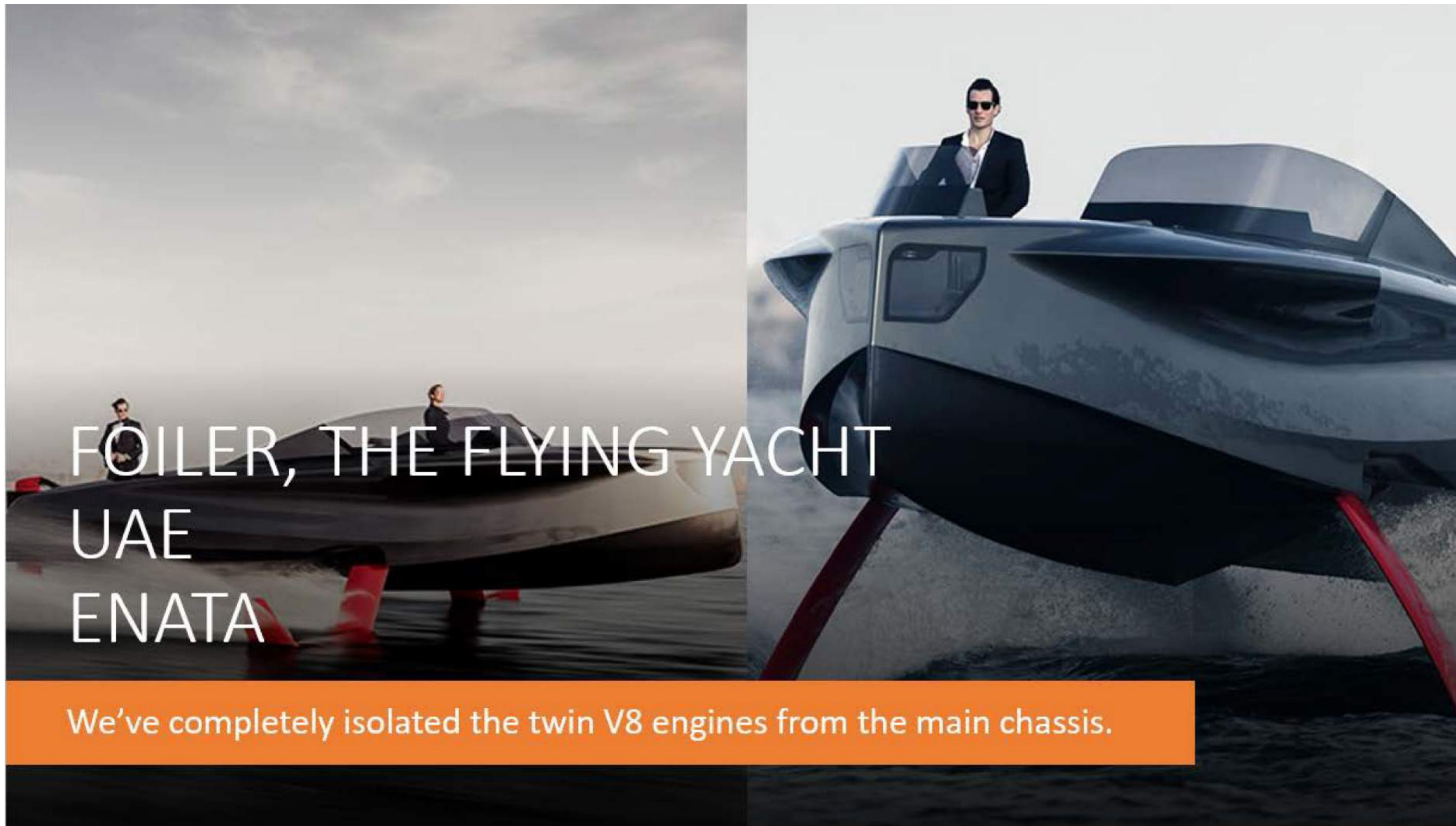
STEP 6: Submit design proposal.





INDUSTRIAL VIBRATION ISOLATION PROJECTS

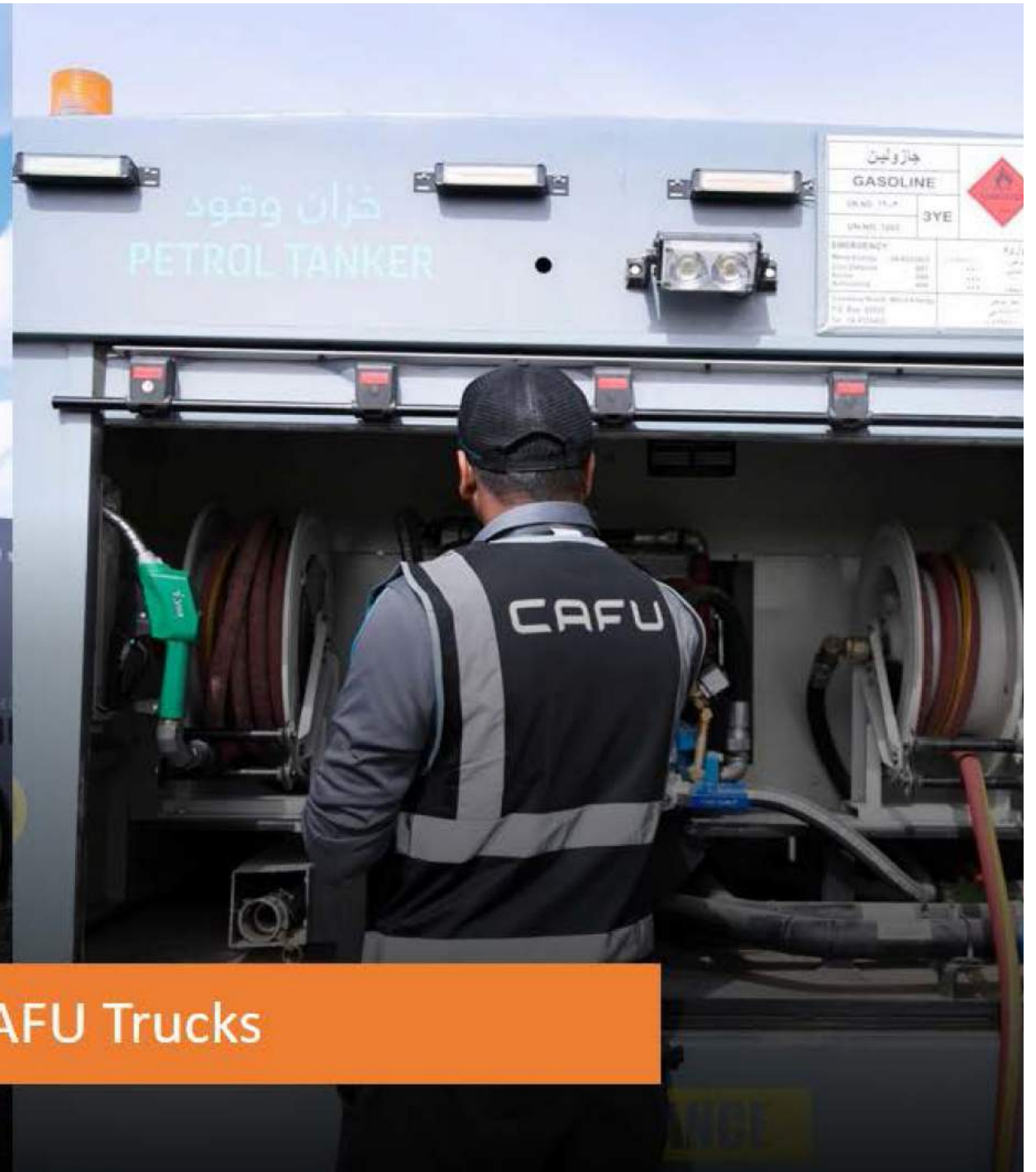





FOILER, THE FLYING YACHT

UAE
ENATA


We've completely isolated the twin V8 engines from the main chassis.



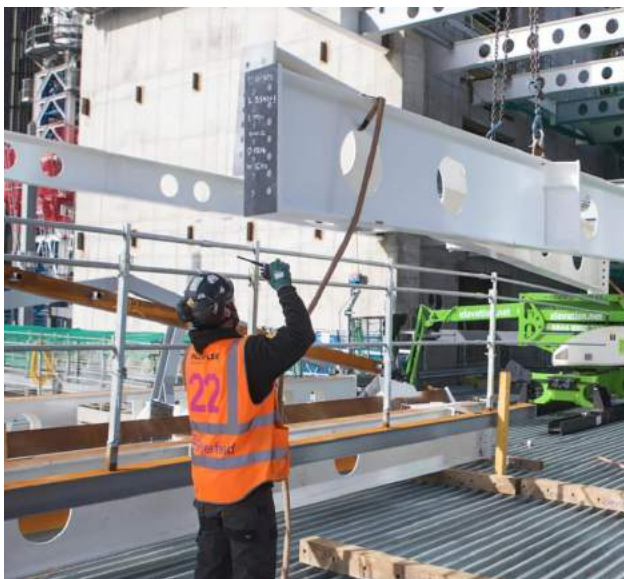
Vibration isolation for the pumps in CAFU Trucks



STRUKTRA® THERMAL BREAK SOLUTIONS



The significance of Structural Thermal Breaks in high rise fire design and building energy performance



Structural Thermal Breaks

Having introduced the Structural Thermal Break Plate to the market back in 2007 we continue to lead on technical advances and certification:

- Our ETA certified STRUKTRA™ plates being the highest performing (as verified by the renowned Fraunhofer Institute) and responsible way to separate structural thermal bridge connections and prevent condensation and heat loss in steel buildings and the building envelope.
- TBF was the first A2 fire rated Structural Thermal Break on the market.
- In supporting the construction industry's transition to net/absolute zero without suppressing architectural ambition, we offer home-grown, PhD backed, advanced thermal modelling services aimed at accurately but pragmatically establishing the effects of thermal bridge connections and working with the project team to optimise the design in order to achieve the desired performance criteria.
- Our ongoing R&D programme recently launched Falcon, a patent pending concrete to concrete thermal break connector aimed at controlling structural dynamics issues such as 'bounce' on long span (up to 4m) cantilevered balconies. Contact us to support you in structurally thermally incorporate it into your building.
- Over the last 15 years we have tuned our service to meet the intense needs of the construction industry, focusing on a friendly, pro-active service to ensure we deliver on time in full and right first time, every time.

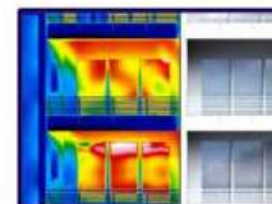
Applications

Structural thermal breaks can be incorporated into any detail where there is a calculated or perceived risk of a thermal bridge occurring.

This is typically in details that occur in building envelopes or where significant temperature difference is likely to occur between compartments, such as highly controlled atmospheric environments (plant or server rooms) or warm high humidity environments, such as breweries or swimming pools.

Examples are:

-) Façade system connections to the primary frame
-) Brise Soleil and canopies
-) Roof plant room columns
-) Balustrading
-) External balconies
-) External Staircases
-) Man-safe systems
-) Sub-structure and basement structure elements
-) External to internal primary building element connections



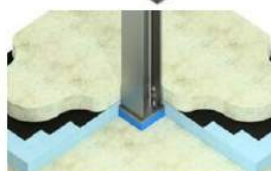
The two principal types of thermal breaks are:

1. **'Mechanical'** – comprising of combinations of structural components and compressive insulating materials used to compensate for the poor thermal performance of the continuous steel elements
2. **'Solid State Structural Thermal Break Plates'** – used in conventional connections as a structural 'spacer' that also has a high thermal performance.

Structural Thermal Breaks

Application examples

-) Column Base Plates / Structural Connections
-) Façade Systems
-) Balconies
-) Steel & Masonry (Linear)
-) Balustrades (Point)



Mechanical

Solid State Structural Plates

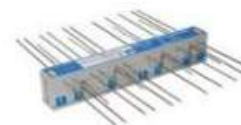
Steel to Steel Connections:



Steel to Concrete Connections:



Concrete to Concrete Connections:



Structural Thermal Breaks



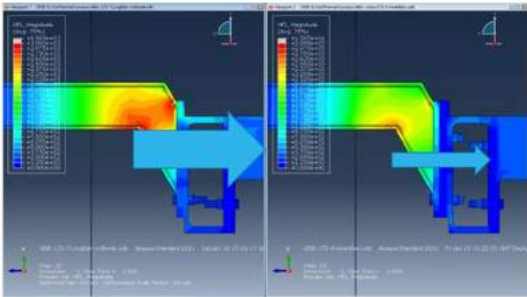
Energy Loss

Thermal Conductivity values:

- Steel 50.0 W/m-k
- Stainless Steel 43.0 W/m-k
- Concrete 2.1 W/m-k
- Farrat TBL 0.292 W/m-k
- Wood 0.22 W/m-k
- Farrat TBF 0.20 W/m-k
- Farrat TBK 0.187 W/m-k
- Soft wall insulation 0.02 W/m-k or so

Heat Loss is quantified using three parameters:

- Plane elements U value (W/m²K) [eg. floors, walls, windows]
- Linear elements ψ value (W/mK) [eg. Interface window/wall opening]
- Localised elements χ value (W/K) [eg. structural element penetrating through wall]



MATERIAL PROPERTIES	FARRAT TBF*	FARRAT TBK	FARRAT TBL
Characteristic Compressive Strength, fck (N/mm², MPa)	355	312	89
Design value for compressive strength, fcd (N/mm², MPa)	284	250	70
Compression Modulus (N/mm², MPa)	5326	5178	2586
Density (kg/m³)	2160	1465	1137
Water Absorption (%)	0.40	0.14	0.48
Thermal Conductivity (W/m-k)	0.200	0.187	0.292
Colour (may vary)	Grey	Amber	Black
Thicknesses available (mm) +	5, 10, 15, 20 & 25	5, 10, 15, 20 & 25	5, 10, 15, 20 & 25
Maximum sheet size (mm)	1000 x 1200	2400 x 1200	2500 x 1250
Temperature resistance (°Celsius)	+550 short term (Max) +300 long term (Max) -120 (Min)	+250 short term (Max) +210 long term (Max) -180 (Min)	+170 short term (max) +110 long term (max) -40 (min)
Thickness tolerances (mm)++	+/- 0.5 (TBF 5) +/- 0.7 (TBF 10) +/- 1.05 (TBF 15) +/- 1.4 (TBF 20) +/- 1.75 (TBF 25)	0 / +0.2 (TBK 5, 10 and 15) 0 / +0.3 (TBK 20 and 25)	0 / +0.25 (TBL 5) +0.2 / +1.5 (TBL 10) +0.3 / +2.5 (TBL 15, 20 and 25)

Structural Thermal Breaks



Design – Fire performance



Structural Thermal Breaks



Design – Fire testing



Figure 8: TBF Sections Post-Firetest

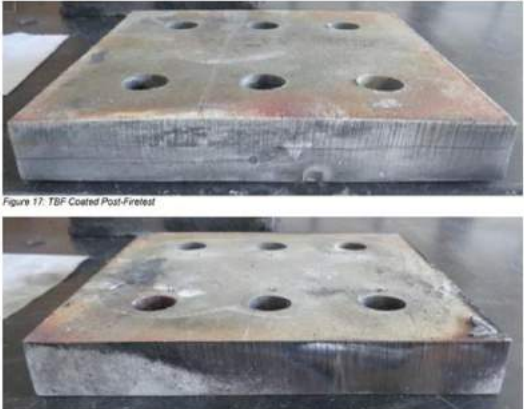


Figure 18: TBL Uncoated Post-Firetest

Structural Thermal Breaks

Design – Fire testing

bre

www.bre.co.uk



Fire Behaviour		Smoke Production		Flaming Droplets	
A2	-	s	1	r	d 0

I.e. A2 – s1, d0

Reaction to fire classification: A2-s1, d0

SIGNED

Matthew Dale
Principal Certification Engineer
Technical Department

APPROVED

S Deeming
Principal Engineer
Technical Department
on behalf of warringtonfire

warringtonfire
Proud to be part of BRE members

Warringtonfire
Holmesfield Road
Warrington
WA1 2DS

T: +44 (0)1925 655 116
Info: warrington@warringtonfire.com
warringtonfire.com

Title:

CLASSIFICATION OF REACTION
TO FIRE PERFORMANCE
IN ACCORDANCE WITH
EN 13501-1:2018.

Notified Body No:

0833

Product Name:

"Farrat TBF"

Report No:

WF 424837

Issue No:

1

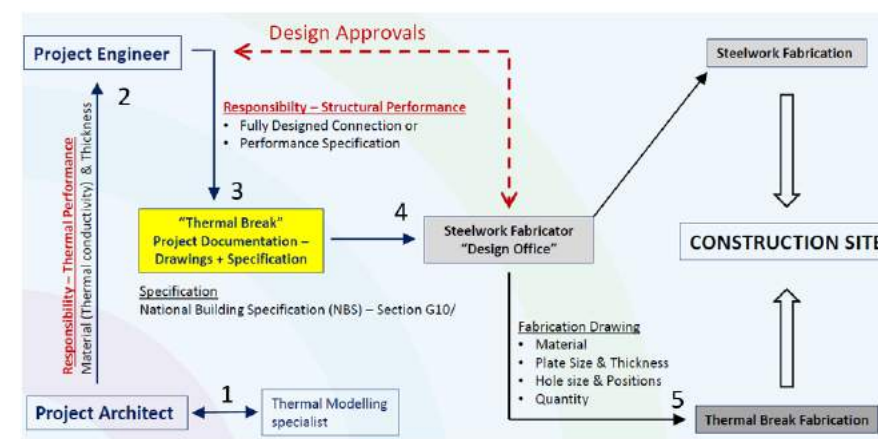
Prepared for:

Farrat Isolevel Ltd
Balmoral Road
Altrincham
WA15 8HJ



Structural Thermal Breaks

Procurement – Steel Buildings





FIT-OUT AND DECORATIVE ACOUSTIC ISOLATION SOLUTIONS





SOUND INSULATION

Sound insulation/proofing and sound absorption are two different concepts. In modern building structures, the Sound Insulating/proofing materials are dense and heavy, while the Sound Absorbing materials are porous and light. The main function of sound insulation/proofing materials is to block the sound from entering or leaving a space, whereas sound absorbing material is used to improve the sound acoustics in a space such as reducing echo and reverberations.

Sound Insulation or materials that are used to block sound are placed inside the wall or ceiling. Sound Absorbing material can be applied as on the wall or ceiling itself and or designs and colors allow them to integrate into the overall interior design as a decorative feature.

There are three factors to generate and transmit the noise: Noise source, propagation path and receiver. Most adults can hear the noise with frequency range from 100HZ to 4000HZ. The frequency of conversation and common noise in the buildings is basically 125HZ to 4000HZ. The wall sound reduction STC refers to the sound insulation capability of wall to the noise within the range of 125 HZ TO 4000HZ.

DECIBEL

Decibel (DB) is a unit used for expressing the sound relative intensity. Physically, the defined reference acoustic pressure($P_0=2 \times 10^{-5} \text{pa}$) corresponds to ODB. If the noise pressure is P, the noise decibel is equal to $20\log(P/P_0)$. So decibel is a designated unit. Similar to an earthquake's magnitude, the higher the number is on the scale the more intense the noise will be.

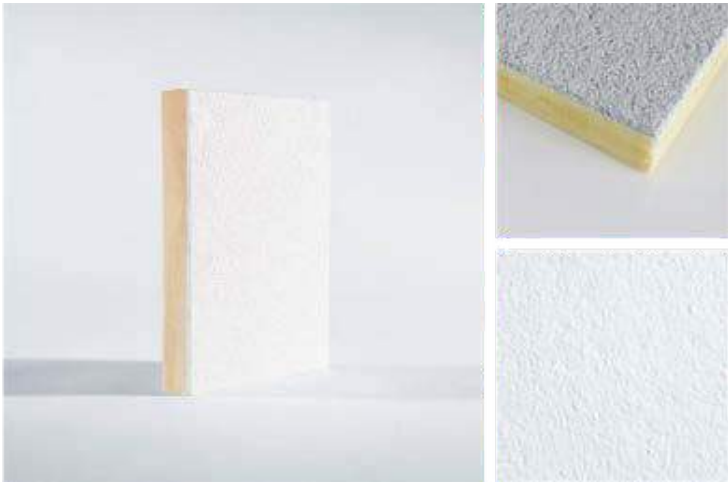
SOUND REDUCTION INDEX

The sound insulation function of a material is the capability to reduce the noise intensity. If the sound of one room is 75DB, the sound transmitted to the adjacent room through the wall will be reduced to 40DB. Therefore the sound insulation function of the wall is 35DB.

AcousticArmor - ACOUSTIC BOARDS

PERFORMANCE ADVANTAGE

- 1、Innovative sound-absorbing surfaces combine for superior acoustic comfort.
- 2、Large area seamless connection for flat, curved, domed, or arched surfaces.
- 3、Available in two standard finishes, Plus smooth white and Pro rough white, and RAL color custom port for a variety of installation options, suitable for new construction and renovation works.
- 4、No formaldehyde, no VOC, mouth average light reflectivity L value is 0.86, No mold growth is insoluble in water and mold, moisture proof andmildewproof mouth Class A fire rating.



Thickness	NR	Class-C	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz
12mm PANEL	0.95	A	0.20	0.8	01.0	01.0	01.00	0.95

SPECIFICATIONS

Name	AcousticAmour acoustic board
Basic materials	Glass beads and fiberglass wool
Standard Size	600*1200mm 1200*1200mm
Thickness	30mm / 40mm / 68mm
Color	white (finish color painted by local worker) or RAL color
Fireproof standard	A2-s1
Eco standard	E1
Moisture resistance	Up to 95% RH



PRODUCT INTRODUCTION

AcousticArmor Pro is a kind of acoustic board with enhanced performance. With maximum compressive strength and higher durability, smooth and seamless sound-absorbing, suitable for walls and ceilings. Double-sided reinforced sound-absorbing fiberglass felt, with dedicated joint tape and screw treatment, forms a seamless void-free smooth finish, forming a large area of overall effect integrity. Efficient acoustic technology. The surface pursues comfortable acoustic environmental quality. With A variety of surface colors, and as high as NaC 0.9 sound-absorbing coefficient, flame retardant performance A grade.

SIMPLE AND CONVENIENT INSTALLATION SCHEME

AcousticArmor FOR SUSPENSION SOLUTIONS

Our acoustics system has a variety of suspension solutions, either directly attached to the substrate, or light steel keel installation, or through the suspension kit layout to the lower level of the ceiling that cannot be normal reached. It not only provides the technical conditions for the best sound characteristics in the room. The whole product system can be custom designed.

SILENT ACOUSTIC



AcousticArmor DIRECTLY

Acoustic systems can be directly applied to a variety of substrates, creating economical and seamless solutions.

AcousticArmor SUSPENSION

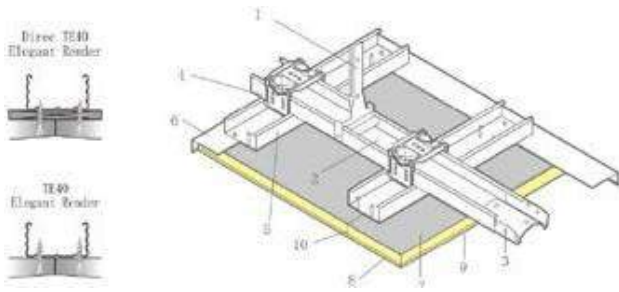
Free-hanging sound-absorbing acoustic panels are a simple and quick way to add acoustic attenuation to any size space. It is easy to install and flexible.

AcousticArmor KEEL INSTALLATION

Hot dip galvanized light steel keel mounting provides excellent installation and flexibility.

SYSTEM STRUCTURE

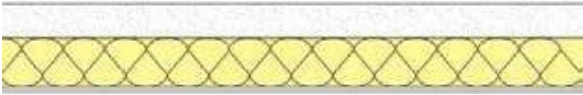
1. Light steel keel hanging parts.
2. Bearing light steel keel
3. Metal auxiliary keel fittings
4. Light steel auxiliary keel grip
5. Light steel auxiliary keel
6. Metal edge trimmers
7. Paper-faced gypsum board calcium silicate board
8. Crystals nad bead plate
9. Sound permeable paint
10. Joint putty and special joint belt



INSTALLATION

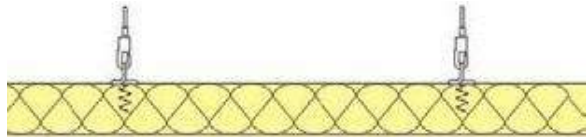
01. Installed directly.

AcousticArmor Board mounts directly onto gypsum board, concrete or wood substrates using a rugged adhesive or mechanically secured with special gasket screws.



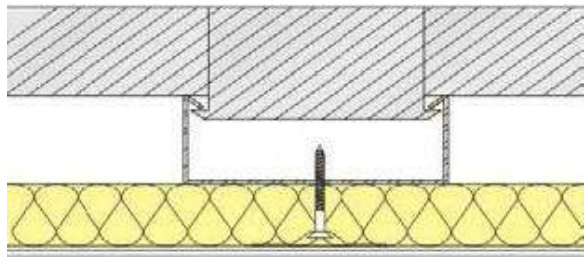
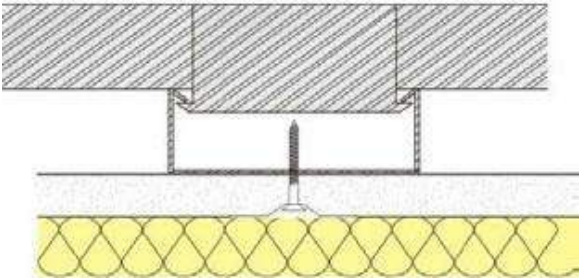
02. Hanging installation

Innovative "spiral spring hold" kit mounting. AcousticArmor components can effectively install anchor points on the panel. The helical spring anchor is simply mounted by twisting clockwise into the acoustic plate. Each helical spring anchor is equipped with 2 m suspension wire, regulator, and fixed expansion bolt.



03. Light steel keel mounting

AcousticArmor Board mounts directly or indirectly on light steel keel systems, such as paper-facing gypsum board, calcium silicate substrate, using a rugged adhesive or mechanically secured with special gasket screws.



ACOUSTIC CEILING SOLUTIONS

AcousticArmor CEILING WOOD GRILL



Product name:

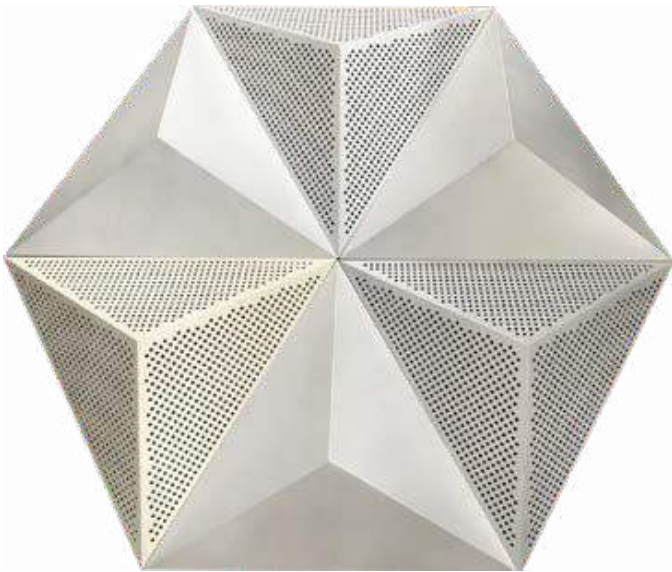
- Solid Wood liner Ceiling (America, Europe)
- Solid Wood Grill (Europe)
- Wood Slat Ceiling (Spain)
- Wooden Acoustic Hanging Baffles(Columbia)

SPECIFICATIONS

Name	CEILING WOOD GRILLERS/BAFFLES
Structure	Solid wood strips combined
Finished	Wooden color or painting
Model	See following or drawing
Size(W*L*H)	600*1200*35mm or customized



PERFORATED 3D TRIANGLE ALUMINUM CEILING TILE













Application

Industrial and civil buildings.
Interior decorative panel, partition panel;
Airport, bus station, museum, opera house;
Exhibition Hall, shopping center;
Conference Hall, office, bar and etc.

SPECIFICATIONS

Name	Perforated 3D Triangle Aluminum Ceiling Tile
Shape	Triangle
Finished	Powder Coating, Spray Painting
Color	White, grey, RAL color,etc
Thickness	0.6-2.0mm
Size(W*L*H)	600*600*30mm or customized
Patterns	Round 1.5mm Stagger Perforated or customized
Edge	Beveled / Right Edge
Function	Fireproof Board Ceiling, Soundproof Ceiling, Integrated Ceiling, Heat Insulation Ceiling, Moisture-Proof Ceiling, Mould-Proof Ceiling, Waterproof Ceiling

WALL INSTALL SYSTEM

 <p>Main carrier of black square groove No. PGFL01 Material: Grade AA aluminum alloy Processing of surface: Anodized Powder coating Height: 30mm Length: 3000mm Standard thickness: 1.5mm</p>	 <p>Vice carrier of black square groove No. PGFL02 Material: Grade AA aluminum alloy Processing of surface: Anodized Powder coating Height: 25mm Length: 3000mm Standard thickness: 1.5mm</p>	 <p>Carrier fitting of black square groove No. PGFL03 Material: Steel Processing of surface: Zincification Length: 100mm Standard thickness: 1.5mm</p>	 <p>Carrier fitting of black square groove No. PGFL04 Material: Steel Processing of surface: Zincification Height: 65mm Standard thickness: 1.5mm</p>
 <p>Main carrier No. PG501 Material: Steel Processing of surface: Zincification Height: 38-50mm Length: 3000mm Standard thickness: 1.2mm</p>	 <p>Main carrier fitting No. PG5012 Material: Steel Processing of surface: Zincification Height: 95-105mm Standard thickness: 1.2mm</p>	 <p>Main carrier fitting No. PG5011 Material: Steel Processing of surface: Zincification Height: 4-53mm Standard thickness: 1.0mm</p>	 <p>M8 bar No. PG0010 Material: Steel Processing of surface: Zincification</p>
 <p>W-shaped angle of edge No. PGW001 Material: Grade AA aluminum alloy Processing of surface: Anodized powder coating Specifications: 25mm x 25mm x 25mm Length: 3000mm Standard thickness: 0.8mm</p>	 <p>L-shaped angle of edge No. PGL001 Material: Grade AA aluminum alloy Processing of surface: Anodized powder coating Specifications: 25mm x 25mm Length: 3000mm Standard thickness: 0.8mm</p>		

Accessories

Commercial Ceiling Tiles were derived from Germany with advanced & unique production technology. The mold is professionally designed, all panel surfaces are evened out to have distinct edges & lines.

Lay-in Square Ceiling Installation Diagram

- ① M8 Rod Hanger

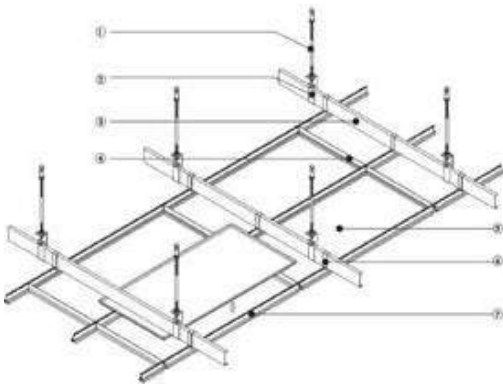
② Main Carrier Hanger

③ Main Carrier

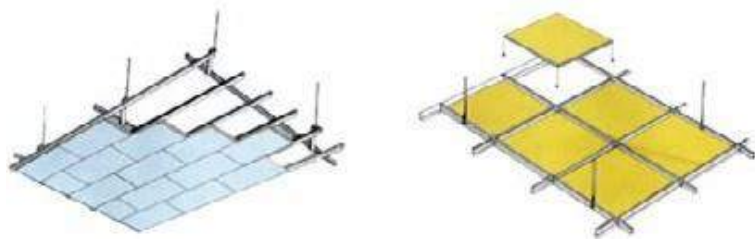
④ Black Square Grooved Vice-carrier
- ⑤ Flat Lay-in Square Ceiling

⑥ Hanger for Black Square Grooved Carrier

⑦ Black Square Grooved Carrier



AcousticArmor FIBERGLASS CEILING PANEL



SPECIFICATIONS

Name	AcousticArmor Fiberglass Ceiling Panel
Basic materials	Torrefaction compound high density fiberglass wool
Finished	Painted, spray, dots
Color	15mm, 20mm, 25mm for flat fiberglass panel 30mm, 40mm, 50mm or customized for 3D fiberglass panel
Size(W*L*H)	595*595mm 600*600mm 600*1200mm or customized
Patterns	Square, Tegular,Insert,3D model



AcousticArmor SLATTED WOODEN ACOUSTIC PANEL



Application

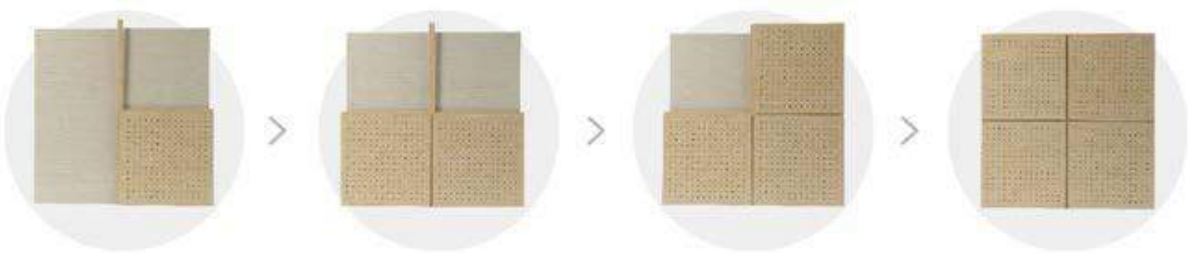
Commercial premises and offices
Schools and educational buildings
Call centers and reception areas
Theatres
Auditoriums
Conference Centers
Sports Centers
Recording Studios
Cinemas
High traffic public areas

SPECIFICATIONS

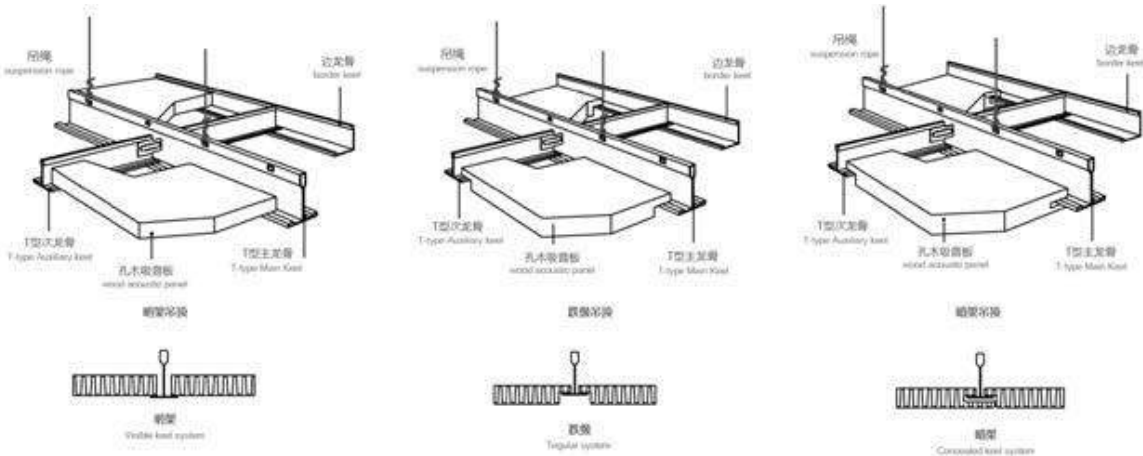
Name	AcousticArmor Slatted Wooden acoustic panel
Shape	Square or customized
Finished	Melamine / veneer / HPL
Thickness	21mm / 24mm / 27mm
Size(W*L*H):	608*1210mm
Patterns	9mm polyester + MDF strips
Function	E1 standard



WOOD SLAT INSTALL METHOD



CEILING INSTALL SYSTEM



BASE MATERIALS

MDF SERIES



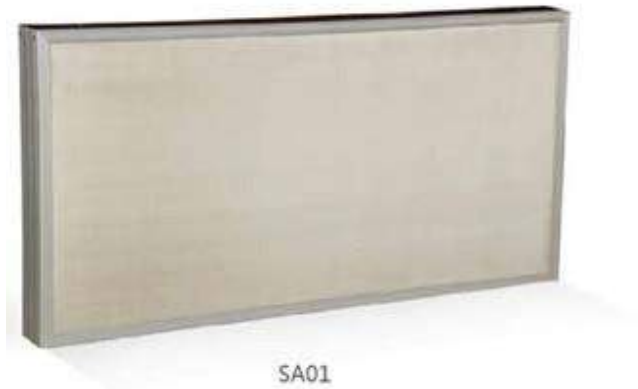
MGO COMPOSITE FIRE-RESISTANT SERIES



NON-FORMALDEHYDE SERIES



SilentFelt SUSPENDED SOUND ABSORBER SA SERIES

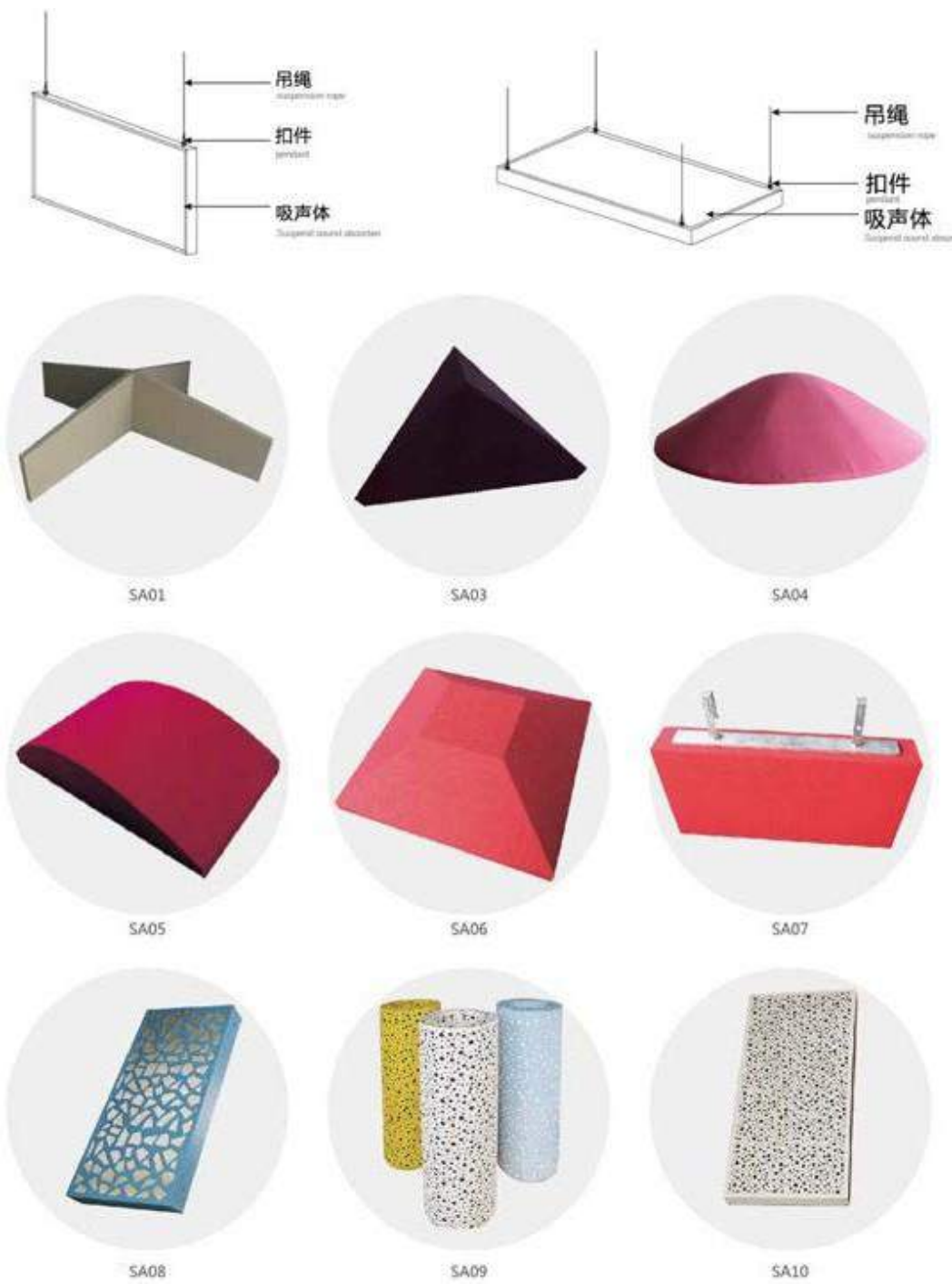


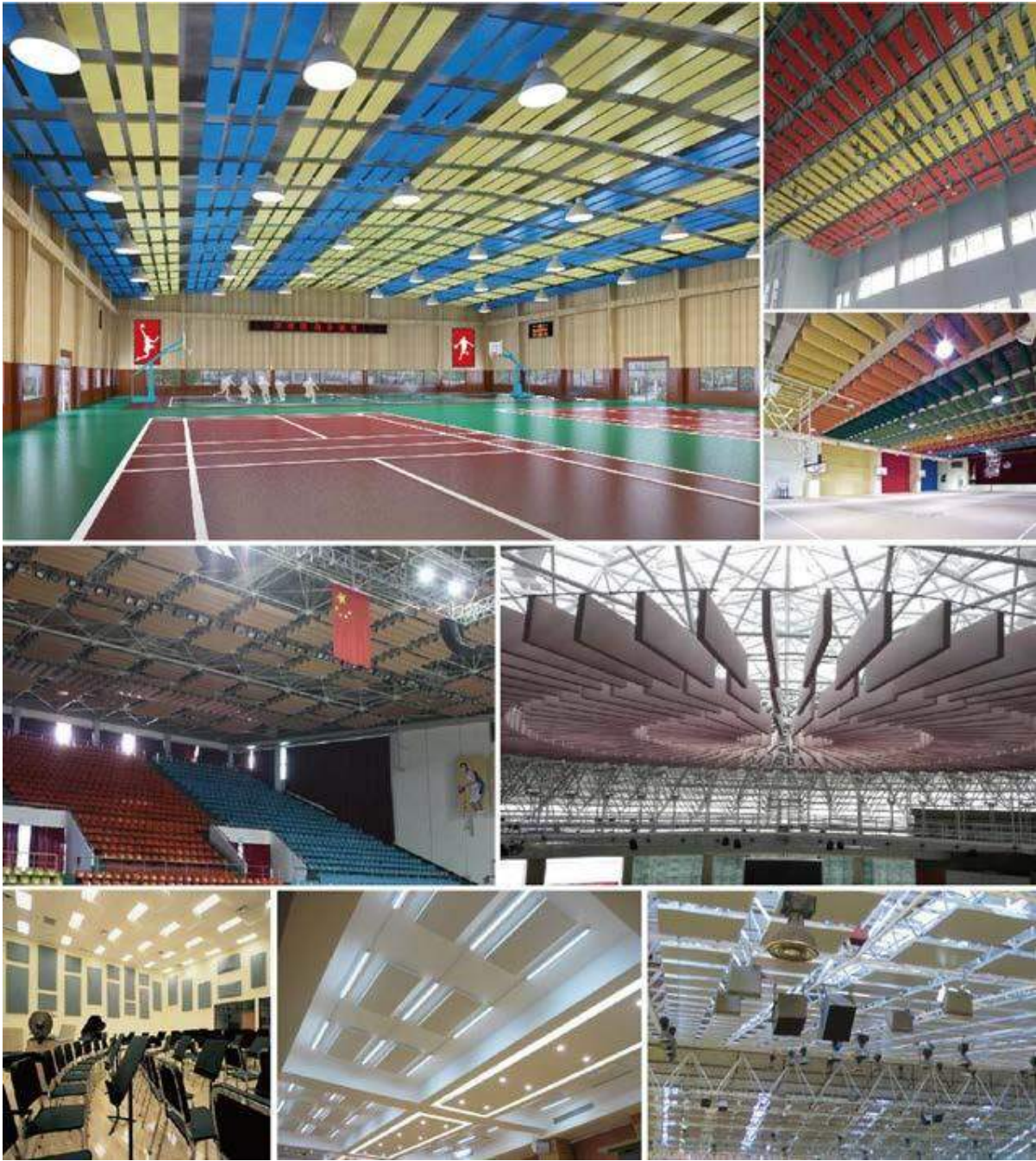
PRODUCT INTRODUCTION

These places; such as Gymnasium, opera hall and dance hall will use suspended sound absorber for architectural acoustic design. SilentFelt Suspended Sound absorber is a high sound absorbing acoustic material which can be hanged from the ceiling. It is always in a vertical hanging or horizontal hanging formation. SilentFelt sound absorber has double the acoustic performance of competitors at 30 % - 45 % of the top area covered. It is also used in industrial factories to reduce noise.

SPECIFICATIONS

Name	Silentfelt Cuboid suspended sound absorber
Structure	Base Materials, Finish, Frame
Base materials	80kg/m³ and 96kg/m³ Fiberglass Acoustic Board.
Finish	Fire-resistant Fabric / Leather / Fiberglass Cloth
Border	Aluminum Alloy / Resin / Wood
Model	SA01 50 / SA01 100 / SA01 150
Weight	5.5kg/m³ / 11.5kg/m³ / 13.5kg/m³
Common Size	W 600/1200mm * L 600/1200/2400mm * T 50/100/150mm and other customized
Fire-resistant	Fire-resistant panels can reach class A under ASTM-E84 standard, Class 1 under BS476 part 7 standards.
Eco-friendly	Environmental protection standard. The product contains little formaldehyde with natural wood fragrant. Non-formaldehyde is also available.
Application	Stadium, multi-functional hall and some big space.





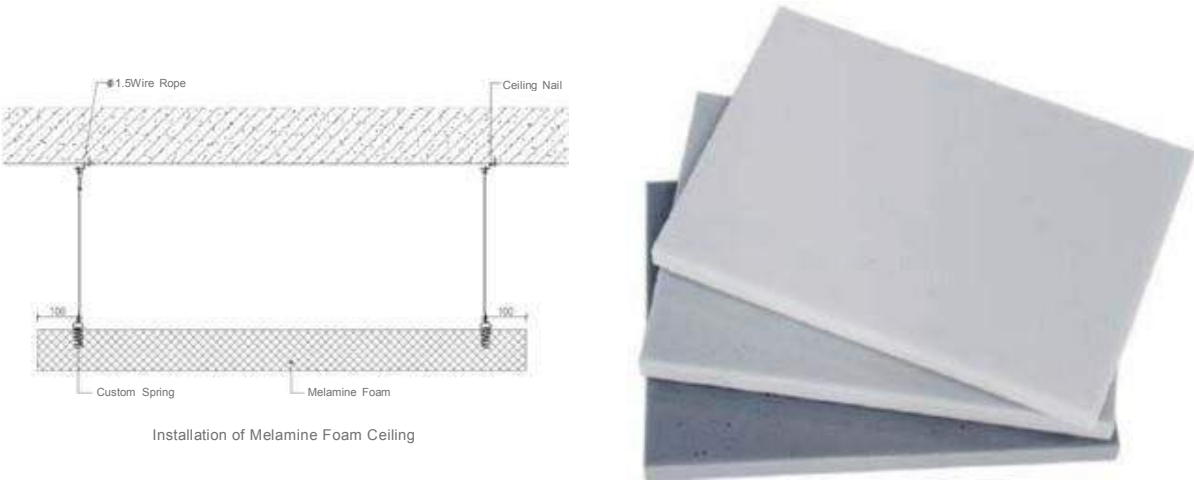
AcousticArmor SOUND ABSORBING COTTON BAG



SPECIFICATIONS

Installation position	Installed behind the sound absorbing material as filling material
Color	White or black
Structure	Owens Corning wool, hydrophobic & formaldehyde free white glass wool wrapped with 100g--200g/m2 white glass fiber cloth.
Fire resistance	Class A
Size	Length: 1200mm/2400mm width: 600mm/1200mm Thickness: 25mm/50mm/80mm/100mm (Tolerance: length±2mm, width±1mm, thickness±1mm)
Applicable place	It is suitable for strengthening the sound absorption performance in the back cavity of various sound absorption materials, such as grooved aluminum acoustic panel, grooved acoustic panel, perforated acoustic panel, perforated aluminum panel and crystal-sand acoustic panel etc.

AcousticArmor MELAMINE FOAM

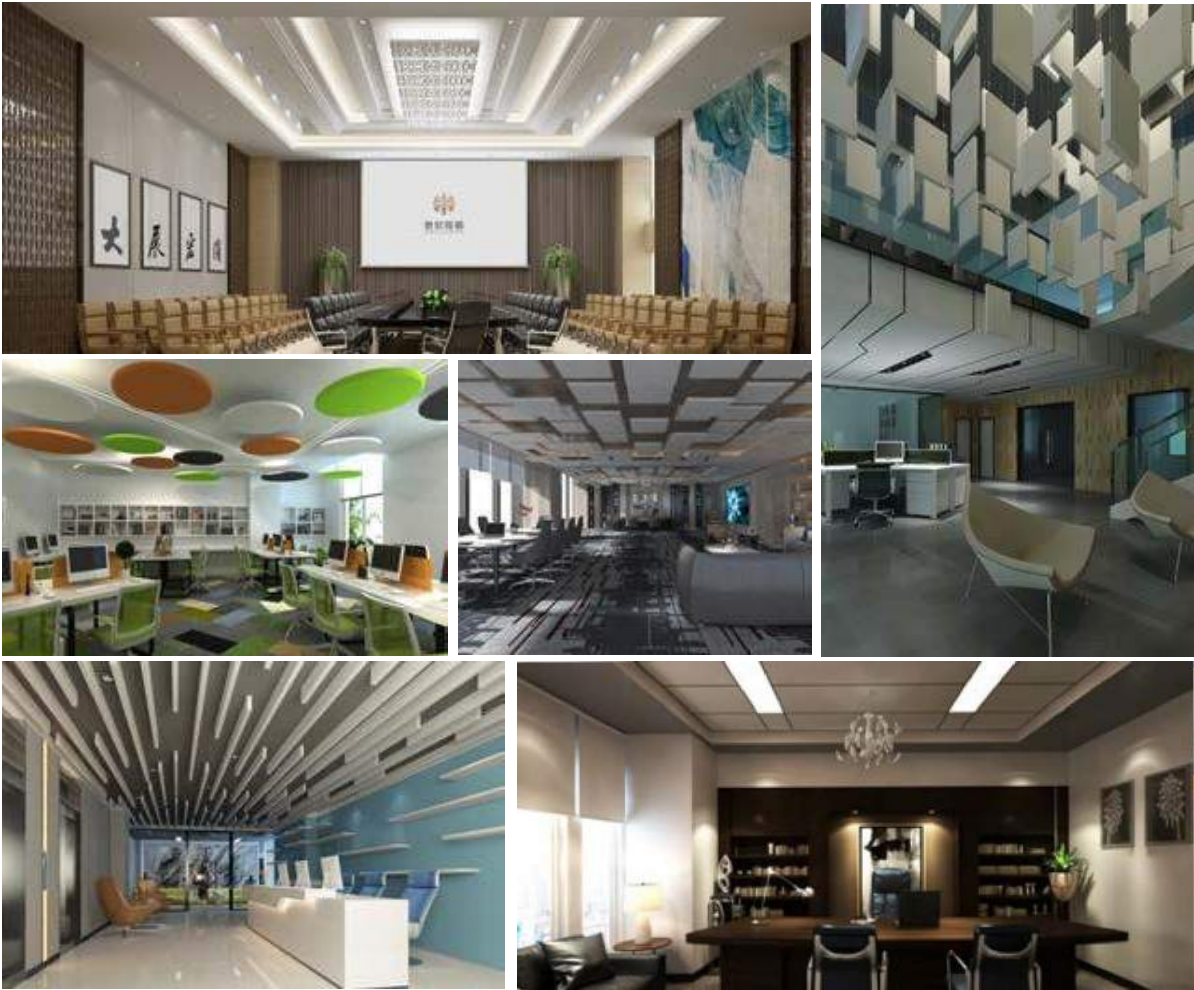


PRODUCT INTRODUCTION

Melamine foam has high porosity, this allows it to consume and absorbed the soundwave deep inside the foam which will then convert the sound energy into kinetic and heat energy through internal friction. It is used for indoor sound absorption and noise reduction, no dust or harmful gas release during construction. It is used inside the resonant structure to improve the full frequencies and sound absorption.

SPECIFICATIONS

Specification	Length: 600mm/1200mm/2400mm width: 600mm/1200mm thickness: 25-100mm (tolerance: length±2mm, width±1mm, thickness±1mm)
Density	8-10kg/m³
Applicable places	Gymnasium, theatre, auditorium, church, recording room, studio, multi-function hall, home theater, etc.
Installation accessories	Light steel keel, 12mmplywood batten, special clip piece



ADVANTAGE

- (1) Excellent sound absorption performance: 25mm melamine foam is similar to 50mm 32kg/M3 glass wool on the sound absorption performance.
- (2) It can be processed into any shape of sound absorber, and its work ability and construction environment are much better than traditional foam products.
- (3) It is made of high temperature foaming, with unique chemical stability. Its sanitation can meet the requirements of food hygiene level. It has resistance to chemical reactions, can also be used for household cleaning.
- (4) It's green product, environmental protection, non-toxic and formaldehyde free.
- (5) Compared with other sound absorbing cotton boards: it has better sound absorption performance, no dust pollution and no harm to human body.



ACOUSTIC WALL SOLUTIONS



AcousticArmor GROOVED WOODEN ACOUSTIC PANEL GA SERIES



PRODUCT INTRODUCTION

The panel has excellent noise reduction and sound absorption performance, especially for medium and low frequencies. Meanwhile, the natural wood grain and diverse finish choice provide good visual effects for everyone.

SPECIFICATIONS

Name	AcousticArmor Grooved Wooden Acoustic Panel GA SERIES
Structure	Base Materials / Finish / Back
Base materials	Standard / Eco-friendly / Fire-resistant / Moisture-proof / A Grade Non-Inflammable / Composite Fire-resistant / Non-formaldehyde Solid Wood / Other customized
Finish	Veneer/Melamine/Hpl Fire-proof/Pu Painting
Back	Black Fire-resistant Sound Absorbing Fleece
Model	GA59-5 / 40-3 / 28-4 / 18-3 / 14-2 / 13-3 / 9-2 / 5-3 / Other customized models
Common size	W 133mm * L 2440mm * T 15/18/12mm



FEATURES

Eco-friendly: All materials meet the national and international environmental protection standards. The product contains a little formaldehyde with natural wood fragrance. Non-formaldehyde is also available.

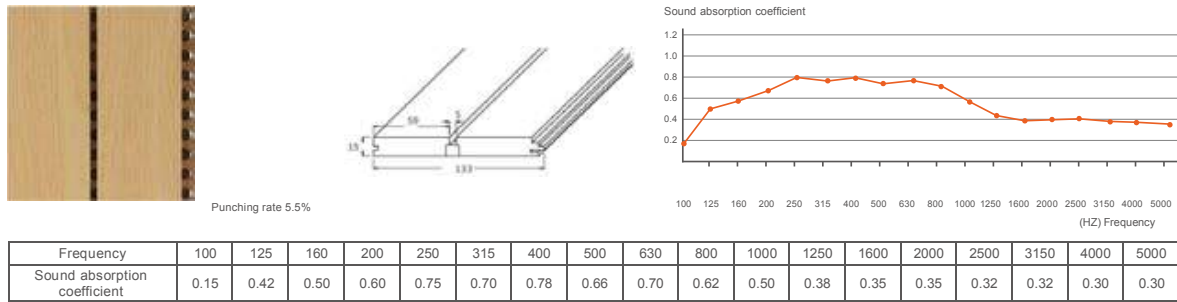
Fire-resistant: Fire-resistant panels can reach class A under ASTM-E84 standard, Class 1 under BS476 part 7 standards.

Easy installation: Standard module product, could be installed easily with keel and fastener.

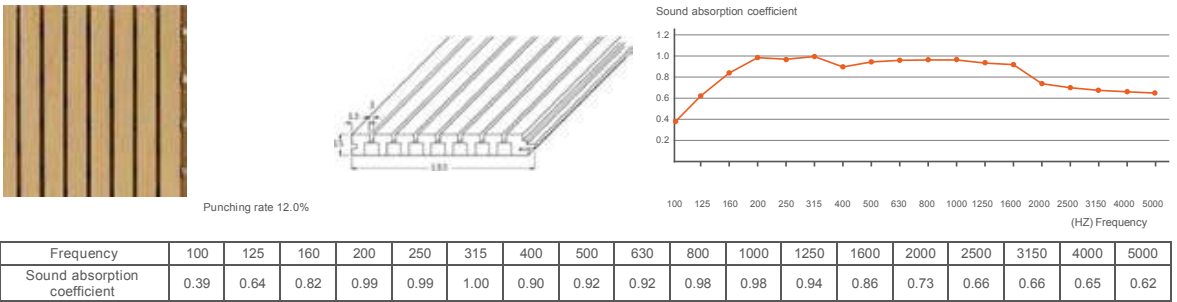
APPLICATION

Multifunctional Hall, Conference Room, Opera Hall, cinema, Auditorium. Hotel. Tv Station, Music Hall, Piano Room. Gymnasium, or ny place which has high acoustic requirements.

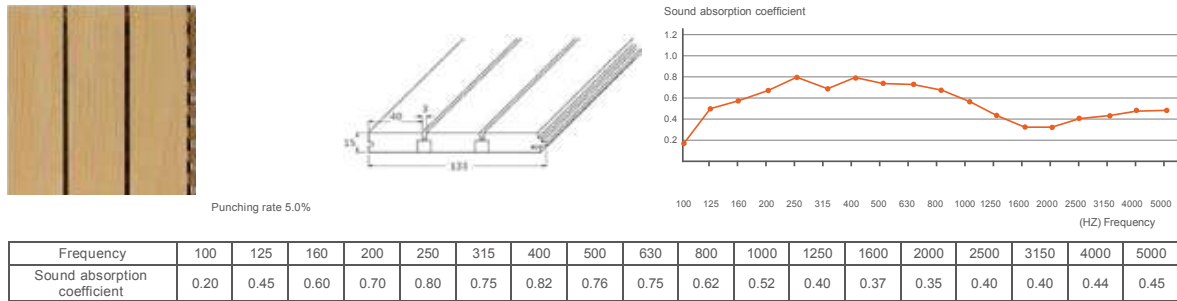
59-5



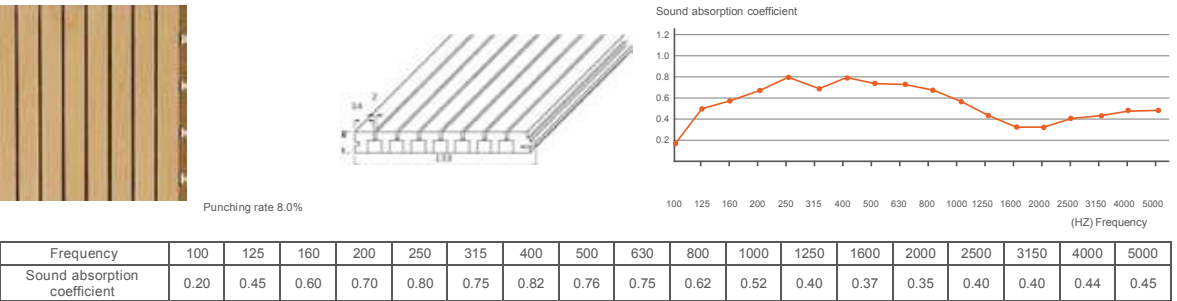
13-3



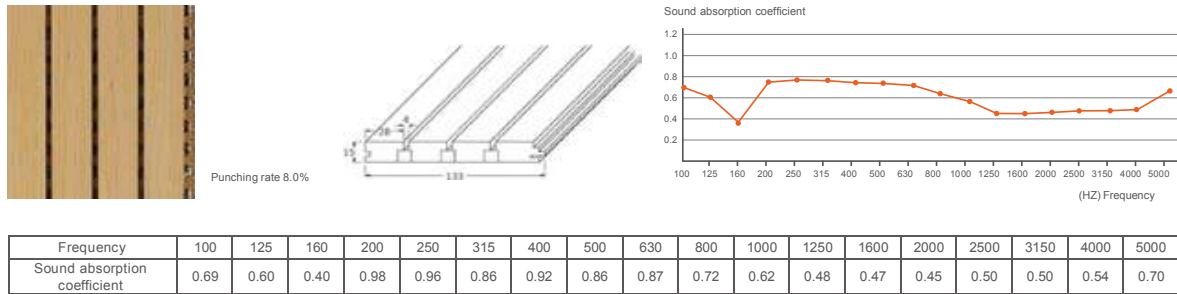
40-3



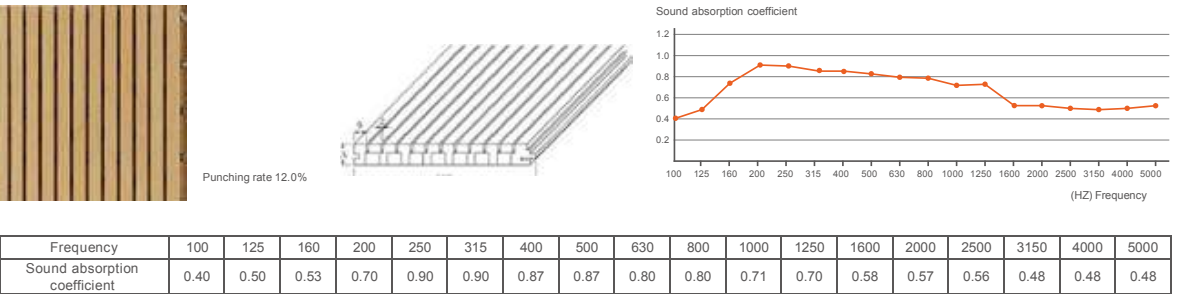
14-2



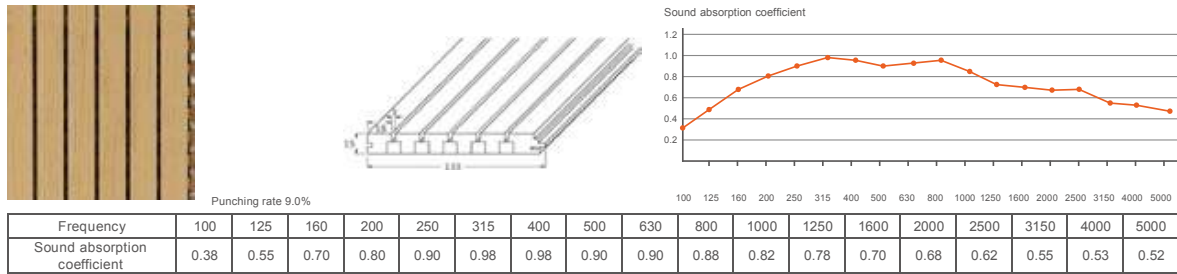
28-4



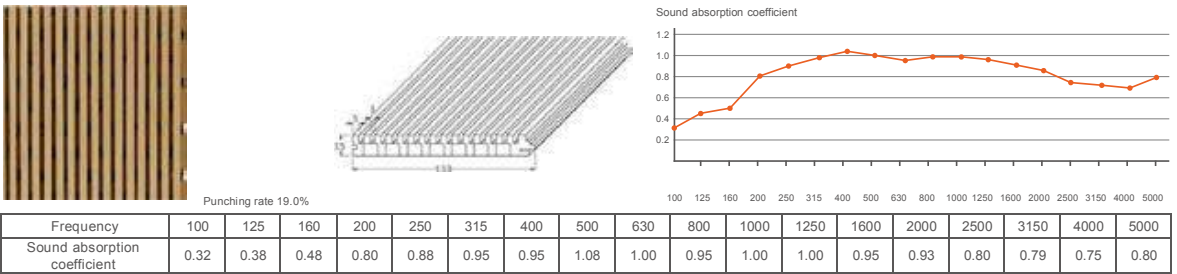
9-2



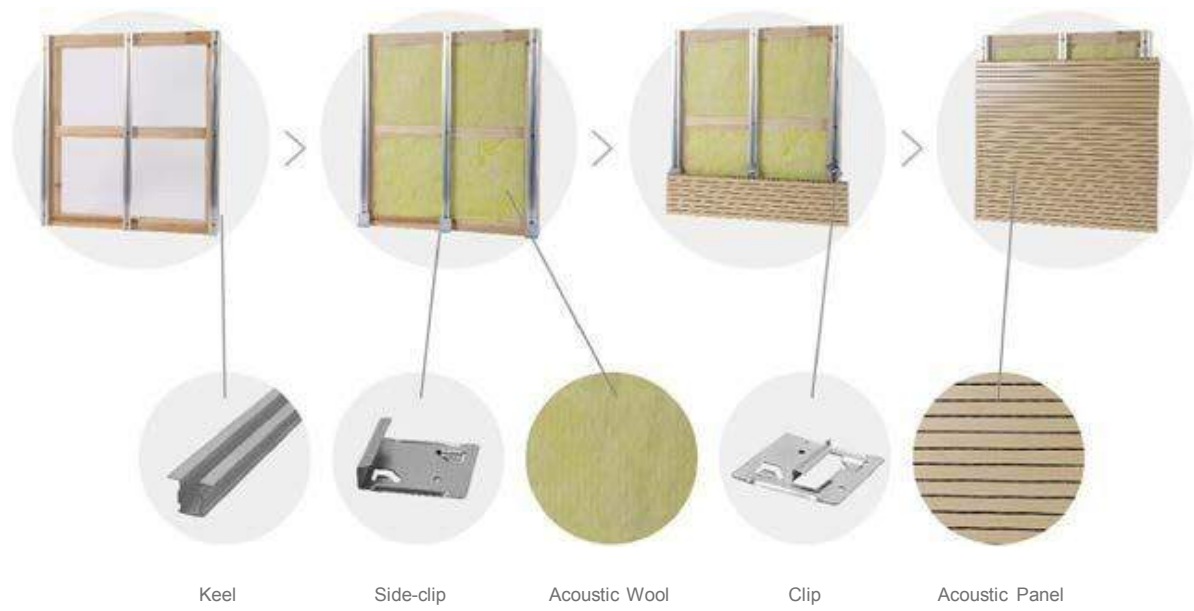
18-3



5-3



WALL INSTALATION METHOD



PREPARATION WORK BEFORE INSTALL AND REQUIREMENT IN INSTALL PLACE.

01

24 hours before installation, the environment should match the requirement in temperature and humidity in. The lowest temperature is 15 degree and humidity range within 40%-60%.

03

Install the wood keel or steel keel as per design drawing and construction draw. The configuration for the keel should be the same as the wood acoustic panel. The recommended distance is 300-600mm.

02

Open the carton at least 48 hours before installation.

04

Fill in the fiberglass wool in the gap of keel as per design.



STEEL KEEL AND CLIPS METHOD

1. Fix keel 001 on the wooden battens by gun nail and screw.
2. Clip 002,003 insert into keel 001, pls make sure the wood acoustic panel be fixed
3. install the panels from left to right and from bottom to top.
4. To adjust the panels, pls adjust the clips 002, 003.

AcousticArmor PERFORATED ACOUSTIC PANEL PA SERIES



PRODUCT INTRODUCTION

The structure of hole perforation in front and back is based on scientific calculation and acoustic principle. Wooden perforated acoustic panel has high sound absorption performance in low and middle frequency. It has various finish color and materials choice to meet customers diversified request for acoustic and decoration and provide safety promise for environment protection and fire-resistant.

SPECIFICATIONS

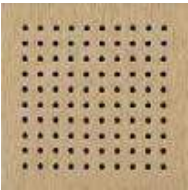
Name	AcousticArmor Perforated Acoustic Panel
Structure	Base Materials / Finish / Back
Base materials	Standard / Eco-friendly / Fire-resistant / Moisture-proof / A Grade Non-inflammable / composite Fire-resistant / Non-formaldehyde Solid Wood / Other Customization
Finish	Veneer / Melamine / Hpl Fire-proof / Pu Painting
Back	Black Fire-resistant Sound Absorbing Fleece / Soundex Sound Absorbing Fleece
Model	PAE 16/6/15, E 16/8/15, V 32/6/15, V 16/6/15, E 16/3-10/15, V 32/3-10/15, E 8/1-12/15, E 5/1-12/15, Another customized model
Common size	W 600mm/1200mm * L 600/1200/2400mm * T 15/18/12mm
Eco-friendly	All materials meet the national and international environmental protection standard. The product contains little formaldehyde with natural wood fragrant. Non-formaldehyde is also available.
Fire-resistant	Fire-resistant panels can reach class A under ASTM-E84 standard, Class1 under BS476 part 7 standards.



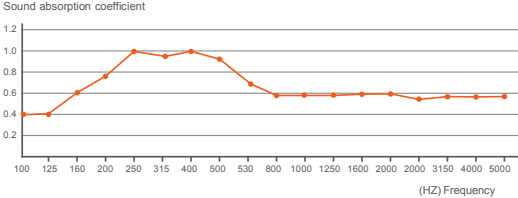
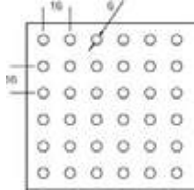
APPLICATION

Multifunctional hall, conference room, opera hall, cinema, auditorium, hotel, TV station, Music hall, piano room, gymnasium, villa, or any place which has high acoustic request.

AAE16/6/15



Punching rate 11%

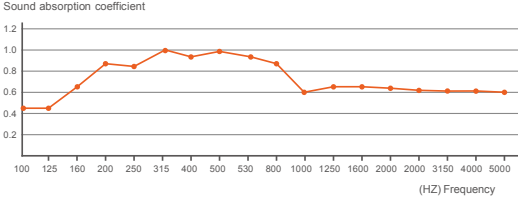
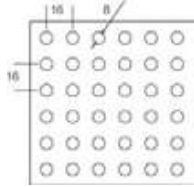


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.40	0.40	0.60	0.82	0.79	1.00	0.98	1.00	0.90	0.65	0.58	0.60	0.60	0.60	0.58	0.59	0.59	0.59

AAE16/8/15

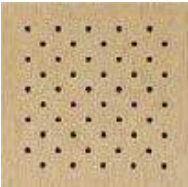


Punching rate 20%

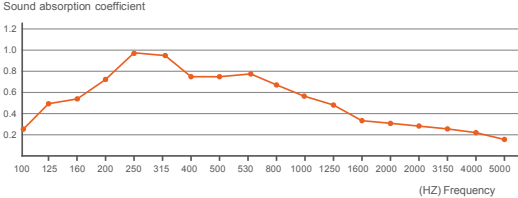
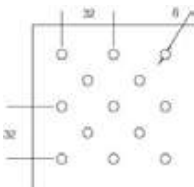


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.42	0.42	0.65	0.85	0.82	1.00	0.98	1.00	0.95	0.75	0.60	0.70	0.70	0.68	0.62	0.62	0.61	0.60

AAV32/6/15



Punching rate 6%

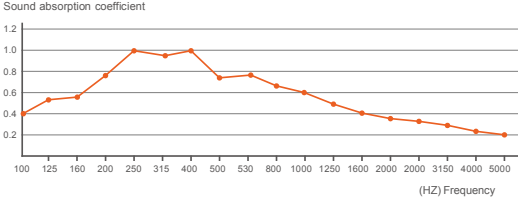
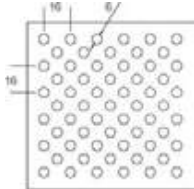


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.28	0.53	0.57	0.76	0.86	0.98	0.95	0.78	0.75	0.77	0.64	0.58	0.46	0.38	0.36	0.28	0.23	0.18

AAE16/6/15



Punching rate 22%

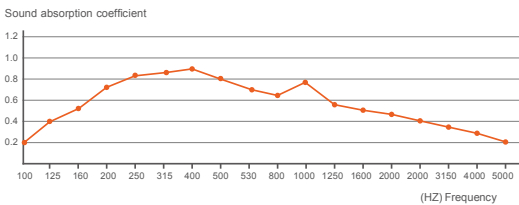
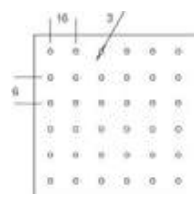


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.30	0.55	0.59	0.78	0.88	1.00	0.97	0.80	0.77	0.79	0.66	0.60	0.48	0.40	0.38	0.30	0.25	0.20

AAE16/3-10/15



Punching rate 3%

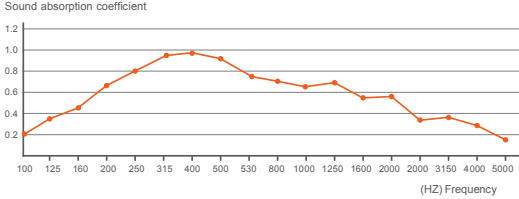
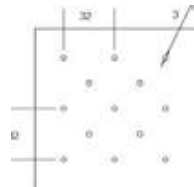


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.20	0.40	0.50	0.70	0.83	0.97	0.98	0.90	0.80	0.70	0.67	0.78	0.58	0.48	0.40	0.38	0.28	0.20

AAV16/8/15



Punching rate 1.4%

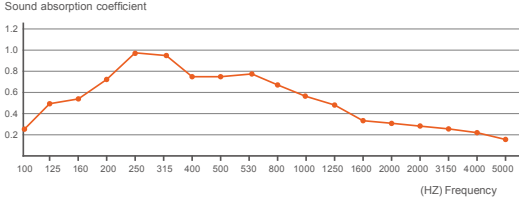
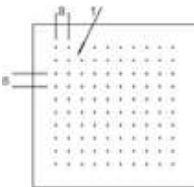


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.18	0.38	0.48	0.68	0.81	0.95	0.96	0.88	0.75	0.68	0.65	0.76	0.56	0.46	0.38	0.36	0.26	0.18

AAE8/1-12/15



Punching rate 2%

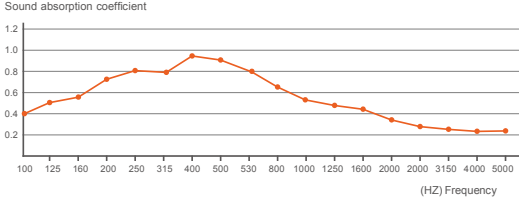
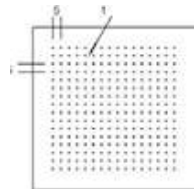


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.30	0.40	0.50	0.80	0.78	0.85	0.82	0.72	0.68	0.61	0.57	0.40	0.37	0.27	0.20	0.18	0.17	0.16

AAE5/1-12/15



Punching rate 3.2%



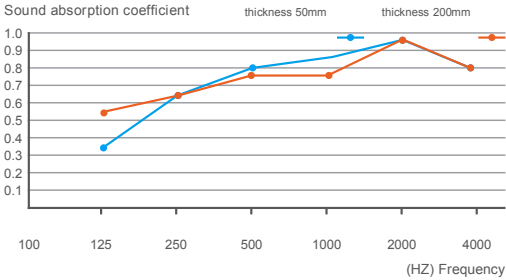
Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.30	0.42	0.55	0.75	0.82	0.80	0.92	0.90	0.80	0.61	0.52	0.50	0.45	0.35	0.30	0.26	0.24	0.24

AcousticArmor

MICROPERFORATED ACOUSTIC WOOD PANEL

APPLICATION

Opera house, movie theater, recording studio, broadcasting room, TV station, radio station, business office, multi- function hall, meeting room, studio, concert hall, auditorium, gymnasium wall.



Frequency	125	250	500	1000	2000	4000
Plenum 50mm	0.38	0.65	0.80	0.85	0.95	0.80
Plenum 200mm	0.38	0.65	0.75	0.75	0.95	0.80

PRODUCT INTRODUCTION

AcousticArmor Microperforated acoustic wood panels are manufactured on fiberboard panels (MDF) with micro-perforations on the visible side and big holes in the back side to improve absorption coefficient of the panels. It has strong selectivity to the sound absorption spectrum and has a good sound absorption effect in the middle and low frequency bands. If the cavity behind the sound-absorbing structure is filled with an appropriate amount of sound-absorbing cotton, the high-frequency sound absorption effect can be improved, and it is often used for wall or ceiling decoration.

SPECIFICATIONS

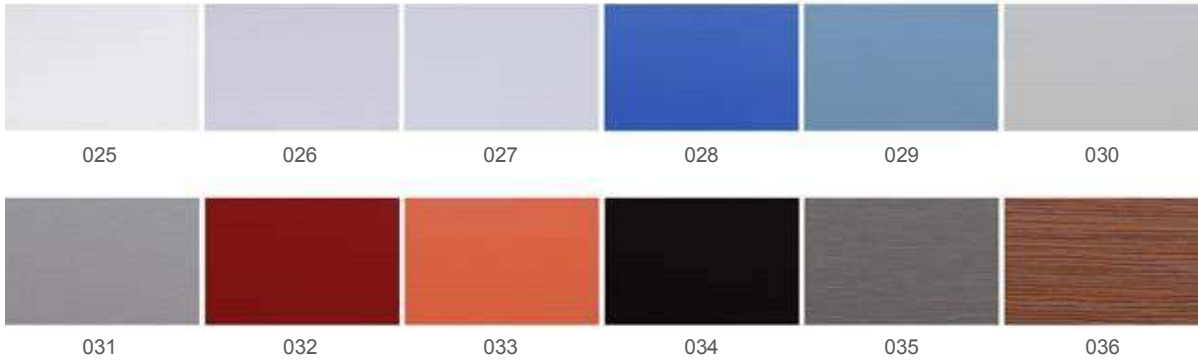
Name	0.5mm Microperforated acoustic wood panel
Model	3.6-1.8-0.5 2-2-0.5 (hole diameter: 0.5mm)
Finish	Melamine, technical veneer, natural veneer, fireproof leather, etc.
Commom Size	W 600mm/1200mm * L 600/1200/2400mm * T 15/18/12mm



Melamine



Melamine



Melamine



AcousticArmor WOODEN DIFFUSER WD SERIES



DEFECT OF PLANE REFLECTION

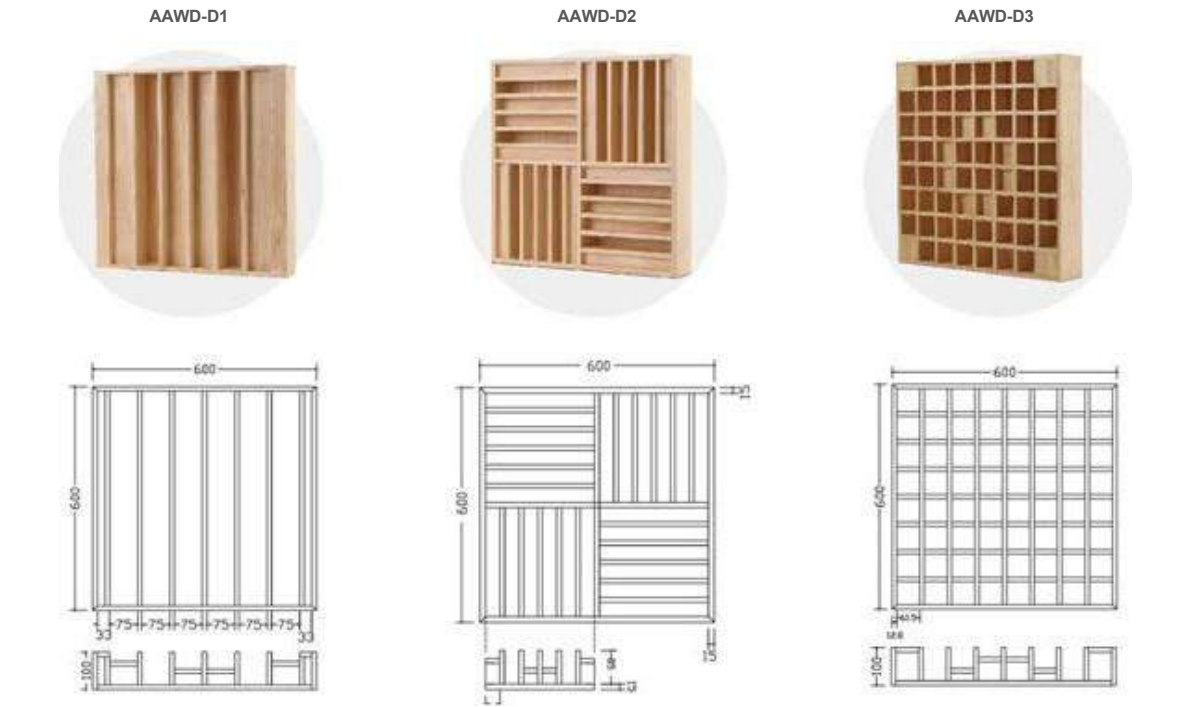
If someone enjoys the music in a rectangular hall, the sound he heard is harsh and stiff. It is sound frequency dyeing.

PRODUCT FEATURE

A wooden diffuser is a anomalous plane design which can bring diffusion while reflection. The sound is sonorous and reverberation is from different direction to the audience. It can greatly improve the acoustic environment in the hall.

PRINCIPLE OF DIFFUSION

The Acoustic diffusion series is based on QRD diffusion principle QRD diffusion is Quadratic residue theory. The diffusion boards are composed of steps of different depths based on calculations as per the quadratic residue theory. The Sound energy enters steps and is then gradually released at different times. The result is that the peaks and valleys are smoother, forming a more balanced acoustic environment. The diffusion boards are used not only on ceiling but also on the side walls and the walls behind loudspeakers and behind the listening positions. The more diffusion materials, the more can people feel that the sense of space and the natural and graceful effect of high frequencies in the music places. The details of the music can also be shown well.



Frequency	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000
AA-WD1 Diffusion coefficient	0.01	0.01	0.00	0.00	0.02	0.08	0.18	0.25	0.36	0.40	0.41	0.35	0.43	0.58	0.55	0.48
AA-WD2 Diffusion coefficient	0.01	0.01	0.02	0.00	0.10	0.10	0.38	0.40	0.49	0.30	.041	0.62	0.57	0.58	0.57	0.38
AA-WD3 Diffusion coefficient	0.02	0.05	0.01	0.01	0.00	0.00	0.01	0.02	0.08	0.41	0.30	0.49	0.43	0.43	0.43	0.68

SPECIFICATIONS

Name	ORD Diffuser
Base materials	Rubber Solid Wood / Mdf
Finish	Pu Painting / Melamine / Veneer
Mode	AA-WD1 AA-WD2 AA-WD3
Features	D1 D2 D3 diffuser scattered the incidence sound to avoid echo and stationary wave. It make sound field uniform distribution and improves sound environment. Diffusion frequency range D1(500HZ-2000HZ) D2(615HZ-1229HZ) D3(675Hz-2150HZ)
Ecn-friendly	Non-formaldehyde
Common size	W600mm * L600/1200/1800mm * T100mm

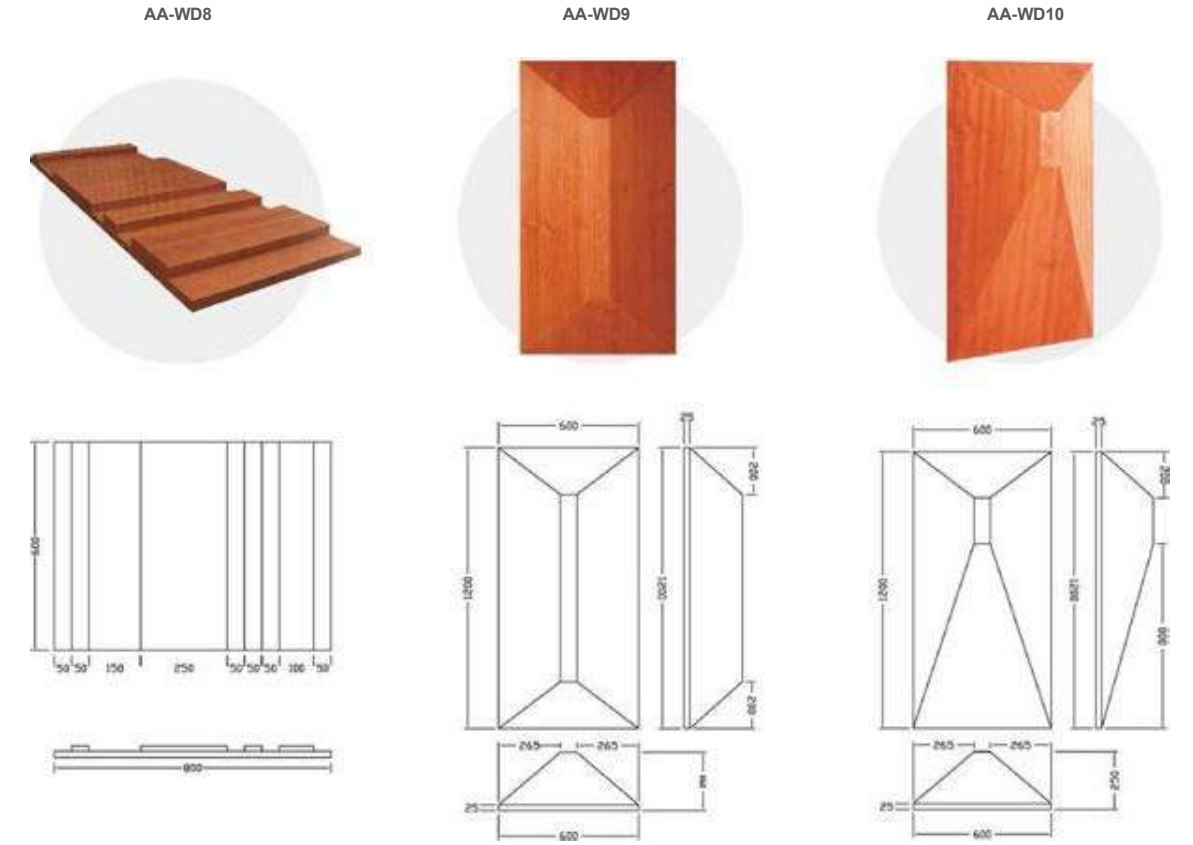


Frequency	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000
Diffusion coefficient	0.01	0.01	0.00	0.00	0.00	0.09	0.41	0.39	0.41	0.50	0.33	0.39	0.62	0.52	0.52	0.34

Frequency	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
D5 Diffusion coefficient	0.01	0.30	0.43	0.60	0.54	0.60	0.72	0.63	0.52	0.52	0.45	0.40	0.42	0.43
D6 Sound absorptioncoefficient	0.00	0.33	0.40	0.55	0.68	0.60	0.55	0.58	0.52	0.52	0.48	0.47	0.42	0.30

SPECIFICATIONS

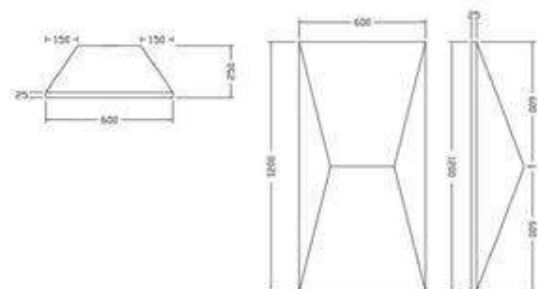
Name	D5 ORD Diffuser / D6 Bass Trap Diffuser
Base materials	Rubber Solid Wood / Mdt
Finish	Pu Painting / Melamine / Veneer
Mode	SNA-D5 SNA-D6
Features	D5 diffuser can restore sound space feeling and greatly improve sound quality in hall. It can raise sound environment clear satiation and three-dimensional. D6 diffuser is a good case for comer stationary wave solutions It mix low frequency sound absorption and diffusion together. D6 diffuser not only solve sound in comer but also make full use of the special place, increasing 3db sound energy in small space. It greatly Improve acoustic environment.
Ecn-friendly	Non-formaldehyde
Common size	D5: W 300mm * L 1800/2400mm * T 70mm D6: W 540mm * L 1200/1800/2400mm * T 158mm



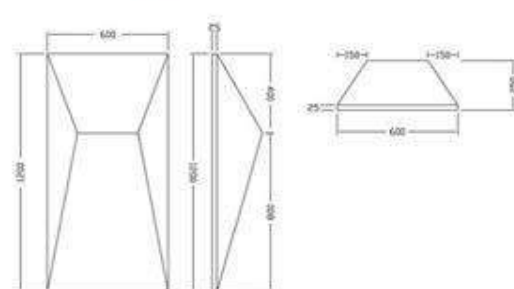
SPECIFICATIONS

Name	Diffuser
Base materials	Rubber Solid / Fire-resistant Mdf
Finish	Pu Painting / Melamine / Veneer / HPL
Mode	SNA-DB / D9 / D10 / D11 / D12 / D13 / D14
Features	Reflect Sound Wave To Audience, avoid Sound Ot Dyeing Angi Dittuser Is Mainly Placed In Proscenium Opening and Two Side Stationary Wave.
Ecn-friendly	Non - formaldehyde
Common size	As Per Customer Request

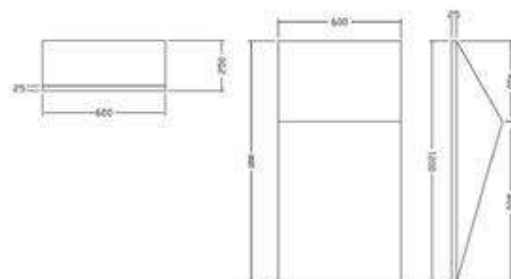
AA-WD11



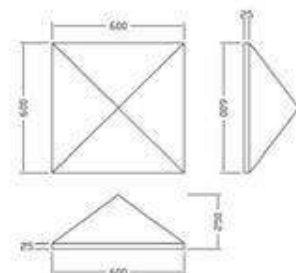
AA-WD12



AA-WD13



AA-WD14

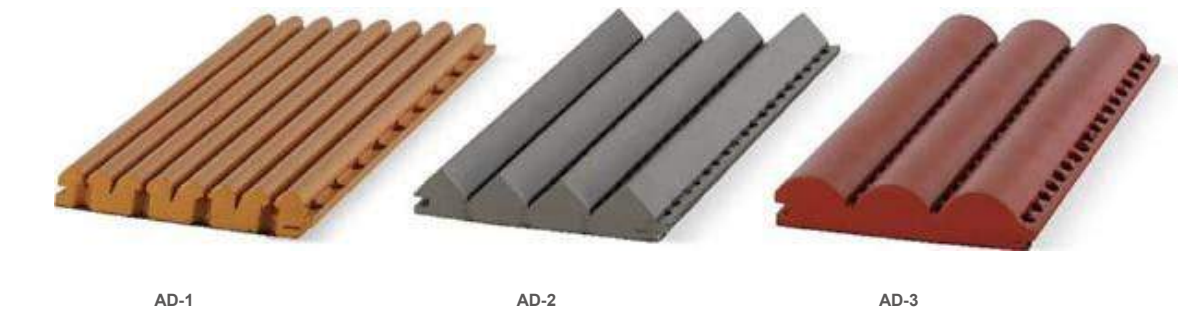




SPECIFICATIONS

Name	Solid Wood Acoustic Diffuser
Base materials	Solid wood
Finish	PU painting
Mode	AA-WY-D16
Features	AA-D16 diffuser can restore sound space feeling and greatly improve sound quality in hall. It can raise sound environment clear satiation and three-dimensional.
Eco-friendly	Non-formaldehyde
Common size	W 100mm * L 2400mm * T 27mm
Application	Concert Hall, Family Theater, Hifi Studio

AcousticArmor MELAMINE
ACOUSTIC PANELMA SERIES



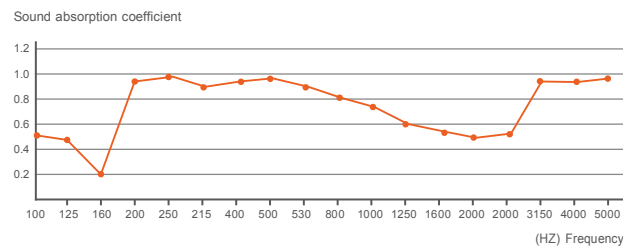
Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000
Cylinder A-D6 Diffusion coefficient	0.15	0.30	0.42	0.59	0.72	0.83	0.95	0.90	0.85	0.66	0.58	0.50	0.45	0.42	0.37	0.39	1.19
Triangle A-D6 Diffusion coefficient	0.19	0.33	0.42	0.62	0.75	0.85	0.89	0.82	0.75	0.64	0.55	0.52	0.42	0.42	0.39	0.39	0.40

Frequency	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
Cylinder A-D6 Diffusion coefficient	0.01	0.00	0.00	0.00	0.02	0.10	0.13	0.30	0.42	0.30	.045	0.52	0.45	0.39
Triangle A-D6 Diffusion coefficient	0.01	0.01	0.00	0.01	0.02	0.08	0.06	0.25	0.53	0.57	0.43	0.32	0.38	0.45

SPECIFICATIONS

Name	Diffusion Acoustic pane
Base materials	MDF
Finish	PU Painting / PVC
Mode	MDA-1 / MDA-2 / MDA-3
Features	Triangle Or Cylinder Groove In Surface, perforated In Back With Fire-resistant Acoustic Tissue, painting Finish.
Eco-friendly	Formaldehyde Class reach E1
Common size	W 128mm * L 2440mm * T 21/25mm
Application	TV, Theater, Opera Hall, Concert Hall, Conference Center, Stadium Mall Hotel Restaurant

AcousticArmor WOOD WOOL ACOUSTIC PANEL WA SERIES



PRODUCT INTRODUCTION

Wool acoustic panel is made of quality pine and fir logs, dried by air no less than three months to wood fiber, integrated with unique inorganic concrete bond, cranked out under high temperature and pressure finally. It has perfect acoustic performance as well as thermal retentivity, no matter with painting or just original color, the final decorative effect is especially outstanding. This product could be used for all indoor decoration and most outdoor decoration. AcousticArmor wood wool acoustic panel has very unique characters and effects compared to other acoustical material, besides meeting your requirements in sound absorption and sound insulation.

Wood wool acoustic panel has unique and elegant texture which could fully embody designers' idea and creativity. It combines the advantages of both wood and concrete together: as light as wood, as firm as concrete. and has lots of characteristics such as sound absorption, fireproof, impact resistant, mildewproof and moisture proof, can be widely used in gym, theater, cinema, meeting room, church, factory, school, library, natatorium etc.

SPECIFICATIONS

Name	AcousticArmor Wool Wood Acoustic Panel (WWCB)
Structure	Base Materials / Finish
Base materials	Wood Fiber And Inorganic Cement
Finish	Primary color and sprayed color
Common size	W 600/1200/1220mm * L 600/1200/2440mm * T 15/20/25mm



FEATURES

Wood wool acoustic panel is made of natural wood fiber, integrated with unique inorganic concrete bond, cranked out under high temperature and pressure finally. It has perfect physical characters which can only get from combination of different building materials and unique appearance. excellent sound absorption character. The special appearance texture gives you a natural feeling which meet the idea that back to nature.



SPECIFIC FEATURES



Sound absorbing and sound Insulation wool acoustic panels sound absorption rate is between 0.9 and 1.0 as tested by third parties.



Moisture Proof and Mildew Proof: Appearance of woodfiber is protected by cement and mineralized which is not conductive to insects, mites, termites and other habitats and away mold.



Environmentally friendly: wood wool acoustic panel is made of pine and fir logs and processed with sustainable raw materials. Formaldehyde affranchise reach E1 grade, thermal insulation up to 70%.



Durability: High-strength materials resistant to external contamination, lasts as long as the life of buildings to reduce maintenance costs.



Thermal Insulation: Since the main material is wood fiber which is a poor conductor of heat, the wood wool acoustic panel helps with thermal conductivity.



Fire Resistance: wood wool acoustic panel is fire-resistance materials. The greater the capacity, the better fire resistance Fireproof as B grade according to GB8624-2006 and A2 grade according to GB8624-2006.

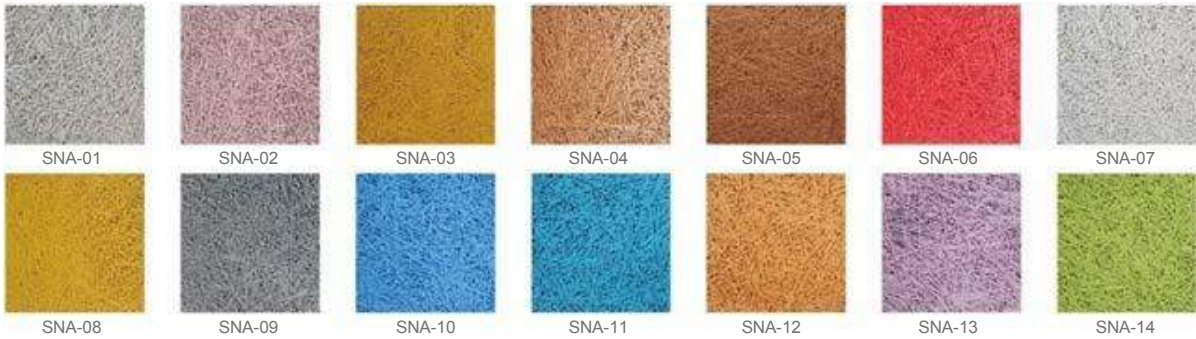


Rigidity: High impact resistance, through the national authoritative drop hammer strength testing, will never break under impact of football, basketball, or volleyball in Olympic Sports Center Gymnasium.



Easy to install: Easy to cut and shaped with standard woodworking tools

COLOUR CHART



AcousticArmor MELAMINE ACOUSTIC PANEL MA SERIES

PRODUCT INTRODUCTION

Melamine acoustic panel is made of light melamine polycondensation. It can absorb all kinds of noise from different sources, echo and reverberation. As an interior sound absorption system, it is suitable for the places which have many different devices and equipment. It is an innovation in architectural aesthetics and acoustic effect.



SPECIFICATIONS

Name	Melamine Acoustic Panel
Structure	Made by microwave with melamine and formaldehyde resin
Base materials	Wood Fiber And Inorganic Cement
Finish	White,grey,pink,blue,yellow or customized color
Common size	W 600/1200mm * L 600/1200/2500mm * T 25-100mm
Denaity	8-12kg/m³
Application	Wall, Ceiling Sound Absorber, Suspend Sound Absorber, High End Filling.

Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.10	0.17	0.20	0.30	0.36	0.56	0.75	0.83	0.99	0.96	0.99	0.99	0.96	0.92	0.89	0.92	0.91	0.99



AcousticArmor

ART ACOUSTIC

PANEL AA SERIES

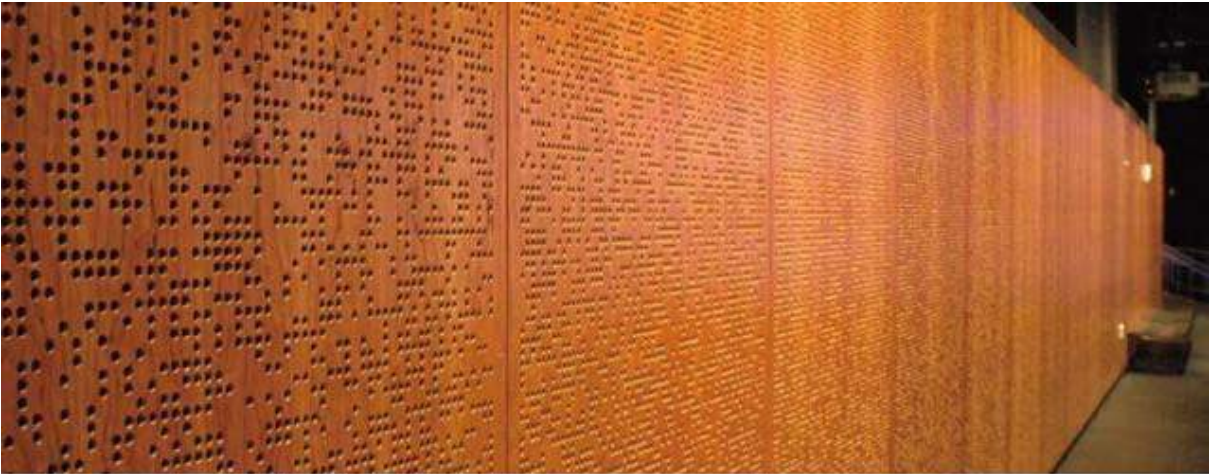


PRODUCT INTRODUCTION

As society develops, the request from customers are becoming more and more precise and exquisite. AcousticArmor Art acoustic panels are artistically perforated, made out of environmentally safe natural wood, and have high sound absorbing performance. This has attracted many customers and designers to select it for their walls and ceilings.

SPECIFICATIONS

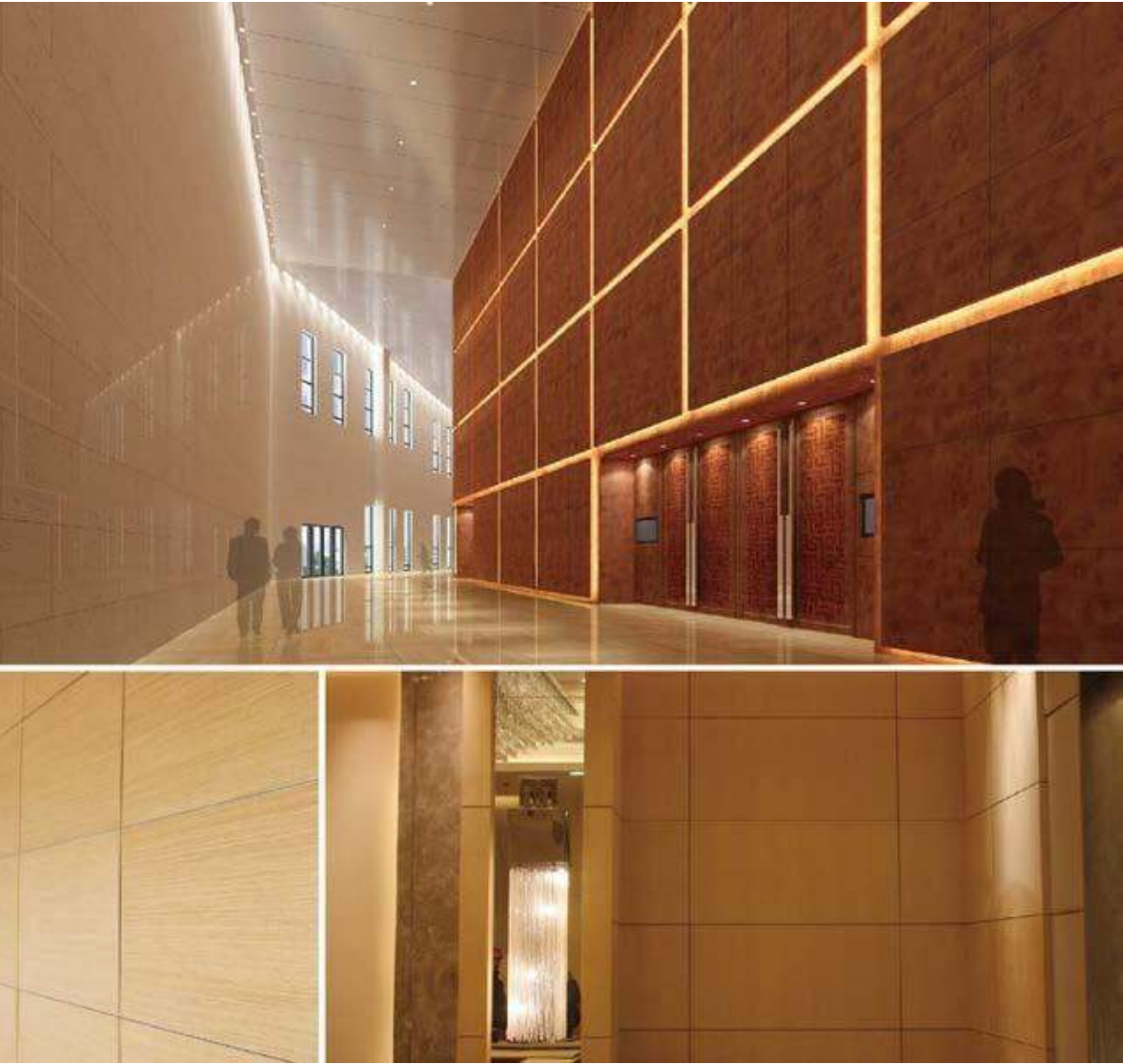
Name	AcousticArmor Art acoustic panel
Structure	Base Materials / Finish / Back
Base materials	Eco-friendly / Fire-resistant/Moisture-proof / Non-formaldehyde Solid Wood / Black HDF / Other Customization.
Finish	Veneer / Melamine
Back	Black fire-resistant sound absorbing fleece / Soundtex sound absorbing fleece
Model	Refer to photo
Comman size	W 600/1200mm * L 600/1200/2400mm * T 15/18/12mm or any other size



MODEL

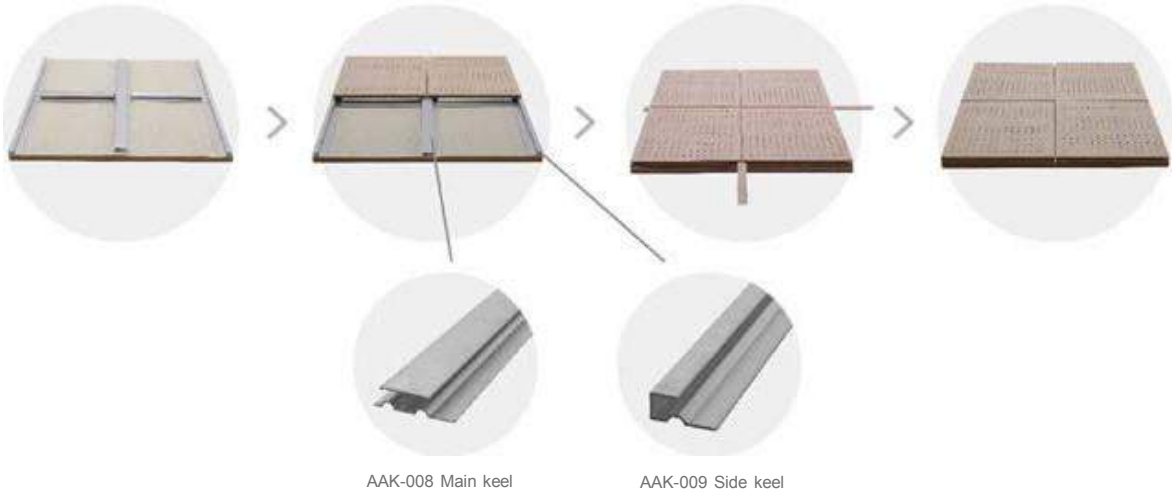


AcousticArmor PERFORATED AND ART ACOUSTIC PANEL KEEL SYSTEM



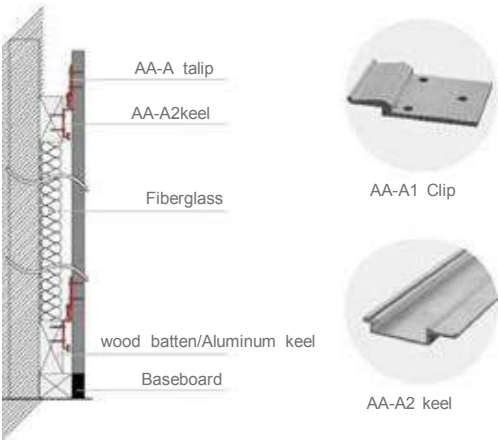
WALL INSTALL SYSTEM

KEEL SYSTEMS INSTALL METHOD



Fix main keel AAK -008 on the wood battens and light steel keel by gunnail and screw. > Fix the AAK-009 side keel in the end of install area. > The groove move along AAK-008 and WY-009 direction from left to right and bottom to top. > We will mark numbers on the back. install it from small number to big.

KEEL AND CLIPS INSTALL METHOD



AcousticArmor SLATTED WOODEN ACOUSTIC PANEL

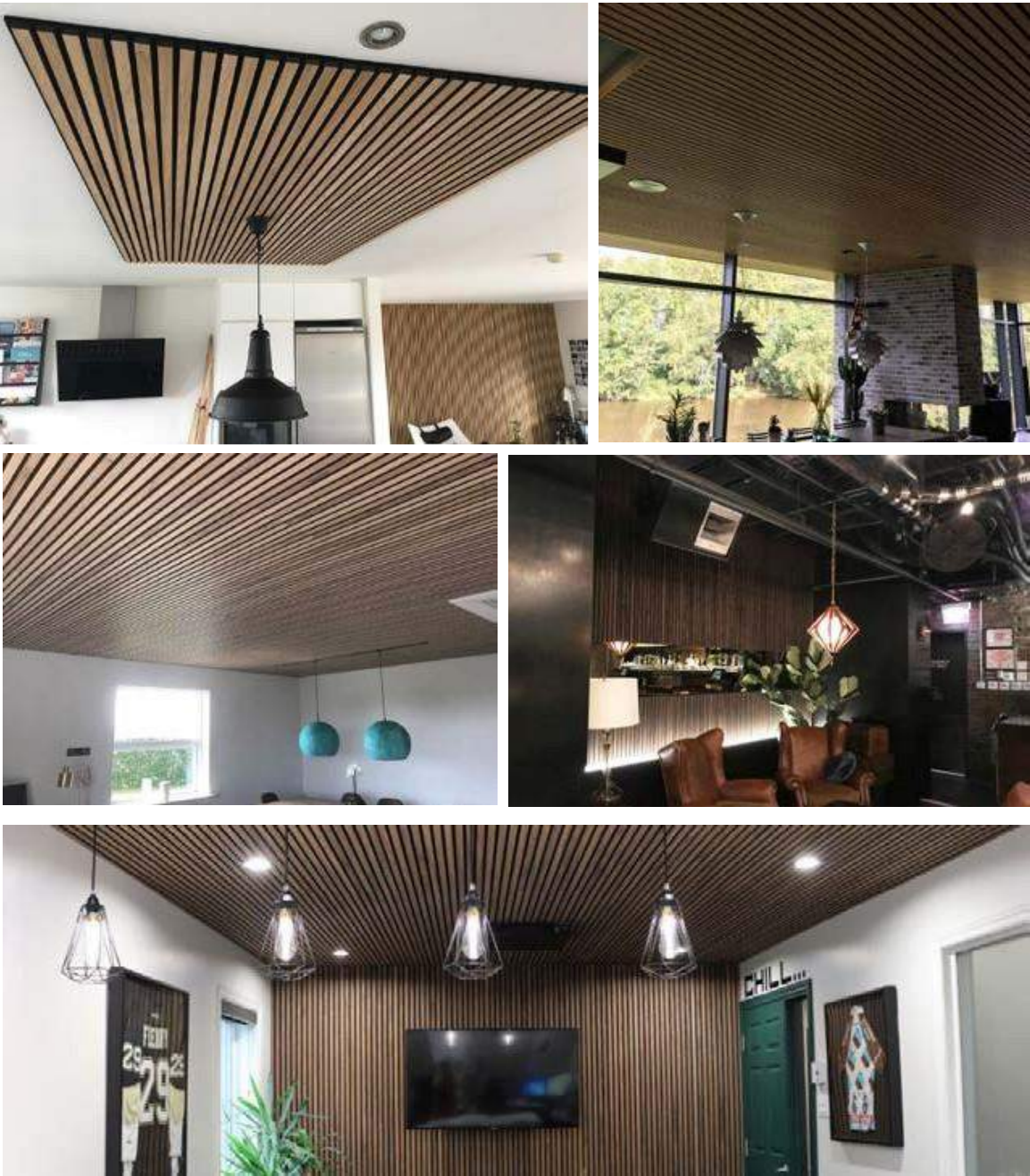


Application

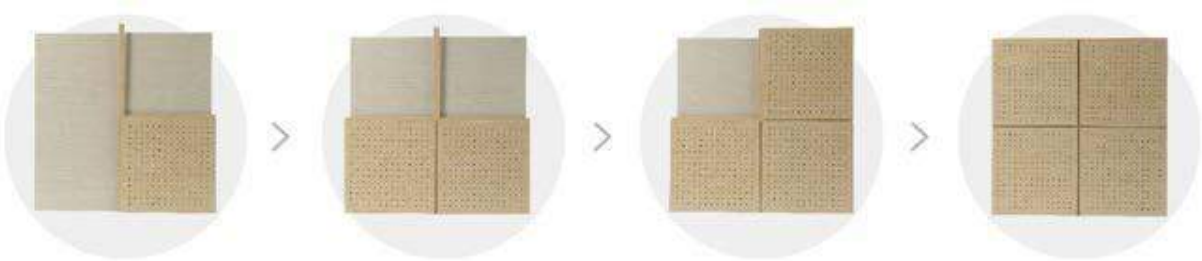
- Commercial premises and offices
- Schools and educational buildings
- Call centers and reception areas
- Theatres
- Auditoriums
- Conference Centers
- Sports Centers
- Recording Studios
- Cinemas
- High traffic public areas

SPECIFICATIONS

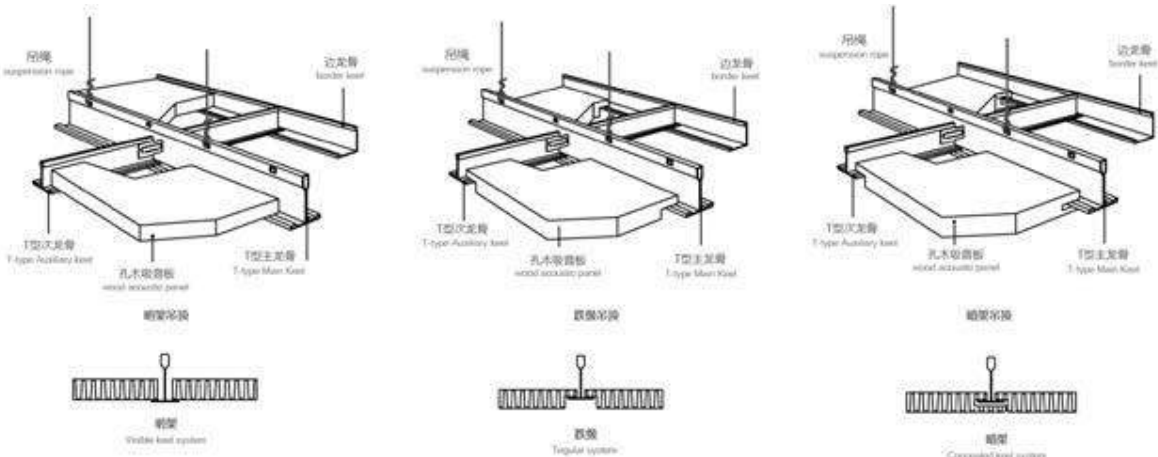
Name	AcousticArmor Slatted Wooden acoustic panel
Shape	Square or customized
Finished	Melamine / veneer / HPL
Thickness	21mm / 24mm / 27mm
Size(W*L*H):	608*1210mm
Patterns	9mm polyester + MDF strips
Function	E1 standard



WOOD SLAT INSTALL METHOD



CEILING INSTALL SYSTEM



BASE MATERIALS

MDF SERIES



MGO COMPOSITE FIRE-RESISTANT SERIES



NON-FORMALDEHYDE SERIES



AcousticArmor GROOVED WOODEN ACOUSTIC PANEL GA SERIES



PRODUCT INTRODUCTION

The panel has excellent noise reduction and sound absorption performance, especially for medium and low frequencies. Meanwhile, the natural wood grain and diverse finish choice provide good visual effects for everyone.

SPECIFICATIONS

Name	AcousticArmor Grooved Wooden Acoustic Panel GA SERIES
Structure	Base Materials / Finish / Back
Base materials	Standard / Eco-friendly / Fire-resistant / Moisture-proof / A Grade Non-Inflammable/ Composite Fire-resistant / Non-formaldehyde Solid Wood / Other customized
Finish	Veneer/Melamine/Hpl Fire-proof/Pu Painting
Back	Black Fire-resistant Sound Absorbing Fleece
Model	GA59-5 / 40-3 / 28-4 / 18-3 / 14-2 / 13-3 / 9-2 / 5-3 / Other customized models
Common size	W 133mm * L 2440mm * T 15/18/12mm



FEATURES

Eco-friendly: All materials meet the national and international environmental protection standards. The product contains a little formaldehyde with natural wood fragrance. Non-formaldehyde is also available.

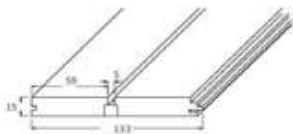
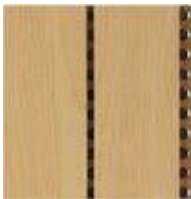
Fire-resistant: Fire-resistant panels can reach class A under ASTM-E84 standard, Class 1 under BS476 part 7 standards.

Easy installation: Standard module product, could be installed easily with keel and fastener.

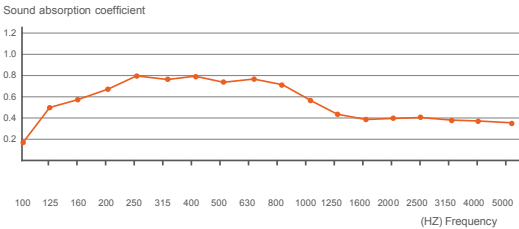
APPLICATION

Multifunctional Hall, Conference Room, Opera Hall, cinema, Auditorium. Hotel. Tv Station, Music Hall, Piano Room. Gymnasium, or ny place which has high acoustic requirements.

59-5

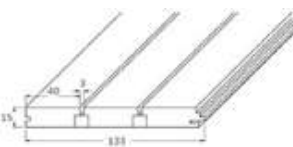


Punching rate 5.5%

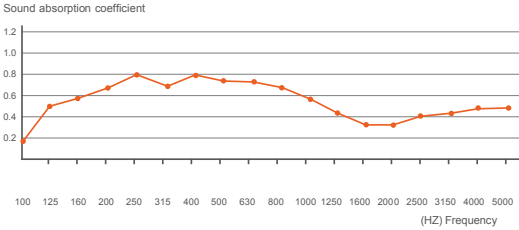


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.15	0.42	0.50	0.60	0.75	0.70	0.78	0.66	0.70	0.62	0.50	0.38	0.35	0.35	0.32	0.32	0.30	0.30

40-3

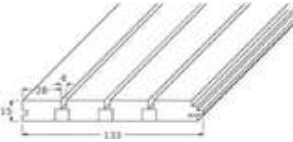
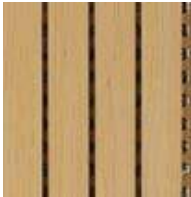


Punching rate 5.0%

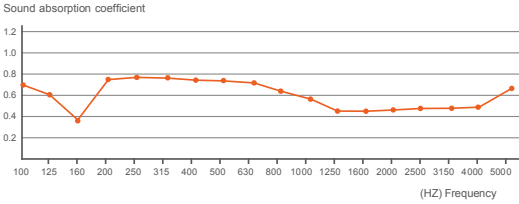


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.20	0.45	0.60	0.70	0.80	0.75	0.82	0.76	0.75	0.62	0.52	0.40	0.37	0.35	0.40	0.40	0.44	0.45

28-4

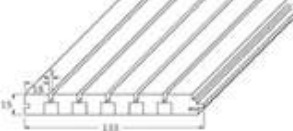


Punching rate 8.0%

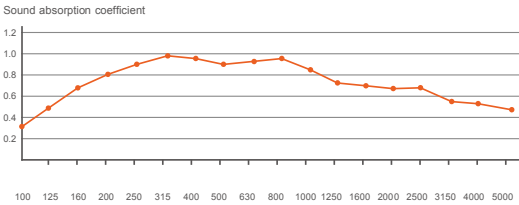


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.69	0.60	0.40	0.98	0.96	0.86	0.92	0.86	0.87	0.72	0.62	0.48	0.47	0.45	0.50	0.50	0.54	0.70

18-3

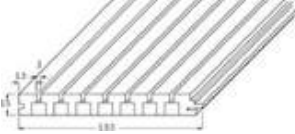


Punching rate 9.0%

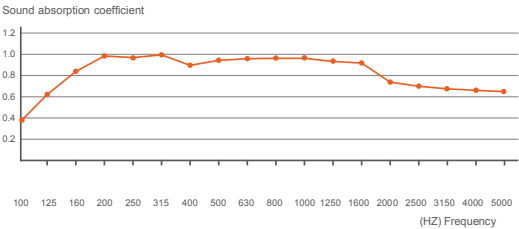


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.38	0.55	0.70	0.80	0.90	0.98	0.98	0.90	0.90	0.88	0.82	0.78	0.70	0.68	0.62	0.55	0.53	0.52

13-3

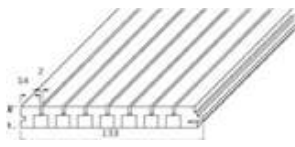


Punching rate 12.0%

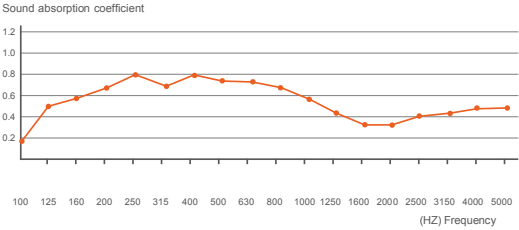


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.39	0.64	0.82	0.99	0.99	1.00	0.90	0.92	0.92	0.98	0.98	0.94	0.86	0.73	0.66	0.66	0.65	0.62

14-2



Punching rate 8.0%

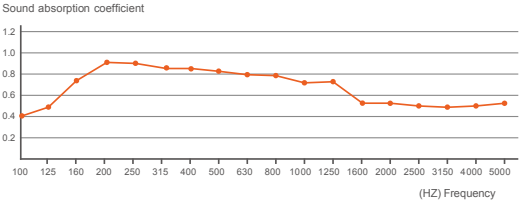


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.20	0.45	0.60	0.70	0.80	0.75	0.82	0.76	0.75	0.62	0.52	0.40	0.37	0.35	0.40	0.40	0.44	0.45

9-2



Punching rate 12.0%

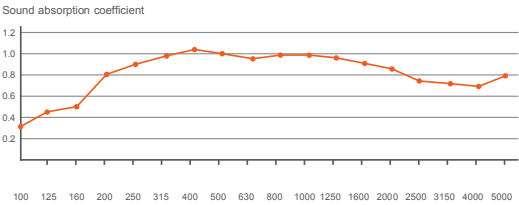


Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.40	0.50	0.53	0.70	0.90	0.90	0.87	0.87	0.80	0.80	0.71	0.70	0.58	0.57	0.56	0.48	0.48	0.48

5-3

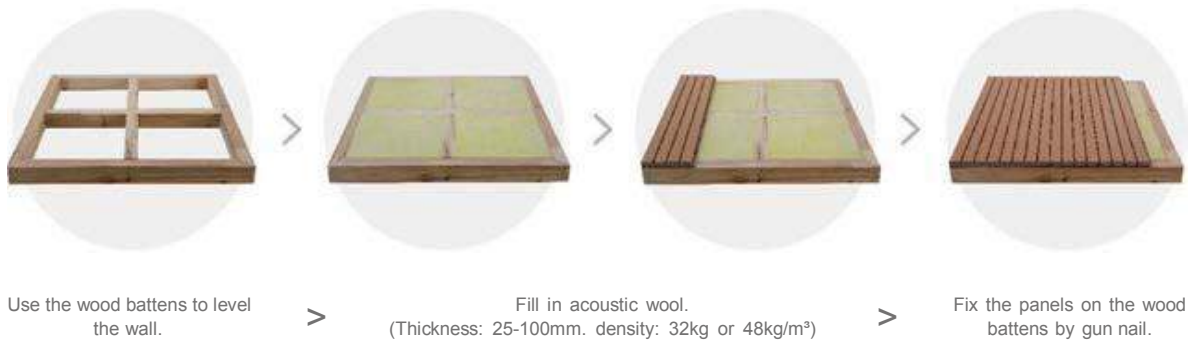


Punching rate 19.0%



Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.32	0.38	0.48	0.80	0.88	0.95	0.95	1.08	1.00	0.95	1.00	1.00	0.95	0.93	0.80	0.79	0.75	0.80

WOOD BATTENS INSTALATION METHOD



AcousticArmor NON-FORMALDEHYDE ECOLOGICALACOUSTIC PANEL NF SERIES

PRODUCT INTRODUCTION

Non-formaldehyde ecological acoustic panel is made of superfine wood fiber, varies chemical agent and high polymer resin through high-tech mixing craft. This panel has superb feature both wood and plastic. The board have reached the function of real wood imitation. It is a revolutionary green eco-friendly fire-resistant board.



SPECIFICATIONS

Name	Non-formaldehyde ecological acoustic panel
Structure	Base Materials / Finish / back
Base materials	Inorganic composite non-formaldehyde fire-resistant technology wood
Finish	Aluminum Sheet / Hpl Fire-proof
Back	Black Fire-resistant Sound Absorbing Fleece / Soundex Sound Absorbing Fleece
Model	Refer to groove acoustic panel and perforated panel model
Common size	W 600/1200 * L 600/1200/2400 * T 15mm or W 133 * L 2440 * T 15mm (Customized Size)

FEATURES

Zero formaldehyde, no harmful materials, E0 eco-friendly standard.

Fine fire-resistant performance, reach Class A under ASTM E84 standard, Class 1 under BS476 part 7 standard.

Green eco-friendly, 100% cyclic utilization.

Waterproof, moisture-proof, insect-off, corrosion-proof, mildew-proof.

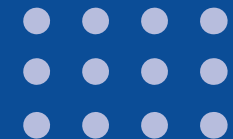
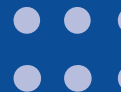
Rational inner structure, high intensity and hardness, hard to transform, no-painting.

Heat preservation, sound insulation, thermal insulation, fine insulation performance.

No-transform, easy to install. saw, nail and screw are ok.



ACOUSTIC FABRIC SOLUTIONS



SilentFelt FABRIC ACOUSTIC PANEL

HYDROPHOBIC&FORMALDEHYDE FREE
FABRIC ACOUSTIC PANEL

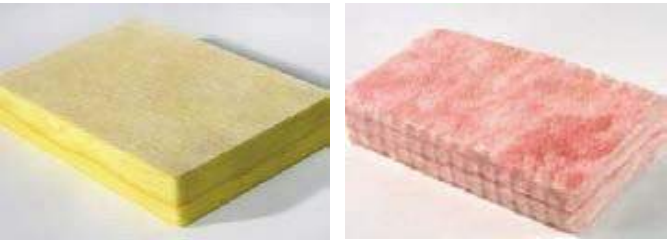


SPECIFICATIONS

Name	Silentfelt Hydrophobic & Formaldehyde free Fabric Acoustic Panel
Base material	Hydrophobic & formaldehyde free white glass wool
Frame	Resin frame, aluminum frame, soft frame
Finish	Fabric series, leather series, fiber glass fabric series
Hydrophobic rate	≥98%
Moisture content	0.4%
Fire protection	Class A(base material)
Construction	Consistent with the fabric acoustic panel, it can be pasted, buckled and nailed

SilentFelt FULL-FREQUENCY ABSORPTION FABRIC ACOUSTIC PANEL

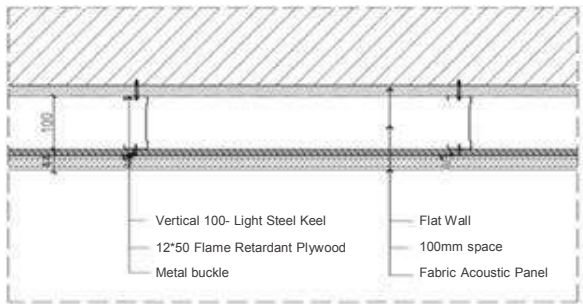
ENVIRONMENT PROTECTION FABRIC
ACOUSTIC PANEL



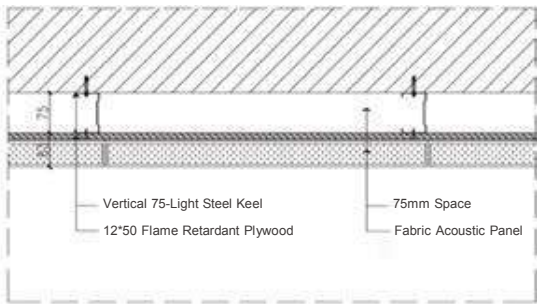
SPECIFICATIONS

Name	Silentfelt Environment protection fabric acoustic panel
Base material	Owens corning cotton, glass cotton, red glass cotton
Frame	Resin frame, aluminum frame, soft frame
Finish	Fabric series, leather series, fi ber glass fabric series
Fire protection	Class A (base material)
Environmental protection	No formaldehyde release
Construction	Consistent with the fabric acoustic panel, it can be pasted, buckled and nailed.
Largest size	W 1400mm * L 6000mm

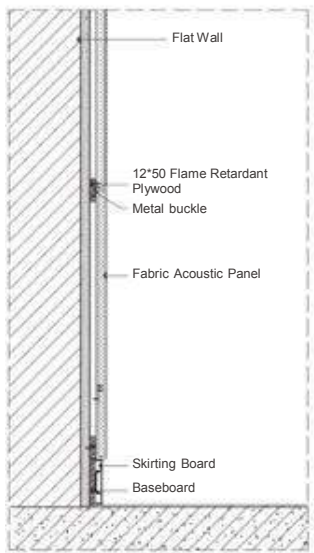
SilentFelt FABRIC ACOUSTIC PANEL
INSTALLATION NODE DRAWING



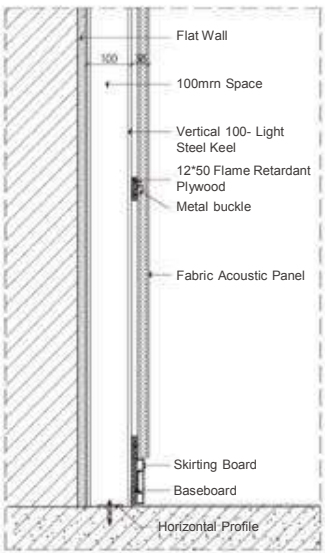
clip installation horizontal
section drawing



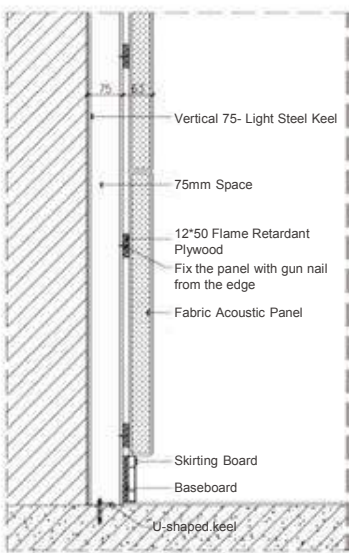
nail and wood batten installation
horizontal section drawing



pasted to backboard installation
vertical section drawing.



clip installation vertical
section drawing



nail and wood batten installation
vertical section drawing



SilentFelt FABRIC ACOUSTIC PANEL FA SERIES

PRODUCT INTRODUCTION

SilentFelt Fabric acoustic panel is made of resin frame aluminum frame and

wood frame, filled with high density non-flammable micro perforated fiberglass acoustic board, covering fire-resistant fabric. It is eco-friendly, good decoration fire-resistant no-dust and easy to install.

panel is good materials and high sound absorption performance in middle and high frequency.

FEATURES

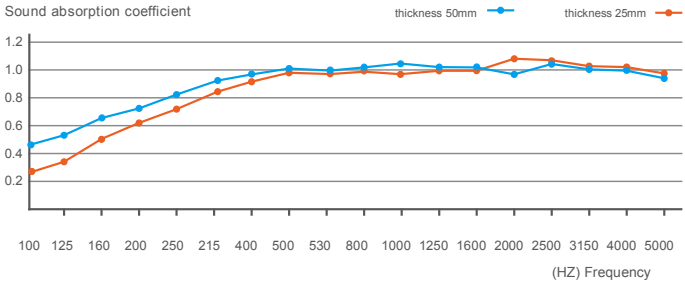
1. High performance in sound absorption in middle and high frequency, fire-resistant, no-dust, good decoration, easy to install.
2. Various colors for optional, customized color is acceptable. fabric and frame can change as per customer s request.

APPLICATION

Multi-function hall, opera house, conference room, theater, auditorium, hotel television, concert hall, piano room, gymnasium, homes with strict requirements of acoustics.

SPECIFICATIONS

Name	SilentFelt Fabric Acoustic Panel
Structure	Base Materials finish frame
Base materials	96kg/m³ Micro-perforated Fiberglass Acoustic Board or Other Density Cloth / Leather
Border	Resin Border Aluminum Border Wood Border
Model	FA25 / FA50
Edge	Square / Bevel Round
Common size	W 600/1200mm * L 600/1200/2400mm * T 25/50mm and other design
Fire-resistant	Fire-resistant Panels Can Reach Class A Under ASTM-E84 Standard Class 1 Under Bs476 Part 7 Standard

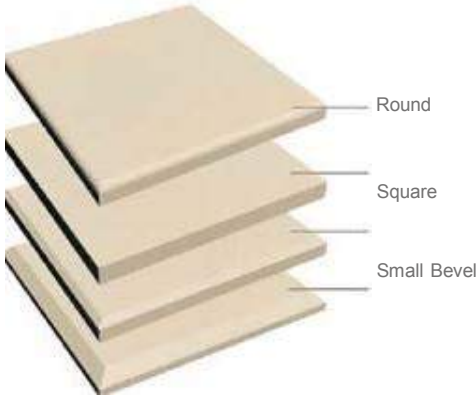


Fabric sound-absorbing board Thickness 25mm

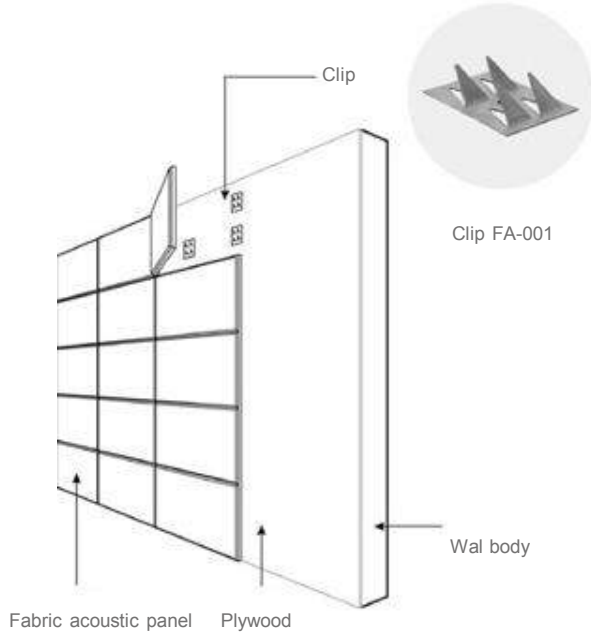
Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.30	0.38	0.49	0.62	0.73	0.86	0.94	1.03	1.04	1.06	1.08	1.05	1.07	1.12	1.06	1.02	1.00	0.97

Fabric sound-absorbing board Thickness 50mm

Frequency	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sound absorption coefficient	0.42	0.55	0.63	0.72	0.82	0.88	0.96	1.03	1.04	1.03	1.08	1.07	1.06	1.00	1.02	1.00	0.96	0.96



CLIPS INSTALL METHOD



GUN NAIL INSTALL METHOD





SilentFlet FABRIC ACOUSTIC PANEL (PVC TRACK)



PRODUCT INTRODUCTION

SilentFlet PVC tracks is a innovation of fabric acoustic panel. It is PVC tracks and friction -fil system used to stretch fabric cover various thicknesses of fiberglass to meet different acoustic requirement. The system greatly improves the appearance of the interior environment while providing solutions to acoustic challenges. It can be fastened to virtually any wall surface. When it is used for interior design,. It provides a neat, customized finish with distinctive lines.

FEATURES

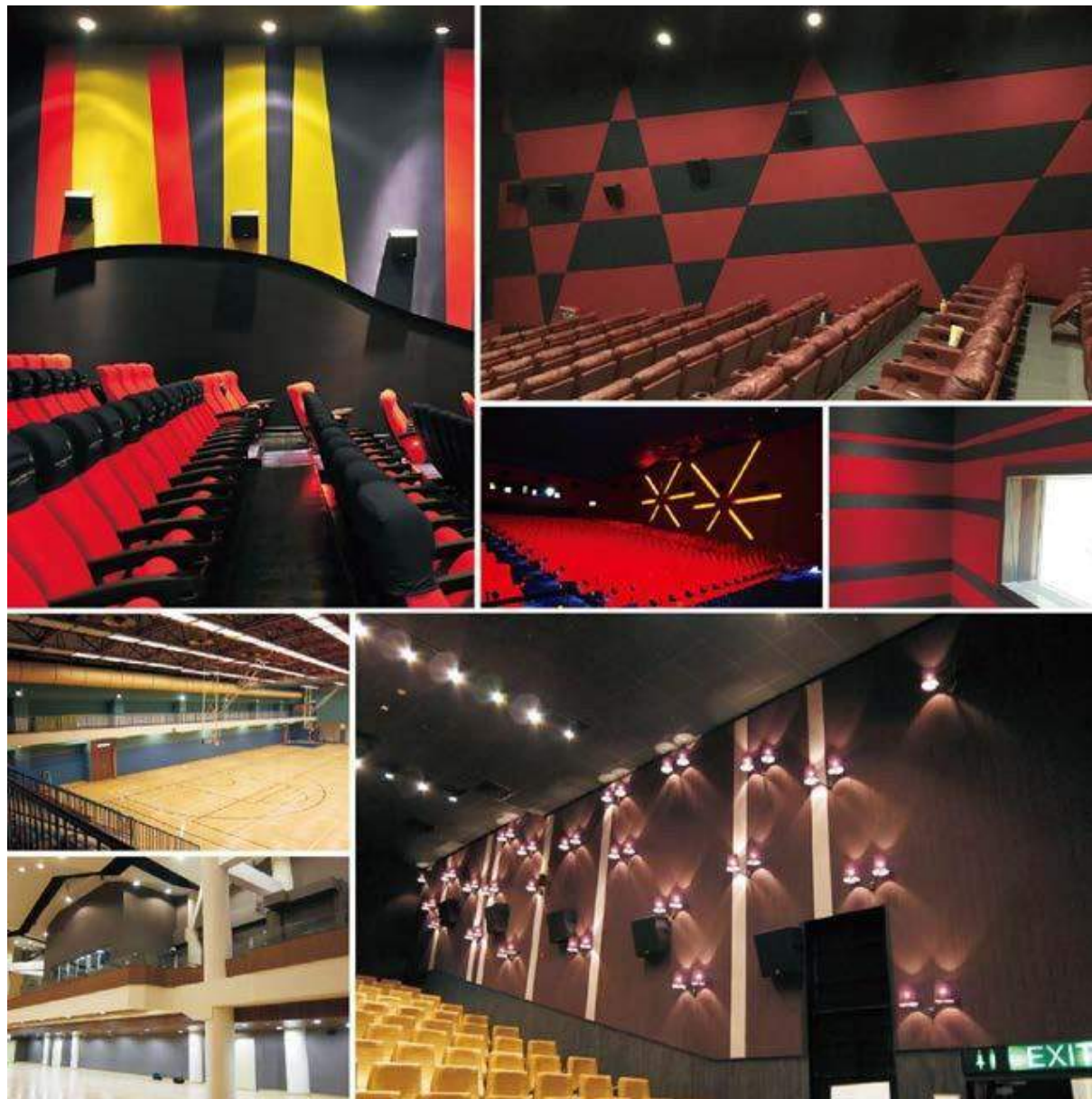
Excellent Sound Absorption of wall and ceiling panel.	Easy and economical fabric replacement.	Fabric can be removed for cleaning or cleaned on site.	No gaps and Sagging of Fabric.
Adopte a wide range of fabric thickness.	No limit to size or shape of panel.	Interlocking or Friction-Fit system can be chosen.	Flexibility in design.

SPECIFICATIONS

Base materials	Track system is extrusion-based design and allows you to stretch the fabric lightly with no slippage. It uses the friction between PVC track and fabric.
filled with	high density fire-resistant fiberglass (density is not less than 8KG/m3. The fiberglass sound camply with BS476 PART4.
Fabric Finish	Refer to fabric color chard for fabric acoustic panel.

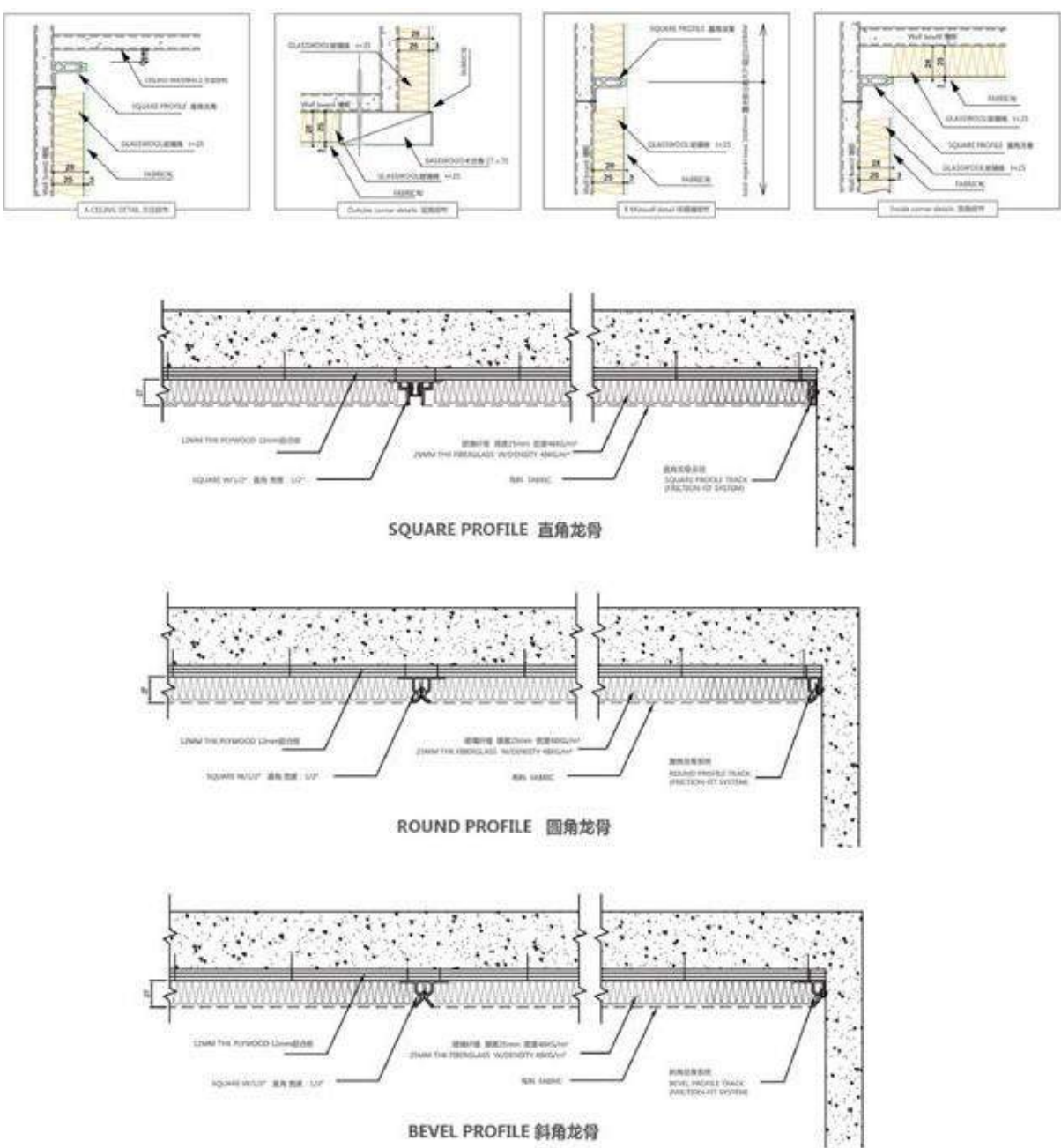
INSTALL METHOD

01 Mark the install area as per layout.	02 Install the PVC tracks on the wall.	03 Fill in the fiberglass in the PVC tracks.	04 Insert the fabric in the gap of PVC tracks.
---	--	--	--



APPLICATION

Sound studios, Sport centre, Lobbies, Cinema, Concert hall, Home Theaters, Conference Room, Classrooms, Hospitals, Churches, Gymnasiums, Auditoriums, Community Hall, Office Suites.



LEATHER SERIES



LEATHER SERIES



LONDON SERIES



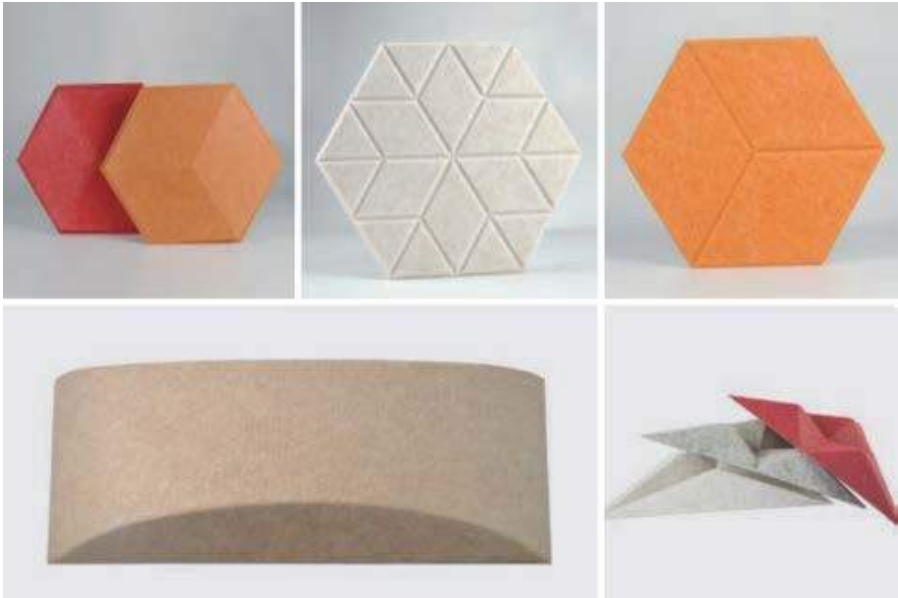
MILAN SERIES



PARIS SERIES



SilentFelt 3D ART
POLYESTER FIBER
ACOUSTIC PANEL



PRODUCT INTRODUCTION

This series of products has modern curves, geometric shapes and smooth edges, which is the product of the designer's combination of natural laws and modern aesthetics. The 3D design has its own cavity, which creates a more significant effect for pressing low-frequency than a flat design, and the concave and convex parts can fully diffuse the excess sound rays, which can achieve full-frequency sound absorption and diffusion, making the sound of the whole place clearer and fuller; Soundfelt 3D art Polyester panels are a blend of acoustics and modern decorative aesthetics.

SPECIFICATIONS

Product Specifi cations	Length: 500mm Width: 500mm Thickness: 20mm/25mm/48mm/53 mm (size can be customized)
Advantages	light weight, strong decoration, good sound absorption performance, environmental protection high-quality products
Applicable place	Office Space, Clubhouse, Sports Hall, Public Area
Finish	May colors choice
Material consumption	Refer to Acoustic Design



Silentfelt POLYESTER FIBER ACOUSTIC WOOL PFW SERIES



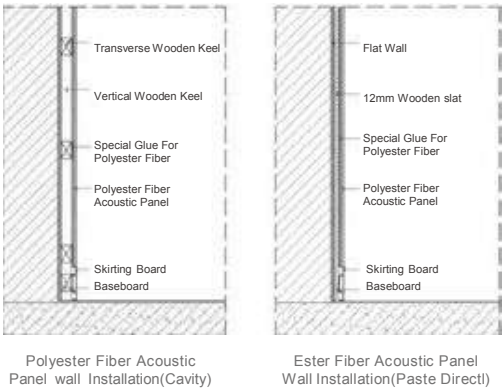
PRODUCT INTRODUCTION

Silentfelt polyester fiber acoustic wool is made of 100% polyester fiber. It is environmentally safe, fire-resistant, thermal, noise reducing, has a high soundabsorption performance, easy to cut and install. More and more designers like to use it in building acoustic and industrial noise reduction project.

SPECIFICATIONS

Base materials	100% Polyester Fiber
Model	Board Felt
Density	24-96kg/m³
Common size	Board: W 600/1200 * L 1200/2200 * T 20-100 Fet: W 1200 * L 1100/2000 * T 25-150
Eco-friendly	Reach to E1
Fire-resistant	Fire-resistant panels can reach class A under ASTM-E84 standard, Class 1 under BS476 part 7 standard Stuffing For
Application	Sound Absorption Structure

Silentfelt POLYESTER FIBER ACOUSTIC PANEL

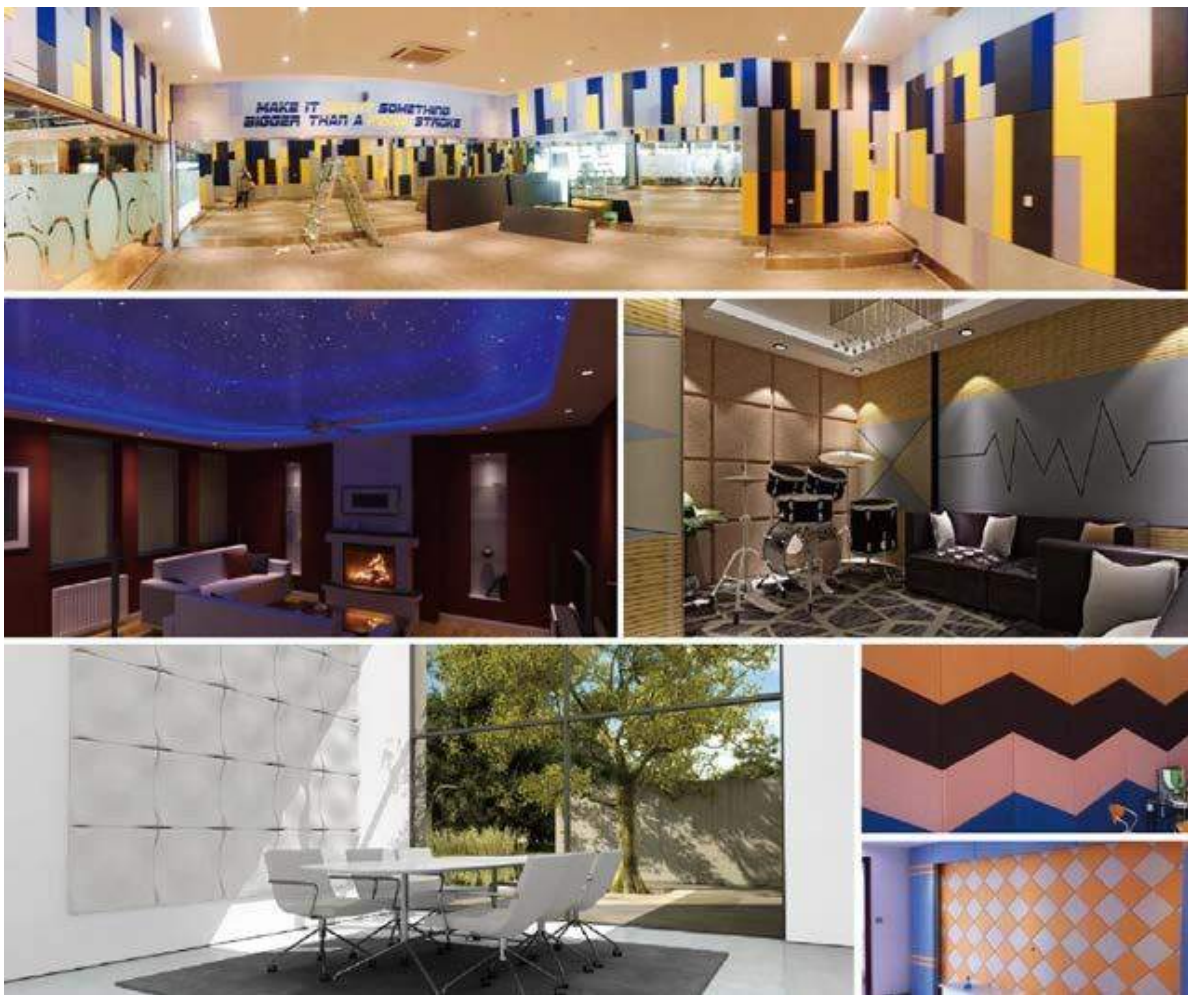


PRODUCT INTRODUCTION

Silentfelt polyester fiber acoustic panel with high density, environmental protection, fire proof, wide frequency sound absorption, strong decoration, simple construction, easy cutting, no dust pollution and other properties, many color and decorative shape choices, can well meet customers acoustic and decoration requirements. The highest fire resistance grade B1, the highest environmental 1protection grade E1.

SPECIFICATIONS

Installation accessories	Light steel keel, 9mm plywood batten, gun nails, nail free glue
Material consumption	Refer to acoustic design
Substrate	100% polyester fiber
Corner processing	Chamfering
Density	160-229kg/m³
Color	A variety of colors for customers to choose.
Product specification	Thickness 9mm/12mm/15mm or 18mm/24mm/50mm(customized) Size W 1220 * L 2420/2440mm



INSTALATION METHOD

01. Arrange

Organize the panel as per design drawing in construction drawings.

02. Cut

Either mechanical or hand cutting is fine. Pls adopt hard guiding rules or export art knife.

03. Fix

Common construction can be used, such as Spay-glue, white Glue, hot Melt adhesive and glass cement. You can fix It directly on the plain concrete wall.

COLOUR CHART

 PFA-01 Light camel	 PFA-02 Grey water	 PFA-03 White	 PFA-04 Silver gray	 PFA-05 Lemon yellow
 PFA-06 Beige	 PFA-07 Middle Yellow	 PFA-08 Orange	 PFA-09 Dark Orange	 PFA-10 Cyan Orange
 PFA-11 Jade green	 PFA-12 Army green	 PFA-13 Emerald green	 PFA-14 Jasper	 PFA-15 Forest green
 PFA-16 Sky blue	 PFA-17 light blue	 PFA-18 Dark blue	 PFA-19 Telecom blue	 PFA-20 Sea blue
 PFA-21 Violet	 PFA-22 Pink	 PFA-23 Gold red	 PFA-24 Maroon	 PFA-25 L Rose red
 PFA-26 Wine red	 PFA-27 Red coffee	 PFA-28 Dark Purple	 PFA-29 Brown	 PFA-30 Yellow
 PFA-31 Dark camel	 PFA-32 Rice camel	 PFA-33 Milk coffe	 PFA-34 Coffee	 PFA-35 Gold
 PFA-36 Fan brown	 PFA-37 Dark brown	 PFA-38 Moon grey	 PFA-39 Gingili black	 PFA-40 Black

AcousticArmor

SOUND INSULATION BOARD IB SERIES

COMPOUND DAMPING SOUND INSULATION BOARD IB01/IB02

Composite damping and sound insulation board is made of inorganic materials with different densities on both sides (6mm and 9mm white inorganic board in surface or 6mm black inorganic in surface and 9mm in white.), is sandwiched with high polymer damping adhesive in the core. High pressure composite molding forms the constrained damping structure, change the resonant frequency of the original materials and greatly increase the airborne sound insulation index and structure sound insulation index.

APPLICATION

Residence, hotel, leisure club, KTV and other places which need increase wall and ceiling sound reduction index.



COMPOSITE CORK DAMPING AND SOUND INSULATION BOARD IB03

Soft wood damping and sound insulation board is made of inorganic materials with different densities and different thickness, the soft wood is arranged in the core layer, and two layers of high polymer damping materials are molded compositely under high pressure without adhesive. High density boards on the front and rear surfaces have good medium-high frequency sound insulation effect. The double-layer constrained damping structure generates high-efficiency, low frequency and ultralow frequency transmission shearing stress.

APPLICATION

Bar, night club, high noise machine rooms, active sound insulation structures and sound insulation doors manufacture.



COMPOSITE VIBRATION ABSORBER SOUND INSULATION BOARD IB04

Composite vibration damping adhesive and sound insulation board: The central damping layer is made of high -elasticity anti aging and flame resistant YMS/ EVA materials, the front and rear surface boards are made of inorganic materials with different densities and thickness to form the structure properties of sound insulation and vibration damping materials and effectively insulate the medium-low frequency sound transmission.

APPLICATION

KTV, night club, show bars, private theaters, HIFI listening rooms. piano rooms. recording studios and other active sound insulation structures.



COMPOSITE CORK DAMPING AND SOUND INSULATION BOARD IB03

Timber damping and sound insulation board adopt 9mm fire-resistant plywood and in surface and 6mm high density inorganic board on the bottom surface, the high polymer damping adhesive is sandwiched, and the three materials with different properties are molded compositely under high pressure.

Features: It is green, eco-friendly, easy to cut and install. The timber layer surface provides a rich later forming condition.

SPECIFICATIONS

Model	Surface density	Weight of single pcs	Common Size	Area of single pcs
IB01	18.5	55	1220*2440*16	2.97
IB02	19.8	59	1220*2240*16	2.97
IB03	22	64	1220*2440*25	2.97
IB04	23.3	68	1220*2440*25	2.97
IB05	14.4	43	1220*2440*18	2.97





ACOUSTIC AND VIBRATION ISOLATION FLOOR SOLUTIONS



SilentFelt DEADENING FELT DF SERIES

PRODUCT INTRODUCTION

Deadening Felt is a new sound insulation product, which is made from macromolecule material, metal powder and other ingredients. Deadening Felt is widely used in Modern buildings industrial applications, H V A C , home furnishing, factory workshops, machine rooms, air compressor space, meeting room, multi-function hall, KTV room office and car which place need sound insulation.



SPECIFICATIONS

Name	Deadening Fel
Eco-friendly	Formaldehyde Class reach E1.
Fire-resistant	Burns safely, the flame Put out after removing
Common aizo	W 1200mm * L 5000/10000mm * T 2.0/9.0/1.2mm
Tolerance	W ±2mm * L ±2mm * T ±0.5mm

INSTALATION METHOD

1. Directly apply to the wall.
2. Account for lights, exhaust fan, Smoke Sensor and air dust in the ceiling or on the wall. Sound insulation should be considered in advance for HVAC and pipe installation.
3. The damping insulation felt should cover the entire space. especially the gap between panels without the felt overlapping.
4. For places with high requirements of sound insulation, the maximum area should be covered with sound insulation.



AcousticArmor SOUND AND VIBRATION INSULATION MAT SV SERIES

PRODUCT INTRODUCTION

Sound and vibration mat is made of high-density polyethylene foam nanometer technology. The mat has a sound deadening effect and eliminates impact caused to floors. The materials is light weight and will not significantly increase the load on the building structure. It is eco-friendly and a durable product with a lifespan of over 70 years.

FEATURES

Moisture-proof, waterproof, mudproof, easy to install, easy to cut, etc.

APPLICATION

KTV, disco, gym, home theater, engine room, upscale residential district and places which want to eliminate noise sources from nearby.

INSTALATION METHOD

1. Keep the ground clean and smooth, and cut the product according to the required size.
2. With the absorption mat on the floor, its laying position should align at the joint of skirting line and taped up the joints.
3. Avoid the leakage and the seam paving between the mat and the ground.
4. After installing the mat, the cement, finished tiles and wood floor should be immediately placed onto the mat.



ACOUSTIC DOOR SOLUTIONS



SOUND INSULATION
DOOR ID SERIES

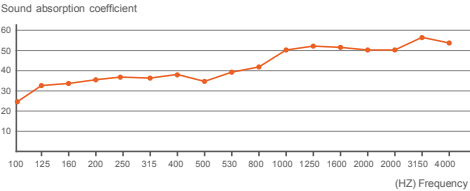
Professional sound insulation doors are widely used in recording studio five-star hotel, high end villa and office building. The sound insulation door adopts several different materials board and damping vibration isolation treatment based on Mass law and acoustic principle. It uses an unbalanced air layer acoustic structure design, filed with high density fiberglass. The door has sound insulation performance for middle and high frequency (250-5000HZ). We have three types of doors for different customer request as below: Metal wood composite sound insulation door, Metal sound insulation door, wood sound insulation door.

AcousticArmor METAL WOOD
COMPOSITE SOUND INSULATION
DOOR



PRODUCT INTRODUCTION

Metal and wood composite sound insulation door adopt galvanized steel plain board inorganic board, wood board, damping layer and gas seal five different materials molded compositely under high pressure with magnetic control rubber seal strip. The finish is natural veneer finish and various finish for choice.



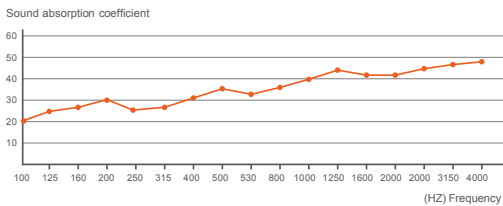
SPECIFICATIONS	
Name	Metal wood composite sound insulation door
Model	ID01
Finish	Natural Veneer Finish
Common size	Single leaf: W 860mm * H 2050mm * T 70mm Double leaf: W 1500mm * H 2100mm * T 70mm
Sound reduction index	Single: STC40-50DB Double: STC35-45DB
Threshold	Optional
Opening direction	Optional
Lock	Standard or Optional
Application	Hotel, Home, Audition Room. Music Room, Entertainment Venues, Conference Hall, Home Theater

METAL SOUND INSULATION DOOR



PRODUCT INTRODUCTION

Metal sound insulation door is made of galvanized steel plain sheet, filled with damping sound insulation wool and other insulation materials, with magnetic control rubber Seal strip. It includes design with threshold and without threshold. Without threshold design adopt liftable bottom seal strip, to reduce the sound leak.



SPECIFICATIONS

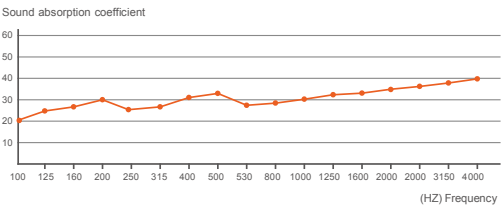
Name	Metal Sound Insulation Door
Model	ID02
Finish	Baking Finish, Wood Grain Transfer Printing Finish
Common size	Single leaf: W 860mm * H 2050mm * T 70mm Double leaf: W 1500mm * H 2100mm * T 70mm
Sound reduction index	Single: stc40-45db Double: stc35-40db
Threshold	Optional
Opening direction	Optional
Lock	Standard or Optional
Application	Hotel. Home. Audition Room. Music Room. Entertainment Venues, Conference Hall, Senior Office

WOOD SOUND INSULATION DOOR



PRODUCT INTRODUCTION

wood sound insulation is made of solid wood, filled with damping sound insulation wool and usses magnetic rubber seal strip.



SPECIFICATIONS

Name	Wood Sound Insulation Door
Model	ID03
Finish	Natural Veneer Finish
Common size	Single leaf: W 860mm * H 2050mm * T 50mm Double leaf: W 1500mm * H 2100mm * T 50mm
Sound reduction index	Single: STC35-40DB Double: STC30-35DB
Threshold	Optional
Opening direction	Optional
Lock	Standard or Optional
Application	Hotel, Home, Audition Room, Music Room, Entertainment Venues, conference Hall, Senior Office



STRUCTURAL ACOUSTIC AND VIBRATION SOLUTIONS



Introduction to Farrat

What We Do:

-) Building Acoustics
 -) Full Building Isolation
 -) High Performance Sound Insulation
-) Vibration Isolation
 -) Acoustic Engineering
 -) Materials Science
 -) Mechanical Engineering
 -) Structural Engineering
 -) Construction Engineering
-) We design and manufacture our products in the UK.
-) We deliver high-specification acoustic projects all around the world.
-) Thermal Breaks, Machine Mounts



Our products & services



Engineering led vibration & noise consultancy

Farrat offer a wide range of analysis, design and consultancy services, working on-site to find the right solution.



Support and Levelling

We have been designing and manufacturing high performance Machine Mounts and Machinery installation systems since the 1959.



Vibration control in Industrial Buildings & Crane Rails

We focus on preventing the transmission of vibration and noise from crane rails to surrounding structures and equipment.

Isolated Machine Foundations in Industrial Facilities

Farrat Isolated Foundations are used in many applications to ensure the operating conditions in terms of vibration levels are controlled to within equipment specifications, to maximise productivity and conform to Health and Safety and local authority requirements.



Whether you are relocating existing machinery, installing new equipment or are involved in detailing foundations, Farrat have the knowledge and experience to provide the right Isolated Foundation solution.

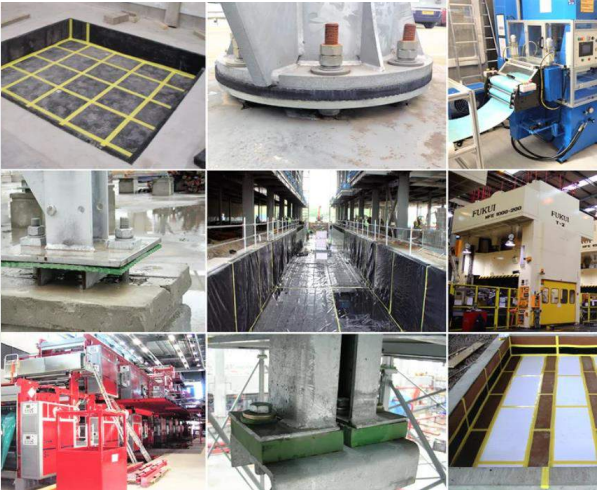


Our engineering capabilities

Our engineering capabilities allow us to help you identify vibration sources and design the right vibration isolation solution for your application.

Our range of anti-vibration materials are manufactured in the UK and distributed worldwide across a wide range of industries. We are proud of the high performance these materials have provided our customers in their applications. Material properties such as stiffness, dynamic stiffness, damping, load bearing capacity, shape factor, creep and hysteresis are continually tested in our R&D facility to provide an assured performance.

We operate under an ISO 9001:2021 Quality Assurance System and under the international ISO 14001:2021 Environmental Management Standard.



Our engineering capabilities

The selection of the appropriate vertical support bearings depends on factors such as the load requirements, expected vibrations, movement tolerance, and environmental conditions.

We recommend engaging our design and engineering team to ensure the correct design and vertical support bearing is supplied for your specific application or building.

Our Building Vibration Isolation solutions are manufactured to meet the ISO 9001:2021 and ISO 14001:2021 quality standards.



Vibration isolation of Impact Machinery

We understand the importance of selecting the correct vibration isolation solution for your impact machinery and the environment it operates in.



Vibration protection of Precision Machinery

Even small vibrations can significantly affect the accuracy and quality of precision machinery. Our specialist vibration solutions deliver repeatable results.



Anti-Vibration Materials

A high-performance range of vibration and shock damping materials with excellent chemical resistance to industrial fluids.

Building Acoustics

In the true spirit of Engineers on a mission, use us for your most challenging projects and where it is critical you achieve performance and programme requirements. We have a deep and ever increasing knowledge of the materials we design with coupled with a wealth of experience and pride from tackling some of the world's most challenging applications.

We take a holistic approach to problem solving, bring value to a project team by translating complex, multi-disciplinary problems into easily digestible language, quantifying possible solutions and aligning stakeholders to achieve a unified strategy all within the framework of 'no surprises' in costs and risks.

We have never failed to achieve a customer's requirements, even with some learnings along the way and we absolutely intent to maintain that record.

We invest in developing our capabilities, portfolio and our people. The systems we have developed, such as our Cine and BowlFLOOR ranges and Building Vibration Isolation Systems are all built off rich experience and rigorous engineering to ensure performance and longevity.

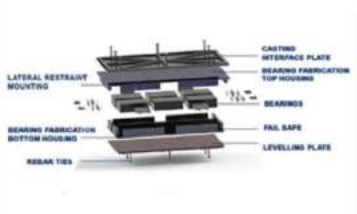


Our product range



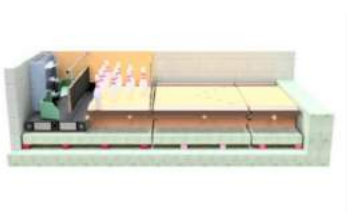
Acoustic Shear Keys

Working with design teams and/or structural engineers our shear keys are designed to provide high vertical load capacity whilst reducing the number of assemblies, acoustic isolation and shear restraint required.



Bearing Assemblies

CE marked, steel assemblies that contain elastomeric isolation bearings along with other features such as; levelling plates, fail-safes, and/or load spreading elements. Farat bearing assemblies can also incorporate disproportionate collapse and horizontal load restraint measures such as acoustically isolated vertical ties and lateral restraints.



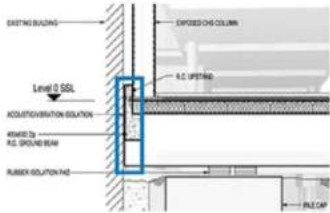
BowlFLOOR

The BowlFLOOR range has been developed from our successful Cinema range of acoustic isolation solutions. Our engineering team have developed 3 options for this growing market.



CineWALL

We pioneered the concept of a hybrid 'box in a box' system for high-performance sound insulation.



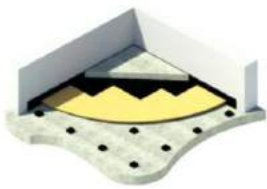
Lateral Perimeter Isolation

Full area elastomeric materials used to acoustically separate the isolated structure, usually a floating floor slab, from surrounding rigid elements.



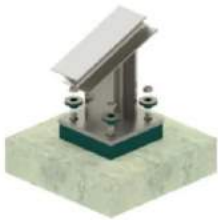
Springs, Bearing Assemblies & VFT Systems

Provide low frequency vibration isolation for large structures and industrial equipment.



CineFLOOR

CineFLOOR was designed by our engineers as a comprehensive range of acoustic floating floor solutions for auditoriums of all shapes and sizes.



CineSTEEL

CineSTEEL is primarily intended for use with concrete stadia. It is widely compatible with a variety of steel frame type and baseplate/bolt combinations and will keep sound constrained to its source in auditoriums of all shapes and sizes.



CineTIMBER

Our CineTIMBER systems ensure that the most vital secondary structure of a cinema, the raked seating, is kept totally independent of the main structure, the structural floor slab and any adjacent screens.

Floor, Wall, Raked Seating and Ramp Isolation Systems in Cinemas

From multiplex cinemas to boutique auditorium and private viewing rooms, CineFLOOR acoustic floating floors will keep sound constrained to its source so you can create truly immersive auditory experiences.



We work regularly with market leading brands including Cineworld, VOX, VUE, REEL, Odeon and Empire.



About the products

This is a growing market with bowling alleys only a wall away from eating and drinking, pool, arcades, games, and even films being shown at cinemas. BowlFLOOR is designed to enable leisure facility developers and managers to optimise space while guaranteeing a great customer experience.



Special care has also been taken to consider buildability, reliability and robustness in each design to ensure that both the installers and the operator's key interests are upheld such as **acoustic performance**, **longevity** and **lifecycle cost**.



CineFLOOR MAX

The ultimate isolation grade for a new generation of 4DX cinemas.

[CLICK FOR MAX DETAILS](#)



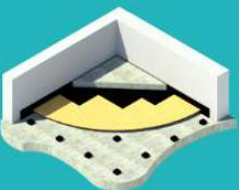
CineFLOOR MAX Features:

- f_n @ Operating Load: 10 Hz
- f_n @ Dead Load: 13 Hz
- Height: 215 mm
- Weight: 3.7 kN/m²
- Air Gap: 50 mm

CineFLOOR PRO

Where optimal performance meets optimal price.

[CLICK FOR PRO DETAILS](#)



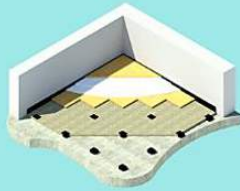
CineFLOOR PRO Features:

- f_n @ Operating Load: 9 Hz
- f_n @ Dead Load: 11 Hz
- Height: 165 mm
- Weight: 2.5 kN/m²
- Air Gap: 50 mm

CineFLOOR LITE

Maximising sound insulation with minimal imposed load.

[CLICK FOR LITE DETAILS](#)



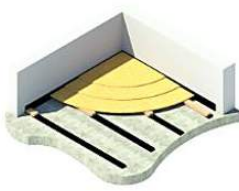
CineFLOOR LITE Features:

- f_n @ Operating Load: 9 Hz
- f_n @ Dead Load: 17 Hz
- Height: 110 mm
- Weight: 0.5 kN/m²
- Air Gap: 50 mm

CineFLOOR NEO

Market-leading sound insulation for cost-constrained projects.

[CLICK FOR NEO DETAILS](#)



CineFLOOR NEO Features:

- f_n @ Operating Load: 21 Hz
- f_n @ Dead Load: 27 Hz
- Height: 130 mm
- Weight: 0.3 kN/m²
- Air Gap: 85 mm



CINEFLOOR ACOUSTIC AND VIBRATION ISOLATION SOLUTIONS

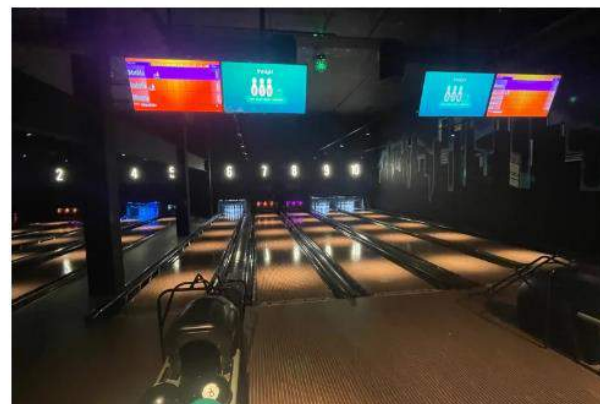


Building Acoustics Isolation Systems in Bowling Alleys

Farrat has pioneered the acoustic isolation of bowling floors. The unique challenge of three widely varying load profiles across a bowling lane (approach, lanes, pinsetter) combined with the very low-frequency vibrational energy induced by a bowling ball impact led to the development of the BowlFLOOR range.



Farrat have installed BowlFLOOR in venues around the world, working with big names like Hollywood Bowl, Superbowl, QubicaAMF and Yalla!, ensuring that bowling alleys fit into multi-use leisure facilities without disturbing other activities.



CineFLOOR quality

Each CineFLOOR grade uses natural rubber isolators that are manufactured to ISO 9001:2021 compliant quality standards and have been performance tested in UKAS and IPAC accredited laboratories. The compounding and manufacture of our isolators is backed by over 62 years of research and development in elastomer science.

Special care has also been taken to consider buildability, reliability and robustness in each design to ensure that both the installers and the operator's key interests are upheld – such as acoustic performance, longevity and lifecycle cost. We work regularly with the most respected cinema brands and project teams currently leading the market, including Cineworld, VOX, VUE, REEL, Odeon and Empire.





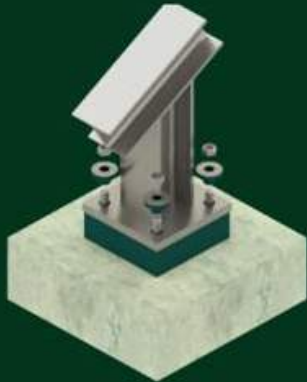
CINESTEEL ACOUSTIC AND VIBRATION ISOLATION SOLUTIONS



CineSTEEL MAX

The ultimate isolation grade for a new generation of 4DX cinemas.

[CLICK FOR MAX DETAILS](#)



CineSTEEL MAX Features:

- f_n @ Operating Load: 12 Hz
- f_n @ Dead Load: 14 Hz
- Isolator Thickness: 50 mm
- Max Pressure: 4.0 N/mm²
- Max Live Load: 4x Dead Load
- Isolator Type: Point Load, Bespoke-Cut

CineSTEEL PRO

Where optimal performance meets optimal price.

[CLICK FOR PRO DETAILS](#)



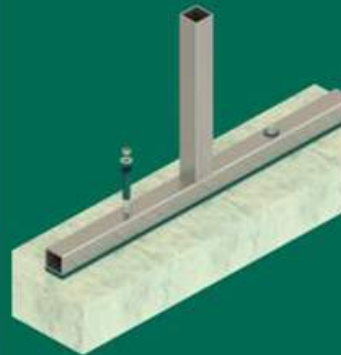
CineSTEEL PRO Features:

- f_n @ Operating Load: 12 Hz
- f_n @ Dead Load: 14 Hz
- Isolator Thickness: 25 mm
- Max Pressure: 20 N/mm²
- Max Live Load: 3x Dead Load
- Isolator Type: Point Load, Bespoke-Cut

CineSTEEL LITE

Maximising sound insulation with minimal imposed load.

[CLICK FOR LITE DETAILS](#)



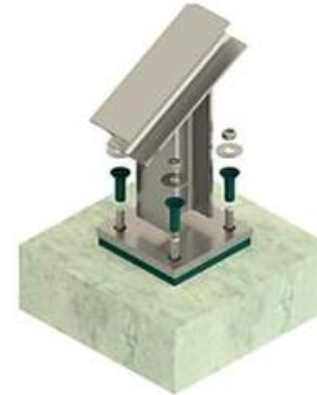
CineSTEEL LITE Features:

- f_n @ Operating Load: 14 Hz
- f_n @ Dead Load: 20 Hz
- Isolator Thickness: 12.5 mm
- Max Pressure: 0.05 N/mm²
- Max Live Load: 2x Dead Load
- Isolator Type: Standard Strip

CineSTEEL NEO

Market-leading sound insulation for cost-constrained projects.

[CLICK FOR NEO DETAILS](#)



CineSTEEL NEO Features:

- f_n @ Operating Load: 22 Hz
- f_n @ Dead Load: 30 Hz
- Isolator Thickness: 20 mm
- Max Pressure: 1.25 N/mm²
- Max Live Load: 2x Dead Load
- Isolator Type: 2x Point Load, Cut On-Site

CineSTEEL Quality

All CineSTEEL grades use acoustic isolators that are manufactured under an ISO 9001:2021 accredited quality management system. Our performance test data is supplied from our in-house laboratory, which is regularly checked and referenced with UKAS accredited, independent laboratories.

Special care has also been taken to consider buildability, reliability and robustness in each design to ensure that both the installers and the operator's key interests are upheld – such as acoustic performance, longevity and lifecycle cost. We work regularly with the most respected cinema brands and project teams currently leading the market, including Cineworld, VOX, VUE, REEL, Odeon and Empire.





CINEWALL ACOUSTIC AND VIBRATION ISOLATION SOLUTIONS



CINEWALL:



The ultimate isolation grade for a new generation of 4DX cinema technologies.



Single Strip:
fn (10m High): 15 Hz
Isolator Thickness: 12.5 mm
Max Wall Height: 22 m
Warranty: Up to 25 Years



Where optimal performance meets optimal price.



Single Strip:
fn (10m High): 24 Hz
Isolator Thickness: 12.5 mm
Max Wall Height: 13 m
Warranty: Up to 15 Years



Maximised sound insulation with minimal imposed load.



Single Strip:
fn (10m High): 17 Hz
Isolator Thickness: 12.5 mm
Max Wall Height: 9 m
Warranty: Up to 25 Years



Market-leading sound insulation performance for cost-constrained projects.



Single Strip:
fn (10m High): ____ Hz
Isolator Thickness: 5 mm
Max Wall Height: ____ m
Warranty: Up to 5 Years

CineWALL Quality

CineWALL solutions are manufactured under ISO 9001:2021 compliant quality management systems and have been performance tested by UKAS accredited organisations.

Special care has also been taken to consider buildability, reliability and robustness in each design to ensure that both the installers and the operator's key interests are upheld. Such as acoustic performance, longevity and lifecycle cost. We work regularly with the most respected cinema brands and project teams currently leading the market, including Cineworld, VOX, VUE, REEL, Odeon and Empire.

CineWALL designs do not require any ongoing maintenance and will last for the entire lifetime of a building.

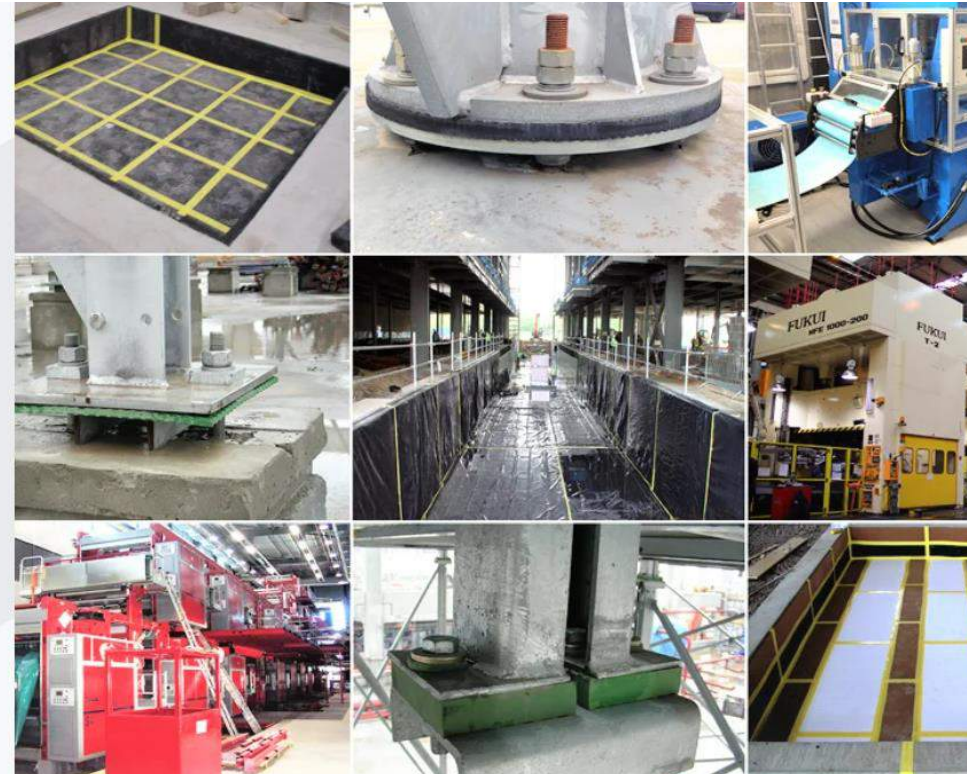


Our engineering capabilities

Our engineering capabilities allow us to help you identify vibration sources and design the right vibration isolation solution for your application.

Our range of anti-vibration materials are manufactured in the UK and distributed worldwide across a wide range of industries. We are proud of the high performance these materials have provided our customers in their applications. Material properties such as stiffness, dynamic stiffness, damping, load bearing capacity, shape factor, creep and hysteresis are continually tested in our R&D facility to provide an assured performance.

We operate under an ISO 9001:2021 Quality Assurance System and under the international ISO 14001:2021 Environmental Management Standard.



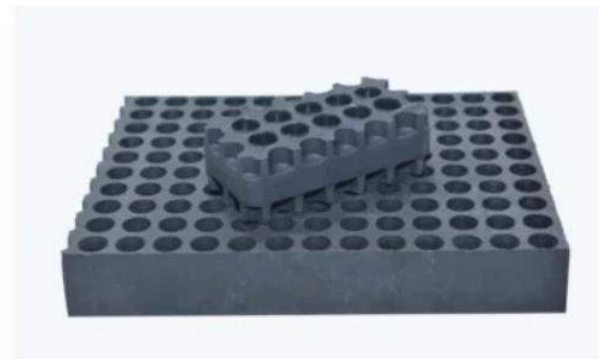
Vibration isolation of Impact Machinery

We understand the importance of selecting the correct vibration isolation solution for your impact machinery and the environment it operates in.



Vibration protection of Precision Machinery

Even small vibrations can significantly affect the accuracy and quality of precision machinery. Our specialist vibration solutions deliver repeatable results.



Anti-Vibration Materials

A high-performance range of vibration and shock damping materials with excellent chemical resistance to industrial fluids.

Our products & services



Engineering led vibration & noise consultancy

Farrat offer a wide range of analysis, design and consultancy services, working on-site to find the right solution.



Support and Levelling

We have been designing and manufacturing high performance Machine Mounts and Machinery installation systems since the 1959.



Vibration control in Industrial Buildings & Crane Rails

We focus on preventing the transmission of vibration and noise from crane rails to surrounding structures and equipment.



Isolated Machine Foundations in Industrial Facilities

Farrat Isolated Foundations are used in many applications to ensure the operating conditions in terms of vibration levels are controlled to within equipment specifications, to maximise productivity and conform to Health and Safety and local authority requirements.



Whether you are relocating existing machinery, installing new equipment or are involved in detailing foundations, Farrat have the knowledge and experience to provide the right Isolated Foundation solution.



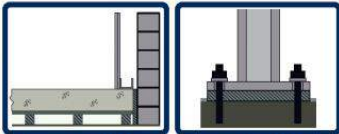
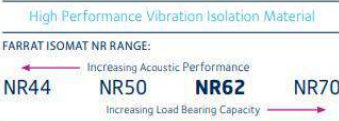
Our engineering capabilities

The selection of the appropriate vertical support bearings depends on factors such as the load requirements, expected vibrations, movement tolerance, and environmental conditions.

We recommend engaging our design and engineering team to ensure the correct design and vertical support bearing is supplied for your specific application or building.

Our Building Vibration Isolation solutions are manufactured to meet the ISO 9001:2021 and ISO 14001:2021 quality standards.

ISOMAT NR62



Isomat NR62 used as floating floor isolators Isomat NR62 used as steel column isolation

Isomat NR62 site applications:

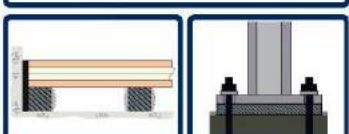


Applications

Farrat Isomat NR62 can be used in a wide range of vibration isolation applications, such as:

- Full Area**
- Full building isolation (raft-slab)
 - Heavyweight partition support
- Strips**
- Light/Medium weight partition support
 - Pre-cast concrete supports
- Pads**
- Acoustic floating floor isolators
 - Anti-vibration pads
 - Steel/timber frame isolation
 - Vibration isolation for machinery/plant
 - Isolated foundations for sensitive or high impact machinery

ISOMAT NR44



Isomat NR44 used as floating floor isolators Isomat NR44 used as steel column isolation

Isomat NR44 site applications:

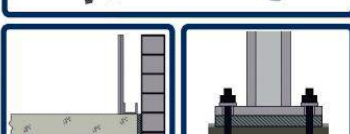


Applications

Farrat Isomat NR50 can be used in a wide range of vibration isolation applications, such as:

- Full Area**
- Full building isolation (raft-slab)
 - Heavyweight partition support
- Strips**
- Light/Medium weight partition support
 - Pre-cast concrete supports
- Pads**
- Acoustic floating floor isolators
 - Anti-vibration pads
 - Steel/timber frame isolation
 - Vibration isolation for machinery/plant
 - Isolated foundations for sensitive or high impact machinery

ISOMAT NR50



Isomat NR50 used as floating floor isolators Isomat NR50 used as steel column isolation

Isomat NR50 site applications:



Applications

Farrat Isomat NR44 can be used in a wide range of vibration isolation applications, such as:

- Full Area**
- Full building isolation (raft-slab)
 - Heavyweight partition support
- Strips**
- Light/Medium weight partition support
 - Pre-cast concrete supports
- Pads**
- Acoustic floating floor isolators
 - Anti-vibration pads
 - Steel/timber frame isolation
 - Vibration isolation for machinery/plant
 - Isolated foundations for sensitive or high impact machinery

CHARACTERISTICS	TEST STANDARD	PROPERTIES	UNIT
Hardness	BS ISO 48:2010	62 (+/- 3)	IRHD
Density	BS EN ISO 845	800	Kg/m³
Tensile Strength	BS ISO 37:2011	27.3	N/mm²
Elongation at Break	BS ISO 37:2011	606	%
Compression Set (24hrs@70°C)	ISO 815-1:2008	25	%
Tear Resistance Trouser Method A	ISO 34-1:2010	16.7	kN/m
Static Shear Modulus	BS ISO 1827:2007	1.08	N/mm²
Creep	ISO 8013 : 2006	2.4	% per decade

CHARACTERISTICS	TEST STANDARD	PROPERTIES	UNIT
Static Compression Modulus, E _c	Varies with load/thickness - see graphs		
Dynamic to Static Ratio	Determined using in-house test methodology. Test pad dimensions: 75 x 75mm	2.3	N/A
Damping Ratio, C/C _c @ f ₀		4.8	%
Max Static Pressure [Overload]		0.61 [0.92]	N/mm²
Max Residual Compression After Overload		2.0	%
Standard Sheet Size	+/-5%	1010x505	mm
Operating Temperature	N/A	-30 to +60	°C
Operational Life	N/A	60	Years

Farrat NBR – Nitrile (BR)

A high-performance range of vibration and shock damping materials with excellent chemical resistance to industrial fluids.



Applications

Farrat BR materials can be used as anti-vibration & damping pads for a wide range of industrial applications.

- › Impact machinery (e.g. PowerPress Elastomer Bearings for mechanical and hydraulic presses, turret punch presses, guillotines, etc.)
- › General use for industrial machinery and hydraulic equipment
- › Metal, timber and concrete production machinery
- › Printing & packaging machinery
- › Textile machinery
- › Measuring, test and electronic equipment
- › Mining equipment
- › High-speed industrial doors
- › Components, modules and systems in elevator industry
- › Vibration control and damping gaskets for structures and machinery, when combined with Farrat AWTH and AWR Acoustic Washers.
- › Damping pads on Farrat Wedgemounts & Jackmounts

Farrat Vidam (VM)

A high performance general purpose anti vibration material used globally in a wide range of industrial applications.



Applications

Farrat VM materials can be used as anti-vibration & damping pads for a wide range of industrial applications.

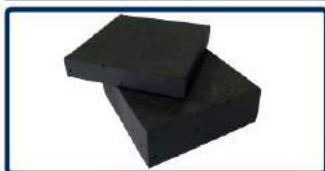
- › Isolated Foundations for machine tools and industrial equipment (saws, lathes, drills, guillotines, textile manufacturing equipment, reciprocating machines e.g. bodymakers, metal extruding presses, drawing presses etc.)
- › Heating, ventilating and refrigeration equipment (AHUs, CHRVs, Chillers etc.)
- › Lifts and escalators
- › Conveyors
- › Gen sets
- › Pumps & compressors
- › Buildings and structures
- › Modular accommodation, pods

VERLIMBER VR38 (Graphite)

Expanded Polyurethane Vibration Isolation Foam

FARRAT VERLIMBER RANGE:

Increasing Acoustic Performance
VR16 VR27 VR38
Increasing Load Bearing Capacity



Verlimber VR38 used for soil pressure bearing isolation Verlimber VR38 used for block work isolation

Verlimber VR38 site applications:



Applications

Farrat Verlimber VR38 can be used in a wide range of noise and vibration applications, such as:

Full Area

- Full building (raft-slab)
- Soil pressure bearing supports
- Movement joints

Strips

- Partition loading
- Corbels
- Timber frame supports

Pads

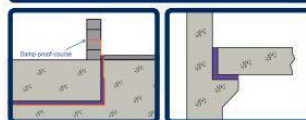
- Bespoke low-load isolation
- Steel/timber frame isolation
- General anti-vibration pads

VERLIMBER VR27 (Violet)

Expanded Polyurethane Vibration Isolation Foam

FARRAT VERLIMBER RANGE:

Increasing Acoustic Performance
VR16 VR27 VR38
Increasing Load Bearing Capacity



Verlimber VR27 used as raft-slab isolation Verlimber VR27 used as corbel strip isolation

Verlimber VR27 site applications:



Applications

Farrat Verlimber VR27 can be used in a wide range of noise and vibration applications, such as:

Full Area

- Full building (raft-slab)
- Soil pressure bearing support
- Movement joints

Strips

- Partition loading
- Corbels
- Timber frame supports

Pads

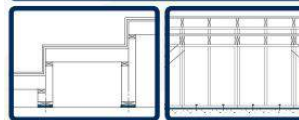
- Bespoke low-load isolation
- Steel/timber frame isolation
- General anti-vibration pads

VERLIMBER VR16 (Cyan)

Expanded Polyurethane Vibration Isolation Foam

FARRAT VERLIMBER RANGE:

Increasing Acoustic Performance
VR16 VR27 VR38
Increasing Load Bearing Capacity



Verlimber VR16 used to isolate light-weight timber structures See Farrat Application Document AVP-PLAS-14a for more information.

Verlimber VR16 site applications:



Applications

Farrat Isomat NR44 can be used in a wide range of vibration isolation applications, such as:

Full Area

- Full building isolation (raft-slab)
- Heavyweight partition support

Strips

- Light/Medium weight partition support
- Pre-cast concrete supports

Pads

- Acoustic floating floor isolators
- Anti-vibration pads
- Steel/timber frame isolation
- Vibration isolation for machinery/plant
- Isolated foundations for sensitive or high impact machinery

CHARACTERISTICS	TEST STANDARD	PROPERTIES	UNIT
Hardness	Asker C*	24 (+/-3)	IRHD
Density	BS EN ISO 845	385	Kg/m³
Tensile Strength	ISO 1798:2008	1.9	N/mm²
Elongation at Break	ISO 1798:2008	>400	%
Compression Set (70hrs@23°C)	ISO 1856:2000	<10	%
Water Absorption	Volume Swell - 7 Days*	<10	%
Creep	ISO 8013:2012*	1.7	% per decade

* Indicates value quoted has been converted from an equivalent standard, or where no standard exists, describes the methodology.

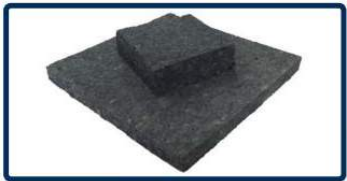
CHARACTERISTICS	TEST STANDARD	PROPERTIES	UNIT
Static Compression Modulus, E_c	Varies with load/thickness – see graphs		
Dynamic to Static Ratio	Determined using in-house test methodology. Test pad dimensions: 75 x 75mm	1.5	N/A
Damping Ratio, $C/C_c @ f_n$		5.7	%
Max Static Pressure [Overload]		0.22 [0.32]	N/mm²
Max Residual Compression After Overload		2.0	%
Standard Sheet Size	+/-2%	2000x1000	mm
Operating Temperature	N/A	-30 to +60	°C
Operational Life	N/A	60	Years

FAVIM FV10

Recycled Rubber/Foam Vibration Isolation Matting

FARRAT FAVIM RANGE:

← Increasing Vibration Isolation Performance
FV07 **FV10** FV55
Increasing Load Bearing Capacity →



Favim FV10 used as foundation sidewall isolation Favim FV10 used to isolate a lightweight partition

Favim FV10 site applications:



Applications

Farrat Favim FV71 is used for 'full area' vibration isolation, sound deadening and lateral isolation.

Industrial

- › Factory and warehouse floor isolation
- › Machine and plant isolated foundations / plinths
- › Laterally isolated foundations

Buildings and Structures

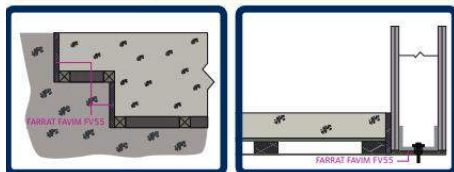
- › Wall channel isolation
- › Acoustic floating floors (commercial and residential)
- › Light and medium weight partition isolations
- › HVAC and plant equipment isolation
- › Lifts and escalators
- › Helicopter landing pads

FAVIM FV55

Recycled Rubber/Foam Vibration Isolation Matting

FARRAT FAVIM RANGE:

← Increasing Vibration Isolation Performance
FV55 FV71 FV75
Increasing Load Bearing Capacity →



Farrat Favim FV55 used as foundation sidewall isolation Farrat Favim FV55 used to isolate a lightweight partition

Farrat Favim FV55 site applications:



Applications

Farrat Favim FV55 is used for 'full area' vibration isolation, sound deadening and lateral isolation.

Industrial

- › Factory and warehouse floor isolation
- › Machine and plant isolated foundations / plinths
- › Laterally isolated foundations

Buildings and Structures

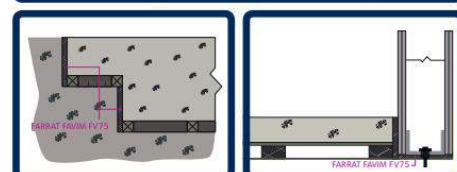
- › Wall channel isolation
- › Acoustic floating floors (commercial and residential)
- › Light and medium weight partition isolations
- › HVAC and plant equipment isolation
- › Lifts and escalators
- › Helicopter landing pads

FAVIM FV75

Recycled Rubber/Foam Vibration Isolation Matting

FARRAT FAVIM RANGE:

← Increasing Vibration Isolation Performance
FV55 FV71 **FV75**
Increasing Load Bearing Capacity →



Farrat Favim FV75 used as foundation sidewall isolation Farrat Favim FV75 used to isolate a lightweight partition

Farrat Favim FV75 site applications:



Applications

Farrat Favim FV55 is used for 'full area' vibration isolation, sound deadening and lateral isolation.

Industrial

- › Factory and warehouse floor isolation
- › Machine and plant isolated foundations / plinths
- › Laterally isolated foundations

Buildings and Structures

- › Wall channel isolation
- › Acoustic floating floors (commercial and residential)
- › Light and medium weight partition isolations
- › HVAC and plant equipment isolation
- › Lifts and escalators
- › Helicopter landing pads

CHARACTERISTICS	TEST STANDARD	PROPERTIES	UNIT
Hardness	BS ISO 48:2010	N/A	IRHD
Density	BS EN ISO 845	750	Kg/m ³
Tensile Strength	BS ISO 37:2011	0.50	N/mm ²
Elongation at Break	BS ISO 37:2011	60	%
Flammability	BS EN 13501-1:2007	E _n , B2	N/A
Compression Set (72hrs @ 23 °C)	ISO 815-1:2018	4.3	%

CHARACTERISTICS	TEST STANDARD	PROPERTIES	UNIT
Static Compression Modulus, E _c	Varies with load/thickness - see graphs		
Dynamic to Static Ratio	Determined using in-house test methodology. Test pad dimensions: 300 x 300mm	2-3	N/A
Damping Ratio, C/C _e @ f _n		TBC	%
Max Static Pressure [Overload]		0.80 [0.53]	N/mm ²
Standard Sheet Size	+/-5%	1250x1000	mm
Operating Temperature	N/A	-30 to +80	°C

AWTH Acoustic Washer

Neoprene top-hat washer with integrated bush

FARRAT ACOUSTIC WASHER RANGE:

← Lower Bush Dimension

AWR **AWTH** AWSTC

Increasing Acoustic Performance/Shear Load Capacity →



SEE OVERLEAF FOR TYPICAL DETAILS

AWTH Acoustic Washer site applications:



Applications

Farrat AWTH can be used in any bolt-through connection which requires acoustic isolation such as:

- › Steelwork isolation in building structures
- › Machine / plant holding down bolts
- › Push / pull acoustic connections
- › Facade fixings.

AWTH WASHER	BOLT COMPATIBILITY	DIMENSIONS					FARRAT ORDER CODES		
		A	B	C	D	E	SINGLE WASHER	BOX QTY	WASHER BOX
AWTH06	M6	25	6	5	9	16	1AWTH06	150	1AWTH06-150
AWTH08	M8	26	8.5	5.5	10	12.5	1AWTH08	150	1AWTH08-150
AWTH10	M10	30	10.5	6	10	14.5	1AWTH10	100	1AWTH10-100
AWTH12	M12	40	13	6.5	10	16.5	1AWTH12	50	1AWTH12-050
AWTH16	M16	50	17	8	10	22.5	1AWTH16	36	1AWTH16-036
AWTH20	M20	61	21	9	10	27	1AWTH20	20	1AWTH20-020
AWTH24	M24	65	25	10	10	31	1AWTH24	20	1AWTH24-020

AWR Acoustic Washer

Steel-reinforced Neoprene Acoustic Washer

FARRAT ACOUSTIC WASHER RANGE:

← Lower Bush Dimension

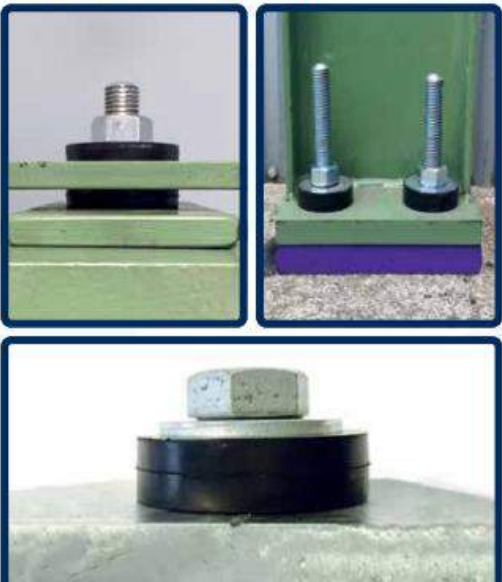
AWR AWTB AWSTC

Increasing Acoustic Performance/Shear Load Capacity →



SEE OVERLEAF FOR TYPICAL DETAILS

AWR Acoustic Washer site applications:



Applications

Farrat AWR can be used in any bolt-through connection that requires acoustic isolation such as:

- › Steelwork isolation in building structures
- › Machine / plant holding down bolts
- › Push / pull acoustic connections in conjunction with AWTB Acoustic Washers
- › Facade fixings.

Important Note:

If an acoustic washer is omitted then the anti-vibration pad will be bypassed by the fixing bolt and will therefore offer limited isolation as the vibration can be transmitted through the fixing bolt.

NORMAL APPLICATIONS			MAXIMUM LOADING		
TORQUE	NO. OF TURNS	STATIC DEFLECTION	TORQUE	NO. OF TURNS	STATIC DEFLECTION
Nm	-	mm	Nm	-	mm
NOT APPLICABLE					
2.5	1/4	0.4	4	1/4	0.6
5.5	1/4	0.4	8	1/4	0.6
18	1/4	0.4	27	1/4	0.6
22	1/4	0.5	33	1/4	0.8
52	1/4	0.6	79	1/4	0.8
56	1/4	0.6	85	1/4	0.8

Torque values and dimensions quoted refer to usage with dry, unplated metric bolt sizes with coarse threads

ACOUSTIC AND VIBRATION ISOLATION SOLUTIONS FOR INDUSTRIAL APPLICATIONS

Isoblocs

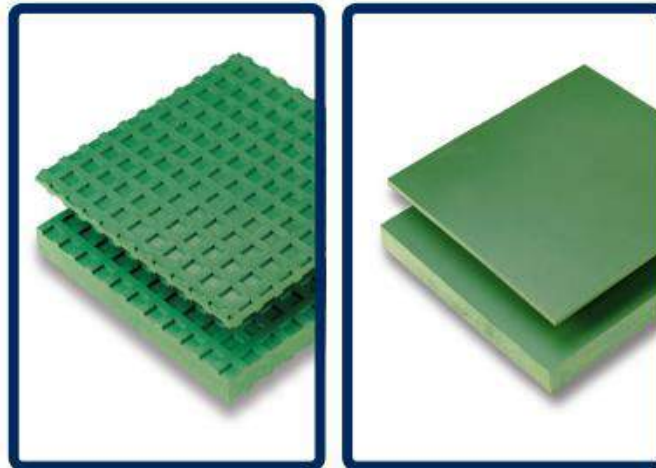
High Load Anti-Vibration Levelling Mounts

For more information visit: www.farrat.com



Farrat Squaregrip (SG)

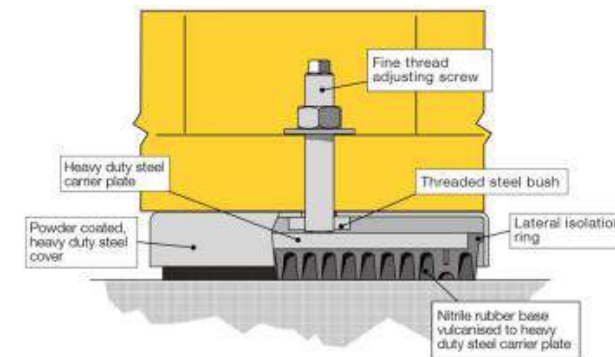
High stiffness vibration and shock damping material, produced from high grade fibre reinforced nitrile rubber.



Why choose Farrat Isoblocs?

Farrat Isoblocs have been developed specifically for, although their use is not limited too, power presses to provide effective vertical and horizontal shock absorption, vibration isolation and damping as well as easy and precise levelling on a much larger scale than Isomounts.

Load range from 7.500ka up to 50.000ka per mount.



Applications

Farrat SG materials can be used as anti-vibration & damping pads for a wide range of industrial applications.

- › Impact machinery (e.g. PowerPress Elastomer Bearings for mechanical and hydraulic presses, turret punch presses guillotines, etc.)
- › General use for industrial machinery and hydraulic equipment
- › Metal, timber and concrete production machinery
- › Printing & packaging machinery
- › Textile machinery
- › Measuring, test and electronic equipment
- › Mining equipment
- › High-speed industrial doors
- › Components, modules and systems in elevator industry
- › Damping pads on Farrat Wedgemounts & Jackmounts

SM Spring Mounts

High Performance Anti Vibration Mountings

Why choose Farrat SM Spring Mounts?

Farrat SM Spring Mounts are high performance anti-vibration mountings with adjustable levelling and damping control for efficient isolation of dynamic (active) machinery and protection of sensitive (passive) equipment and machinery.

High deflection helical steel springs are contained in stove enamelled aluminium housings to provide a robust and reliable low frequency solator. The levelling-fixing screw with locknut are zinc plated, however Gunmetal versions of sizes suffix G are available on request.

General information

The range of standard mountings allow up to 25 mm static deflection and are specially designed for land based installations with high vibration isolation. Where greater static deflections is required, the 50 mm deflection springs in the standard housings can be selected.

The load range is from 3kg up to 3,818kg per mount. All mountings are fitted with a built-in leveling device, the operation of which is described in the installation instructions.

Features

- Excellent vertical shock and vibration isolation performance
- High quality helical steel spring isolators
- Environmental protection casings
- Robust and reliable low frequency mounts
- Levelling facility

Applications

- Emergency power supplies
- Air handling units
- Air conditioning machines
- DC-AC converters
- Compressor packages
- Electrical equipment and generator sets
- Chiller units
- Pumps



Fig 1.1 Zinc plated SM Spring Mount.



Fig 1.2 SM Spring Mounts in industrial application.



Fig 1.3 Rectangular SM Spring Mount.



Why choose Farrat Jackmounts?

Farrat Jackmounts offer a simple secure and economical means of supporting and installing machinery suited to jackscrew support.

Manufactured by Farrat, they have been used for decades in thousands of applications around the world. Farrat Jackmounts should not be used under machines with strong vertical or horizontal shock forces (instead consider Farrat Isomounts, Farrat Wedgemounts or Farrat Isolated Foundations).

Features & Benefits

- Enables excellent, stable seating on uneven floors
- AV Pad adhered to each Jackmount
- High vibration damping to improve machine performance, reduce machine wear and lower noise levels
- Reduce shock transmission to and from the machine

Please specify Vibration Damping Grades when ordering.

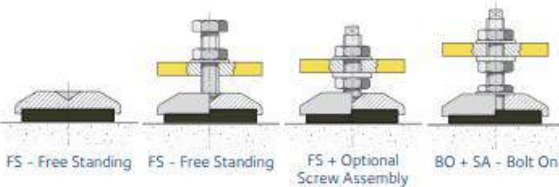
Jackmounts

Jack Screw Support with Farrat's High Performance Anti-Vibration and Damping Pads

For more information visit: www.farrat.com

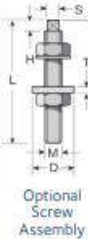


JCM - Bright zinc plated machine mounts



Farrat Jackmounts - Load Capacities, Dimensions & Variants									
Model	Maximum Loads per Mount for AV Pad Grades			Base size (mm)	Base Heights (mm)	Base Material	Jackmount Variant	*FS Cone Diameter C"	Possible SA Screw Sizes
	(kg)	(kg)	(kg)						
JCM	-50	-70	-90	D	H				
060*	150	300	500	70	25	Cast Iron 250	FS (+SA), BO (+SA)	20	M10, M12, M16
080*	250	500	1000	90	25	Cast Iron 250	FS (+SA), BO (+SA)	22	M10, M12, M16, M20
100*	400	800	1400	110	25	Cast Iron 250	FS (+SA), BO (+SA)	26	M12, M16, M20, M24
130*	650	1300	2400	140	27	Cast Iron 250	FS (+SA), BO (+SA)	28	M12, M16, M20, M24
170*	1100	2200	4000	180	27	Cast Iron 250	FS (+SA), BO (+SA)	32	M16, M20, M24

Mounting Required	Typical Applications for appropriate AV Grade	AV Pad Grade	AV Pad Material	AV Pad Thickness	Screw Assemblies (SA) Used to convert a plain hole in a machine base into a levelling screw (All Dimensions: mm)					
					SA Screw Size & Pitch	S	H	D	T	Length
Soft	Vibration sensitive equipment e.g. Measuring, Test, Optical, Laboratory Equipment	-50	NBR50-10P2	10	SA M10x1.5	8	10	30	5	80
					SA M12x1.75	8	10	30	5	100
Elastic	Active shock & vibration e.g. Injection Moulders, Packaging Machines	-70	NBR70-10P2	10	SA M16x2	11	10	40	6	150
					SA M20x2.5	13	10	40	6	180
Very Stiff	Very Stiff with damping e.g. Lathes, Transfer Machines, Grinders	-90	SG10-P2	10	SA M24x3	18	10	50	8	180



VIBRATION ABSORBER VA SERIES

CEILING VIBRATION ABSORBER /WALL VIBRATION ABSORBER

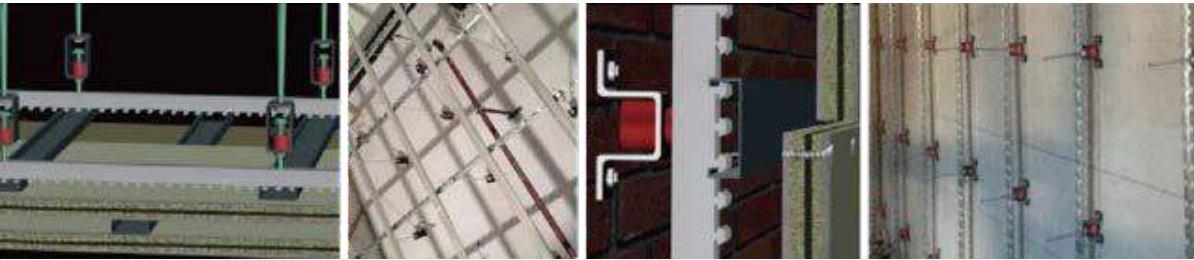
Ceiling vibration absorber is made of 100% original high polymer vibration damping adhesive, the age resistance time and the damping coefficient are five times that of the refurbishing adhesive, thereby ensuring the permanence and safety of vibration damping and sound insulation effect in the aspect of hardware quality. It is an effective way to cut off the structure-borne sound transmission of the suspended ceiling and the original base building ceiling. Wall vibration absorber is suitable for installing and fixing the wall reinforced sound insulation structure layer of form the sound insulation layer between the sound wave irradiation surface and the original base wall.



SMALLPOX SHOCK ABSORBER/WALL SHOCK ABSORBER

SPECIFICATIONS

Name	Ceiling vibration absorber / Wall vibration absorber
Comon Size	Ceiling: W 50mm * L 100mm * T 50mm Wall: W 50mm * L 110mm * T 50mm
Bearing weight	Ceiling: 25KG-35KG Wall: 25KG-50KG
Efective frequency range	80Hz-150Hz
Install method	Expansions Screw Fix
Application	Bar, KTV room, Music studio, etc.



SOUND INSULATION VIBRATION KEEL

Sound insulation vibration keel adopts natural rubber materials and light steel keel. Nature rubber is a soft link with wall and light steel keel. It cuts off the sound bridge and has good reduction for low and high frequency vibration. The empty space install method for keeling has obvious sound insulation and vibration effect in wide frequency. The damping rubber also has sound insulation and vibration effect for wall body vibration in low frequency. The simple structure and less space, low natural vibration frequency, good vibration effect keel. which is an idea device for wall body.



SPECIFICATIONS

Keel	Width in top: 35mm, width in bottom: 67mm, height: 25mm.
Rubber	W 25.5mm * L 92mm * H 22mm

GROUND VIBRATION ABSORBER

Ground vibration absorber adopts the short travel ultra-strong metal damping spring, and the high polymer vibration damping rubber block is adhered to the bottom plate of the vibration absorber to arm the dual-material wideband vibration absorbing structure. The application of ground vibration absorber for constructing the floating floor can effectively cut off the impact of vibration radiation layer on the original base layer, thereby improving the low frequency vibration and impact sound insulation properties,



COMMON SIZE

W 100mm * L 100mm T 95mm

APPLICATION

Bar, KTV room, Music studio, etc.



Wedgemounts

Wedgemounts are Levelling Mounts with Anti-Vibration Variants.

Farrat Wedgemounts have provided the ideal solution for accurate, efficient and economical machine installations globally, for over 50 years. Whether you are relocating existing machinery, a machine manufacturer, or simply require a better solution for your existing installation, Farrat can help.

Features and Benefits

- Enhanced mechanical advantage for easier levelling
- Enhanced machine stability which provides high stiffness and support in both horizontal and vertical directions
- Damping pads reduce vibration within the machine and contribute to the isolation of the foundation below
- Easy installation and relocation of machines
- Flexibility in applications where high loads and/or damping is required

Typical Applications

- General Machine Tools
- Boring and Milling Machines
- Grinding Machines
- Long Bed Machinery
- Printing Machines
- Injection Moulding Machines
- Transfer Machines
- Building and Structures
- CNC Lathes and Machining Centres
- Die-Casting Machines
- Rolling Mills
- Civil Engineering

Precision Levelling and Damping Options

Farrat Wedgemounts are designed to cover all standard requirements. They are available in 10 sizes and offer load capacities up to 25 tonne per mount. There are 3 standard damping options, 3 installation options and a range of accessories including Farrat Screw Assemblies, Farrat Anti-Vibration Washers and Farrat Spheriseats.

The Standard Grade* offers the greatest amount of damping but does have the greatest compression under load, so is recommended for machines which have a high level of structural stiffness. The Very Stiff Grade* offers the greatest support with little deflection, but with the benefits of micro-damping to improve the performance of the machine. To achieve the greatest support / stiffness for a machine, the Precision Wedgemount without pads is recommended.

*See datatables on page 6 for Grade details.



Global Reach

Farrat supplies directly to a broad range of customers in size and industry, across all continents. Customers range from the Original Equipment Manufacturers, end users relocating machinery, to Production Engineers wishing to enhance operational effectiveness.



Isomounts

Versatile, High Quality Anti-Vibration and Levelling Mounts for Industrial Machinery

For more information visit: www.farrat.com

Why choose Farrat Isomounts?

Farrat Isomounts have been designed to provide effective vertical and horizontal shock absorption, vibration isolation and damping as well as easy and precise levelling for a wide variety of machinery and equipment.

Load range from 150kg up to 5,000kg per mount.

Layout Flexibility

Isomounts provide a simple, economical and flexible solution to factory or plant room layout planning, enabling easy installation and movement of machines without the need for bolting down or grouting.

Quality & Durability

Isomounts are manufactured from the highest quality zinc plated steel and Farrat NBR high damping, oil resistant rubber. The design has been continuously improved to ensure long-term durability against mechanical degradation and chemical corrosion. This is proven with thousands of worldwide industrial applications.

Typical Applications

- Compressors and Pump Sets
- Hydraulic Power Packs
- Presses: Forging, Hydraulic and Mechanical
- Diecasting Machines
- Injection Moulding Machines
- Rubber Machinery
- Diesel Generators
- Packaging Machinery
- Testing and Measuring Machinery

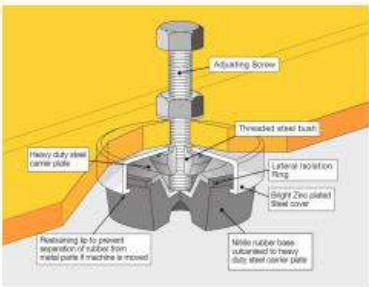


Fig. 1.1 Injection moulding machines installed on Farrat Isomounts



Fig. 1.2 Injection moulding machine installed on Farrat Isomounts

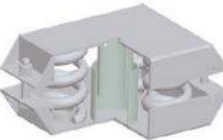
FSL Isolators

FSL Coil Spring Isolators

FV Viscous Dampers

FSLV Coil Spring and Viscous Damper Systems

Heavy Duty Structural Coil Spring Isolation for Structures and Sensitive Equipment.



ALUMINUM PANEL AND FACADE SOLUTIONS



Imitation Wood Aluminum Panel

Product Features

10-15 year color guarantee for outdoor used, Different wood color are available





Imitation Stone Aluminum Panel



Hyperbolic Aluminum Panel





Non-standard Aluminum Ceiling



◎ WH Subway Station Ceiling



◎ Subway station Ceiling



◎ Train Station Ceiling



◎ GZ International Airport Ceiling

Aluminum Solid Panel



Specification

General Thickness :1.5mm, 2mm, 2.5mm, 3mm, 3.5mm, 4mm, 5mm, 6mm etc

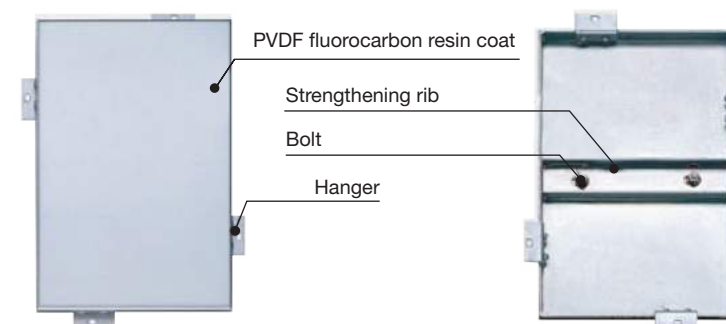
Product Features

UNIGROUP brand aluminum panel is mainly used alloy 1xxx series, 3xxx series, 5xxx series as raw materials from global well-known suppliers. It is in light weight, good rigidity, and high strength; has good weathering resistance; easy to process and weld, can be processed complex shape such as flat surface, arc wall face, spherical surface, etc.. It has many colors to choose to make good embellishing effects. It has good stain resistance, it is easy to clean and maintain; easy to assemble and can be recycled, conducive to environmental protection.

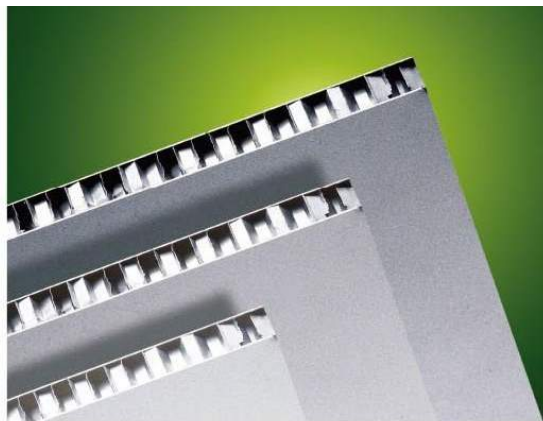


Product Advantages

- 1) Lightweight, good rigidity and strength;
- 2) Non-flammable, excellent fire resistance;
- 3) Excellent weatherability resistance, excellent ultraviolet ray resistance, superior resistance to acids and alkali, shelf life is 15 years without discoloration under normal outdoor environment;
- 4) Good processing technique, plane, arc and round processing etc all are available;
- 5) With complicated shape such as pagoda, difficult to get dirt, easy for maintenance and caring;
- 6) Wide color selection, ultra good decoration effect;
- 7) Easy to be recycled, with no pollution, good for earth saving



Aluminum Honeycomb Panel



CLASSIC METAL
CONSTRUCTION

Product Features

UNIGROUP brand aluminum honeycomb sandwich panels is the use of the current international advanced aviation technology combined with advanced automatic production equipment, making the aluminum and aluminum honeycomb core bonded to a high-tech environment-friendly decorative materials. We adopt continuous high-temperature compounding technology from German, use high-intensity heat plastic adhesion system, It comply with green product direction, with super weather ability fluorocarbon resin with colored pre-roll coating techniques. High strength, good rigidity, light weight, ultra-smooth, uniform color, sound and heat insulation, thermal insulation, moisture, fire, wind pressure, seismic, weather resistance, long life and easy installation, wide option for color and so on. What's more, its' cost performance is far beyond the traditional aluminum composite panel, which is truly 'Green Environmental Protection ,energy conservation 'and really the first choice of material for modern decoration.



Specification

- 1)Top: aluminum alloy sheet coated with fluoro-carbon resin((pvdf) roasting painting
- 2)Core: aluminum honeycomb core, thickness of aluminum 0.4, 0.5 or according to customer's requests
- 3)Bottom: aluminum alloy sheet coated with polyester resin painting
- 4)Surface finish: treated with pvdf resin rolling roasting , surface coating thickness 30μ m
- 5)Aluminum:h3003 or according clients'request
- 6)Aluminum alloy sheet thickness: 0.5 -1.2mm
- 7)Thickness: 6mm-30mm for decoration material
- 8)Size: width≤1500mm≤length≤5800mm

Product Advantages

- 1, Light and straightness
- 2, Excellent rigidity
- 3, High intensity
- 4, Wind pressure resistance
- 5, Fireproof, sound and thermal insulation, shock absorption
- 6, Even coating and various colors
- 7, Easy to maintain and environmental protection

