ECCO BOARD

WOODEN ACOUSTIC PANELS

Basics of **Acoustics**

Building environment not only should be beautiful, but also be of Good Quality. Architectural design should be people-oriented. What we need to do is to care for millions of people's feeling of hearing. For example, to reduce the noise to a minimum, to make concert halls, theaters to achieve the best acoustic effect, and so on.

Classification of the Sound

The decibel (dB) is used to measure sound level.

The loudness of sound	0 db	20 db	40 db	60 db	80 db	100 db	120 db
Example	Barely audible voice	Quiet office	Talking in office	Talking loudly	Noisy streets	Noise of a train	Sound of aircraft engine

Difference Between Soundproofing and Sound Absorption Products

Soundproofing products trap the sound. They contain the sound within a space, making it impossible for the sound to move to other parts of the building. They also stop unwanted sound from entering the room.

Sound absorption products soak up sound. They absorb sound waves and prevent them from bouncing off the walls. They improve the quality of the sound within a room.

There is huge difference between soundproofing and sound absorption products, but in actual projects, they are usually used together in order to reach the best acoustic effect.

What's NRC?

To be able to compare the performance of different sound absorption products, we rate them by how much sound they can soak up. This rating is called NRC, which stands for Noise Reduction Coefficient. Generally, the higher the NRC rating, the better the product is at absorbing sounds.

Wooden Grooved **Acoustic Panel**

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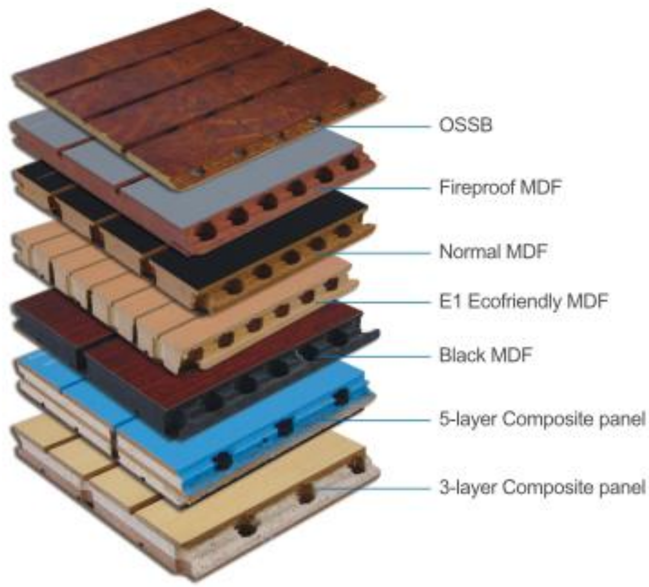
Wooden grooved acoustic panel is one of the most advanced and efficient absorption products available today for reducing reverberant sound levels in many environments, such as gymnasiums, hotels, exhibition centers, schools, studios, reception areas, lecture theatres, offices and commercial buildings. They are developed based on acoustical theories, and manufactured by advanced equipment and technology. Thanks to the ingenious design and all kinds of decorative surfaces, these acoustic panels are not only easy to install, but also visually attractive.

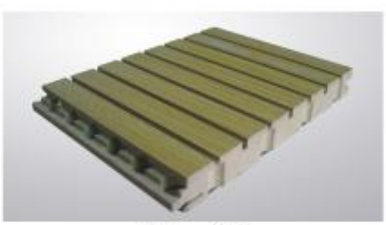
Wooden grooved acoustic panel is made up of a series of longitudinal slats and grooves. Each panel has a machined tongue down one long edge and a machined groove down the other long edge. Each end is square edged. Four standard patterns of Leeyin grooved acoustic panels are available: 13-3, 14-2, 28-4, 59-5, which are named by the width of the slats and grooves. For example, version 13-3 has slots machined at every 16 mm resulting in each slat being 13mm wide and each groove being 3mm wide.

Specifications

1.Structure: Base Material, Finish & Back Finish
2.Basic Material: E1 MDF, FR MDF, MgO Combination Board etc.
3.Front Finish: Melamine, Natural Wood Veneer, Paint, etc.
4.Back Finish: Black Fleece
5.Standard Size: 2440*192mm, 2440*128mm
6.Standard Thickness: 12/15/18mm
7.Standard Pattern: 13-3,14-2,28-4,59-5
8.Acoustic Principle: Resonance Absorption
9.Formaldehyde Emission: Can Meet Both China & EU Standard Class E1
10.Frame Retardant: Can Meet China Standard Class B, BS476 Part 7 Class 1, etc.

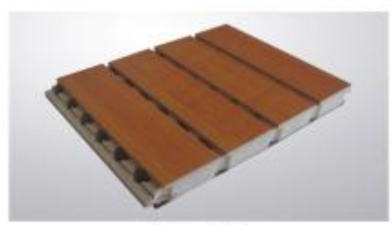


Base Material Comparison

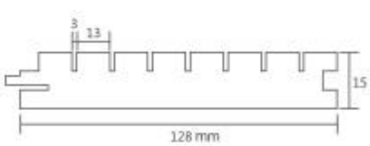


Pattern 13-3

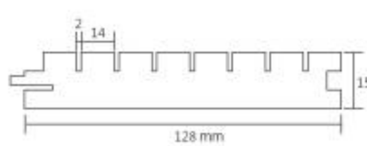
Pattern 14-2



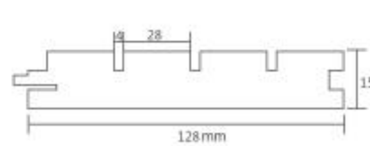
Pattern 28-4



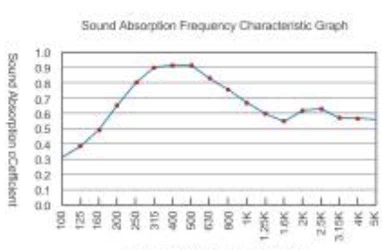
(Pattern 13-13) Perforation Rate:12%

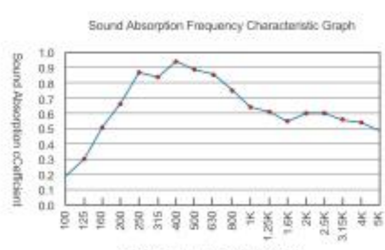


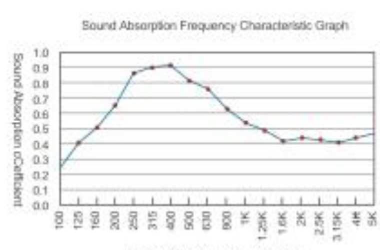
(Pattern 14-2) Perforation Rate:7.5%



(Pattern 28-4) Perforation Rate:7%







Wooden Grooved **Acoustic Panel**

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Installation

A) Preparation

1. The place of installation must be dry, with the lowest temperature no less than 10 degrees Celsius.
2. After installation, the largest humidity changing rate of the place of installation should be between 40% to 60%.
3. The acoustic panels to be installed must be placed in place of installation for at least 48 hours in order to adapt to the indoor environment.
4. The distance between each wood keel must be less that 500mm and that between each light steel keel should be no more that 600mm.

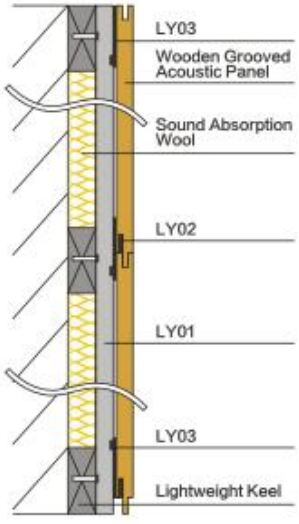
B) Installation

1. Confirm the places of installation, determine the horizontal and vertical lines, and determine reserved measurements for the electric wire socket, pipes, etc.
2. Calculate the actual constrction measurements and cut part of acoustic panels if needed.
3. Start to Install and follow the rules: from left to right, from bottom to top. For horizontally installation, make the grooves up; for vertical installtion, make the tougues on the right. For real wood veneer acoustic panels that have requirements on the direction of the stripes, the panels should be installed according to pre-marked sequence numbers.

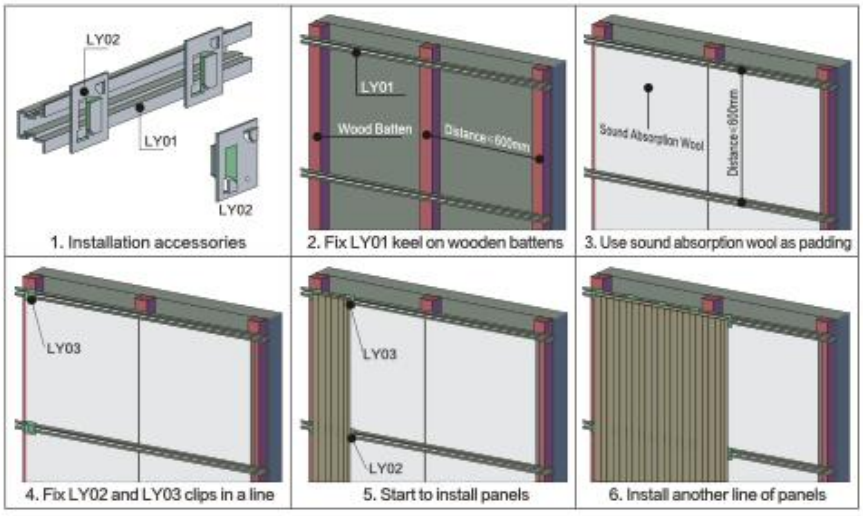
C) Installation System

1. Lightweight steel keel system
2. Wooden batten system

Yunnan Arts College Dance Training Room



Cross-section Structure



Installation: Lightweight Steel Keel System

Wooden Perforated **Acoustic Panel**

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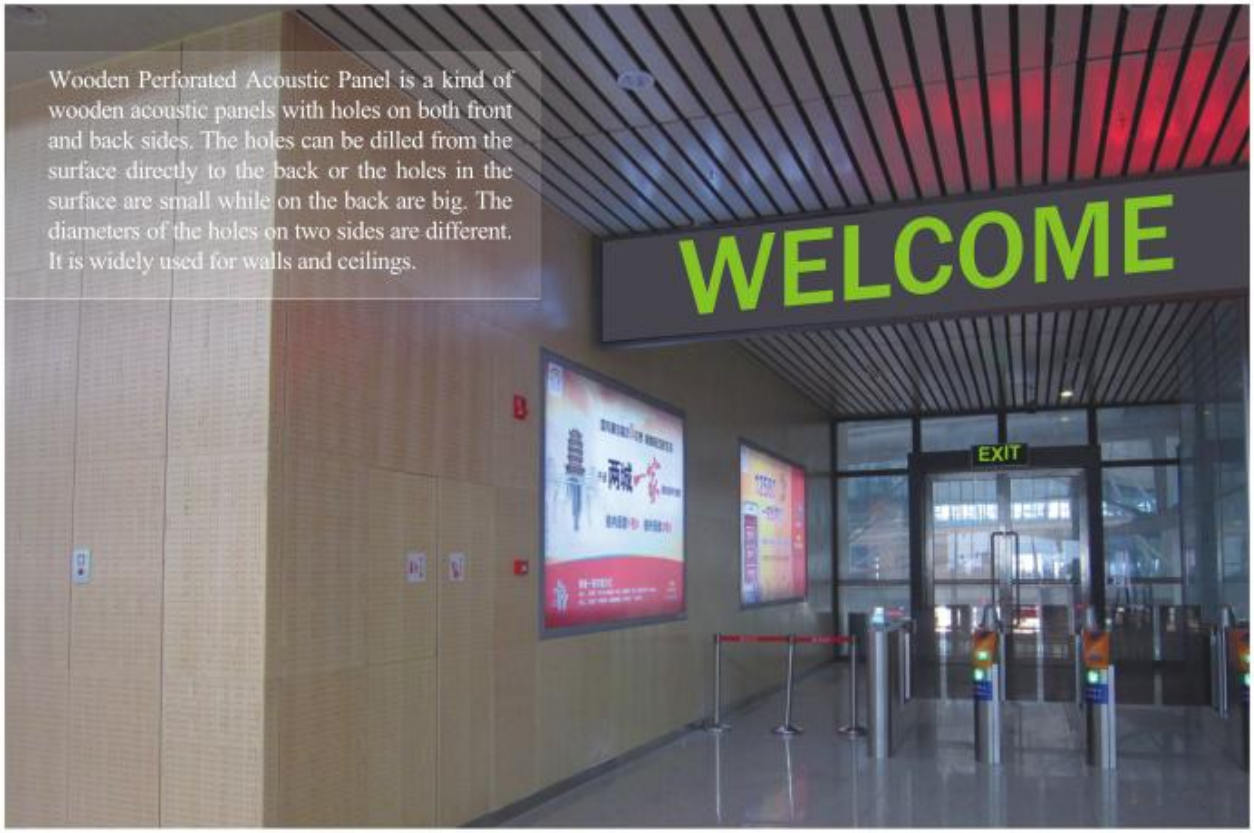
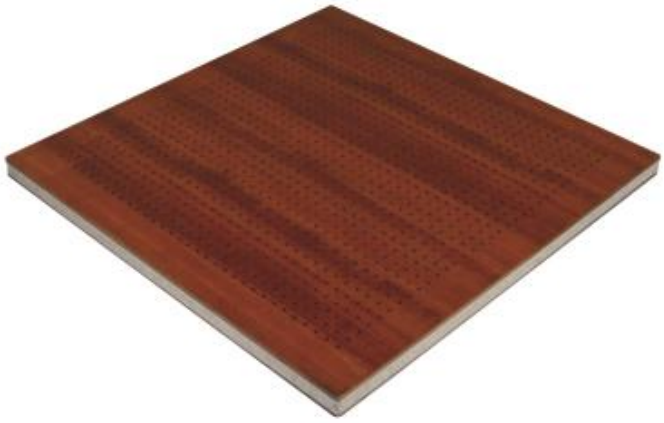
WOODEN ACOUSTIC PANELS

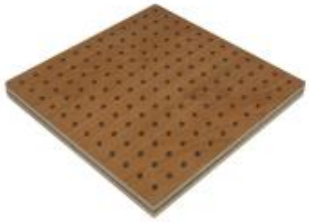


Wooden Perforated Acoustic Panel is a kind of wooden acoustic panels with holes on both front and back sides. The holes can be dilled from the surface directly to the back or the holes in the surface are small while on the back are big. The diameters of the holes on two sides are different. It is widely used for walls and ceilings.

Specifications

1.Structure: Basic Material, Finish & Back Finish
2.Basic Material: E1 MDF, FR MDF, MgO Combination Board etc.
3.Front Surface: Melamine, Natural Wood Veneer, Paint etc.
4.Back Surface: Black Acoustic Felt
5.Standard Dimension: 600*600, 1200*600, 1200*1200, 2400*1200mm
6.Standard Thickness: 12/15/18mm
7.Distances of two holes: 8/8mm, 16/16mm and 32/32mm
8.Diameter of holes: 1,2,3,4,5,6,8,10,12mm, etc.
9.Popular Patterns: 8/8/1, 16/16/3, 16/16/6, 32/32/6, 32/32/8, etc.
10.Acoustic Principle: Resonance Absorption
11.Eco-Friendly: Can Meet both China & EU Standard Class E1
12.Fire Resistance: Can Meet China Standard Class B1 & BS476 Part 7 Class 1





Wooden Perforated **Acoustic Panel**

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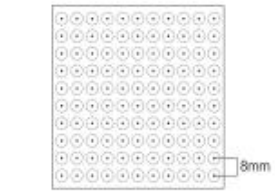
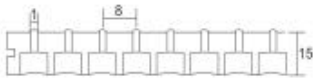
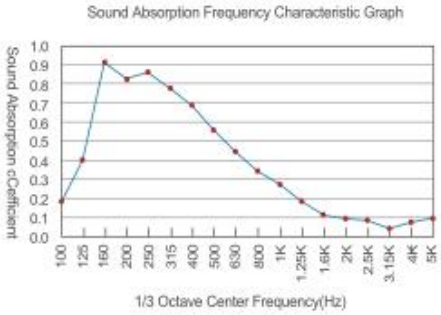
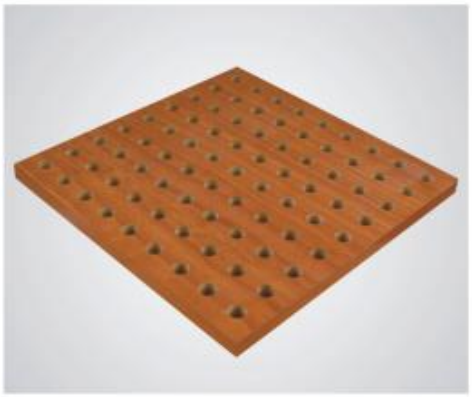
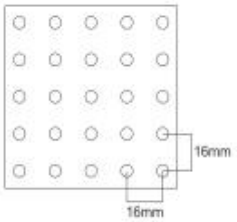


Pattern:
8-8-1 Micro Holes

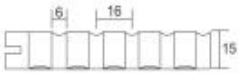


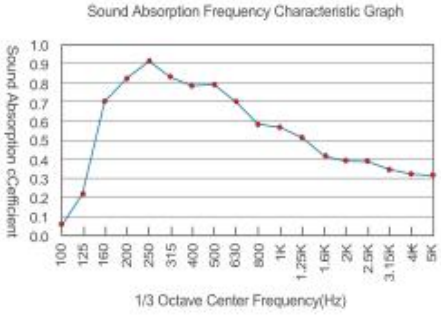






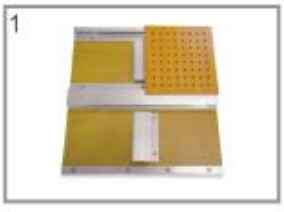
Pattern:16-16-6

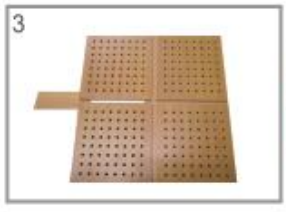


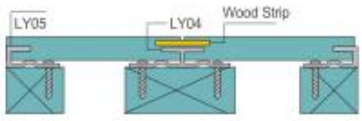


Since wooden perforated acoustic panel, wooden special pattern acoustic panel (See Page 7) and wooden decorative panel (See Page 8) have similar structure, they also share the same installation systems. As all wooden panels expand with heat and contract with cold by nature, it's strongly recommended to use our installation system I (with gap) to install.

Installation System Ⅰ (with gap)

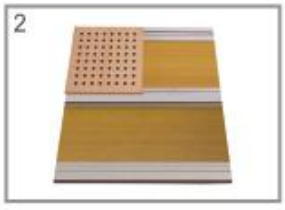


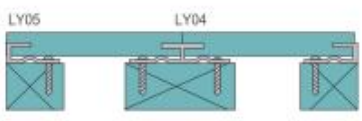




Cross-section Structure

Installation System Ⅱ (without gap)





Cross-section Structure

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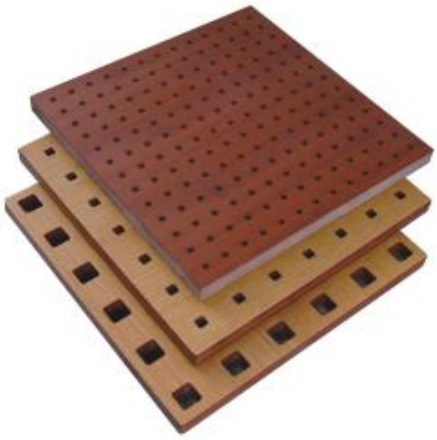
Cross Grooves

M Pattern



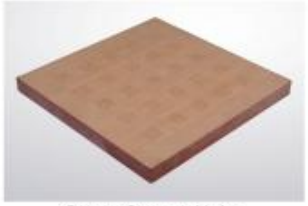
Square Holes

Pattern Wooden **Acoustic Panel**

Special pattern wooden acoustic panel derives from wooden perforated acosutic panel. It has the same structure as wooden perforated acosutic panel with more decorative surface patterns. Other than several standard patterns, it can be customzied with the design provided by customer. It's also used for walls and ceilings.

Standard size:

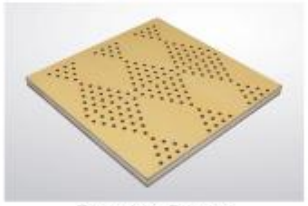
600*600, 1200*600, 1200*1200, 2400*1200mm



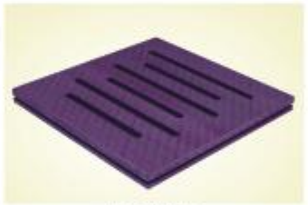
Group Square Holes

Animal Shapes

U Pattern



Rhombus Pattern



Long Slots