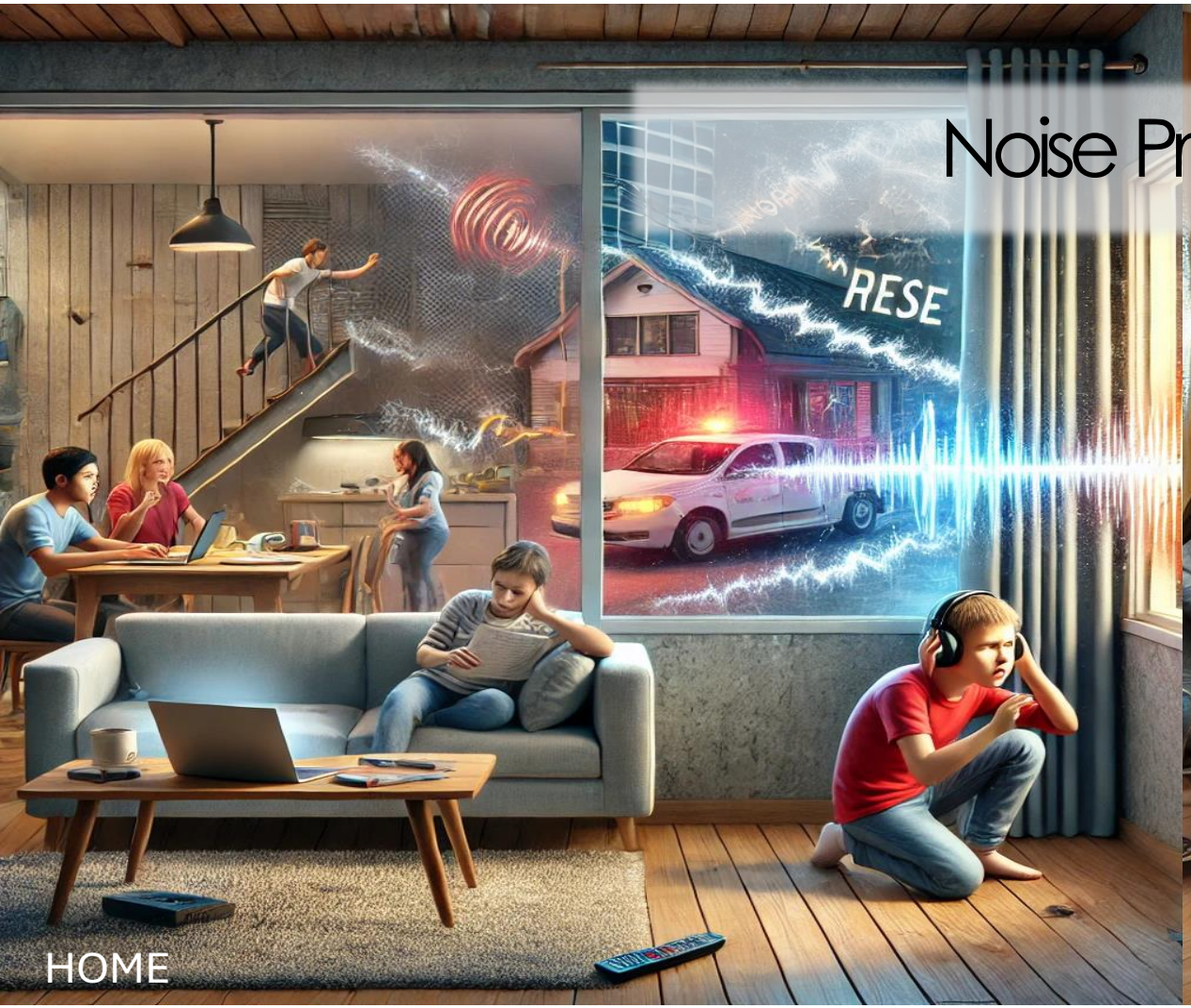

Acoustic Soundproof Decorative Panels
(Beauty with Functions)
MicroDecor

Noise Problems



Here is an illustration of a home with a noise problem, showing how external **sounds from traffic, neighbors, or construction enter through windows** and thin walls. Inside, the family is struggling with the noise, with one person trying to work, another watching TV but distracted, and a child covering their ears.

Here is an illustration of a meeting room with a noise problem, where participants are **struggling to communicate due to echoes, outside traffic noise, and loud office sounds** from a nearby room. Some people are covering their ears, leaning in to hear better, or looking frustrated, highlighting the need for acoustic treatment and soundproofing solutions.

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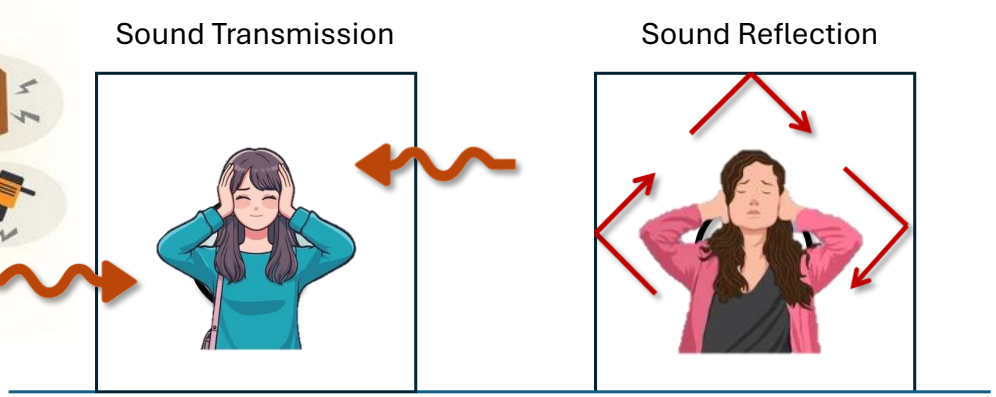
Decibel / Sound Transmission / Sound Reflection ?

Decibel Level (dB)	Sound Example	Description	Impact on Hearing
0 dB	Silence	The lowest perceivable sound level.	No impact, absolute quiet.
10 dB	Breathing	Barely audible, soft natural sound.	No risk to hearing.
30 dB	Whisper	Very soft, quiet environment.	No risk, comfortable for ears.
60 dB	Normal Conversation	Everyday talking between people.	No risk, typical sound level.
90 dB	Loud Traffic	City traffic or a busy road.	Prolonged exposure may cause hearing loss.
120 dB	Rock Concert	Extremely loud, discomfort begins.	Immediate hearing damage risk.
130 dB+	Pain Threshold	Jackhammer, fireworks, jet engine.	Can cause instant ear pain and damage.

Decibel Level



Feature	Sound Transmission	Sound Reflection
Definition	Sound passing through a barrier	Sound bouncing off a surface
Common Examples	Noise through walls or doors	Echoes in empty spaces
Main Concern	Noise leakage	Reverberation & echoes
Affected By	Barrier thickness, material density, gaps	Surface material, shape, texture
Control Methods	Soundproofing, sealing gaps, insulation	Absorption Materials, diffuser, soft surfaces
Measurement	Sound Transmission Class (STC)	Noise Reduction Coefficient (NRC)

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Soundproofing & Acoustic Treatment Guide by Room Type

Room Type	Recommended dB Limit	Soundproofing Needed?	Acoustic Panels Needed?
Meeting Room	**30 - 45 dB**	Maybe (if >50 dB)	✅ Yes (for echo control)
Office Space	**35 - 50 dB**	✅ Yes (if >50 dB)	✅ Yes (reduce reverb)
Home Theater	**30 - 40 dB**	✅ Yes (for sound isolation)	✅ Yes (for sound clarity)
Restaurant	**40 - 55 dB**	✅ Yes (reduce crowd noise)	✅ Yes (better ambiance)
Recording Studio	**30 - 35 dB**	✅ Yes (maximum sound isolation)	✅ Yes (zero echo)
Gym / Fitness Room	**50 - 65 dB**	✅ Yes (reduce impact noise)	✅ Yes (reduce reflections)

Decibel Levels When People Are Talking in a Meeting Room – Noise Criteria

When people are talking in a meeting room, the noise level can vary depending on the number of people, voice volume, and room acoustics. Here are the typical dB levels:

Type of Conversation	Typical dB Level	Impact on Meeting Environment
Soft Whisper (1 person talking)	**20 - 30 dB**	Almost silent, no distractions
Quiet Conversation (2-3 people)	**30 - 40 dB**	Comfortable, ideal meeting setting
Normal Discussion (4-6 people)	**40 - 50 dB**	Common for small meeting rooms
Lively Discussion (6-10 people)	**50 - 60 dB**	Can be distracting if no sound absorption
Loud Debate (10+ people)	**60 - 70 dB**	Causes speech clarity issues, needs acoustic treatment
Shouting / Arguing	**70 - 85 dB**	Overwhelming, difficult to understand clearly

- ✅ Ideal meeting room noise level: 30 - 45 dB
- ✅ If conversation exceeds 50 dB, acoustic panels are recommended
- ✅ Above 60 dB, soundproofing should be considered

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NRC (Noise Reduction Coefficient) is a **rating that measures how much sound a material absorbs** rather than reflecting it back into a room. It is expressed as a **decimal between 0.00 and 1.00**, where:

- **NRC 1.00** → 100% sound absorption
  (no reflection, like an open window or thick acoustic panel).

- **NRC 0.00** → No sound absorption
  (sound reflects completely, like glass or concrete).

How NRC Works:

- A material with **NRC 0.80** absorbs **80% of sound** and reflects **20%** back into the room.

- A material with **NRC 0.30** absorbs **only 30%** of sound and reflects **70%**.

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NRC is Important !!

Material	NRC Rating	Absorption Performance
Glass, Concrete, Tile	0.00 - 0.10	Very poor absorption (high echo)
Thin Carpet, Curtains	0.15 - 0.30	Low absorption
Acoustic Ceiling Tiles	0.60 - 0.80	Good absorption
Fabric-Wrapped Panels	0.70 - 0.90	Very high absorption
Glass Wool Panels	0.85 - 1.00	Excellent absorption

Why is NRC Important?

NRC is used to **control echo and reverberation** inside a space, making speech clearer and reducing background noise.

✅ Higher NRC (0.70 - 1.00):

- Best for **meeting rooms, offices, classrooms, studios**
- Reduces **echo** and improves **speech clarity**
- Improves **acoustic comfort**

❌ Lower NRC (0.00 - 0.30):

- **Reflects too much sound**, causing echo and poor speech clarity
- Found in **hard surfaces** like glass, tile, concrete

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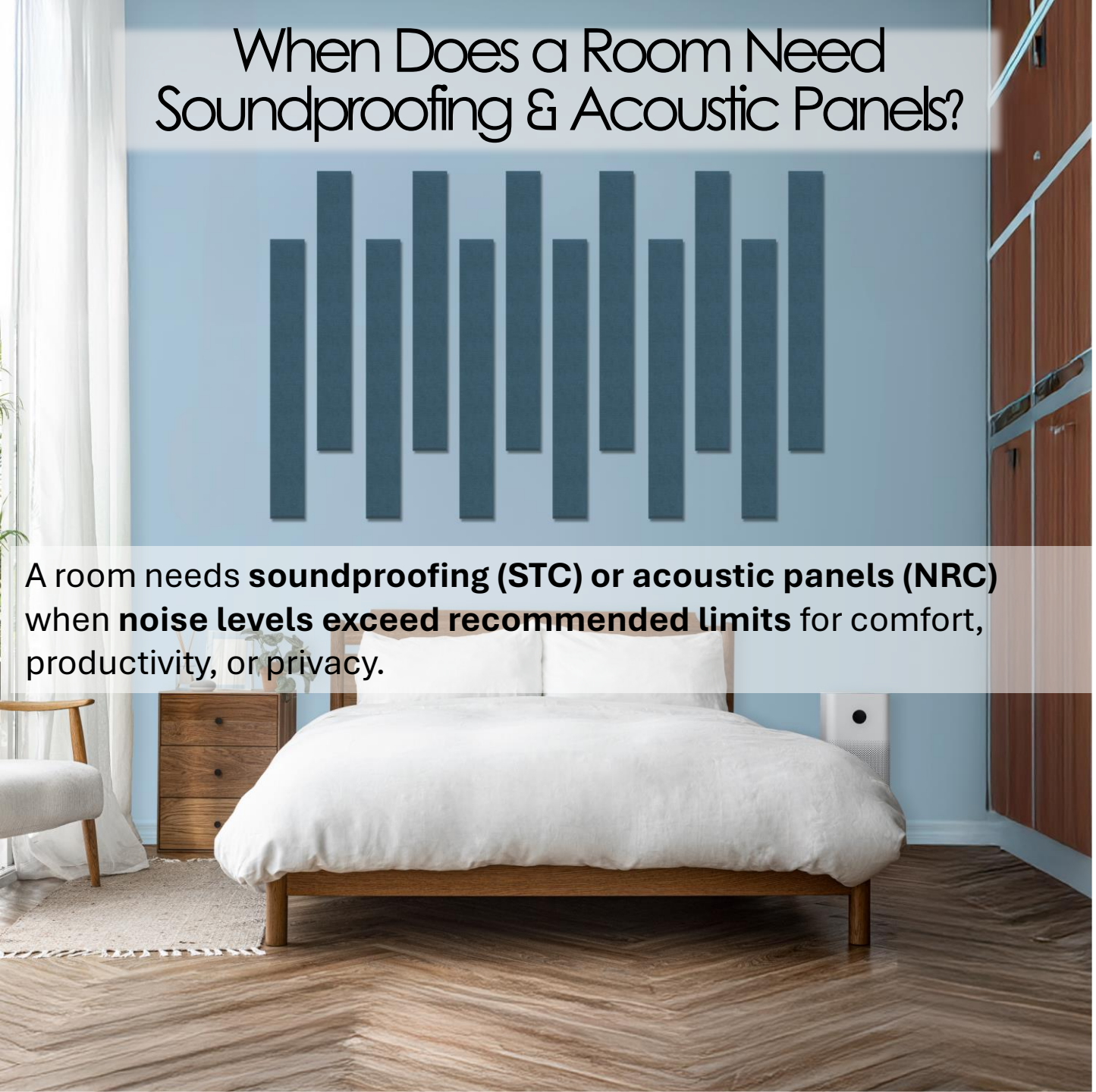

When Does a Room Need Soundproofing & Acoustic Panels?

A room needs **soundproofing (STC) or acoustic panels (NRC)** when **noise levels exceed recommended limits** for comfort, productivity, or privacy.

1. Decibel Levels That Require Soundproofing or Acoustic Panels

Noise Level (dB)	Impact	Recommended Solution
< 30 dB	Extremely quiet (library-like)	No major treatment needed
30 - 40 dB	Ideal for offices, meeting rooms	Light acoustic panels to refine sound
40 - 50 dB	Some distractions (background HVAC, talking)	Acoustic panels for speech clarity
50 - 60 dB	Noticeable noise (open offices, street noise)	Soundproofing + acoustic panels
60 - 70 dB	Loud (traffic, neighboring rooms, music)	Strong soundproofing required
> 70 dB	Very loud (factories, clubs, construction)	Heavy soundproofing & isolation

✅ **If room noise is above 50 dB, soundproofing and acoustic panels are recommended.**

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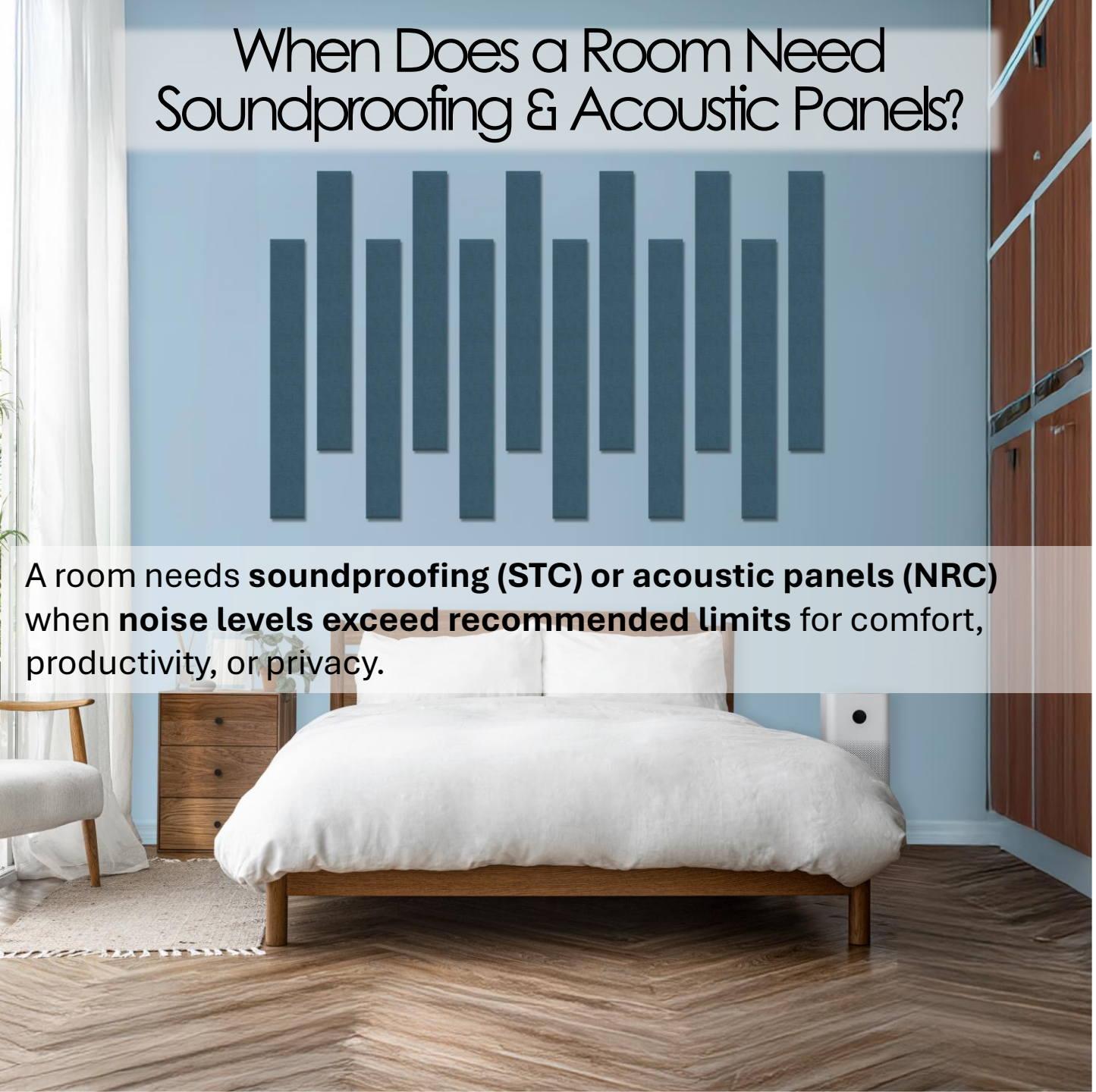

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2. When to Use Soundproofing (STC) vs. Acoustic Panels (NRC)

Situation	Use Soundproofing (STC 50+)	Use Acoustic Panels (NRC 0.7+)
Noise coming from outside (traffic, neighboring rooms)?	✅ YES	❌ NO
Voices & sounds leaking into/out of the room?	✅ YES	❌ NO
Echoes & poor speech clarity inside the room?	❌ NO	✅ YES
Open office distractions (keyboard, chatter)?	✅ YES	✅ YES
Home theater / recording studio sound control?	✅ YES	✅ YES

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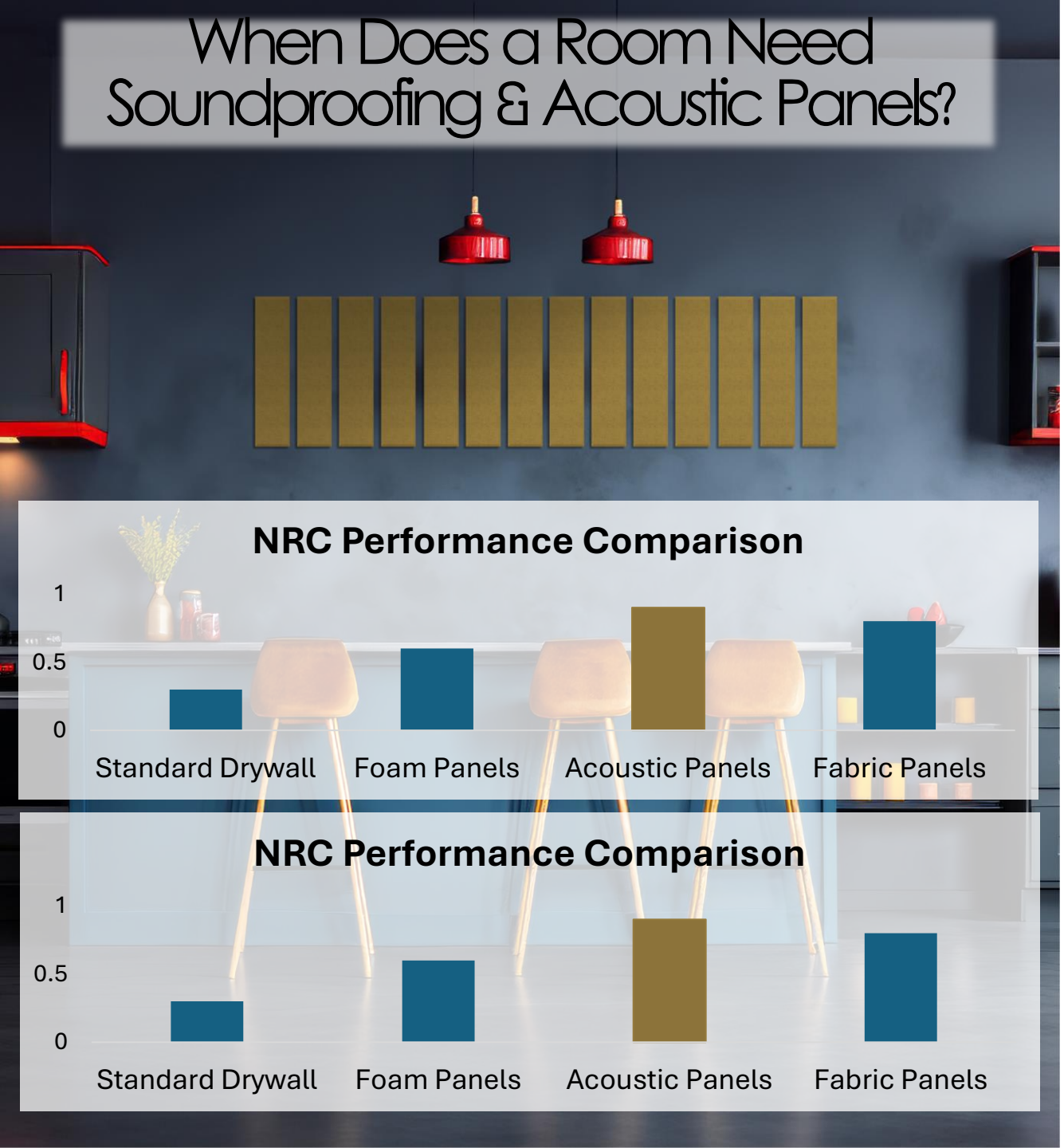
When Does a Room Need Soundproofing & Acoustic Panels?



How Effective is Double Drywall with Glass Wool?

Setup	NRC (Absorption Inside Room)	STC (Sound Blocking Between Rooms)	Performance
Single Drywall + Glass Wool	0.70 - 0.90	35 - 40	Reduces echo but allows some noise through
Double Drywall + Glass Wool	0.70 - 1.00	40 - 50	Blocks sound better but still allows some vibrations
Double Drywall + Green Glue + Glass Wool	0.85 - 1.00	50 - 55	Very effective for blocking noise
Double Stud Wall + Double Drywall + Green Glue + Glass Wool	0.90 - 1.00	60+	Maximum soundproofing (near studio quality)

Key Takeaway:

✅ Double drywall with glass wool alone is good but not enough for high soundproofing (STC 50+).

✅ Adding Green Glue & decoupling (double stud or resilient channels) makes a huge difference.

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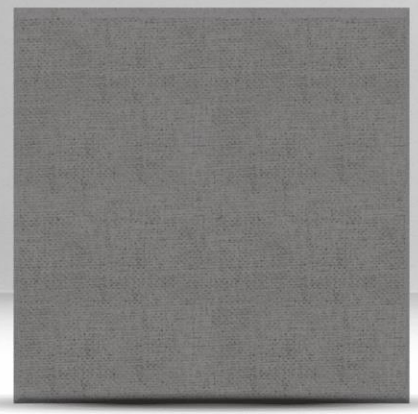
MicroFiber®

Micro Décor



การดูดซับเสียง
Excellent Material for Sound Absorption

ติดตั้งง่าย
Easy Installation

อายุการใช้งานยาวนาน
Durable and Long-Lasting

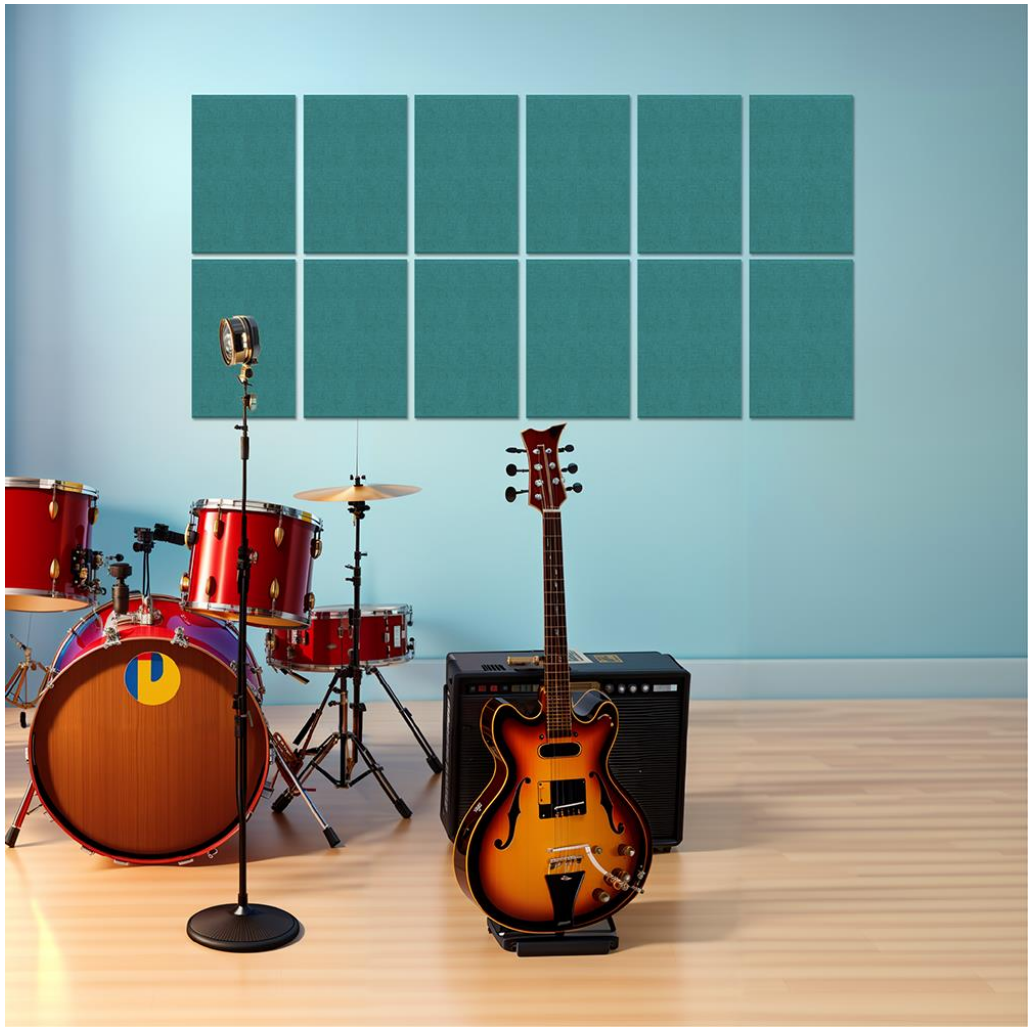
สามารถใช้งานได้หลากหลาย
Applicable to Various Use

MicroFiber®

PASAYA FABRICS

Best Choice: Product Characteristics

We offer two product series for customers to choose from, each designed to provide unique value tailored to different needs.



1. CHARCOAL

Some limitations—its colors are softer and more restricted. When rotated vertically/horizontally, the striped pattern changes noticeably, unlike REPP textile, which is more flexible in multiple aspect.

Strength**: Upcycling is the process of repurposing** or transforming waste materials, old products, or by-products into new, higher-value items instead of discarding them.

Metal Rice Dark Gray Silver

2. ARIEL

We’re testing it as a Charcoal replacement since **it matches SCG’s colors** and can be easily compared to SCG’s spec (which using REPP textile).

Paprika Graphite Ivery Pearly Powder White Smoky Ridge

Wasabi Blue Jewel Mist Livid Coastal Blue Berry Jam

Tabasco Citrus Splash

BEST SELLER

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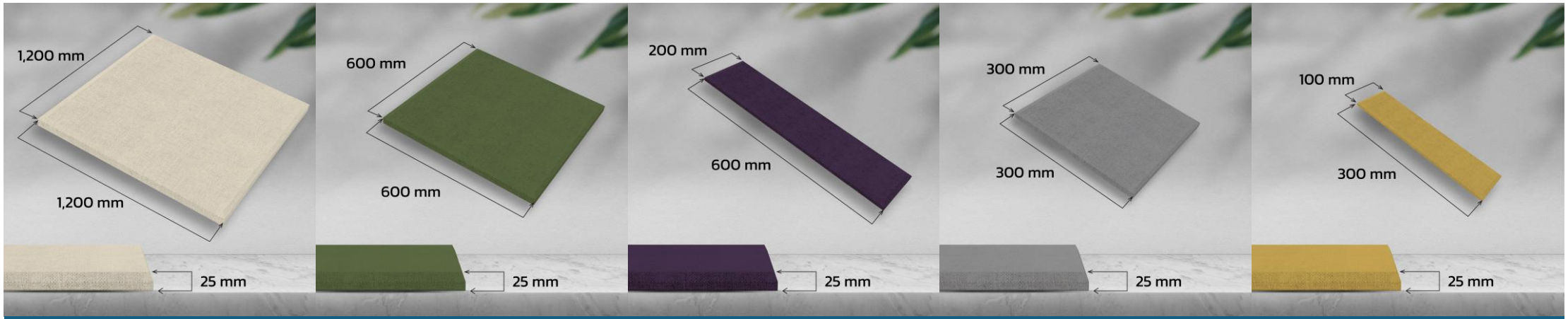
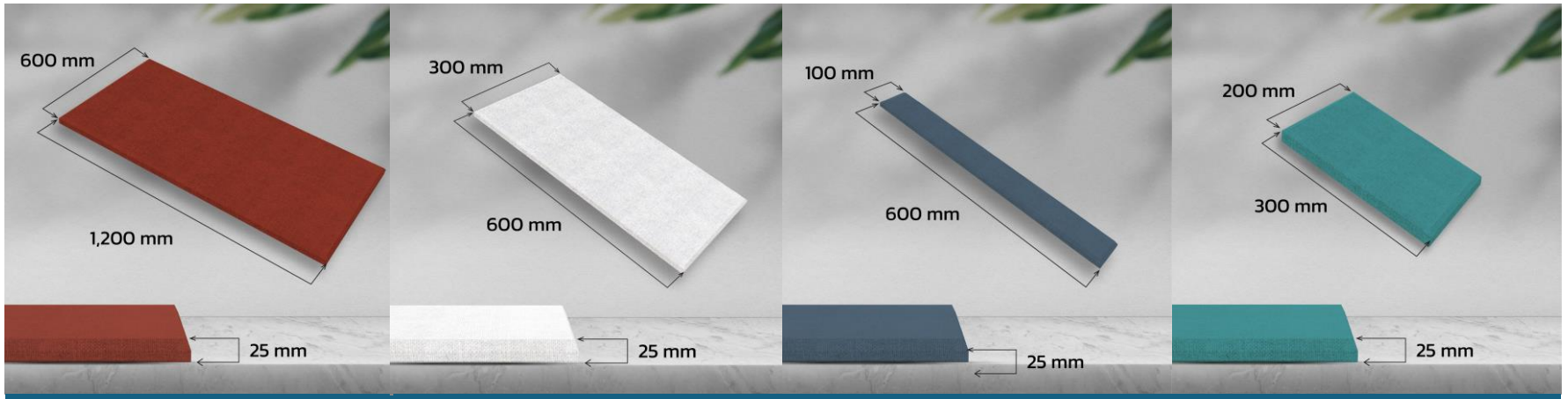


1.2 x 1.2 = 3,450 THB	0.6 x 0.6 = 800 THB	0.2 x 0.6 = 440 THB	0.3 x 0.3 = 410 THB	0.1 x 0.3 = 330 THB



0.6 x 1.2 = 1,550 THB	0.3 x 0.6 = 540 THB	0.1 x 0.6 = 410 THB	0.2 x 0.3 = 410 THB

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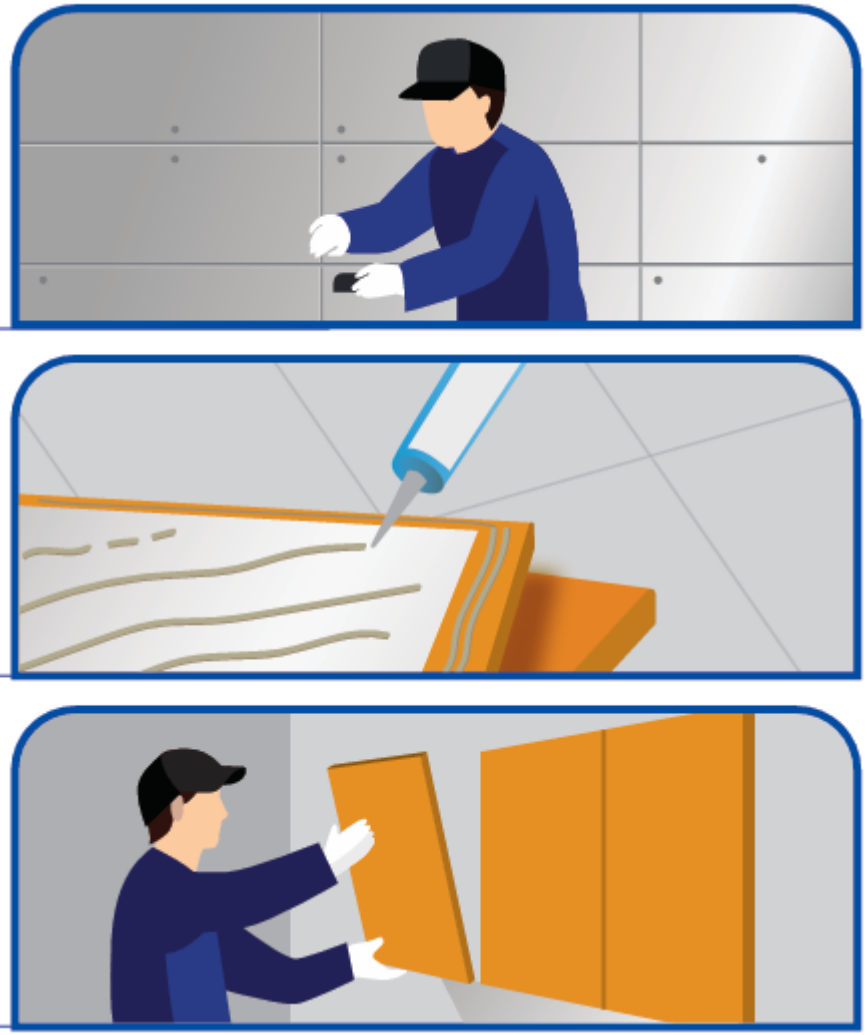
Installation

1. Mark the line on the wall where you want to install MicroDecor. This line should be aligned to the bottom of the panel.

2. Make sure that the surface behind MicroDecor is clean. Gently apply grip fill adhesive diagonally to the board.

3. Apply pressure to the MicroDecor board, pressing from the center of the panel and gradually move to the edge (hold the panel until the adhesive dry).



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WORKSHOP

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