7 COMMON MISTAKES

During Renovation That Can Make Your House Too Noisy to Sleep and How to Avoid Them

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INTRODUCTION

ARE YOU CONSIDERING RENOVATING YOUR HOME TO CREATE THE PERFECT LIVING SPACE?

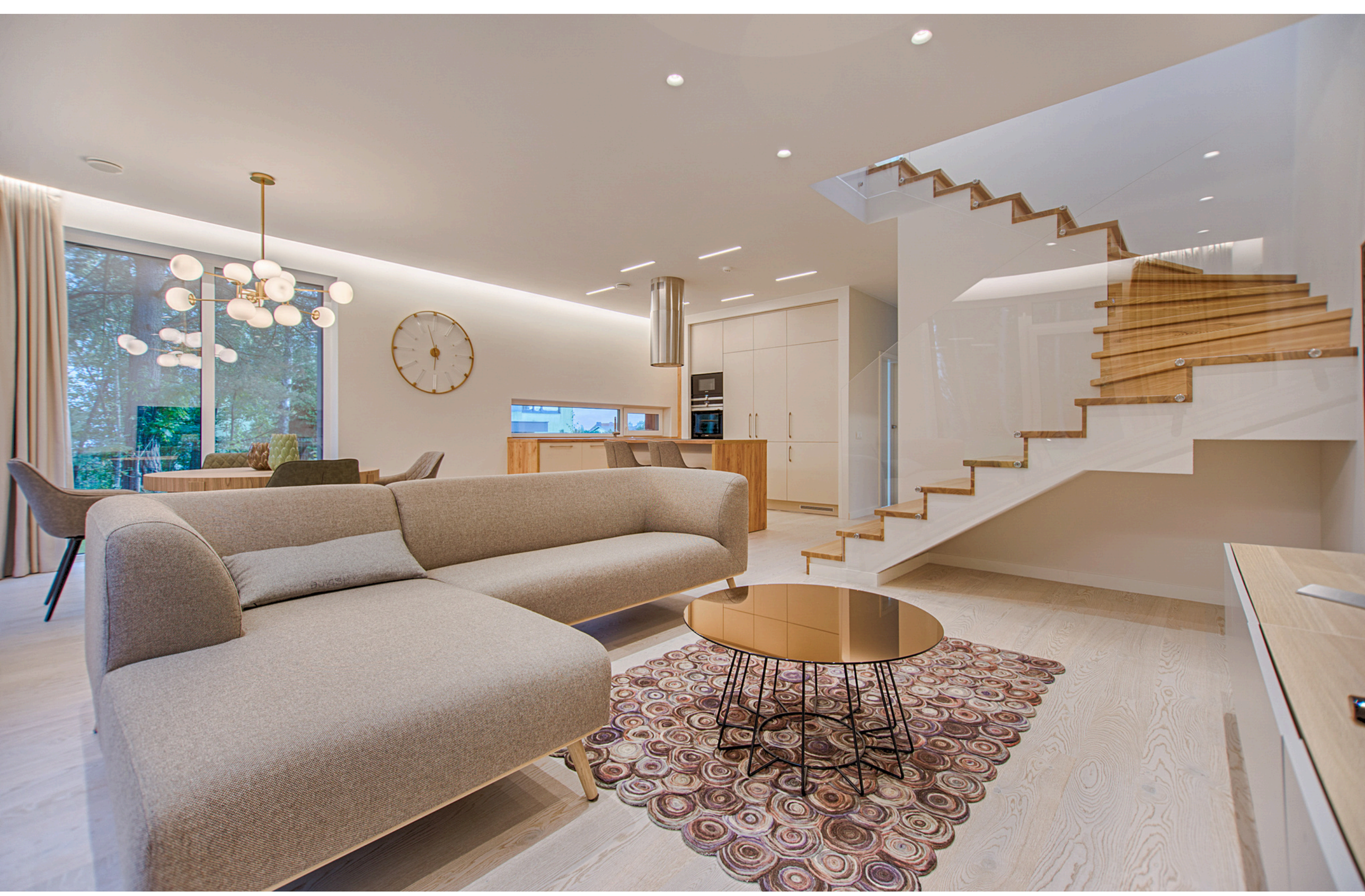
A renovation can be an exciting venture, offering the opportunity to transform your house into a dream home. However, amidst the excitement, it's crucial to be aware of the potential pitfalls that can turn your peaceful sanctuary into a noisy nightmare.

At Magnetite, as a soundproofing contractor, we are often called to help just after clients have shifted into their new home. They move in full of joy, just to realise within the first couple of nights that they can’t sleep as they underestimated the noise situation in their new location. At that point in time, it might be very costly, frustrating (you had just finally finished your reno!!!) or impossible to make alterations to choices that could have easily been avoided earlier in the renovation process.

To ensure this does not happen to you, we share in this ebook the 7 most common errors homeowners make during the renovation process that result in excessive noise disruptions, affecting the quality of your sleep and overall well-being.

Whether you're planning a small-scale remodel or a complete home overhaul, this ebook aims to equip you with the knowledge and insights necessary to make informed decisions and avoid the common pitfalls that result in excessive noise disturbances. By proactively addressing these issues, you can ensure that your home remains a sanctuary of peace and serenity throughout the renovation process.

Let's get started.



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MISTAKE #1

UNDERESTIMATING YOUR UNIT'S FACING

Don't Ignore How Loud it Might be

When selecting your unit off-plan, some factors about its facing are not immediately obvious. You might have a lovely greenery view, but is there a busy road between you and the park? Or maybe there's a public space nearby, like a basketball court or sports facility, where noise could be a concern. Even the sound from a nearby MRT line might travel further than you expect.

Many clients share with us that they underestimated the noise impact when choosing their property, especially how much it would affect their daily life and sleep.

To avoid this, we recommend spending a few evenings in your unit before finalizing your design decisions. Pay attention to the sounds from the outside environment. We've had clients call us just days after moving in, realizing that the noise at night is much louder than they anticipated. Once your renovation is complete, adding noise mitigation measures can be challenging, if not impossible. It's much easier to plan for these factors from the start and incorporate them into your renovation decisions.

Don't Focus on Aesthetics and Features Only Instead of Practicality

Design aesthetics and features is often higher on the list of priorities than practicalities: when touring their new home, owner often pay close attention to the design, layout, and features of the property. They may be captivated by beautiful interiors, spacious rooms, or desirable amenities, which can divert their attention from considering noise-related aspects. The allure of visual appeal can overshadow the practicality of a peaceful living environment.

We understand that the emotional excitement when you receive you keys for your new unit will put you into planning overdrive. What of the original features will you keep, what change? How will you put your personal touch on your unit? The excitement and anticipation of personalizing your home can overshadow practical considerations.

Consider carefully how you will move and live in your new home and make practicality as much a priority as aestetics.

HOT TIPS TO AVOID THESE TRAPS

Visit Your New Neighborhood at Different Times of the Day

Visit your new neighbourhood at different times of the day, particularly late in the evening to see what the noise level is like.

Reign in the Love for Design and Focus on Practicality

Reign in the love for design a bit and try to imagine practically living in the location and with the noise every day, every night.

Spend a Couple of Evenings in the Unit Before Finalizing Your Design

Spend a couple of evenings in the unit before you finalize your design and listen to the noise at night. many clients discover previously undetected noise issues only once they sleep in their unit.

Budget for Soundproofing If You’re in a Noisy Location

If you realize your unit is in a noisy location be realistic and put aside a budget for soundproofing of doors and windows. Hoping that you will get used to iT will often mean more cost later if you have to add soundproofing after your reno is finished.

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MISTAKE #2

WHAT LOOKS PRETTY MIGHT MAKE NOISE BOUNCE

The beauty of marble flooring, concrete wall finishes and Marie Condo style clutter free rooms - we get it. For sound absorption unfortunately these are not good news.

Hard surfaces have the tendency to reflect sound waves rather than absorbing them.

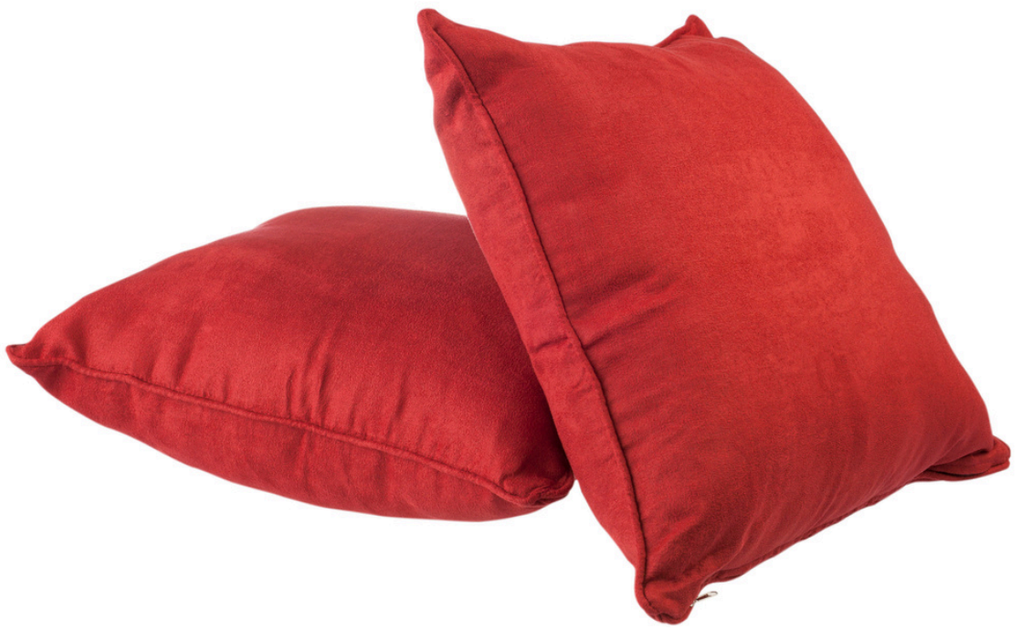
When sound waves encounter a hard surface, such as a wall, floor, or ceiling, they bounce off the surface at an angle similar to the angle of incidence, following the law of reflection. This reflection phenomenon is what causes sound to bounce or reverberate in a space.

The acoustic properties of a material determine how it interacts with sound waves. Hard surfaces, such as concrete, tile, glass, or hardwood, are typically dense and smooth, allowing sound waves to bounce off them easily. When sound waves reflect off hard surfaces, they remain in the environment for longer periods, leading to prolonged sound decay and an increase in overall sound levels.

The reflective nature of hard surfaces can contribute to the amplification and diffusion of sound within a space. As sound waves bounce back and forth between multiple hard surfaces, they create a phenomenon known as reverberation. This can result in a build-up of sound energy, making the environment louder and potentially causing a "noisy" or echoey effect.

In contrast, soft or porous surfaces, such as carpets, curtains, or acoustic panels, absorb sound waves rather than reflecting them.

These materials have a higher capacity to convert sound energy into heat energy, reducing the amount of sound that bounces back into the space. By absorbing sound waves, soft surfaces help to minimize reverberation and create a more acoustically balanced and comfortable environment.



HOT TIPS TO AVOID THESE TRAPS

Understanding Acoustic Properties to Control Noise and Minimize Sound Reflections

Understanding the acoustic properties of different surfaces is crucial when designing a space to control noise levels to break up sound reflections to minimize the bouncing of sound waves.

Consider Adding Rugs, Cushions, or Soft Furnishings to Reduce Sound Reflection in Your Space

Whilst in Singapore the easy of cleaning Of a surface is crutial, consider PLACING RUGS, a few extra cushions or soft furnishings into your space to reduce sound Reflection.

Add Sound Absorption Panels if You Plan to Sing or Play an Instrument at Home

If you Are planning to sing Karaoke or play an instrument in your home, you can Look into incoroprating sound absoprtion panels into your Design.

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MISTAKE #3

CHOOSING BLINDS OVER CURTAINS

Blinds are an increasingly popular choice for window furnishings due to their modern design, light blocking capacity and space efficiency. Their noise reduction capabilities however are very limited.

Curtains are generally better for soundproofing than blinds due to their thicker and more substantial construction. Here are a few reasons why curtains are often more effective at reducing sound transmission compared to blinds:

Material Thickness and Sound absorption

Curtains are typically made from thicker and heavier fabrics, providing more mass and density. Especially curtains made from dense and fibrous materials, such as velvet, wool, or layered fabrics, have inherent sound-absorbing properties. The texture and composition of these fabrics allow them to trap and dissipate sound energy, helping to minimize sound reflections and reduce noise transmission.

In contrast, blinds are usually made of lighter materials such as vinyl or aluminum, which are less effective at blocking sound. Blinds generally have solid slats or panels that reflect sound rather than absorb it.

Coverage and Sealing:

Curtains can provide better coverage and sealing of windows or doorways, which are common points of sound entry. When properly installed, curtains can create a more complete barrier against sound by covering a larger area and reducing gaps around the edges.

Blinds, particularly those with slats or gaps between panels, may allow sound to pass through or leak around the sides, compromising their soundproofing effectiveness.

Flexibility and Layering:

Curtains offer more flexibility in terms of layering options. Adding multiple layers of curtains with different thicknesses and densities can enhance their soundproofing capabilities. Additionally, curtains can be combined with other sound-absorbing materials such as acoustic panels or heavy drapes to create a more comprehensive soundproofing solution.

Blinds, due to their structure and limited material options, have less versatility in terms of layering and customization.

HOT TIPS TO AVOID THESE TRAPS

In rooms where sound reduction and noise absobtion is important, choose curtains instead of blinds.

Wall to wall and floor to ceiling installation of curtains will bring the best result.

Look for heavy, absorbing materials when choosing your curtains.

GOOD TO KNOW:

Curtains can provide a certain degree of soundproofing through their sound absorption properties. This means they are especially effective for sounds generated inside the room, preventing them from travelling out and to reduce bouncing of external sounds. Curtains offer limited protection against external sound sources, for which sealing and soundproofing of the doors and windows is necessary.

MISTAKE #4

SUPER SILENT APPLIANCES LET YOU HEAR EVERYTHING ELSE

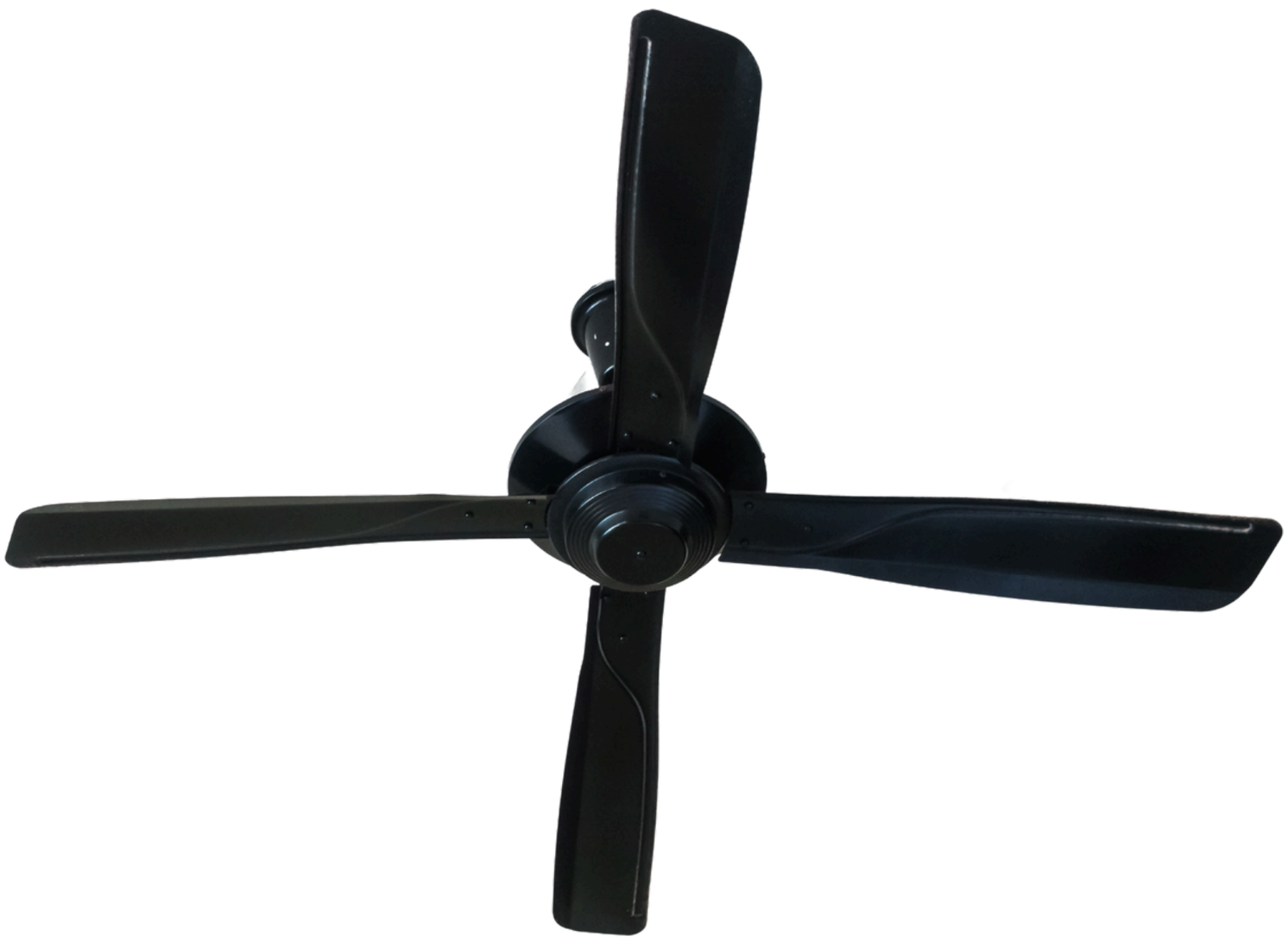
While super silent appliances may be desirable for reducing noise within the appliance itself, they can have unintended consequences for the soundproofing of a room. Here's why:

Eliminates the Masking Effect:

Appliances normally emit consistent levels of noise, which can mask or hide other background sounds in the room. This masking effect can make you less aware of the noise sources outside the room, such as traffic, neighbors, or construction. As a result, you may not notice outside noise as much, since the internal noise of the appliance masks the noise. If your appliance is super silent you will notice internal and external noises more.

Increased Sensitivity:

When an environment is extremely quiet due to the operation of super silent appliances, people's auditory senses can become more attuned to subtle sounds. This heightened sensitivity can make them more aware of any remaining background noise or intermittent sounds, which can be more bothersome than if there were a consistent ambient noise level. As a result, even minor noises from outside sources may become more noticeable and disruptive.



HOT TIPS TO AVOID THESE TRAPS

When choosing appliances be aware that silent ones will mean you will hear every sound in your house and from the outside

Introduce a source of white, brown or pink noise to your room. this can be through a fan or airconditioning or through a whitenoise app or machine

GOOD TO KNOW:

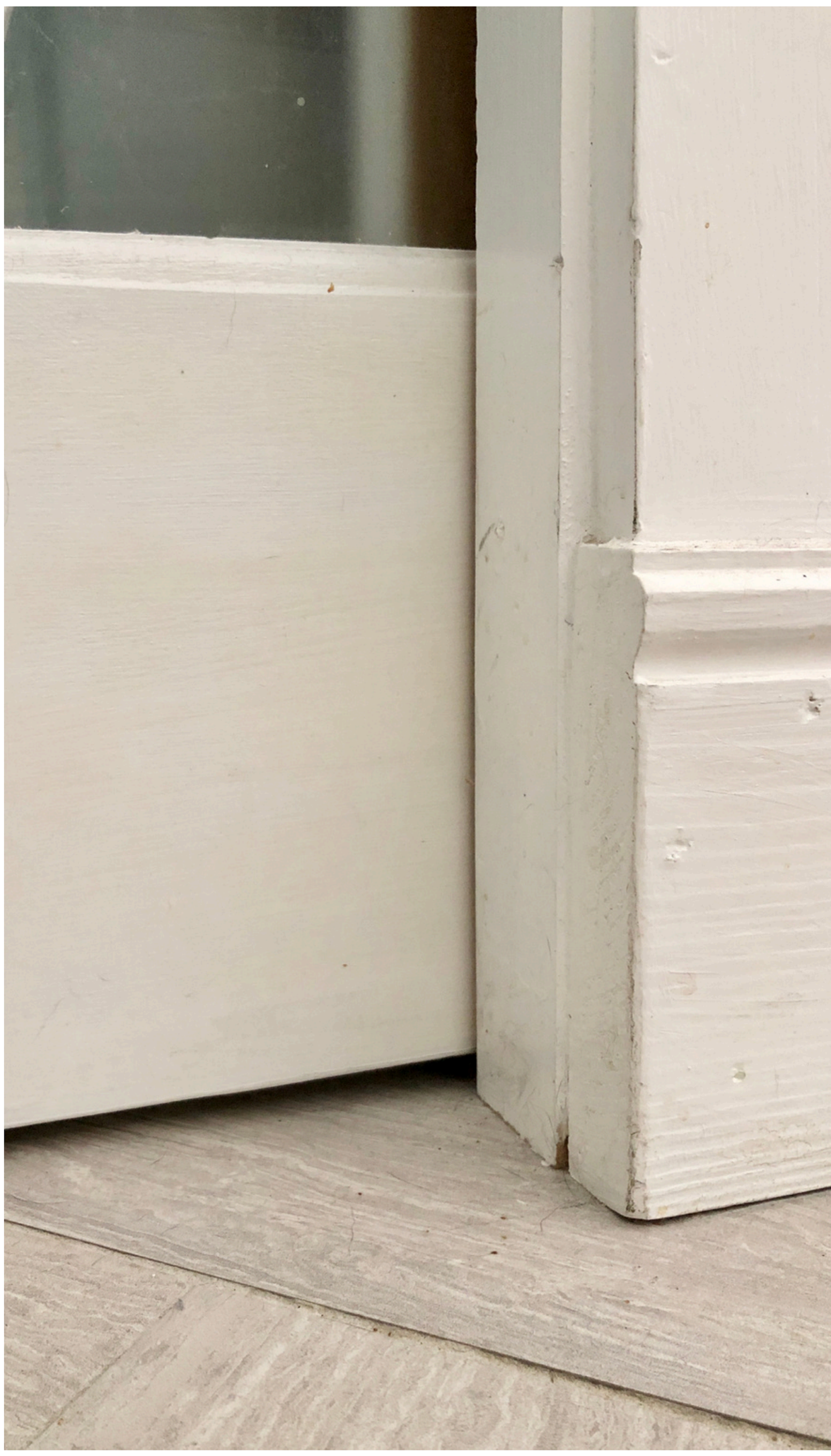
The purpose of sound masking is not to eliminate or cancel out noise entirely but rather to minimize the impact of specific sounds that can be distracting or intrusive. By adding a controlled level of continuous background sound, sound masking helps to mask or "cover up" these unwanted noises, making them less noticeable and more comfortable to the occupants of a space.

It's important to note that sound masking is different from soundproofing. While soundproofing aims to reduce the transmission of sound between spaces, sound masking focuses on masking or attenuating specific sounds within a given space, making them less noticeable or disruptive.

MISTAKE #5

THE POCKET DOOR NOISE DISASTER

Top running interior sliding doors, either out of glass or timber are increasingly popular due to their space saving nature. Especially pocket doors - where the door disappears into an invisible pocket when opened - are a sleek design feature. For soundproofing however, they are a disaster.



Insufficient Sealing:

Top running doors have gaps or spaces around the edges when closed. These gaps can allow sound to leak through, reducing the door's ability to block sound effectively. Unlike traditional hinged doors that typically fit snugly within a doorframe, pocket doors retract into a wall cavity, making it challenging to achieve a tight seal and prevent sound transmission. You will hear everything happening on the other side of this door.

Limited Mass and Density:

Timber pocket doors, especially those with thinner panels, may lack the mass and density required for optimal soundproofing.

Soundproofing effectiveness is often enhanced by using doors with solid cores or thicker materials, as they provide better sound-blocking capabilities. In comparison, timber pocket doors are generally lighter. Pocket and interior sliding doors are primarily designed for space-saving and aesthetic purposes rather than soundproofing. They often lack additional acoustic features, such as specialized core materials or sound-dampening mechanisms, which are commonly found in doors specifically engineered for sound control. These features are crucial for effectively blocking and absorbing sound waves.

For spaces where privacy is no issue, like for your walk-in closet, a pocket door might be a great choice. For your bathroom and home office door you might want to look for a solid timber door that seals tightly, ideally including perimeter seals and an auto-drop seal at the bottom.

HOT TIPS TO AVOID THESE TRAPS

Whenever you can choose between a door that can slide or swing, **choose swing**. Hinged doors can be build with soundproofing, sliding doors can not.

In any area where privacy is important - now or in the future - **do not go with pocket doors** as retrofitting soundproofing will not be possible

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MISTAKE #6

USING GLASS PARTITIONS FOR YOUR HOME OFFICE

We get often called by desperate homeowners who ask us if we can please soundproof their home office built out of frameless glass partitions. Usually, this means a full removal of the partition and replacing it with a framed system as glass partitions are generally not a suitable choice for noise reduction and can't easily be retrofitted.

Insufficient Sealing:

As with the pocket doors, the lack of sealing of the entrance door to your partition is part of the issue - there are gaps around frameless glass swing doors that can't be sealed and that will allow air, and therefore sound, to travel through freely.

Limited Sound Blocking Through Lack of Mass and Density:

Glass is a rigid and non-porous material that reflects sound rather than absorbing or blocking it. This means that sound waves can easily pass through or bounce off the glass surface, allowing noise to travel between spaces. Glass partitions, especially those with thin or single-pane glass, provide minimal sound insulation and can allow both airborne and impact noise to penetrate the office environment. Even if they are thick, they generally have lower mass and density compared to other partition materials like solid walls or acoustic panels. The lower mass and density of glass make it less effective in attenuating sound, resulting in reduced soundproofing capabilities.

Sound Reflection:

Glass surfaces have a smooth and hard texture, and have the issue with causing sound waves to reflect off them rather than being absorbed that we discussed about hard surfaces. This reflective nature can lead to sound wave propagation and amplification, making the office environment more reverberant and prone to echoes. The increased sound reflection can result in a less acoustically controlled and comfortable workspace.

HOT TIPS TO AVOID THESE TRAPS

Glass Partitions May Look Great, But They're Not Ideal for Soundproofing in a Home Office.

While glass partitions offer advantages such as visual transparency, natural light transmission, and an open feel, they are not the best choice for soundproofing requirements in a home office.

Use Glass Partitions Only in Areas Where Sound Isn't a Concern, Like the Kitchen or Closet

Only use glass partitions in areas where you don't mind sound travelling, like between the kitchen and living room or to your walk-in closet.

For Better Sound Control and Privacy, Consider Solid Walls, Acoustic Panels, or Sound-Absorbing Partitions

If sound control and privacy are important, alternative partition materials such as solid walls, acoustic panels, or sound-absorbing partitions would be more effective in minimizing noise transmission and creating a quieter working environment.

MISTAKE #7

REPLACING CASEMENT WINDOWS WITH SLIDING

Oh, this one breaks our hearts. If your unit has sliding windows and doors and you can't change them, that is one thing. But if push out casement windows were removed, and new sliding windows installed and suddenly a unit that had no noise issues is much louder, that is so sad! Most people are not aware that casement windows are much better at sound blocking than sliding ones.

The main reason is a topic we have heard about before with the pocket and glass doors: **The Lack of Sealability.**

The problem lies in the structure of sliding windows. They typically have larger gaps and looser seals compared to casement windows. The sliding mechanism requires a track, which can introduce gaps along the sides of the window where sound can easily travel through. These gaps can allow outside noise to penetrate the room and reduce the window's overall soundproofing capabilities. Casement windows, on the other hand, often have a tighter seal when closed, minimizing the potential for sound leakage.

Being able to seal out airflow is essential for noise blocking and with sliding windows this option does not exist. Upgrading to double-glazed sliding windows is unlikely to improve the soundproofing much, as the structural problem with the gaps remains.

Casement windows on the other hand can be built soundproof. Double glazing alone also doesn't make a casement window a soundproof window but here options are available. You can read more about how to select a soundproof window on our blog https://magnetite.com.sg/how-to-choose-a-soundproof-window/

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How to choose a soundproof window

16th February 2023

“I already have double-glazed windows but the noise is still coming in” – A phrase we hear regularly during our site-visits. Stepping up to the ...

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HOT TIPS TO AVOID THESE TRAPS

When replacing windows always choose casement windows in bedrooms

Don't choose double glazing for sliding windows and expect noise reduction; double glazing sliding windows for noise reduction does not work.

During the design stage avoid sliding doors in bedrooms and in any other area where noise transmission plays a role

Choose a casement window with a minimum of STC35 with a test report for the whole window (NOT just the glass)

If your unit comes with a sliding window or door you can't replace with casement, budget for a Magnetite Noise Shield that can reduce sound by up to 70%

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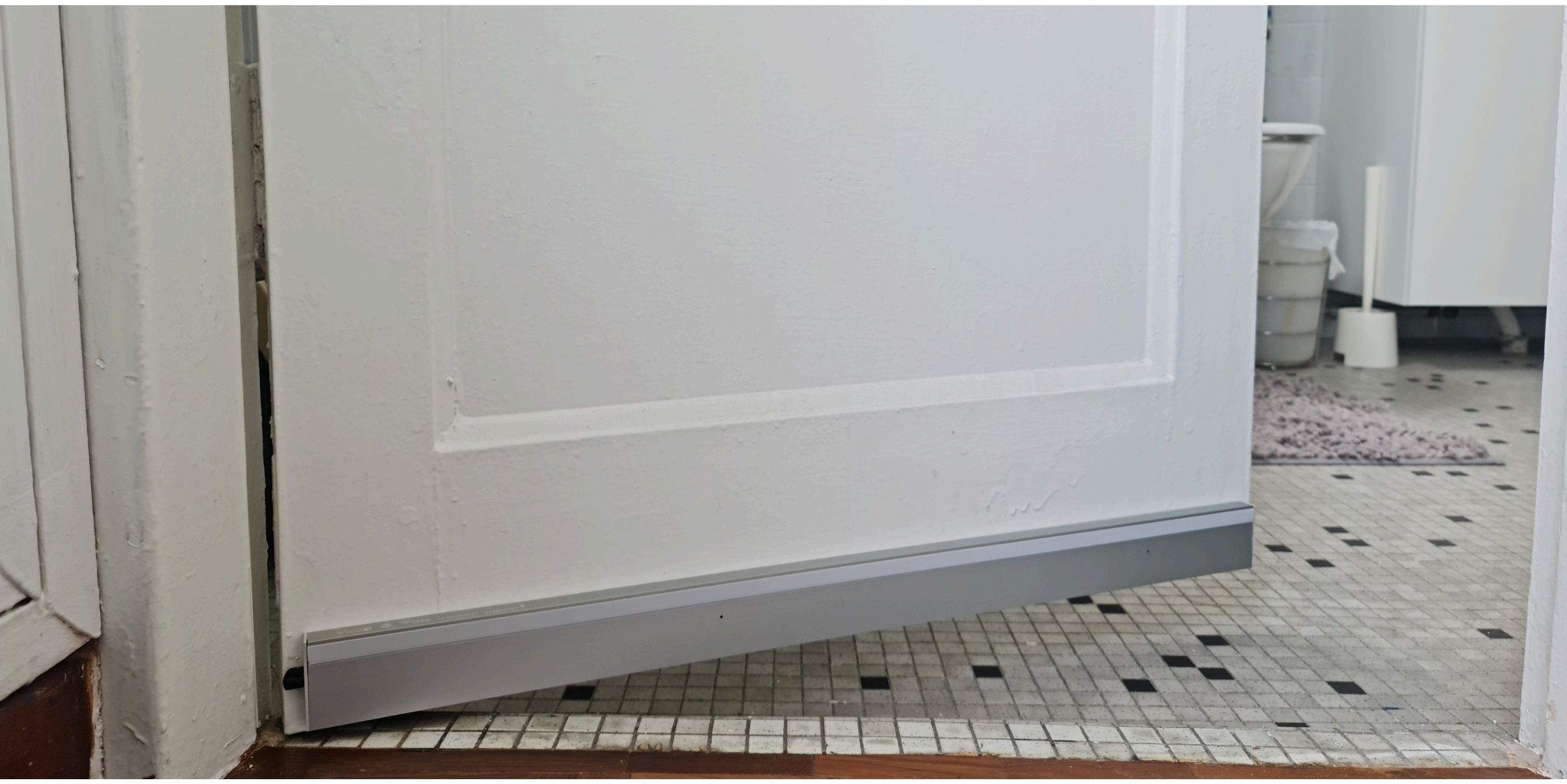
BONUS

HOT TIPS

Choose bedroom doors that are not hollow but solid.

If you find that sound travels from the hallway or living room into the bedrooms, you can add on perimeter seals and aN auto drop seal on the bottom later.

With hollow doors, you can't add-on, you have to change the whole door.



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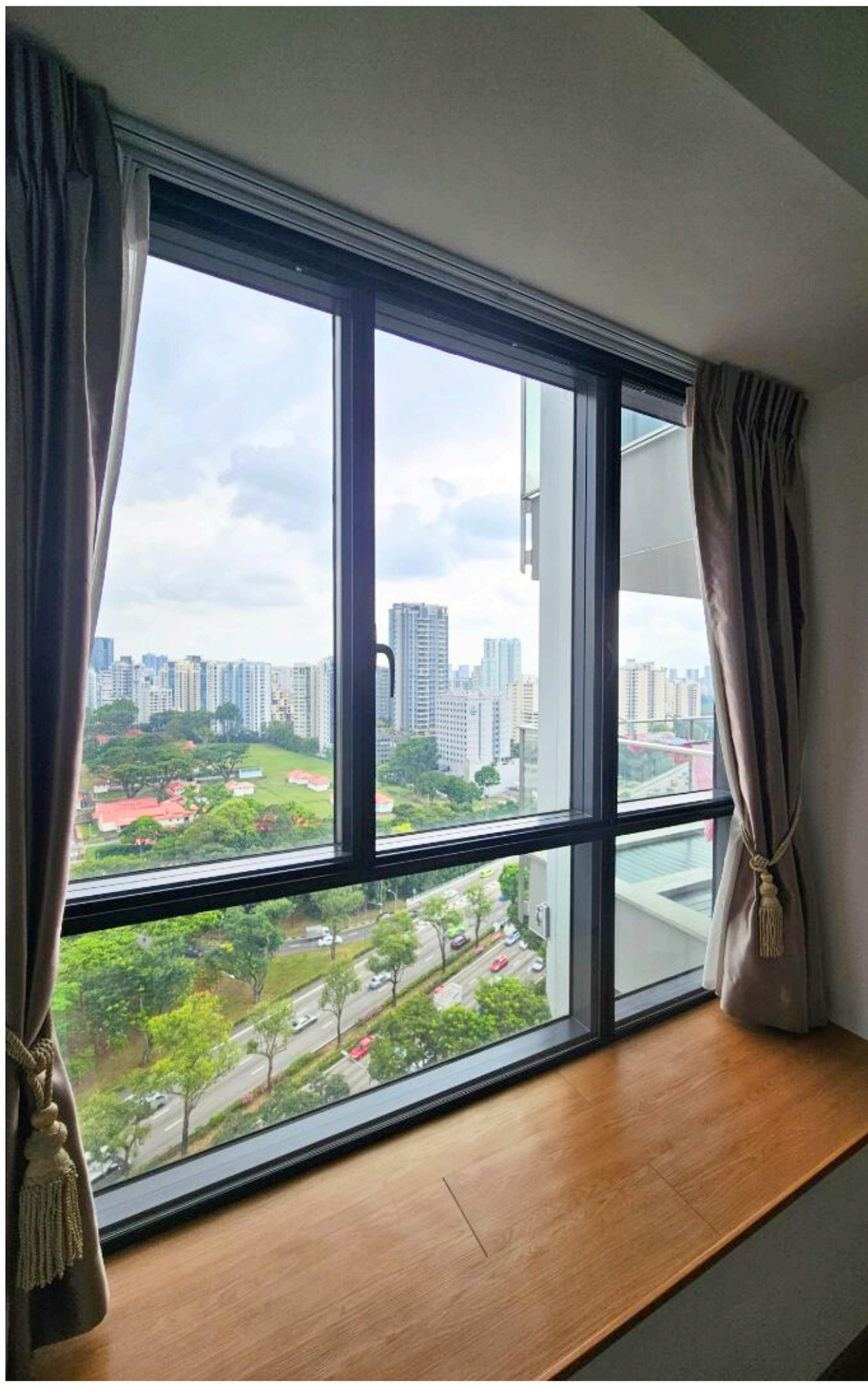
BONUS HOT TIPS

Don't have built in furniture or cable channels touch your window.



Then you can still add on window soundproofing later.

Reach out to Magnetite to find out how much space you should leave in your case to make installing a noise shield still possilbe at a later stage.

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THERE WE HAVE IT - YOU ARE NOW WELL EQUIPPED TO AVOID THE 7 MOST COMMON MISTAKES MADE DURING RENOVATION REGARDING SOUNDPROOFING!

About Magnetite

Magnetite® technology allows you to receive all the benefits of double glazing without replacing your windows. Our Noise Shields reduce up to 70% of sound and are installed without the need for hacking or HDB permits and are invisible from outside, making them a perfect choice for condominiums. Soundproof sliding options are available.

Visit our website www.magnetite.com.sg to learn more and book a free site assessment for your windows or reach out to us by WhatsApp under +65 91895575.