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# FORTUNA SOUNDPROOF WINDOWS

#### FOCUSED

#### **ON RESIDENTIAL HOUSING**

Solving Noise Problems faced by home owners as the main objective. Customised UPVC Windows and Doors System to cut down the external noise to attain a conducive Library Environment In-house.

# WHY SOUNDPROOF?



### **SOUNDS FAMILIAR?**

Permanent Exposure to Noise like these can Damage your Hearing permanently. Acknowledge these Noise Issues and Get it FIXED!









Construction Work

Roads & Expressway

Dogs & Animals







Neighbourhood Noise

MRT Noise

**Baby Crying** 

According to World Health Organisation, living with high ambient noise may lead to noise-induced hearing loss. Especially for those staying near expressway and MRT track.



Noise & Heatth



Annoyance, mood shifts



Vasoconstriction



Elevated blood pressure



Physical Manifestations of **NOISE STRESS** 



Hypertension



Myocardial infarction



Lower threshold for noise resulting in sleep disturbance



Delayed cognitive development in children

### FORTUNA UPVC PROFILE





#### **EASY MAINTENANCE**

Minimal maintenance is required. The frame color is original and does not have coating unlike Aluminium. To keep it clean, just wipe it down with warm soapy water.



#### **SUPPORT UP TO 30MM GLASS**

The modern **UPVC** frame allows replacement and application of Glass Glazing combination **up** to 30mm glass thickness.



#### **MULTI-CHAMBER PROFILE**

**Multi-chambers** create additional barriers within the material frame for **Soundwave** and **Heatwave** to pass through



#### **DESSICANT SPACERS**

Notice the air gap between the double/triple glazed? They are filled with Dessicant to absorb mositure and fogging.





#### **MORE THAN JUST PVC**

PVC Frame will be **Heavier** than Aluminium Frame due to the **addition of Metal-Bar** insert to further strengthen the frame overall thickness and **Tensile Strength Value.** 



#### **MULTI POINT LOCKING**

Multiple Points Locking System to ensure Air & Water Tightness, Sound insultation and Security. Makes all the difference.



#### **STAINLESS FASTENERS**

High grade Non-Corrosion Fasteners to ensure the system is bolted into side walls / structure.



#### **EPDM RUBBER SEAL**

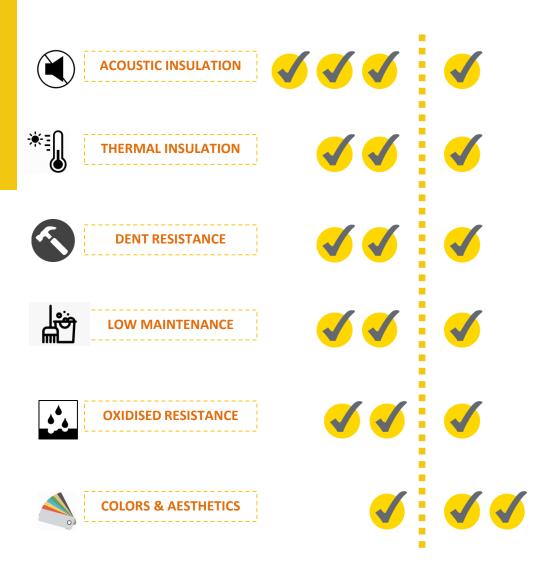
EPDM Rubber Seal helps to resist sunlight, ozone, oxygen aging, acids, alkalis, water and severe weather conditions.

#### UPVC VS. ALUMINIUM



### **UPVC** ALUMINIUM

#### **COMPARISON FACTORS**



UPVC Windows & Doors are commonly used in Europe Region and the U.S. for their known for enhanced durability and protection from extreme weathers.



#### **TYPES OF UPVC WINDOWS**







#### **CASEMENT SYSTEM**

The most basic yet Effective Swing-able Window System for Soundproofing.



#### **TOP HUNG**

Most suitable for Toilets / Areas that requires ventiltation even during the rain.



#### **TILT AND TURN**

A combination of Casement and Top Hung; both in Open Inward direction.



#### **SLIDING SYSTEM**

The least soundproofing window system but the most user-friendly.



#### **FIXED**

Used in conjunction with other windows systems unless for room dividers.

The standard regulation in Singapore limits

Casement Window Panel to maximum width

of 700mm and Sliding of 1200mm

### **CASEMENT WD SYSTEM**

\*\*( BEST RECOMMENDED SERIES )\*\*





Casement (Outwards Opening)

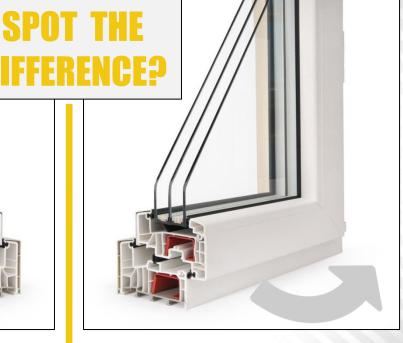


#### **Outward System**

Application in Residential Units -Kitchen, Living Room, Bedrooms, Landed Units and Condominium.

#### Accessories:

Window Arms,
Window Restrictors



#### Casement (Inwards Opening)

#### **Inwards System**

Application in
Residential Units –
Resale HDB Corridors,
HDB BTO Bedrooms,
Condominium with
external facade
requirements.

#### Accessories:

Window Arm, Windows Hinges



### Did You Know?

Casement Inwards System inconjunction with existing windows is more effective than a new sole Casement Outwards System.

#### **UPVC WINDOWS Installation**









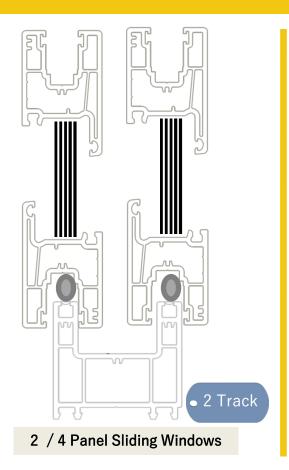


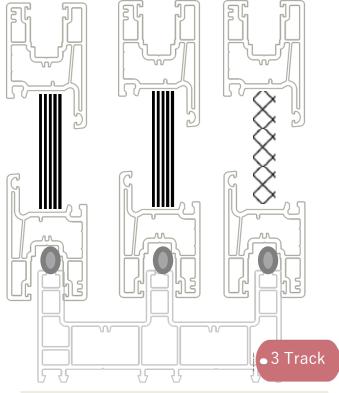




### **SLIDING WD SYSTEM**







2 / 4 Panel Sliding Windows + Steel Mesh





Sliding Windows are less noise effective than Casement Windows; but still remains a popular choice for HDB Corridor Units and Kitchen / Yard Windows for more ventilation.

#### **REPLACE GLASS WITH MESH**





**Anti-Mosquito Mesh** 

**Enhanced Security** 

**Pets Friendly Quality** 

Stop Crawler Pests

**Corrison Free** 

**Cut Resistant** 













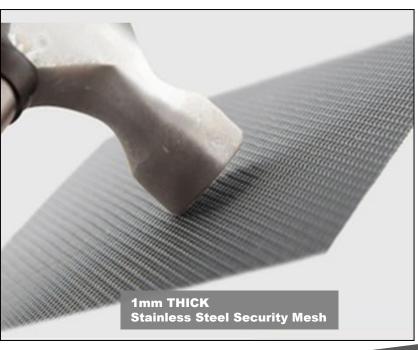






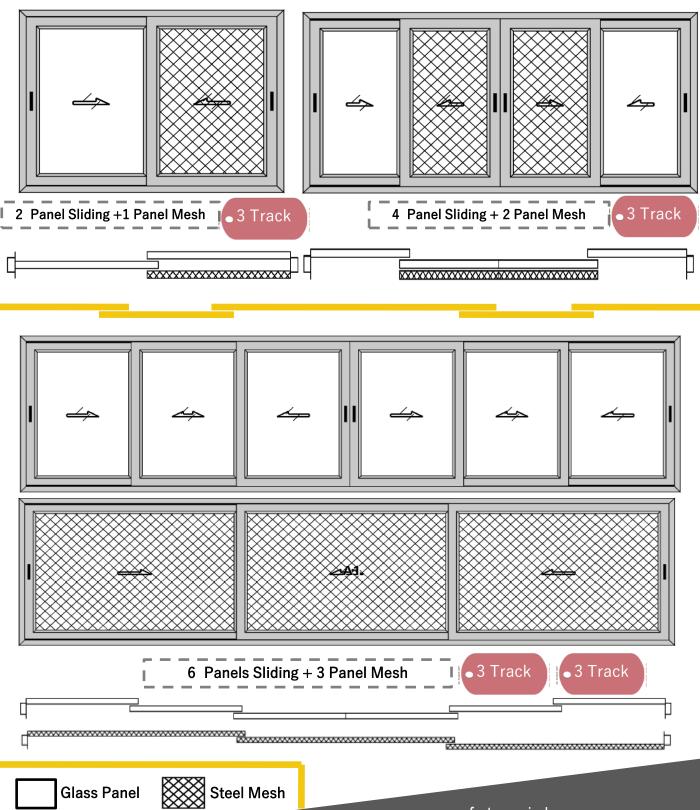






### **Sliding Plus Mesh System**

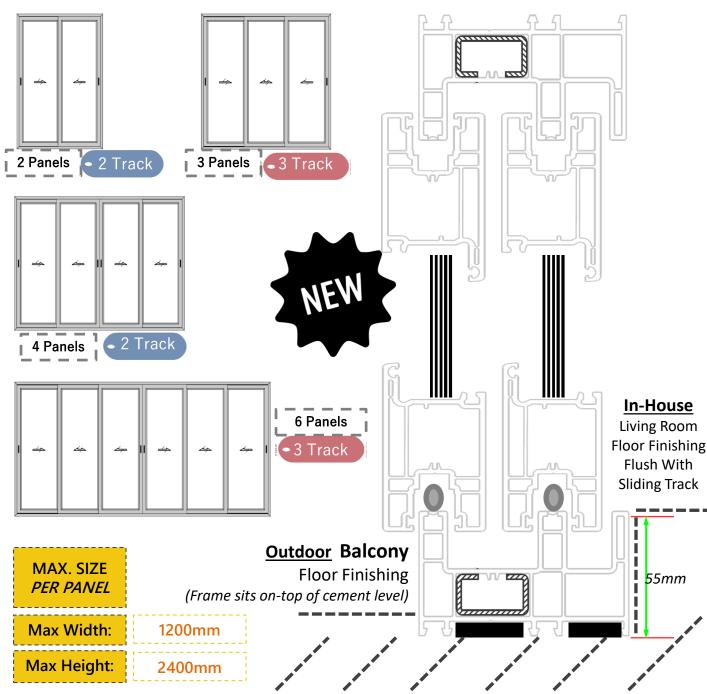






### **SLIDING DOOR SYSTEM**



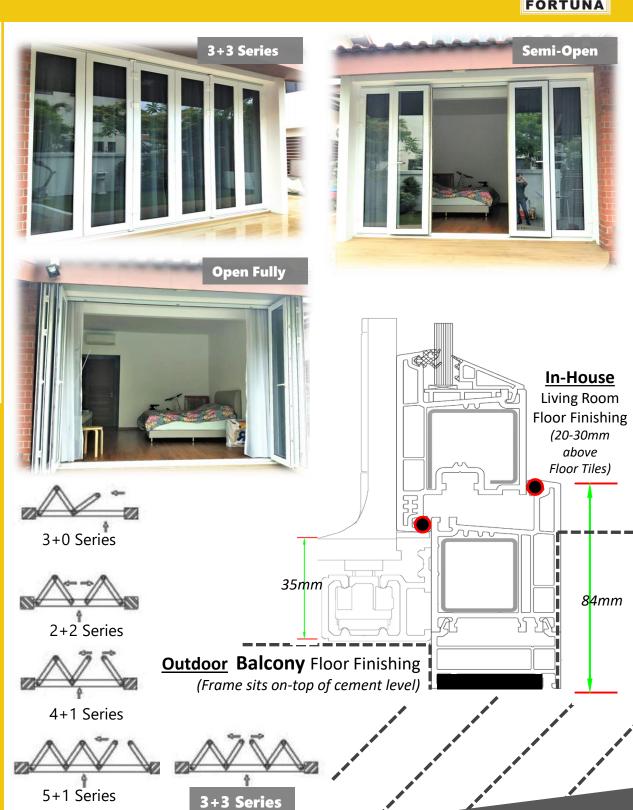


Due to the wide surface area of Sliding doors, it is highly recommend to install Laminated tempered safety glass to reduce chances of glass breakage and replacement.

### **FOLDING DOOR SYSTEM**



P A N E



### **SWING DOOR SYSTEM**

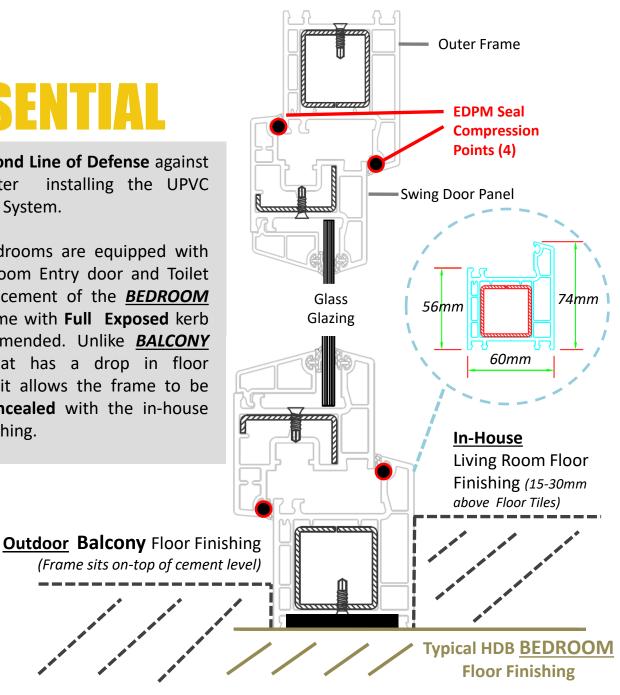
**BEST RECOMMENDED SERIES 1\*** 



### **ESSENTIAL**

Your Second Line of Defense against installing the UPVC noise after Windows System.

Most bedrooms are equipped with the Bedroom Entry door and Toilet Door. Placement of the BEDROOM Door frame with Full Exposed kerb is recommended. Unlike BALCONY Door, that has a drop in floor leveling, it allows the frame to be Semi-Concealed with the in-house floor finishing.



### Did You Know?

To Soundproof, all door frame sides and corners are to be double sealed. This means that a door kerb is necessary to prevent noise from entering through any door gaps.

## **SWING DOOR SYSTEM**

\*\*( BEST RECOMMENDED SERIES )\*\*





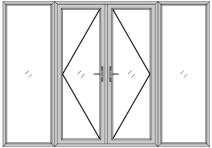






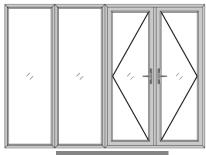






2 Fixed+ Double Swing





2 Fixed+ Double Swing

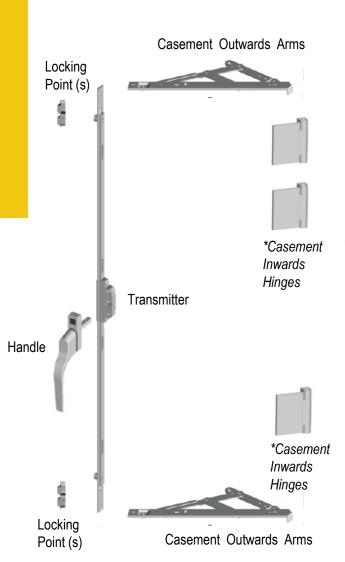
Fixed Glass Panels are more Soundproofing and less costly than Swing Doors. The bigger the Swing Door, the less soundproof it gets.

Recommended sizes per panel are at 900mm width and 2100mm height.

### **SECURITY SYSTEMS**



#### **Casement WD**



<sup>\*</sup> Denotes optional. Open Inwards hinges to replace inward opening window arms.

### **Swing DOOR**



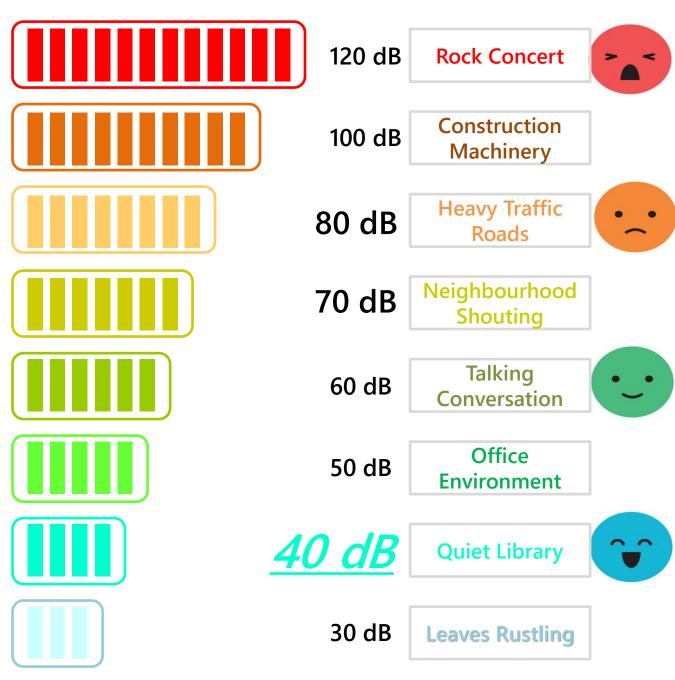
**KIN LONG** 





### **NOISE LEVEL (dB)**





A <u>Permanent</u> Solution to a <u>40dB</u> Bedroom!

# **SOUND INSULATION TABLE**



SOUND INSULATION TABLE						
Location & Noise Pollution Level	Average Noise Level for Day & Night	Recommended Soundproofing Level	Noise Protection Class			
(LOW Density) Residential Areas	DayTime (7am -9pm) - 60dB NightTime (9pm-7am) - 50dB	Noise Sensitive : 32-35dB	***************************************			
		Sleeping : 33-40dB	***			
		Working : 48-52dB				
(MEDIUM Density) Suburban Residential	DayTime (7am -9pm) - 65dB NightTime (9pm-7am) - 55dB	Noise Sensitive : 32-35dB	******			
		Sleeping : 33-40dB				
		Working : 48-52dB	*2			
(HIGH Density) Urban Residential	DayTime (7am -9pm) - 75dB NightTime (9pm-7am) - 60dB	Noise Sensitive : 32-35dB	***************************************			
		Sleeping : 33-40dB	<b>**** **** ***</b>			
		Working : 48-52dB	<b>*** ***</b>			

SELECTING THE RIGHT GLASS GLAZING						
Noise Protection Class	Proposed Glazing	Glazing Structure (mm)	Glazing Type (Image)	Alternative Package		
<b>*****</b> *******************************	UPVC Profile Triple Laminated Series 20mm	6mm glass +1.52pvb +5mm glass+1.52pvb +6mm glass		Existing Window +GRADE-3 (Open Inwards)		
<b>***</b> *********************************	UPVC Profile 30mm Double Laminated+Single Glazed <u>OR</u> Triple Air Series 30mm	6+12A+5 +0.76Pvb+6 <u>OR</u> 6+6A+6+6A+6		Existing Window + GRADE-1 (Open Inwards)		
<b>***</b>	UPVC Profile Double Air Space Series 30mm	6mm glass +18A +6mm glass		((O)) FORTUNA		
***	Heavy Duty Aluminium Profile Double Glazed Series 19mm	6mm glass +9A +6mm glass		((o)) FORTUNA		

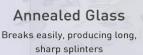




### **GLASS GLAZING**









Tempered Glass

Shatters completely under higher levels of impact energy, and few pieces remain in the frame



Laminated Glass

May crack under pressure, but tends to remain integral, adhering to the plastic vinyl interlayer

Glass Type	General Description	Common Application	
Annealed / Float	The most basic glass type that allows maximal light and heat penetration. Tinted (Colored) Glass are consider Float glass too.	Small area of Glass surface that does not require specific glass treatment	
Tempered (Strengethened)	A type of goes through thermal or chemical treatment to increase its strength. Also known as toughened glass.	Residential In-House Glass Fixtures; Showerscreens	
Laminated (Sound Insulation)	Two-piece of glass that hold together even in the event of shatter. Held in place by an interlayer, typically of Polyvinyl Butyral (PVB)	Vehicle Windscreen, Shopping Mall Glass Railings	
Low-E (Low-Emissivity)	Energy-efficient glass designed to prevent heat exchange between outdoor and indoor.  Recommended for areas where larger proportion of heat loss would be expected.	Exterior of Skyscraper Commercial Buildings	

0.38pvb

0.76pvb

1.14pvb

1st Layer of Glass

Polyvinyl butyral (PVB)

2<sup>nd</sup> Layer of Glass

Laminated Glass



#### **BUILT IN BLIND SYSTEM**













#### PRIVACY & SOUND REDUCTION

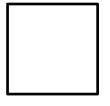
Cohabits in a mere 30mm glass glazing space. Your Privacy adjustable by with just one finger. Blinds available in <u>WHITE</u>, <u>GOLD</u> and <u>SILVER</u>.

Built-In-Blinds System tested with more than 140,000 cycles - far above highest industry standards by 30,000 cycles.

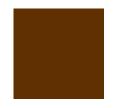
### **UPVC FRAME COLORS**



### WINDOWS SERIES









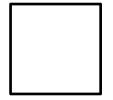
**WHITE** 

**D.GREY** 

**BROWN** 

**OLIVE** 

### **DOORS SERIES**





**WHITE** 

**D.GREY** 

### \*PREMIUM GLOSSY SERIES













ALUM.

**L.GREY** 

D.BROWN MAHOGANY

**BEIGE** 

BLACK

### \*\*RENOLIT WOODGRAIN

- \* LONGER LEAD TIME (EST. 2-3 WEEKS)
- \*\* EXCLUSIVE FOR PROJECT BASIS

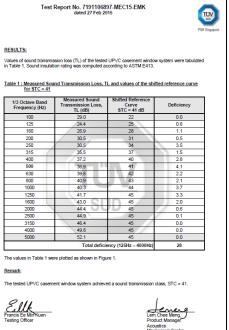




#### **NOISE REDUCTION TESTING**









TÜV SÜD PSB Product Testing - ASTM E90

STC Rating of '41' (Sound Transmission Class)

**ASTM E413 Standards** 



INTERTEK Product Testing - ASTM E90 STC Rating of '40' (Sound Transmission Class)

ASTM E413 Standards

#### **RESIDENTIAL GALLERY**



























70% of our clients resides in HDB. The premium windows will serve them a long time and value adds to the next resale owner. Indeed, a valued investment.

### RESIDENTIAL GALLERY













#### FORTUNA SOUNDPROOF DOORS









#### **PAST Installation Sites**



# HDB; More than 800 Units

# CONDOS: (UPTILL DATE)

**ADANA @ THOMSON ARCHIPELAGO ASPHEN HEIGHT BELLEWATERS BEACON HEIGHTS BONTANIC GARDEN VIEW** BOTANIQUE @ BARTLEY **CHESTERVALE** CAIRNHILL PLAZA **CALARASI** CANNE LODGE **CASPIAN CENTRA HEIGHTS** CHANCERY COURT **CORALIS** D' LEEDON D'NEST **ELIAS GREEN** HOLT RESIDENCES HIGH PARK RESIDENCES

**IVORY HEIGHTS** KING'S MANSION LIVIA LE CHATEAU MARINA ONE **NEPTUNE COURT** NICON GARDENS ORCHID PARK CONDO KEW GREEN LAGUNA PARK PARC MACKENZIE PARC SEABREEZE PARK WEST RIVERBANK @ FERNVALE **RV RESIDENCES** SIMS URBAN OASIS SHELFORD REGENCY CONDO SKYLINE RESIDENCES SIN MING PLAZA STURDEE RESIDENCES SUITES TWENTY TWO

THE ANCHORAGE THE CLEMENT CANOPY THE FOLIAGE THE INTERLACE THE FORD THE MARBELLA THE HACIENDA THE TREVOSE THE PARC THE METROPOLITAN THE VALES TWIN WATERFALL VALLEY MANSION **VETRO VUE 8 RESIDENCE** WESTWOOD RESIDENCES

### **Landed: More than 60 Units**

### **Reseach & Development**



















#### **General:**

#### Is there a showroom that I can see your physical product showcase?



Yes, please feel free to make an appointment with us by dialing our hotline at 6453-5555 before making your way to 10 Kaki Bukit Road 1, KB Industrial Building, #03-22, S416175.

#### Can I install soundproof windows for my new HDB-BTO house?



Following HDB's regulation, the new BTO windows will require a permit that is not likely to be approved without a good and strong reason for the first 5-8years. However, if you are still keen; we are able to install our soundproof windows on the inside of the BTO apartment.

#### **Technical:**

#### Can I keep retain my existing window and install soundproof glass?



The regular aluminium window frame that HDB supplies are basic calibre (width, thickness, internal structure), sufficent to support single glazed. While our FORTUNA uPVC frame System has default properties to insulate noise and heat penetration, and most importantly; support up to 30mm glass thick glazing.

#### What is the difference of STC and sound decibel?



Decibel (dB) is the unit measurement of sound (Lower, the better). While 'STC' means Sound Transmission Class, refers to an integer rating of how well a building partition attenuates airborne sound (Higher, the better).

#### ales Related:

#### Can you send someone to my house for a onsite quotation for free?



Yes. It is preferred that our consultant can visit the actual site to assess the severity of the noise problem, and provide you with a more accurate quotation.

#### Does your soundproof windows comes with product warranty?



All Fortuna Soundproof Windows and Doors has 3 years of warranty as of the installation date

#### **HOW TO PLACE A ORDER?**

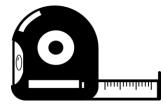






Arrange for a site survey. Let our consultant take noise measurement and recommend you the right system.





With quotation signed and deposit processed. A final site measurement to be arranged.





Our team will provide the Detailed Drawings with all specifications. Client to sign off before fabrication begins.





Fabrication Stage and Arrange for Installation. Receive Warranty Certificate from our after sales support team. FORTUNA SOUND PROOF WINDOWS PTE LTD 10 Kaki Bukit Road 1, #03-22 K.B Industrial Building Singapore 416175

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