



CASSETTE WALL & CEILING®

 Takeshin Package Co., Ltd.



— What is **CASSETTE WALL & CEILING**® ? —

The World's Only


Changeable Cassette-Type Design Wall

Enhancing sound quality with
versatile designs and multiple-layer structure.
Making acoustic design fit to your environment.

We are committed to designing a high quality space for you.

- Patented in Japan and USA/ Patent pending in Europe -





Reflecting sound
and howling make us
uncomfortable.

Want to put sound
absorbing materials,
but also want to keep
stylish interior.

Want to have
your own special
and original space.



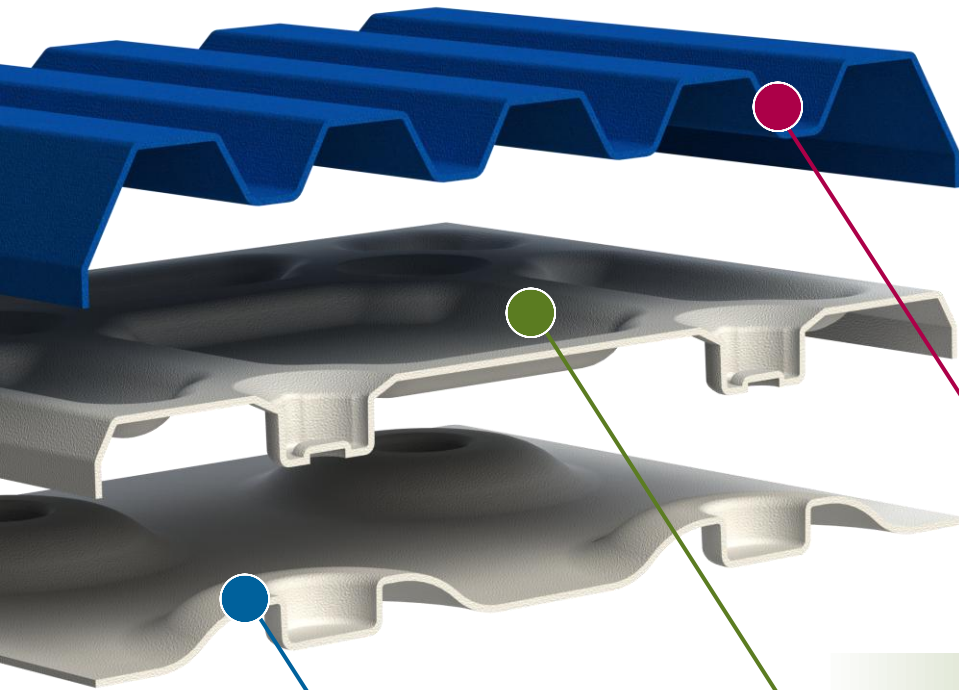
CASSETTE WALL & CEILING[®] plays a role for you.



Structure

Controlling sound with air layer constructed out of three-layer structure.

Each layer fits each other with subtle friction, adopted easy-to-assemble method no require any tools.
(Patented)



COVER

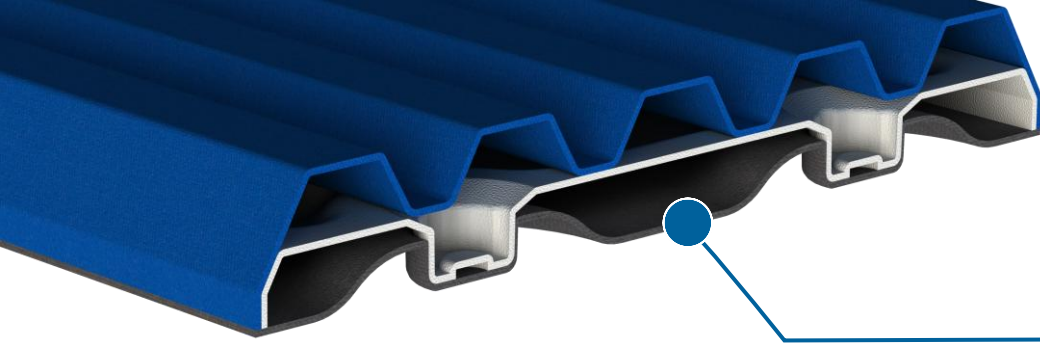
The designs cover introduces diversity to the space, with a wide range of color variations and shapes.

BASE

The crucial part connects the panel and the cover.
Three sizes make it possible to design freely.

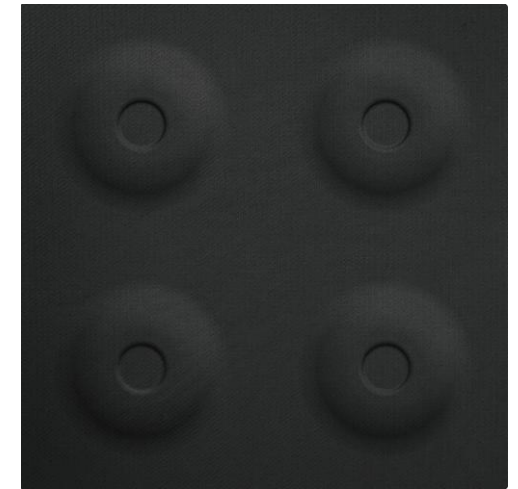
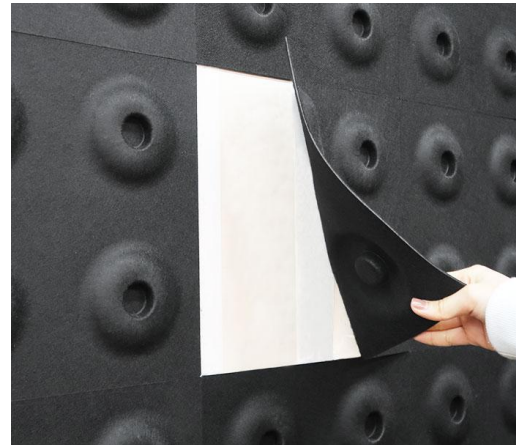
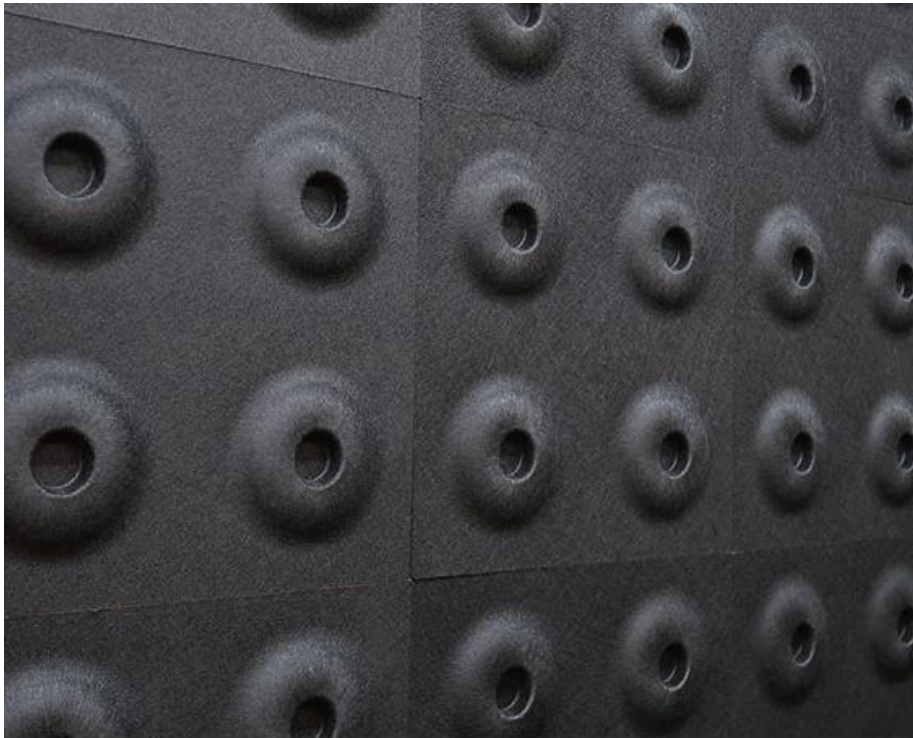
PANEL

The first layer attaches to the wall,
using dedicated tape, staples or adhesive to install.



PANEL

Material: Flame-retardant nonwoven polyester fabric



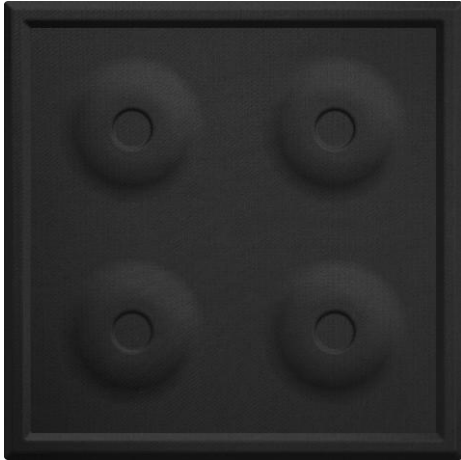
Borderless Panel
size:303 × 303(mm)

This panel is used when installing the cassette without gaps.

There are three types of bases available to secure the cover, these enable a high level of design flexibility and maximize the appeal of CASSETTE WALL & CEILING®.

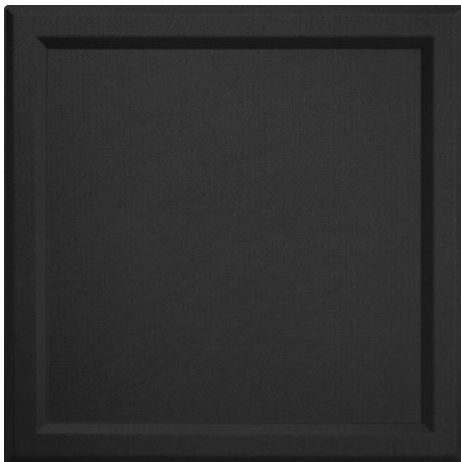
The borderless panel is the standard panel that brings out the full potential of the product.

Panel with Border · Baseless Panel



Panel with border allows the cassette to be installed independently. The cover can be attached without the base with this. Three types of lineups: Quarter, Regular, and 3-Piece, with a selection of 32 colors. We recommend it for those who want to frequently change the design.

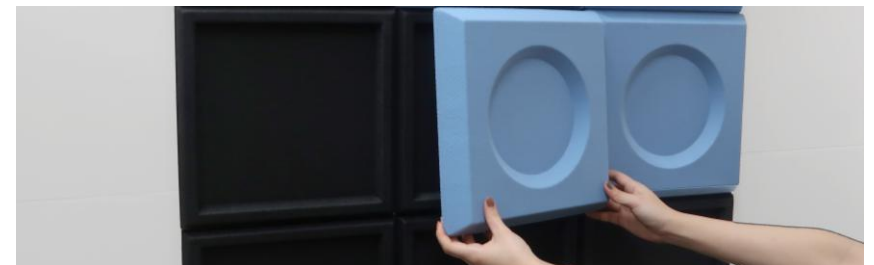
Panel with Border
size:303 × 303(mm)

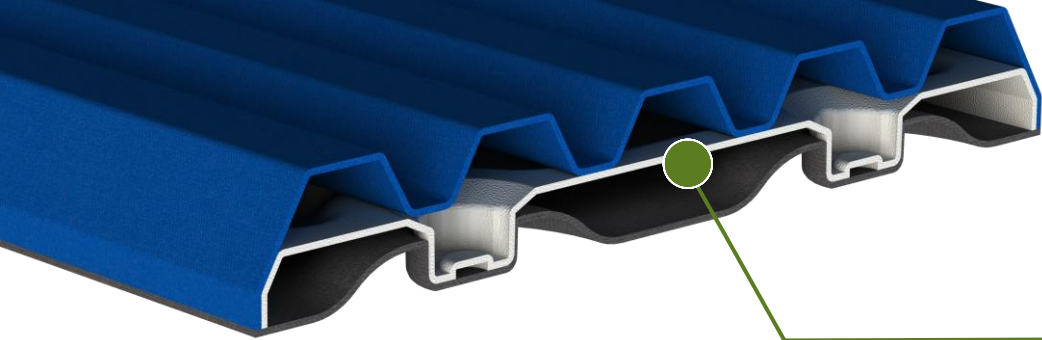


Baseless panel also makes it possible to be attached the cover without the second layer of base. The original space for the base to be used creatively with this panel.

You can adjust the sound absorption effect and enjoy further customization of the space.

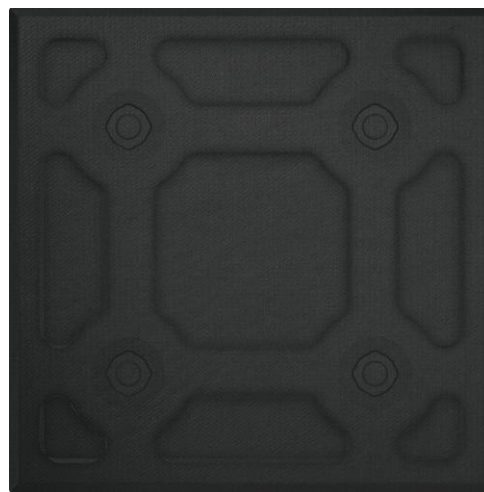
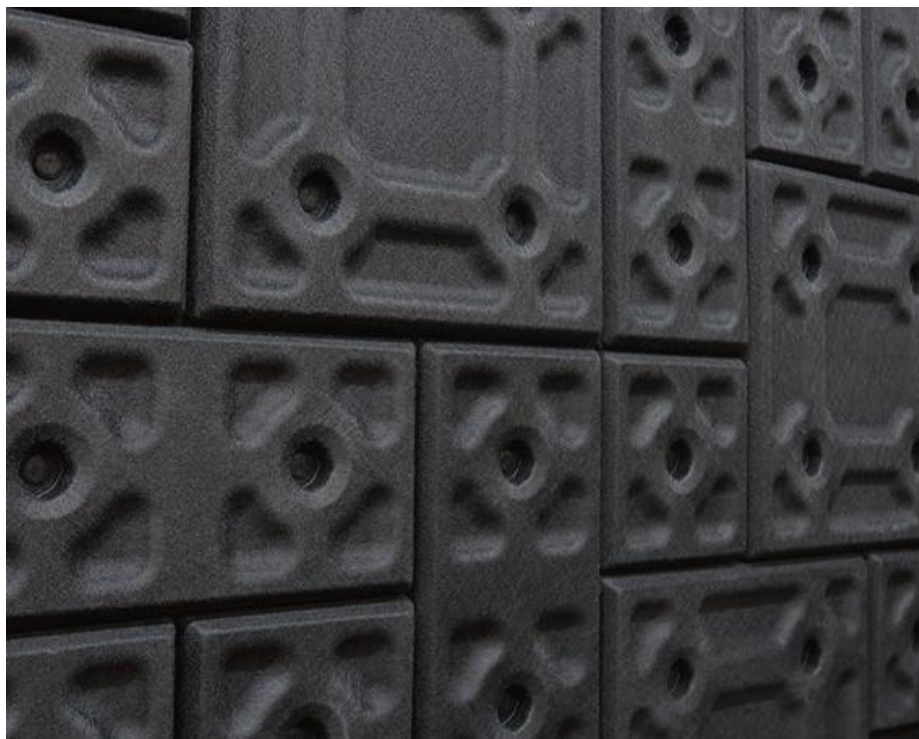
Baseless Panel
size:303 × 303(mm)



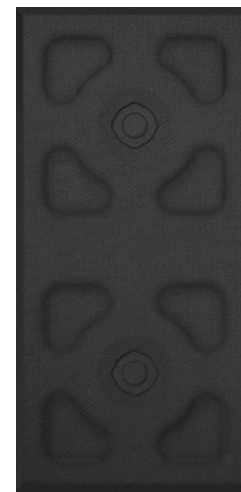


BASE

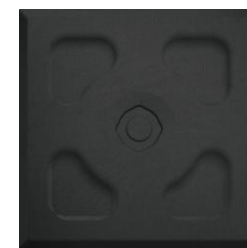
Material: Flame-retardant nonwoven polyester fabric



Regular Base
size:299 × 299(mm)



Half Base
size:299 × 147(mm)



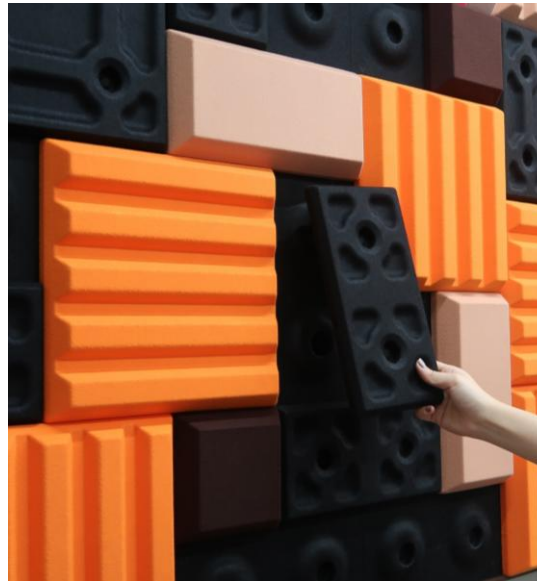
Quarter Base
size:147 × 147(mm)

The crucial part connects the panel and cover.
Three kinds of sizes make it possible to design freely.

Inconsistently Positioning



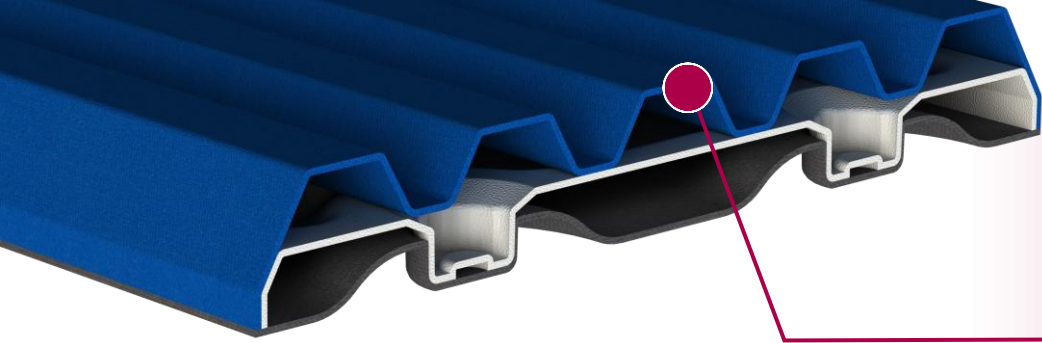
By arranging the covers in a regular pattern, you can create a simple and cohesive design.



A design that utilizes offset arrangements and a rich variety of elements to create dynamism and a sense of playfulness.

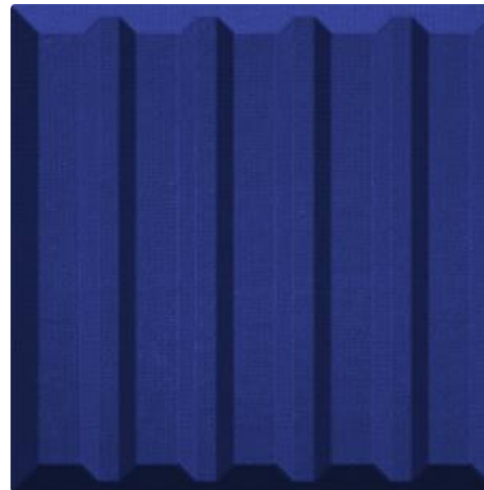
The design versatility made possible by the changeable cassette.

The patented cassette detachable system enhances design freedom. Once the base panel is installed, you can change the design as many times as you like by simply swapping the covers. Additionally, the ability to offset the placement allows for more complex and dynamic design expressions.

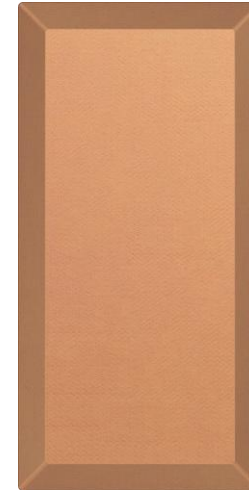


COVER

Material: Flame-retardant nonwoven polyester fabric / felt



Regular Cover
size:303 × 303(mm)



Half Cover
size:151 × 303(mm)



Quarter Cover
size:151 × 151(mm)

The design cover diversifies the space,
with a wide range of color variations and shapes.

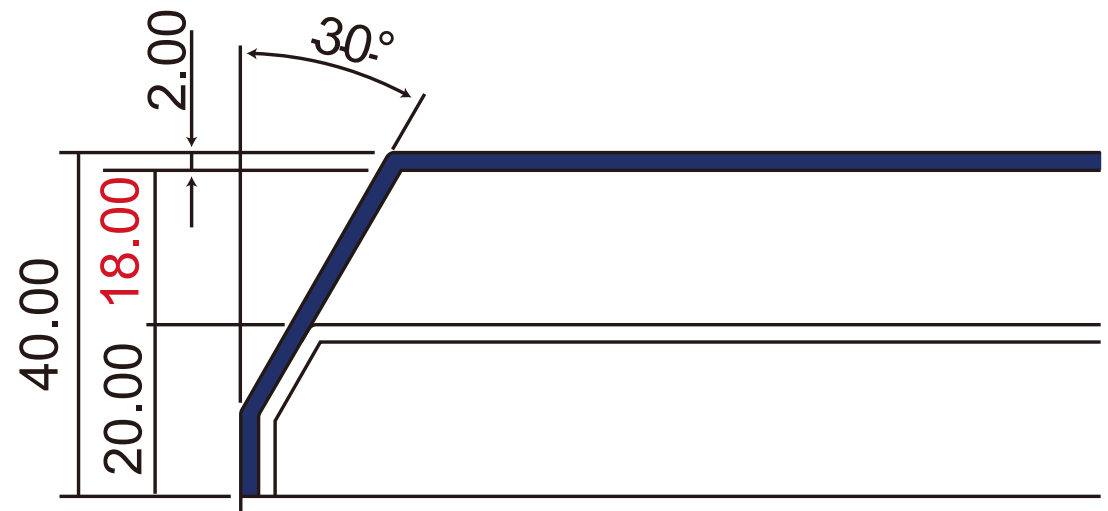
Originally Designed Cover



The design 18 mm from the surface decides the appearance.

We have an in-house design to manufacture almost of the mold processing to production facilities.

Its process implements the design to manufacture of the molding dies shortly, and it's easy to produce the original design cover.



Visual

You can decorate with various colors and designs and create a luxurious interior space.



Sound

Absorbing wide range of frequencies in a good balance.
Natural voice and sound reach you without discomfort.



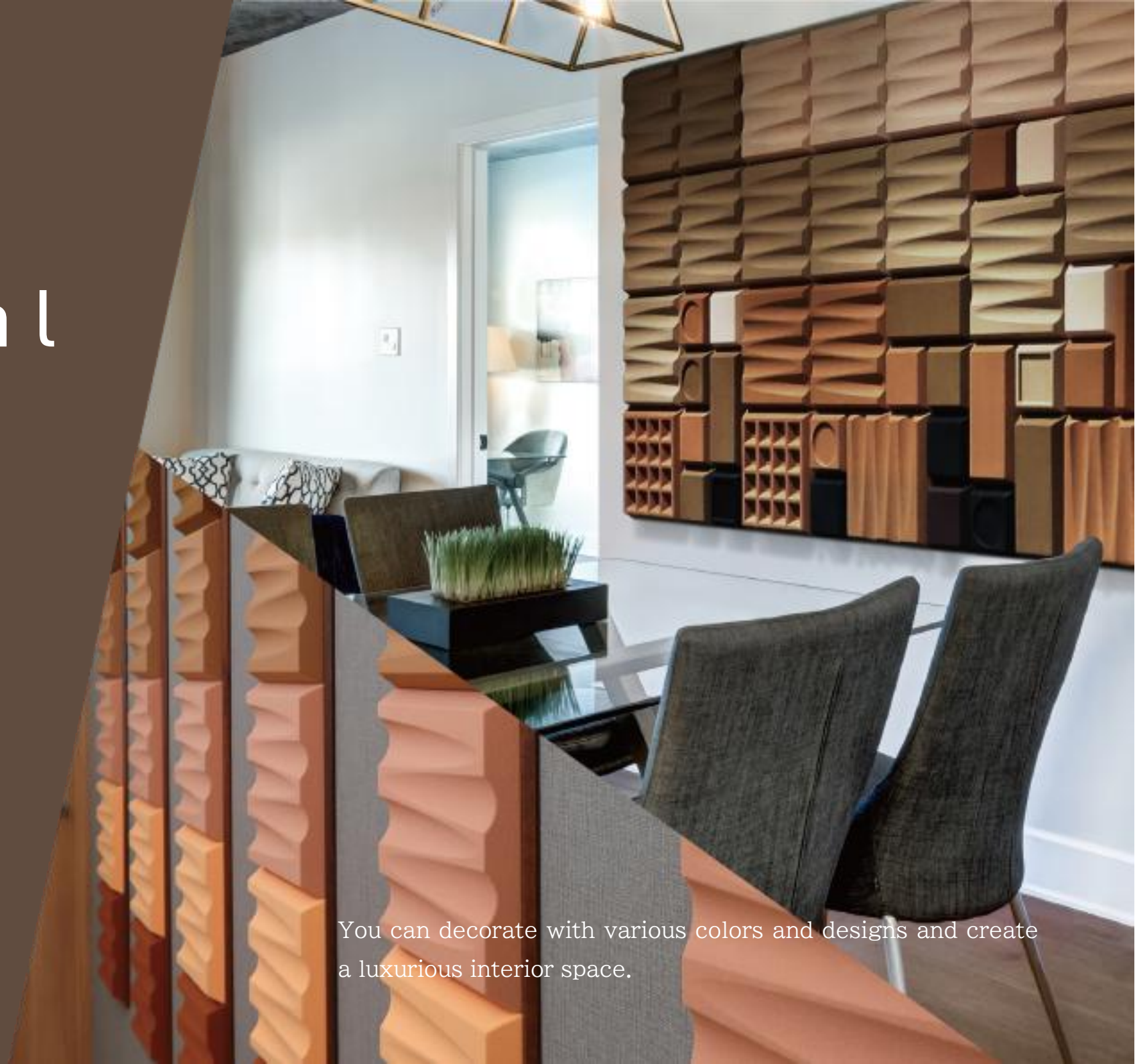
SDGs

Development of environmentally friendly solutions.
We are committed to implementing a circular economy through specific initiatives.



Visual

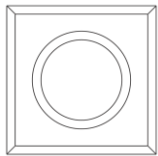
You can decorate with various colors and designs and create a luxurious interior space.



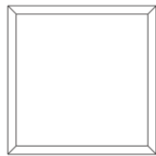
Cover Design

The design 18 mm from the surface decides the appearance.

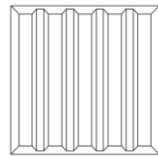
Regular



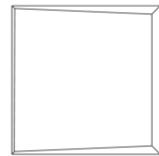
Basic



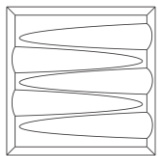
Standard



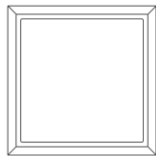
Border



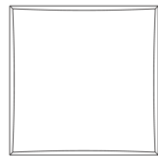
Slope



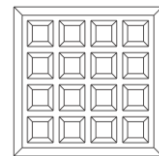
Bamboo



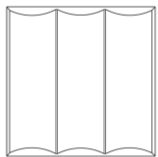
Pop



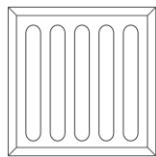
Round



Grill



Wave



Bass

Half



Standard



Pop

Quarter



Standard



Pop



Calendar



▲ Example using the Bamboo.



▲ Example using the Border and Quarter.



000 Black



100 Fluorescent Pink



103 Sweet Pink



108 Powerful Pink



113 Rouge red



114 Strawberry Red



127 Cattleya Pink



219 Cafe Brown



221 White Mocha



225 Chocolate Brown



227 Brown Coffee



229 Dark Brown



301 White Peach



304 Vanilla Yellow



313 Lemon Yellow



315 Fluorescent Yellow



331 Custard Yellow



336 Pale Orange



370 Juicy Orange



383 Mango Yellow



440 Leaf Green



444 Dull Green



453 Pistachio Green



457 Fluorescent Green



506 Powder Green



552 Milky Blue



557 Sapphire Blue



558 Accent Navy



559 Denim Blue



574 Mint Green



583 Blue Hawaii

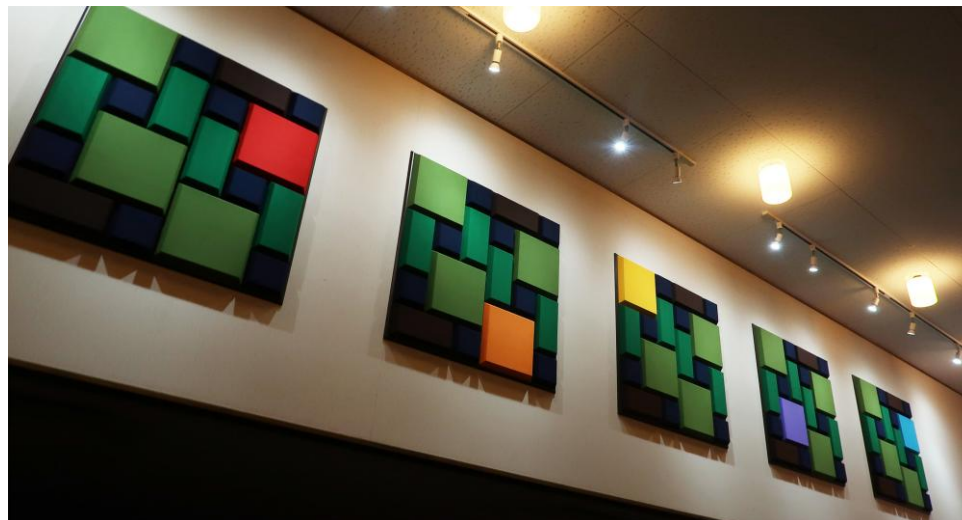
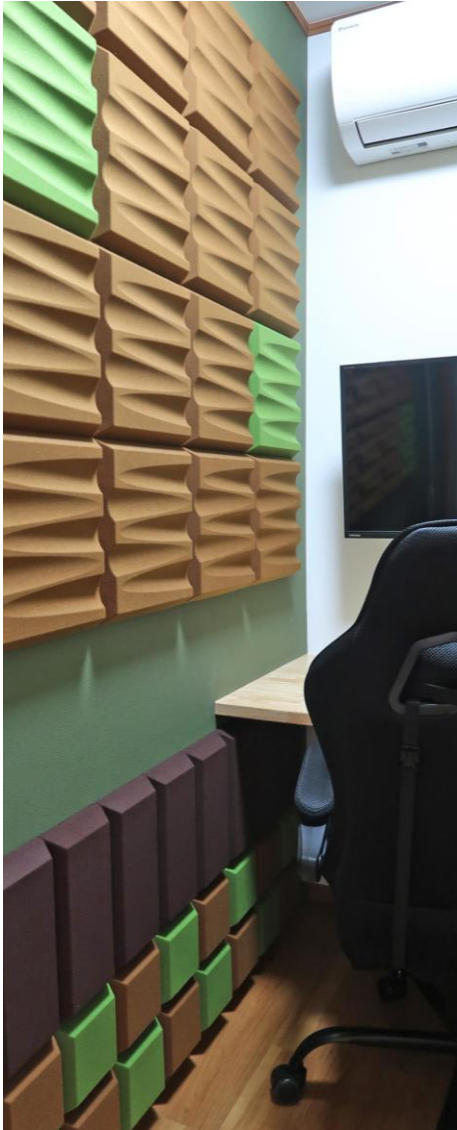


663 Simire Violet

COLOR variation

Framework

Freely customizable design proposals for your space where you install.



It's possible to create your original designs adjusting along the space you install by changing the installation variations of items, small sizes with spaces between or using 1 piece panels or 3 pieces panels don't require frames.

Installation Collection①

Living room



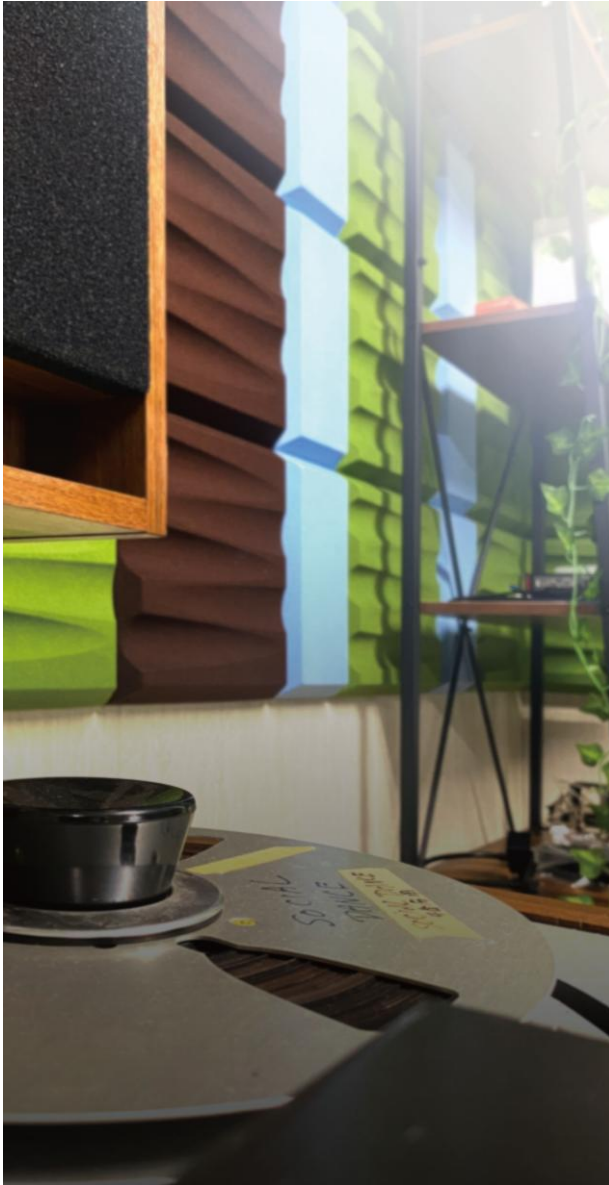
Make Your Family Conversation Lively.

Enhanced Clarity for Conversations as We Age

CASSETTE WALL & CEILING® creates an environment with well-balanced sound absorption across a wide range of frequencies. This enhances clarity by making it easier to hear voices and sounds naturally while reducing discomfort.

Installation Collection②

Audio room



Preventing feedback and makes the room comfortable.

Enhanced Clarity for Conversations as We Age

CASSETTE WALL & CEILING® creates an environment with well-balanced sound absorption across a wide range of frequencies. This enhances clarity by making it easier to hear voices and sounds naturally while reducing discomfort.

Installation Collection③

Office



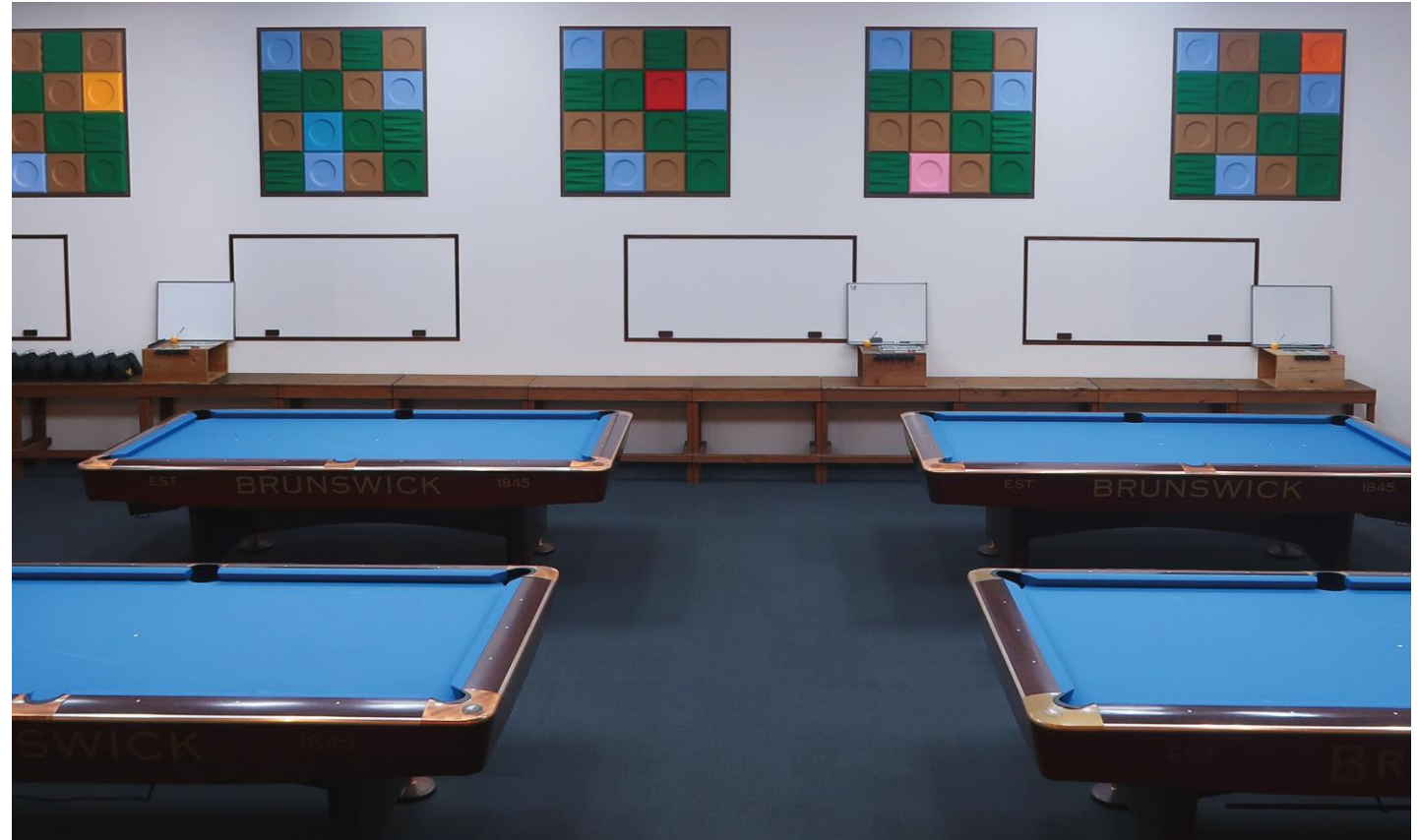
Elevating your space to enhance focus.

Enhanced Clarity for Conversations as We Age

You can concentrate on meeting conversations and hear clearly in a sound-suppressed environment. CASSETTE WALL & CEILING® is ideal for both in-person meetings and online conferences.

Installation Collection④

Billiards hall



The hall becomes enjoyable place for both players and audience.

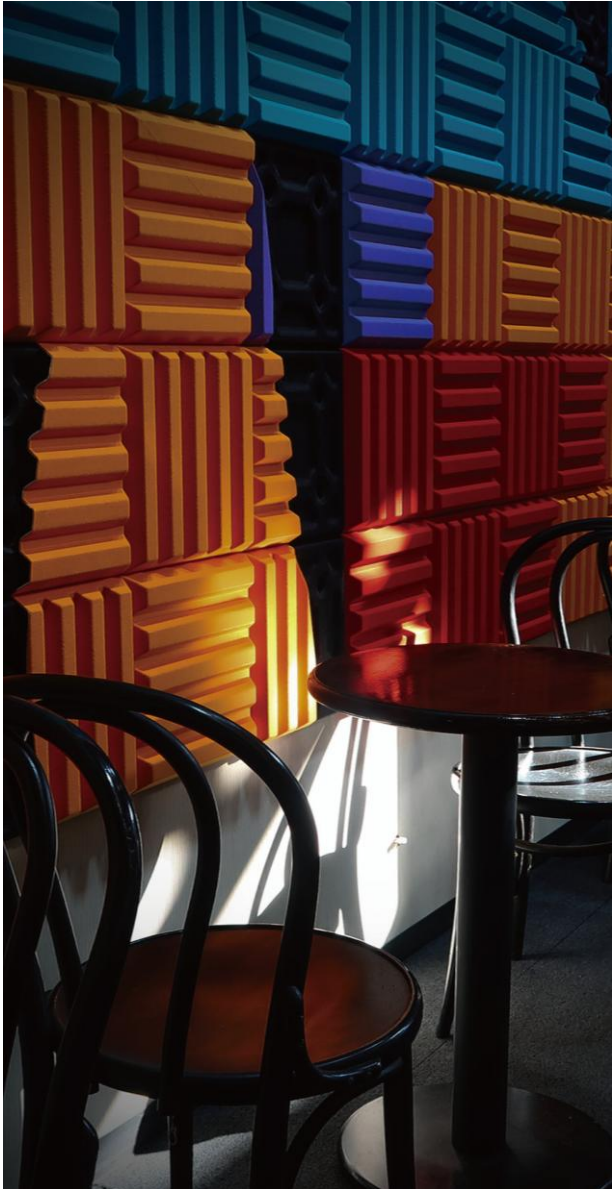
Enhanced Clarity for Conversations as We Age

For players, make it possible to concentrate and play the best games.

In a quiet space with the sound absorbing materials helps audience to enjoy matches.

Installation Collection⑤

Art space



Make an Art with various combinations and cutting apart.

Enhanced Clarity for Conversations as We Age

Free to connect no matter how, colors, and places.

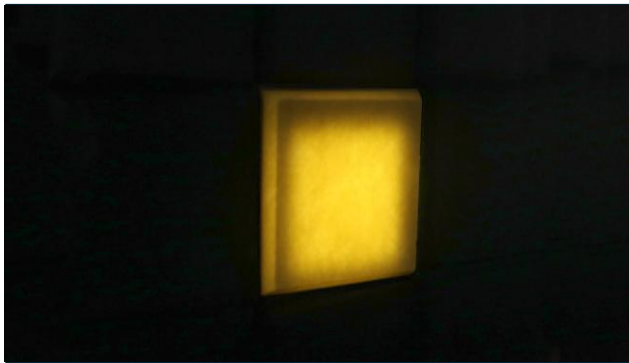
Your imagination will expand infinitely and enjoy your original arts.

Developability

Various customizations

Baseless Panel

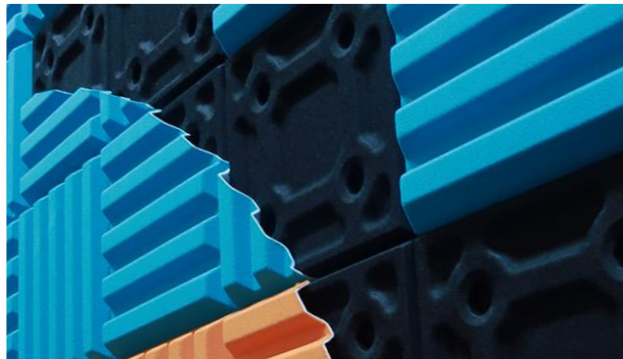
You can use base-less panels and place an LED panel between the panel and the cover to create lighting, among other options.



▲Example) With LED light functions as a lump.

Cut the cover

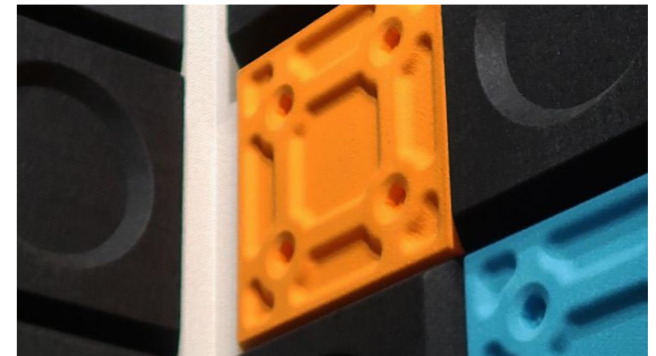
By cutting the panels freely and creating original shapes, it becomes an artwork."



▲ Cut-out panels

Color the base


It is also possible to add color to the base. The unique bumps and grooves of the base create a new design."



▲ Colored base



S o u n d

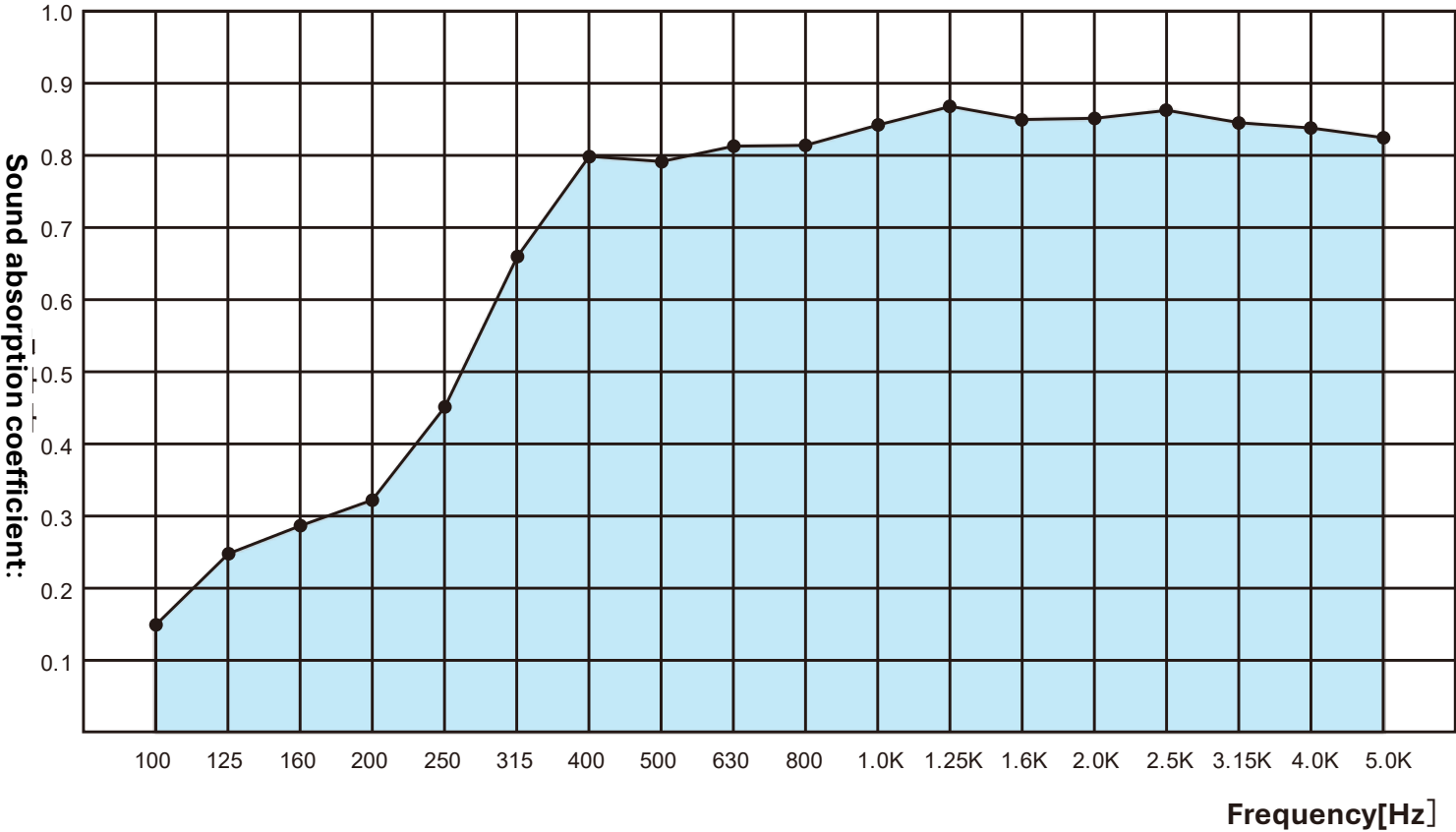
A photograph of a recording studio. The room has a concrete wall and floor. In the foreground, there are several acoustic foam panels in red, black, and yellow. A large black speaker is visible on the left. A microphone stand is in the center. A black bag is on the floor in the background.

Absorbing wide range of frequencies in a good balance.
Natural voice and sound reach you without discomfort.

Product Data

Sound Absorption Test Data 〈Regular Cover〉

The reverberation chamber method sound absorption coefficient result of a measurement



The product demonstrates a high sound absorption coefficient across a wide frequency range, with a particularly notable 400 Hz, making it a major attraction of the CASSETTE WALL & CEILING.

Test Site:

Industrial Technology Center of Okayama Prefecture

Test Environment Temperature: 28.4° C

Humidity: 71.8%.

Test Specimen Area: 11.14 m²

Reverberation Chamber:

Irregularly shaped heptahedron

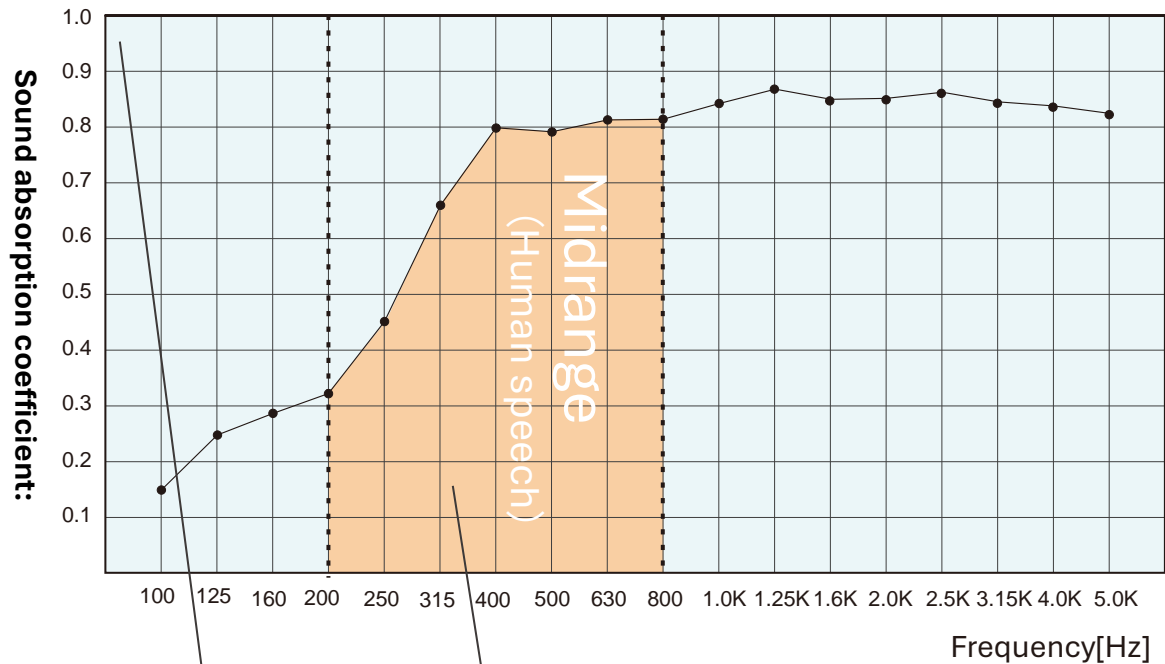
Volume: 251.3 m³

Surface Area: 237.4 m²

Diffuser: None

Sound Absorption Performance

The CASSETTE WALL & CEILING exhibits exceptional sound absorption performance, particularly around 400 Hz, which is in the mid-range frequency.



Sound Absorption Coefficient of 1.0: This indicates 100% sound absorption, meaning there is no sound reflection.

●What is Frequency?

Sound is generated by air vibrations. Frequency refers to the number of vibrations per second and is measured in hertz (Hz). Low-frequency sounds have fewer vibrations and sound deeper, while high-frequency sounds have more vibrations and sound higher.

Low frequency

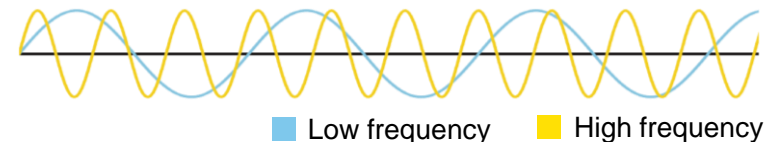
High frequency

100 125 160 200 250 315 400 500 630 800 1.0k 1.25k 1.6k 2.0k 2.5k

●Sound Absorption Performance of CASSETTE WALL & CEILING

High-pitched sounds have short wavelengths, while low-pitched sound have longer wavelengths.

The multi-layered structure of the CASSETTE WALL & CEILING effectively absorbs a wide range of frequencies in a balanced manner, achieving a high sound absorption coefficient in the mid-range, particularly around 400 Hz.



Acoustic Effects

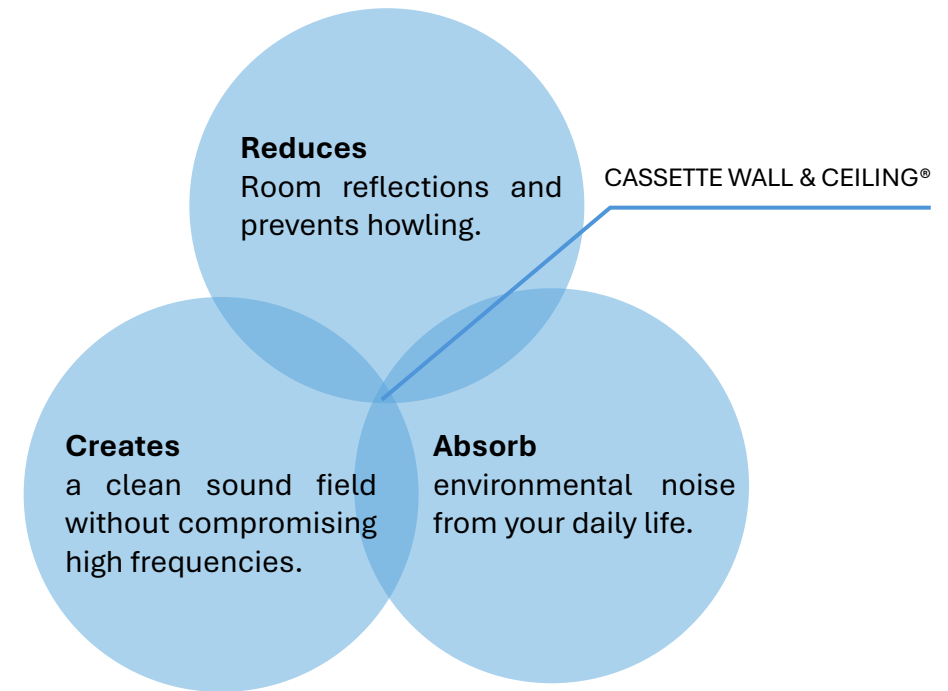
The CASSETTE WALL & CEILING creates a comfortable environment by controlling sound reflections.



Live house and Concert halls



Home and studio recording environments



Unlike general sound-absorbing materials that may absorb high frequencies and create imbalances, the CASSETTE WALL & CEILING effectively absorbs both low and high frequencies. This ensures a reduction in unpleasant reverberation without compromising sound quality.

SDGs

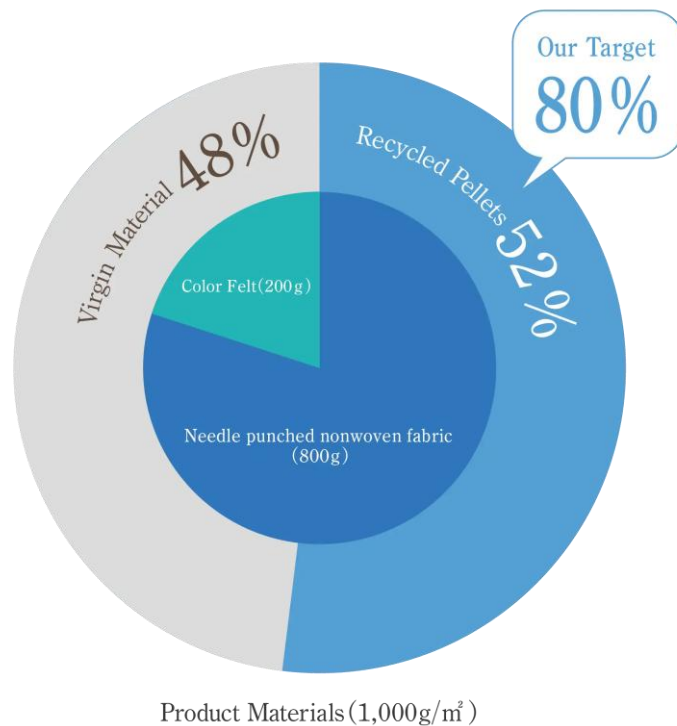
Development of environmentally friendly solutions.

We are committed to implementing a circular economy through specific initiatives.

Development of Environmentally Friendly Products

Active use of recycled pellets /
Development of easy-to-recycle products

● Below is the reference data for recycled material usage as of 2023:

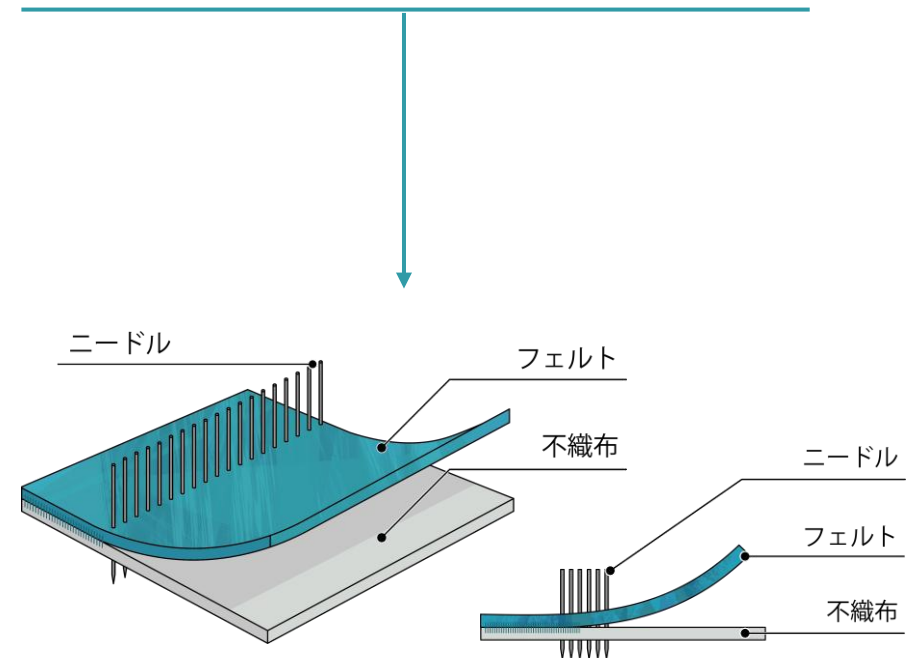


To realize a circular economy, Cassette Wall & Ceiling® has been designed with resource circulation in mind from the development stage. All materials are unified as polyester nonwoven fabric, of which 52% is made from recycled raw materials (recycled pellets). These efforts not only support the recycling business but also help balance supply and demand, which we see as a first step toward an advanced circular society.

● Only polyester is used for the material

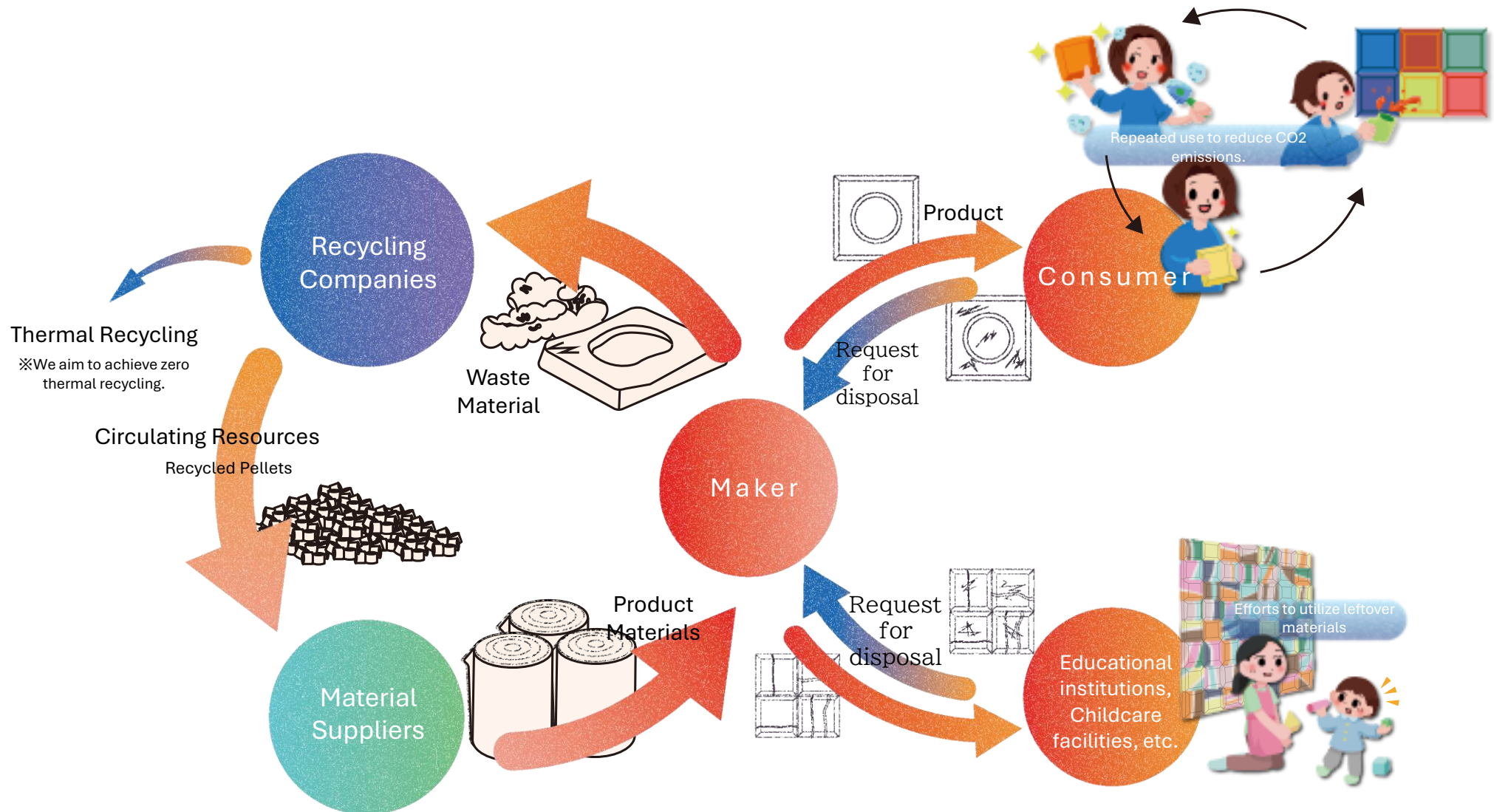
Panel and Base: Flame-retardant polyester non-woven fabric

Cober: Flame-retardant polyester non-woven fabric, Felt



Colors other than black are created by bonding polyester felt to a non-woven fabric using a needle punched process.

Toward the future of circular economy connected with baton.



Pursuit of sustainability①

Approach for the circular system



We aim to achieve a circular economy by building our own unique recycling system. By circulating resources, we can reduce the need for new materials and establish a "circular system" that generates as little waste as possible. To achieve this, manufacturers, material suppliers, and recycling companies are working together as the trinity.

Additionally, we are developing systems that make it easier for consumers to cooperate, and through partnerships with everyone involved in our products, we are committed to pursuing truly environmentally-friendly manufacturing.

BATON for 100 (Möbius)

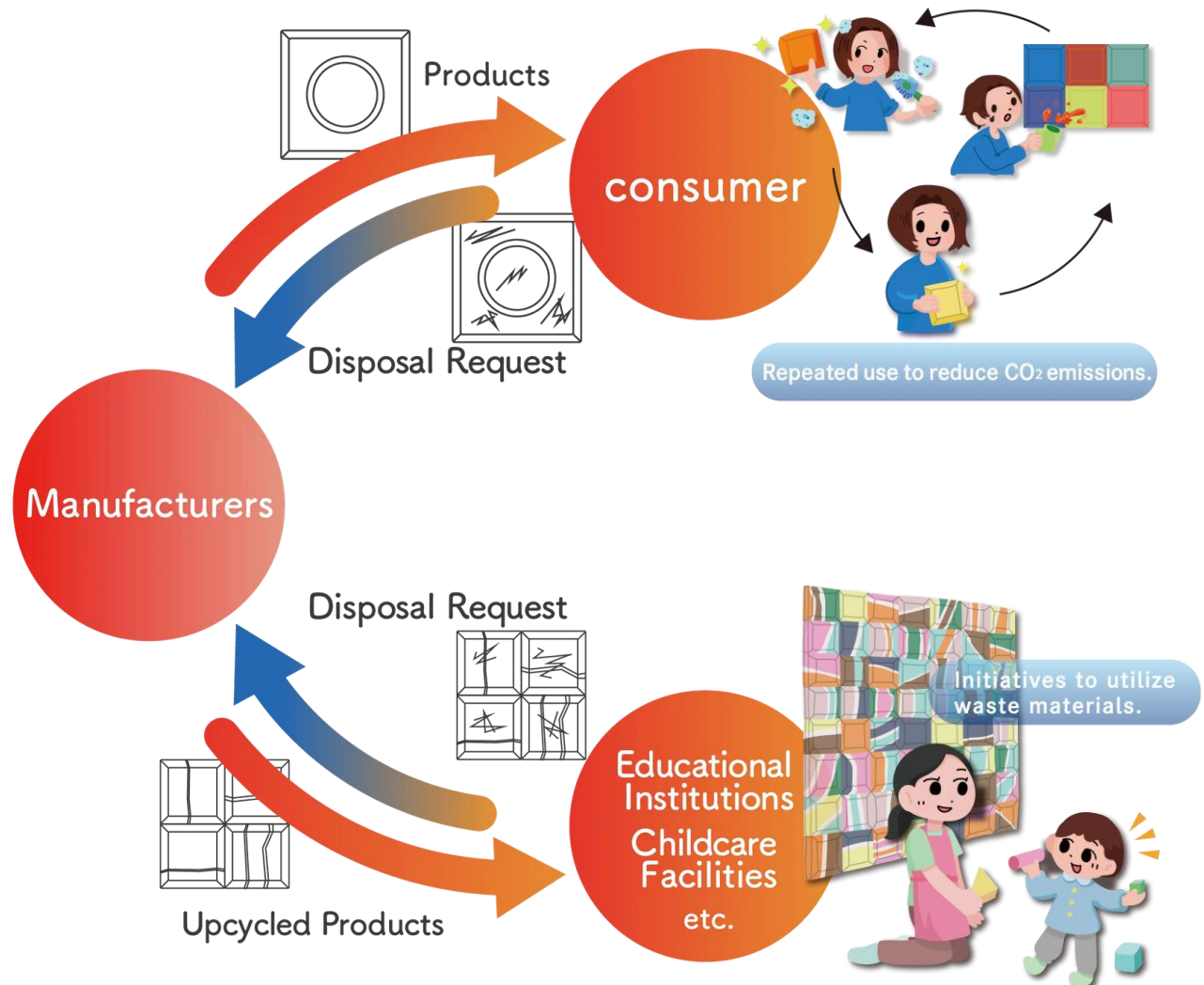
"Connecting today's rich lifestyle 100% to the future" is the concept behind BATON for 100, a project undertaken by Takeshin Package Co., Ltd. to contribute to the achievement of the SDGs. (The logo features the shape of a relay baton, symbolizing the idea of "passing on to the next generation," and the design, inspired by the Möbius strip, reflects the wish for abundant resources to "continue forever.")

Pursuit of sustainability②

Approach for the circular system

we have made improvements in the molding method and heat treatment, allowing the product to be cleaned. Additionally, by adopting a cassette changeable system, partial replacement of parts is possible. The panels, base, and cover can be easily removed, making it possible to relocate and continue using the product if the wall needs to be changed or when moving to a new place.

For both the producers and consumers to contribute to the environment, we design products to be long-lasting.. Additionally, we have implemented an initiative to upcycle leftover fabric scraps from the manufacturing process by donating them to daycare centers and other institutions. When it comes time for disposal, we encourage consumers to return the products to the manufacturer, allowing the resources to be recycled and transformed back into CASSETTE WALL & CEILING® products.



We are engaged in activities like this.①

Encouraging the use of recycled pellets and developing products that are easy to recycle.

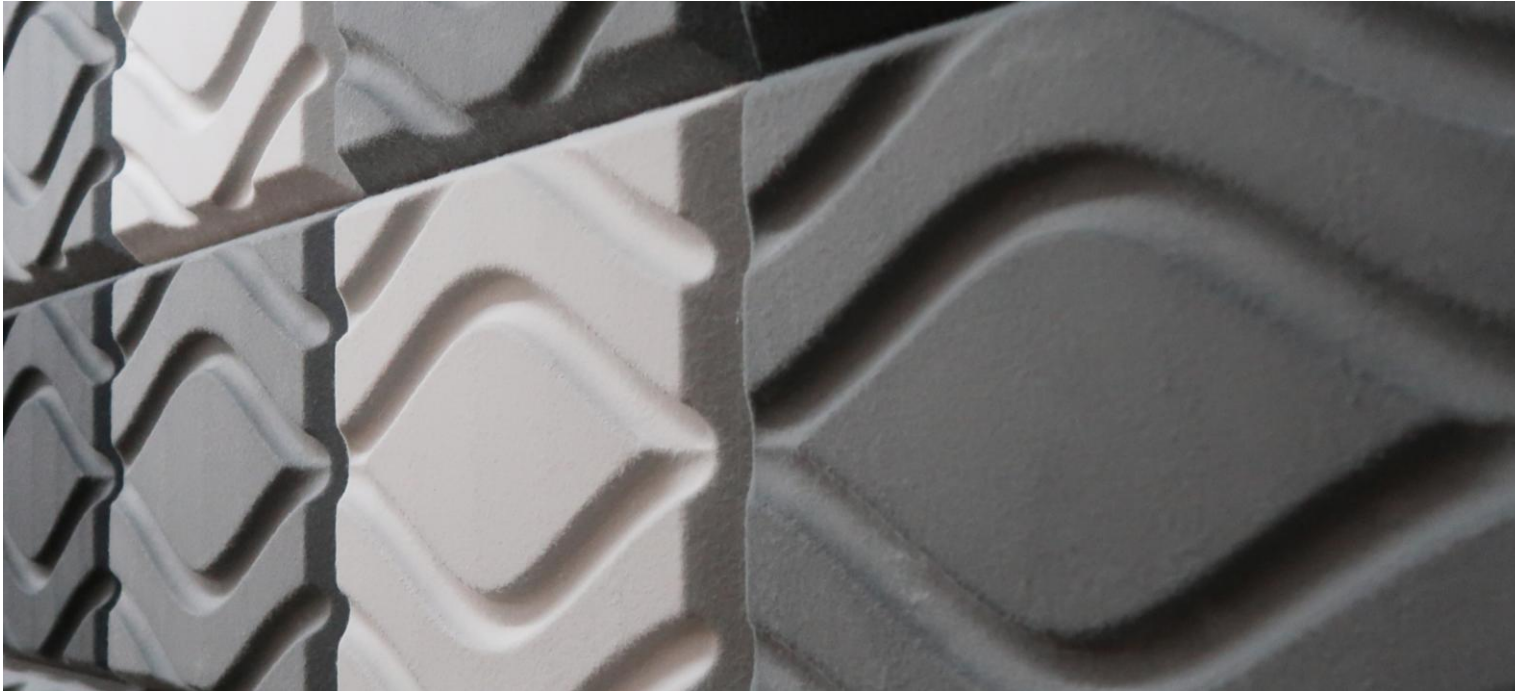


We are engaged in an initiative where we reuse waste materials generated during the manufacturing process to create upcycled products, which are then donated to educational institutions and welfare organizations. In the spring of 2023, we collaborated with students from Konko Gakuen High School to create sound-absorbing materials, which were donated and installed in a daycare center. Through this industry-academia collaboration, we aim to contribute to education by providing a learning experience for high school students. CASSETTE WALL & CEILING® is a product developed with recycling in mind from the design stage. To ensure the reliable circulation of resources, we have established a unique recycling system and are actively working towards its implementation.



We are engaged in activities like this.②

Utilize the strengths of each party through industry-academia partnership.



As part of our industry-academia collaboration, we had students from the Faculty of Design at Okayama Prefectural University come up with cover designs for our Sound Absorption Cassette Wall & Ceiling®. During a hands-on internship, the students were involved in prototyping the product from scratch. We are stimulated from this experience not only inspiration through their flexible and creative ideas but also turned into a valuable initiative for both of us. Building on this industry-academia collaboration, we aim to expand our partnerships toward achieving the SDGs.



Installation

- Installation Steps -

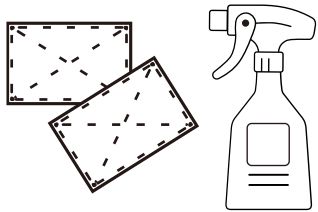


Cassette type structure makes it easy to install.
Special tape doesn't damage the wall surface.

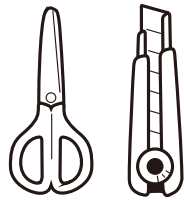
Installation Steps

< Example: Regular Size Installation >

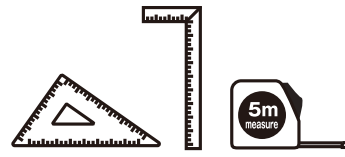
You'll need a few things before you begin



Rag or neutral ※
degreasing detergent



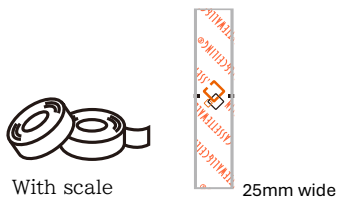
Scissors (or cutter)



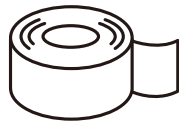
Ruler (carpenter's square,
measuring tool, etc.)



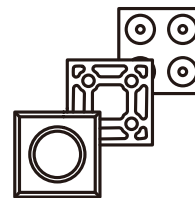
Press roller



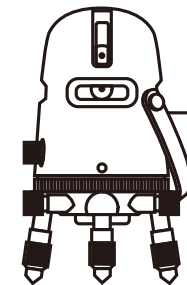
Measurement tape
(optional)



Special tape
(optional)



Product panels (Panel, Base, Cover)
(303 mm × 303 mm)



Leveling device
(e.g., laser level)

Use the leveling device to ensure proper alignment and vertical positioning when installing sound-absorbing materials. This helps achieve a professional finish.



This installation uses special tape to attach the panels. However, if the panels do not adhere properly due to the wall material, you may need to use tucker as an alternative for secure attachment.

※Note: If the wall surface is very dirty.

01 Prepare and Measure

- ① Thoroughly clean the wall surface to remove any dirt and oil.
- ② Apply installation tape to the top and bottom edges based on the panel layout (3 rows x 4 columns) as shown below.

【 To calculate the installation area 】

- Number of tiers (A) = 3
- Number of columns (B) = 4 (Number of panels used)
- Dimensions: x = 910, y = 303

Vertical Calculation:

- $A \div 3 = 3 \div 3 = 1$
- $910 \times 1 \text{ (quotient)} = 910 \text{ mm}$

Horizontal Calculation:

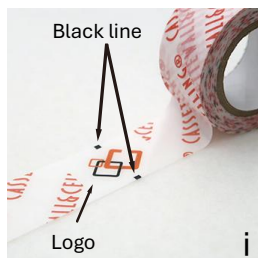
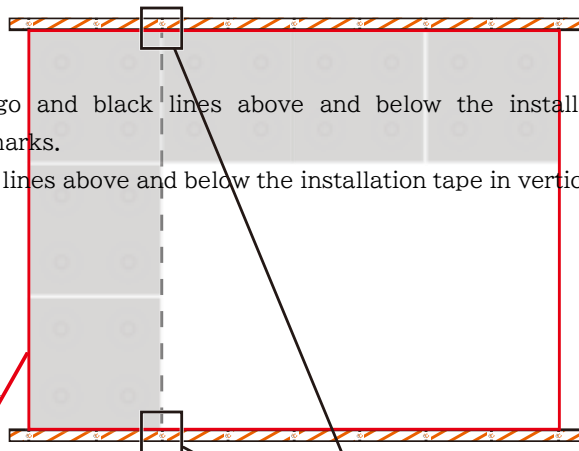
- $B \div 3 = 4 \div 3 = 1...1 \text{ (remainder)}$
- $x \times 1 \text{ (quotient)} = 910 \times 1 = 910$
- $y \times 1 \text{ (remainder)} = 303 \times 1 = 303$
- Total area: $910 + 303 = 1,213 \text{ mm}$

Additional Notes:

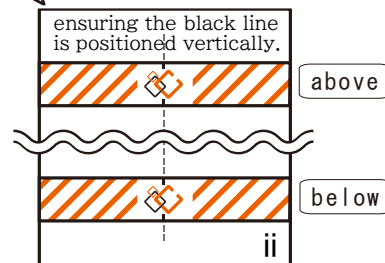
- Include a logo and black lines above and below the installation tape as registration marks.
- Set the black lines above and below the installation tape in vertical alignment.

Installation Area:

3 vertical x 4 horizontal
= 910 mm x 1,213 mm



Special Tape



02 Attachment of Special Tape

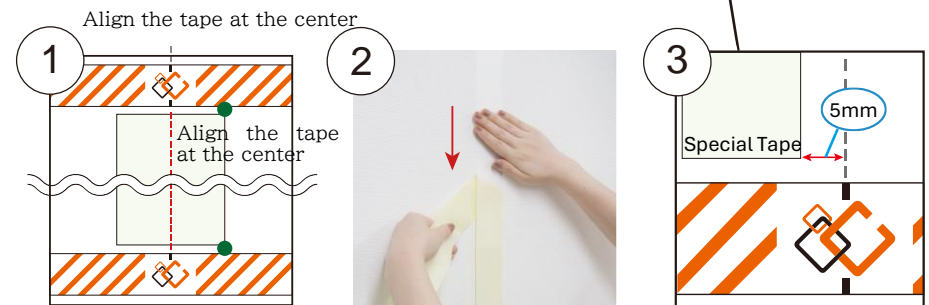
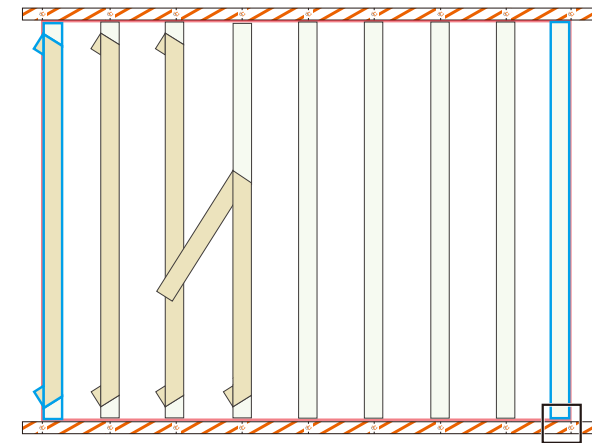
[Number and length of special tapes]

Number of tiers A = 3 Number of columns B = 4 (Number of panels to use)

Number of tapes to use $B \times 2 + 1 = 4 \times 2 + 1 = 9 \text{ tapes}$

Length of tape $303 \times A - 10 = 303 \times 3 - 10 = 899 \text{ mm}$

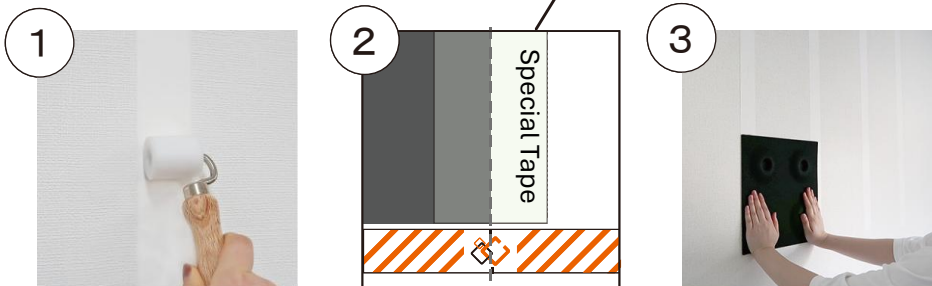
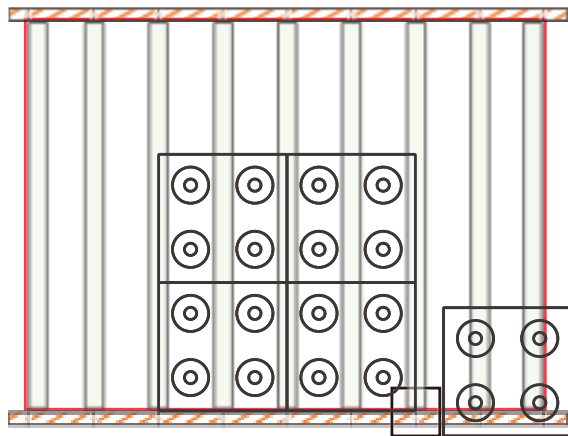
- ① Align the black lines at the top and bottom of the installation tape from Step 1 with the center of the special tape. Ensure there is a 5mm space between the top and bottom of the installation tape.
- ② To apply vertically, peel a small section of the backing paper from the top and bottom to align them. Then, peel the paper off from top to bottom, ensuring the black line is positioned vertically.
- ③ Place the special tape (blue line) on both ends about 5mm inside the black line of the installation tape in a vertical position.



- Leave a 5mm space at both the top and bottom

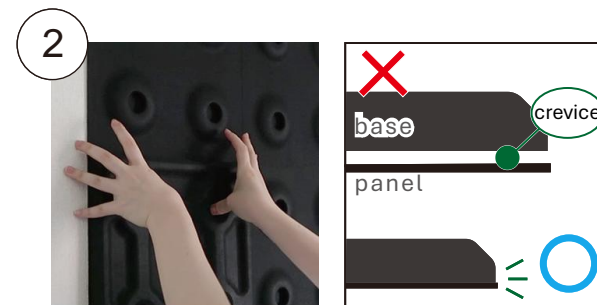
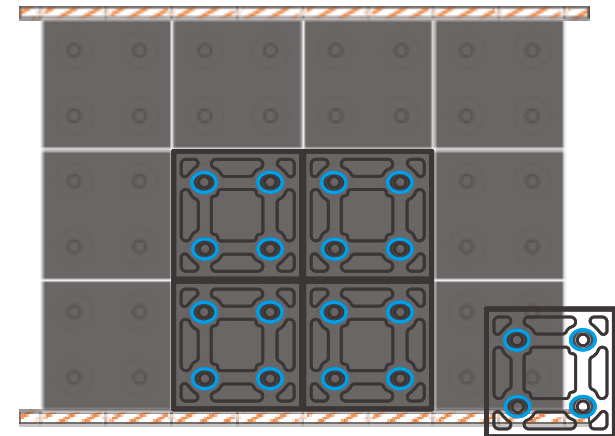
03 Attachment of the Panel

- ① Use a press roller to make the special tape adhere to the wall before attaching the panels; this will prevent the panels from peeling off.
- ② Align the edge of the panel with the black line on the installation tape and attach it accordingly. There is no need to leave any space between the panels. The panels should be placed right next to each other. However, make sure that the panel does not overlap the installation tape, and attach the panel along the tape carefully.
- ③ Recommend to start from the center-bottom in order to prevent getting crooked. Check the operation several times during installation. If it becomes distorted, start placing from the first panel again. The panels can be attached repeatedly on the special tape.
- ④ Check the level and vertical alignment of the panels.



04 Attachment of Base

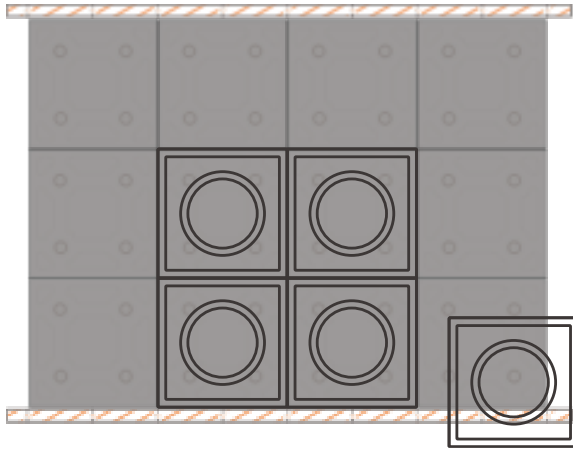
- ① Attach the base over the panel.
- ② Push on the four dents (Blue dots) to secure it well. Please ensure that there are no gaps between the four corners of the base and the panel, and that they are in close contact.



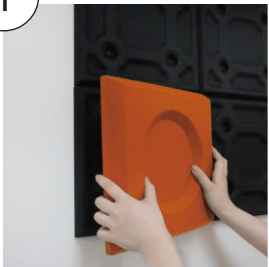
Failure to follow these instructions may result in the panel falling off.

05 Attachment of Cover

- ① Place the cover over the base
- ② Push down on all four corners with your palm to secure them to the base. Once the installation is complete, align your line of sight with the cover horizontally and check for any unevenness. If there are any bumps or gaps, it means the installation was not secure enough, so please perform the securing process again.



1

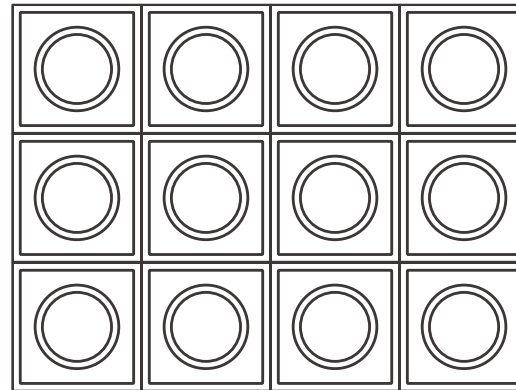


2

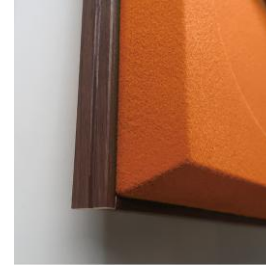


06 Conceal Ends with Frame.

- ① Peel off the installation tape [1].
- ② Put the frame(option) on the edge to conceal and beautify the edge.



2



How to Remove the Cover

Insert a screwdriver into the gap between the covers. Please be careful not to damage the surface of the non-woven fabric.



When you reinstall again, resume the installation from the panel to the base, and then to the cover.

Design variation



With options for colors, cover designs, and arrangements. You can easily change the colors or reposition and refresh your room's look.



VARIATION 1

Gaming room

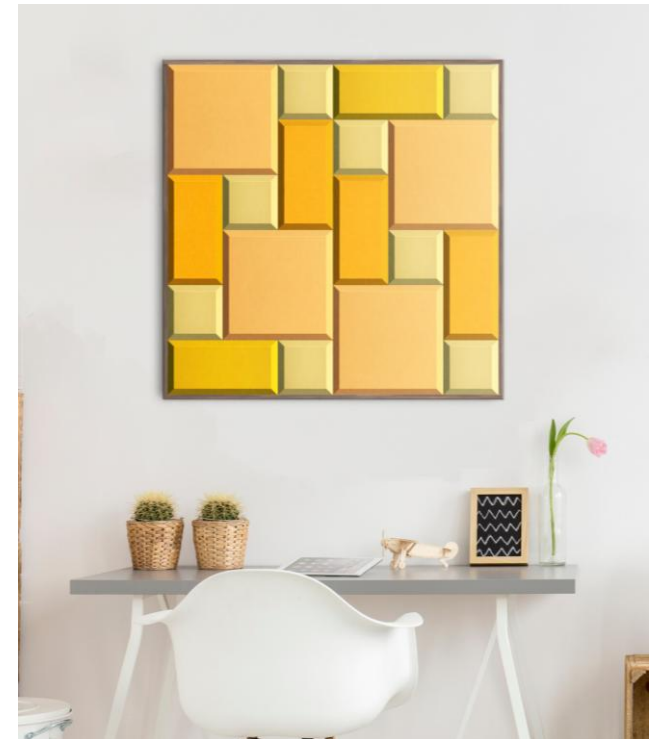


Enhance Your Space

With versatile designs and a wide range of color options, you can add a personal touch to a simple space. Create a vibrant wall that brings your unique style to life and transforms your environment into an inspiring oasis.

VARIATION 2

Kids room



Change the Room's Impression

With pink for a cute touch, blue for a fresh feel, and yellow for a powerful vibe...
Simply changing the colors can transform the atmosphere of a room."

VARIATION 3

Living room



Enjoy Endless Layout Changes

Even with the same colors or cover designs, rearranging the parts can dramatically change the image.

Data

An abstract geometric composition featuring several 3D blocks. A large teal block is in the upper right, a brown block is in the middle right, and a grey block with a grid of circular indentations is in the lower left. A diagonal line separates the brown and grey blocks. The background is a solid brown color on the left and a teal color on the right.

Information about CASSETTE WALL & CEILING

What is 'Sound Absorbing'?

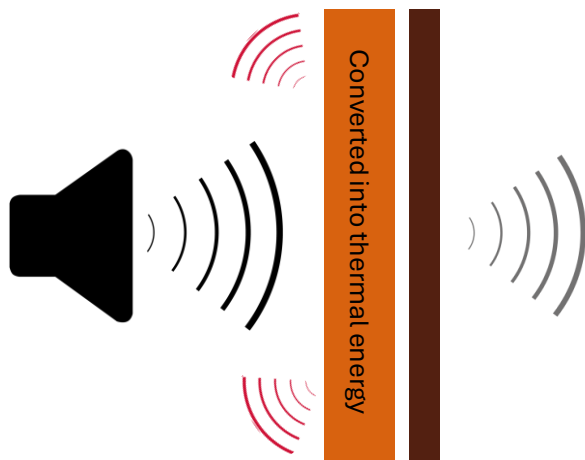
Differences Between Sound Absorption, Soundproofing, and Sound Insulation.

SOUNDPROOFING

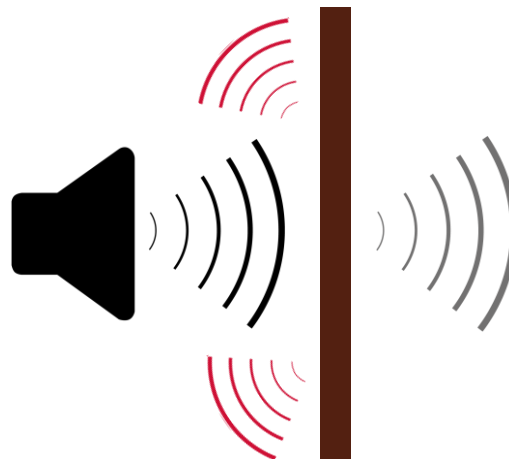
Soundproofing refers to the process of applying sound insulation and sound absorption to all partitions in order to prevent the transmission of sound energy from the inside to the outside, or vice versa, from the outside to the inside.

Sound Absorption

Sound absorption refers to the process of absorbing sound (through thermal conversion).

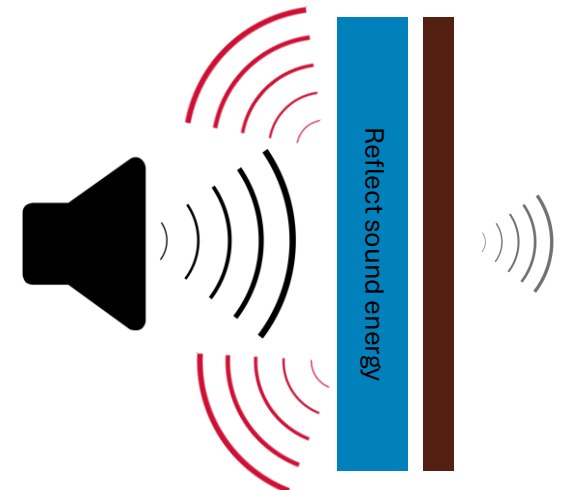


Nothing is being done



Sound Insulation

The process of reflecting sound in such a way as to block the path between specific points.



Product Sizes

Sizes and weights of panels, bases, covers, etc.

Product name	L	W	H	Mass
Regular Cover	303 mm	303 mm	40 mm	Approx. 140 g
Half Cover	303 mm	151 mm	40 mm	Approx. 75 g
Quarter Cover	151 mm	151 mm	40 mm	Approx. 40 g
Regular Base	299 mm	299 mm	20 mm	Approx. 125 g
Half Base	299 mm	147 mm	20 mm	Approx. 70 g
Quarter Base	147 mm	147 mm	20 mm	Approx. 37 g
Regular Panel	344 mm	344 mm	20 mm	Approx. 154 g
Quarter Panel	192 mm	192 mm	20 mm	Approx. 60 g
3 P Panel	951 mm	344 mm	20 mm	Approx. 450 g
Borderless Panel	303 mm	303 mm	15 mm	Approx. 120 g

Mass and sound absorption are proportional.

Therefore, applying four quarter-sized pieces is expected to provide better sound absorption than using one regular-sized piece.

Regular Cover 140g/One Piece
Quarter Cover 160g/4 Pieces

Washing Instructions

Made the product washable.

1. **Prepare a Cleaning Solution:** Dissolve a neutral detergent in lukewarm water. Soak and wash it gently.

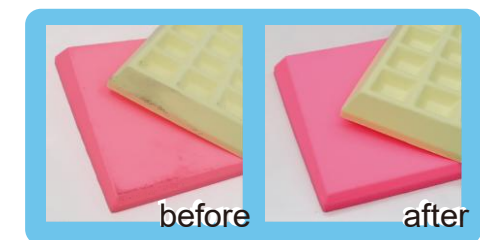
2. **Make a Foaming Solution:** In a paper cup or similar container, create a concentrated washing liquid and whip it into a rich lather.

3. **Apply Foam:** After letting the foam sit for a while, apply it to the dirty areas and scrub gently with a resin brush (such as a nail brush ※). Soaking in an alkaline soap solution can also provide an anti-static effect.

4. **Rinse and Dry:** Rinse the cover thoroughly, drain it, and place it on a table to dry in a well ventilated area. Layer the covers to create space between them; they won't absorb colors from each other.

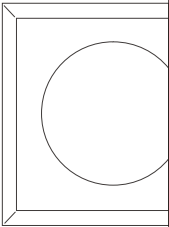
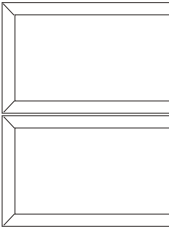
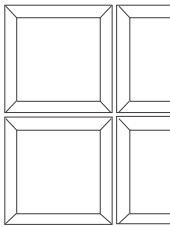









5. **Fluffing:** Once dry, gently iron the cover to restore its fluffiness. Start with a low temperature, as high heat (over 100°C) may cause melting.

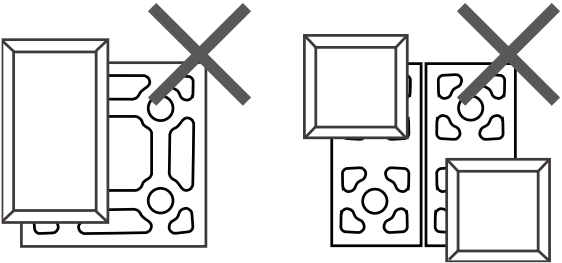
※Note that fine brushes, like a toothbrush, can cause fluffing, so use them with caution.



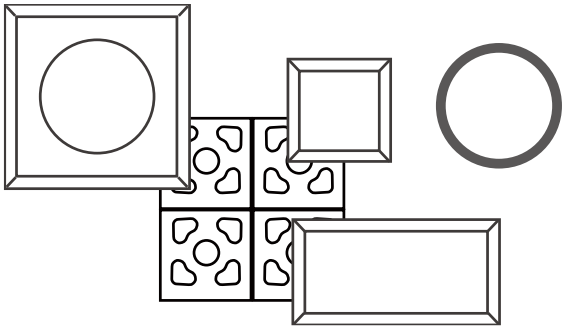
Combination List

Base and Cover

Cover \ Base		Regular	Half	Quarter
Cover				
Base	Regular			
	Half			
	Quarter			



The cover cannot be used on larger bases,



All covers can be attached to the quarter base.

We are advancing collaborative research with the university.

Designing indoor sound environments using specialized expertise.



Sound is invisible, and therefore its importance is often not fully recognized. However, the impact of acoustic environments on our lives is much greater than we imagine. Stress caused by echo and unpleasant frequencies may unknowingly affect our physical and mental well-being.

To clearly communicate the importance of indoor acoustic environments using specialized and reliable data, and to further improve the quality of our products, we are actively conducting joint research with universities.

We believe that the improvement of the sound environment brought by the sound-absorbing materials invented by our company. We will continue to advance research and development in this area.

2023 Achievements: Collaborative research on the relationship between reverberation time discrimination threshold and acoustic literacy

Associate Professor Kazunori Harada, Okayama Prefectural University of Science

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