

TOSTEM



TABLE OF CONTENTS

Introduction	1 - 13
Windows and Doors Overview	14 - 29
Windows & Doors for Premium Homes	
GRANTS series	32 - 43
WE PLUS series	44 - 57
P7 series	58 - 69
WE 70 series	70 - 87
Doors for Interior projects	
Interior series	88 - 93
Entrance Door	
GDESTA series	94 - 113
Aluminium Exterior	
Fence & Gate series	116 - 125
Carport Project reference	128 - 131
Contact us	134

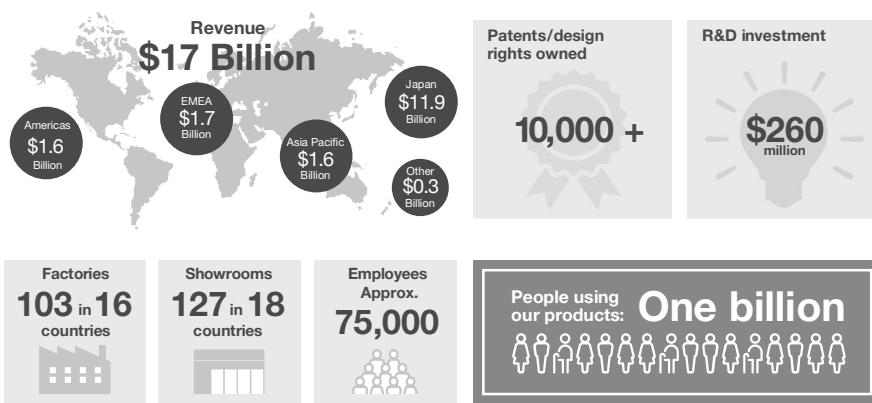


CORPORATE PROFILE

Making better homes a reality for everyone, everywhere

LIXIL GROUP

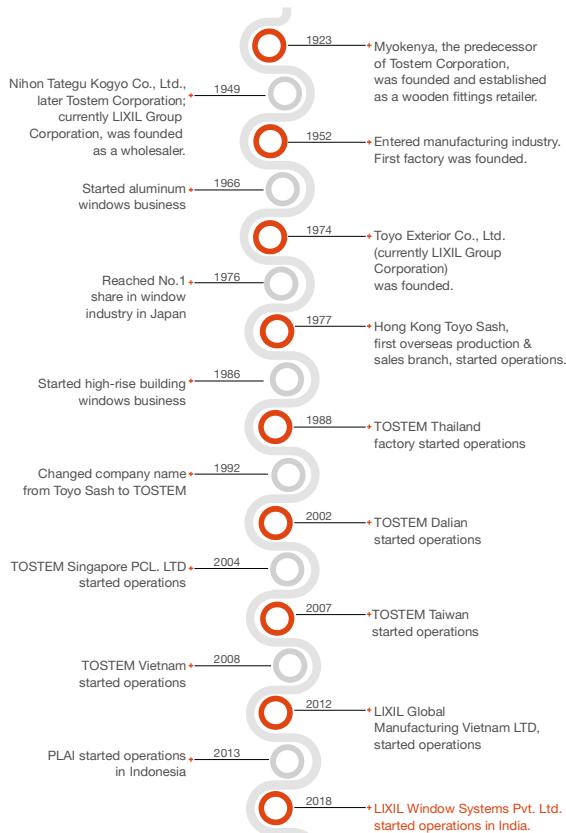
Every person on the planet dreams of a better home. LIXIL makes that possible with pioneering water and housing products. Born in 2011 through the merger of five of Japan's most successful building materials and housing companies, we draw on our Japanese heritage to create world-leading technology and high-quality products that transform homes. We make things that matter to all sorts of different people, to the many communities we are part of, and to sustainably support the world we live in. Today, our approach comes to life through some of the most trusted global brands in our industry, including INAX, GROHE, American Standard, and TOSTEM. We are proud that our products touch the lives of more than a billion people every day, but believe we have the potential to still do so much more.



TOSTEM BRAND

As the leading Japanese brand for global housing and building materials, TOSTEM stands apart as a one that deeply understands the needs of people. TOSTEM's comprehensive range of solutions ensures comfortable home living driven by a simple and seamless user experience. We develop our people-centric home solutions by drawing on a half-century of experience and expertise in balancing design and technology to anticipate the needs of people today and their families for generations to come. TOSTEM engages in product development, manufacturing, and marketing of a diverse range of home products, such as window sashes, entrance doors, and exterior products. Our product portfolio allows us to provide complete "lifestyle solutions" that are flexible, integrated, and coordinated to consumer needs, delivering everyday satisfaction.

TOSTEM BUSINESS HISTORY



ABOUT TOSTEM

The global leader in pre-engineered window systems

A better home is made up of surprisingly simple things – doors and windows that connect you with the world outside; interiors and exteriors that bring spaces to life.

Recognized as the industry leader, TOSTEM manufactures a comprehensive range of Window & Door solutions. With over 50 years of experience in developing innovative products that not only anticipates the needs of our society tomorrow, but equally meets the current needs of clients and consumers in different countries and climates.

Leader in pre-engineered windows

Last mile quality often takes a back seat in the rush to complete a project. One simple answer to the problem is to manufacture the entire window at the factory and only assemble it onsite. This ensures that installation time is compressed and last mile quality is also achieved. It is a well thought out Japanese innovation to suit the requirements of housing projects in countries like India.

TOSTEM, Thailand - One of the largest window factories in the world!

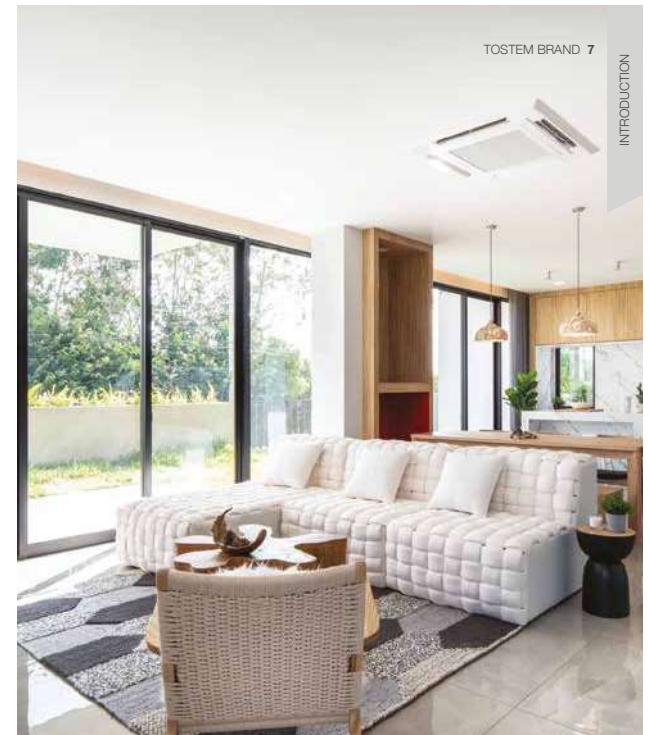
The facility at Bangkok, Thailand was set up in 1987 and it is dedicated to supply pre-engineered windows to Japan & other Asian countries. It has an extrusion capacity of 7,000 MT per month, employee strength of approx. 7,500 and covered area of 591,332 Sq.M. The production capacity is approx. 50,000 windows per day in different SKUs. The larger share is anodized finish, which is highly preferred by customers. The hardware production is in-house and supply chain is reliable backed by extreme testing.

Integrated to fabricated window!

Tostem, Thailand is an integrated facility dedicated to manufacturing of aluminum windows. Starting from the designing of new products, casting of alloy, extrusion, surface treatment, coating & fabrication - is carried out in-house. A second manufacturing complex with similar capabilities is at Vietnam.

Life cycle testing in accredited test lab!

Quality consistency is achieved by having end-to-end control over the entire manufacturing process. The facility at Thailand has a state-of-the-art testing facility for wind pressure, air tightness, water tightness, material composition & strength, sound isolation, thermal insulation, light & UV resistance & anodizing life test, against both JIS & ASTM Standards. Rollers are tested for 200,000 operations which is many times more than the lifetime use of the product. Detailed inspections are carried out during design & testing stages to ensure only designs that pass strict quality control tests are made into products for delivery to customers.



TOSTEM PRE-ENGINEERED SYSTEM



All TOSTEM products are designed, manufactured, and assembled under an integrated production process with strict TOSTEM quality control. Extrusion dies, aluminum billet, extrusion poles, coating, pre-engineered and hardware assembly processes are all done in TOSTEM's factory in Thailand.

The greatest benefit of TOSTEM's pre-engineered system is the ability to build windows with consistent quality. The same window can build multiple times with a single screwdriver while maintaining consistency in the quality.

 In the traditional method - manufacturing, fabrication, and assembly are done partly at the factory and partly onsite. The entire process is slow and quality is very much dependent on the worker's skills at the installation stage. On the other hand, TOSTEM follows a process similar to pre-engineered buildings, where the entire window fabrication is done at the factory and only the glazing and assembly is done onsite in a quick burst of speed. To explain further:

- The manufacturing process is mass production oriented.
- Manufacturing accuracy ensures that there is no mismatch during installation.
- Hardware is fixed at the factory; site work is very minimal.
- The entire window is packed in 2 separate boxes for sash and frame.
- Supplies are made from any of the TOSTEM factories at Bangkok, Vietnam, or at Shanghai.



Design performance & actual performance is same!

Since the entire window is manufactured at the factory, there is no deviation from design performance. The test results can be observed on windows installed onsite.



Control till end stage, site work becomes low skill!

Work at the site usually poses more problems, due to worker's skill levels and difficulty in exercising process control. The better solution followed by TOSTEM is to:

- Reduce work content onsite.
- Simplify work so that it can be done by less skilled workers (TOSTEM assembly requires only one tool – screwdriver).
- Use visual instructions so that training requirements are reduced.



No fabricator dependence!

TOSTEM is a window manufacturer and not merely a fabricator or a system supplier. The entire accountability for timely supplies and quality of the product is with TOSTEM. TOSTEM works with trained installers who would undertake glazing, assembly and installation of windows. TOSTEM will always ensure that the project is completed within the time period promised.



Customer benefits over current solutions!

- Since the window is entirely manufactured in-house, there will be no shortages or rework at the site which can delay site progress.
- Quality is always consistent.
- Perfectly suited to meet high volume requirements of very large projects.





WHY TOSTEM CAN BE TRUSTED!



Ingot to fabricated window!

TOSTEM, Thailand is an integrated complex dedicated to manufacture of Aluminum windows. Design of new products, casting of Alloy, Extrusion, Surface treatment, Coating, Fabrication is all carried out in-house. A second manufacturing complex with similar capabilities is at Vietnam. Window fabrication units are dispersed across many countries. Quality consistency is achieved by having end to end control over the entire manufacturing process.



TOSTEM, Thailand - is one of the largest window factories in the world!

The facility at Bangkok, Thailand was set up in 1987 and is dedicated to supplying Pre-engineered Windows to Japan and other Asian countries. The TOSTEM factory has Extrusion Capacity of 7,000 MT per month, an employee strength of approx. 7,500 and covered area of 591,332 Sq.M. The product range is very extensive and meets special requirements of different countries.



Unmatched production capacity!

The production capacity is approx. 50,000 windows per day in different SKU's. The larger share is anodized finish, which is highly preferred by customers. The hardware sourcing is in-house and supply chain is very reliable.



Quality assurance!

TOSTEM is committed to developing the best products to meet customers' requirements. Detailed inspections are carried out during design and testing stages to assess criteria such as basic performance, durability, weather resistance and such. Only designs that pass strict quality control tests are made into products for delivery to customers.



HOW TOSTEM BEST MEETS DEVELOPER REQUIREMENTS!



Customer preference for system aluminum windows!

System Windows are becoming highly popular in India due to longer life, greater reliability and quality assurance. Aluminum is also the dominant material for residential windows in neighboring countries like, Singapore, Thailand, Dubai and Middle East where the climatic conditions are similar. In these markets aluminum is seen as a premium window material.



Contemporary designs & slim frames!

By its very nature, metal windows are both slim and strong. It is much easier to fix and operate hardware (metal to metal). Aluminum windows commonly do not require additional steel reinforcing, which is compulsory with other materials. The reinforcing can only be inserted in middle section leaving the corners very weak. Recent developments in 'Aluminum Minimal Frames' distributes wind-load across the whole length of the frame. The frame in 'TOSTEM - GRANTS' can also be flushed, to produce an attractive visage of glass. This system is very well suited for high rise buildings and offers a versatile range of design options.



Cost effective, japanese products!

TOSTEM products are lean in design and lean in cost. This benefit comes from excellence of design, high volume manufacturing and cost control from ingot to fabricated window. Japanese products like cars, have won confidence of customers in India for very high reliability, finish and performance. With TOSTEM, customers will enjoy similar benefits and will appreciate owning a Japanese product.



Brand assurance & brand service!

LIXIL is a large conglomerate with brands like GROHE, American Standard, INAX in its portfolio. All products have a reputation for the highest quality of service. Continuity and peace of mind is assured with LIXIL.



Unique & easy installation process!

Pre-engineered window is supplied with 'bottom plates' which are fixed in plumb on the window jamb using spacers, over which the full window is snap fitted. The window is fixed on 3 sides using anchor fasteners and air-gaps are closed with silicon on outside & acrylic inside. The process is fast & easy. No other work is required at site. There is a huge reduction in time required for installation since only the bottom plates is levelled using a spirit-level and use of water line is avoided. Also less manpower is required since only the bottom plate is to be levelled and not the entire window. Assembly and installation can be done with minimum training. The process can easily be learnt. A developer can also use own team for installation.



Low maintenance!

All surfaces and functional parts are designed to perform in tropical climate. A call center is available in case any service is required by the customer.



Come & visit!

Many customers visit the manufacturing facility and the LIXIL Crystal Product Display Center at Bangkok to get a closer feel of TOSTEM products and its manufacturing capabilities.

JAPANESE ENGINEERING & TOSTEM QUALITY!

Traditional batch vs. TOSTEM mass manufacturing!

The traditional method of window manufacturing follows a batch process. General purpose machines are used and chances of mistakes are higher as the process is more man-dependent. Production speeds are also quite low. The TOSTEM method of manufacturing uses dedicated machines (punch & die set) for every operation. Process control is better and output rates are much higher. It is also easier to exercise quality control as there is a dedicated cell for each window design.

High precision process!

The punch system of manufacturing followed by TOSTEM is very accurate. Anodizing finish is preferred as it has a uniform thickness of 20 microns. Powder coating is also used, but is more difficult in production, as thickness usually varies between 60-120 microns. Since manufacturing tolerances are so close - manufacturing accuracy and flatness is also very high, which makes for great ease during glazing and assembly.

Life cycle testing in accredited test lab!

The test lab at Japan is accredited by the Japanese Government. The factory at Thailand has the largest testing facility for wind pressure, air tightness, water tightness, material composition, sound isolation, thermal insulation, light & UV resistance, profile and anodizing life test against both JIS and ASTM Standards. Rollers are tested for 200,000 operations which is many times more than lifetime usage of product.

Ease of operation!

Windows are intended to be opened and closed many times in a day. A key aspect of design is that effort should be minimal so that even a child can safely open the window. For instance, the effort required to open or close a 2-track / 4-panel WE Plus Door of 4200 mm width and 2400 mm height with single glass is under 50 N (5 Kgs). The effort is so less that it does not require any mechanical assistance or automation.

Ease of storage & transportation!

The sash and frame are packed in separate boxes. Gaskets are supplied in roll form. The entire bundle is very compact which reduces transportation cost and transit damages. Space required for storage at site is much less which reduces chances of theft. Lead and lift requirements are much simplified.

Sustainable materials & fire safety

Aluminum is 100% recyclable and has higher resale value as compared to other window materials. It is also environment friendly, fire safe and does not release toxic fumes in event of fire. The life of aluminum windows is much longer.

BENEFITS OF TOSTEM DESIGN!

50 Years' Performance History in Cyclonic Weather at Japan!

TOSTEM is one of the first, large scale manufacturer of aluminum windows in the world. Since the climate at Japan is both cold and cyclonic - highest priority has been given to make windows safe against air and water ingress. Similar to India, the dominant style in Japan is Sliding Windows, which is different from Europe where Casement Tilt & Turn is more popular.

Greater strength, stronger corners, does not bend or crack!

The TOSTEM window is very unique as the section thickness is higher in transverse direction to sustain higher wind load. Also, the thickness is higher at points of screw fixing. The aluminum alloy used is 6063 with T5 tempering which has more strength. The corner is joined at 90° and does not require cleats, which are less strong. The TOSTEM window is stronger and has a longer performance life as compared to other window materials.

Better air & water sealing!

Japanese windows are designed for far better performance against air and water which is very important for comfortable living. This is achieved by:

- ◆ Rubber gaskets are used instead of wool-pile. This provides better sealing against dust, noise and water.
- ◆ Gaskets help in smooth operation of window and have a longer life.
- ◆ Precision nano-tech gaskets are used at frame corner joints to stop water ingress. It is not necessary to fill joints with silicon which is a common practice with traditional windows.
- ◆ Water entry is stopped through use of one-way drainage valve. Also the frame is designed to create a water-head between inside & outside. Using a common rule of thumb, wind pressure up to 10 times of water head can be sustained without entry of water inside.

Special protective coating, higher life & luster!

With the patented TEXGUARD system, the colors of TOSTEM products will last at least 40 years. TEXGUARD is an additional clear synthetic resin paint deposited over the anodized surface which alters the molecular structure of the surface paint and protects the surface against light, heat and water.

High scratch resistance of 4H and low accumulation of natural dust makes it easy to clean windows with less effort and retain a new-like look for a long time.

Greater safety with crescent lock

Crescent lock is more sturdy and far safer as compared to a push lock. It can only be locked in one position and it is easy for user to see if the lock is in place. A secondary lock stops crescent lock from inadvertently getting opened.



Designing into every details...

L-Fit is a handle design that "fits" in with "living life." This standardized design for the handles of windows and entrance doors creates a sense of uniformity and comfort in living space.



L-Fit

WHY PERFORMANCE IS IMPORTANCE TO US?

Wind loading resistance performance

WIND LOADING RESISTANCE PERFORMANCE indicates at what level windows and doors can bear the wind load.

THE PURPOSE is to ensure that selected windows can resist a level of wind load in area and height without any loss, cracking, or breakage.

WIND PRESSURE RESISTANCE
JIS (A4702-2000 and A4706-2000)

Class	Value corresponding to each class [Maximum pressure]
Higher	S-7 (360)
	S-6 (280)
	S-5 (240)
	S-4 (200)
	S-3 (160)
	S-2 (120)
	S-1 (80)



WIND PRESSURE AND VELOCITY

Wind pressure	Wind velocity	Phenomenon
1800 Pa	60 m/s	Steel tower may fall down.
1250 Pa	50 m/s	Wooden houses will collapse.
800 Pa	40 m/s	Tiles will fly, Antennas will fall off.
450 Pa	30 m/s	Twigs will snap off, Cannot stand on your own.
200 Pa	20 m/s	Signboard will fall over, Cannot walk towards the wind.
50 Pa	10 m/s	Cannot use umbrella, Hard to walk toward the wind.

Reference:

"Cyclonic Storm Amphan" in the Eastern India 2020, had a maximum wind velocity of 66.88 m/s
"Cyclonic Storm Kyarr" in the Western region of India 2019, had a maximum wind velocity of 66 m/s

AIR TIGHTNESS
JIS (A4702-2000 and A4706-2000)

Class	Value to corresponding to each class Pa=10Pa
Higher	A-4 (2)
	A-3 (8)
	A-2 (30)
	A-1 (120)



AIR TIGHTNESS PERFORMANCE

AIR TIGHTNESS PERFORMANCE indicates how much air can pass through gaps between frame and panel of windows and doors.

THE PURPOSE is to evaluate the level of air coming into a room. This performance is also related to dust prevention, sound insulation and thermal insulation.

WATER TIGHTNESS PERFORMANCE

WATER TIGHTNESS PERFORMANCE indicates the rate at which a window can prevent the infiltration of rainwater into a room.

THE PURPOSE is to help select a watertight performance that can prevent interior damage from water intrusion into a room.

WATER TIGHTNESS JIS (A4702-2000 and A4706-2000)

Class	Value corresponding to each class [Pressure difference]
Higher	W-5 (50)
	W-4 (35)
	W-3 (25)
	W-2 (15)
	W-1 (10)



SOUND INSULATION PERFORMANCE

SOUND INSULATION PERFORMANCE indicates a level of sound blocked out from outside to inside.

THE PURPOSE is to measure the level of sound that can be insulated by a window. Each project may have different sound insulation level requirements.

SOUND INSULATION PERFORMANCE
JIS (A4706 and A4702)

Class	Sound transmission class
Higher	T-4
	T-3
	T-2
	T-1

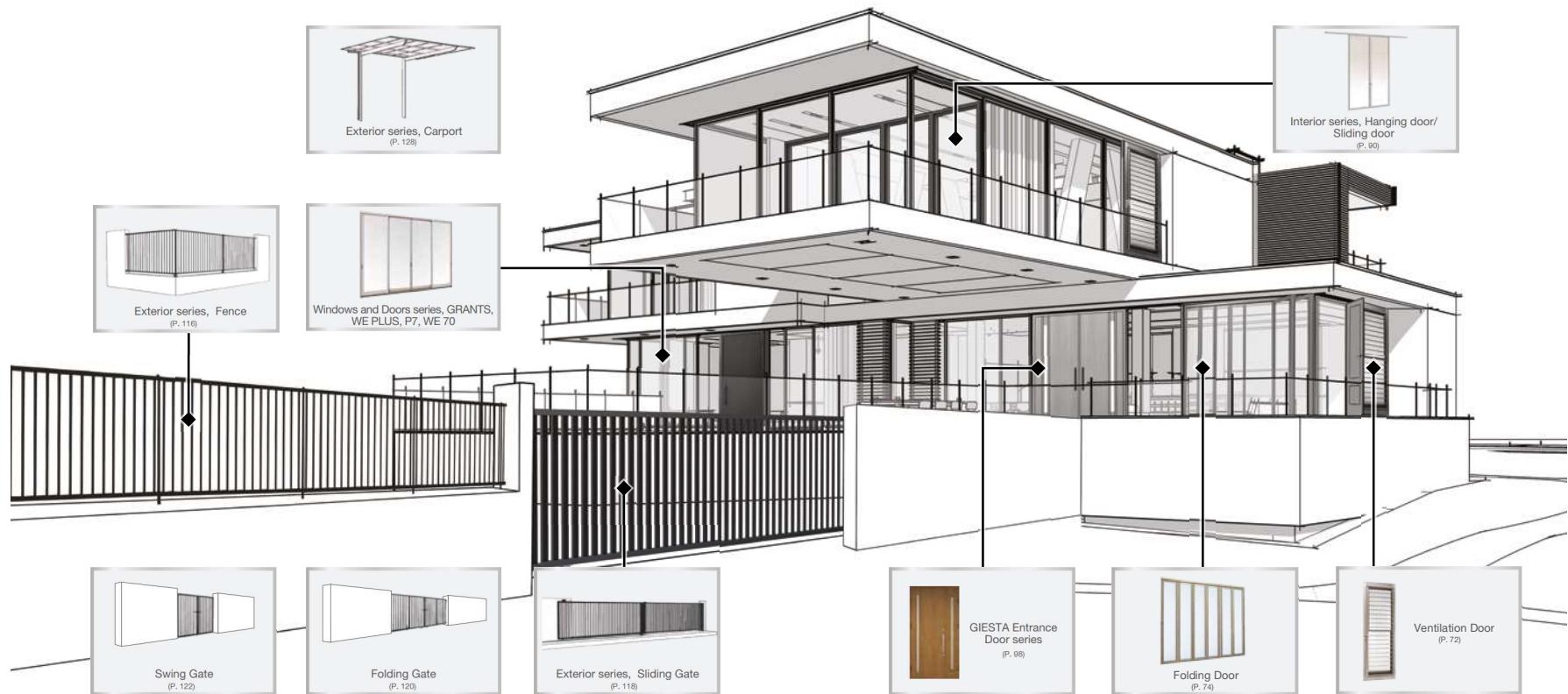
SOUND PERCEPTION
Perception towards noise varies among individuals. However, it is said that when the noise level is lowered by 10 dB (A), people feel that the noise level has halved.



Noise level dB(A)	Surrounding noise	Same noise during mid day	Impact on Hearing
110	Klaxon (1m distance) / Sound from press machine		Hearing dysfunction
100	Underneath the elevated railway tracks when trains are running		
90	In trains / At the bowling alley	Beside the railway tracks/ Motorway	Extremely Noisy
80	Intersection of main avenue / Bus traffic level	Residential area in the city/ Motorway / Street of office building	
70	On the street / Taxi traffic level	Residential area in the city/ Motorway / Residential area in suburban district / Street of office buildings	Noisy
60	Inside of department stores/ Normal conversation	Residential area in the city	
50	Quiet offices	Residential area in suburban district	Ideal level for daily life
40	Quiet parks	Residential area in suburban district	
30	Suburban area around midnight		
20	Whisper		Quiet

TOSTEM TOTAL HOUSING SOLUTION

A complete portfolio of housing products delivering comfort for everyone, everywhere ...





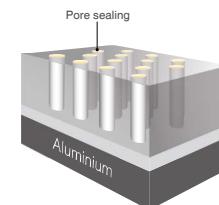
COLORING PROCESS

Maximizing the strength and beauty of aluminium

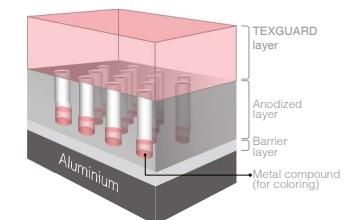
"TOSTEM's unique TEXGUARD anodized finish gives a high level of protection, alongside showing the beautiful appearance of natural aluminium. TOSTEM offers a wide range of color variations, which allows you to enjoy its lifelong beauty, adding happiness to your lifestyle."

Benefit of TEXGUARD

- Color retention – TEXGUARD protect the aluminium against harsh environmental conditions, making the color gloss stay for at least 40 years.
- Increased hardness – Dense coating of TEXGUARD improve hardness and provides scratch resistance for the aluminium surface.
- Ease of cleaning – Dust and dirt accumulation resistance quality of TEXGUARD makes the task of cleaning the surface less effort.



CONVENTIONAL ANODIZE



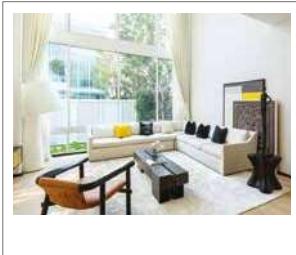
TOSTEM TEXGUARD ANODIZE

Certifications

JIS H4100 (No.TH9009), JIS H8602 (No. TH9010), TIS 218-2520, TIS 284-2530, AAMA 612, ISO 9001: 2015 (No. TH98/4848), ISO 14001: 2004 (No. TH60/2399)



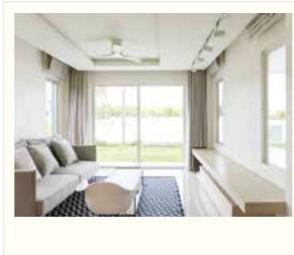
WINDOW AND DOOR COLORS



Natural White



Natural Silver



Ivory White



Shine Grey



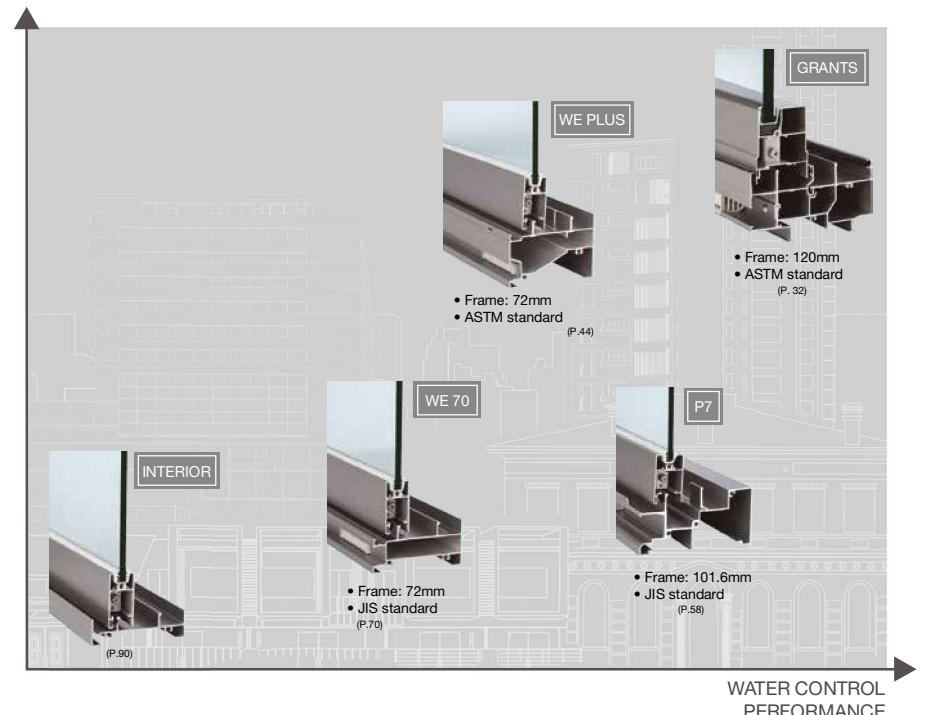
Autumn Brown



Natural Black

TOSTEM WINDOWS SERIES

WIND LOAD
PERFORMANCE





GRANTS Series (Windows)



Product detail
Sliding Window (2 panels on 2 tracks) P.38
Sliding Window (4 panels on 2 tracks) P.38
Sliding Window (3 panels on 2 tracks) SFS P.38
Fixed Window P.38
Corner Fixed Window P.39
Awning Window P.39
Casement Window P.39
Mixed Window P.41

GRANTS Series (Doors)



Product detail
Sliding Door (2 panels on 2 tracks) P.40
Sliding Door (4 panels on 2 tracks) P.40
Sliding Door (3 panels on 2 tracks) SFS P.40
Sliding Door (3 panels on 3 tracks) P.40
Sliding Door (6 panels on 3 tracks) P.41
Out-Swing Door (Single) P.41
Insect Screen for Awning & Casement P.42

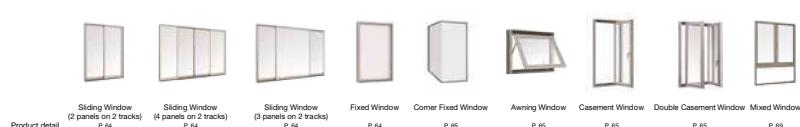
WE PLUS Series (Windows)



WE PLUS Series (Doors)



P7 Series (Windows)



Product detail
Sliding Window (2 panels on 2 tracks) P.64
Sliding Window (4 panels on 2 tracks) P.64
Sliding Window (3 panels on 2 tracks) P.64
Fixed Window P.65
Corner Fixed Window P.65
Awning Window P.65
Casement Window P.65
Double Casement Window P.65
Mixed Window P.69

P7 Series (Doors)



Product detail
Sliding Door (2 panels on 2 tracks) P.66
Sliding Door (4 panels on 2 tracks) P.66
Sliding Door (3 panels on 2 tracks) SFS P.66
Out-Swing Door (Single) P.67
Out-Swing Door (Double) P.67
In-Swing Door (Single) P.67
In-Swing Door (Double) P.67
Entrance Sliding Door (2 panels on 2 tracks) P.68
Entrance Sliding Door (4 panels on 2 tracks) P.68

WE 70 Series (Windows)



WE 70 Series (Doors)



Interior Series





1

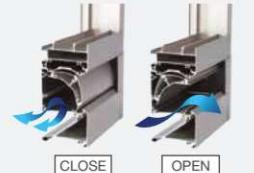
- Mullion integrated system**
- ASTM: 10.7m³ (when closed)
 - Available in GRANTS series



*Exclusive for projects

2

- Transom integrated system**
- Air tightness JIS: A-3 (when closed)
 - Available in P7, WE PLUS, and WE 70 series



*Available in January 2021

3

- Door integrated system**
- Air tightness JIS: A-3 (when closed)
 - Available in WE 70 series



WINDOW FOR PREMIUM HOMES



GRANTS SERIES

GRANTS is TOSTEM's flagship series. Its innovative design results in a larger surface area of glass for panoramic views. This takes the standard of aluminium windows and doors to another level.

SPECIFICATIONS

Frame depth	101.6 mm 120 mm (2 tracks sliding) 178 mm (3 tracks sliding)
Height of sill	50 mm
Glass thickness	Up to 31.5 mm

COLORS

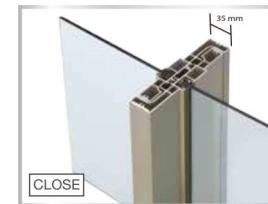
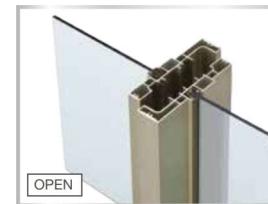


PERFORMANCES

	Wind pressure ASTM E330: 2000 Pa		Water tightness ASTM E300: 300 Pa
	Air tightness ASTM E283: 10.7m³ / h.m²		Noise insulation JS: 25 dB

* Sound performance test has been done in JS standard controlled environment. Performance will vary by room condition.
Please consult with sound insulation specialist.

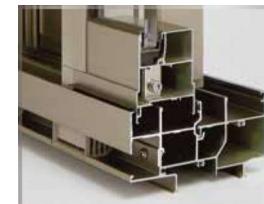
UNIQUE FEATURES



Overlapping meeting stile
(4 Panels Sliding)



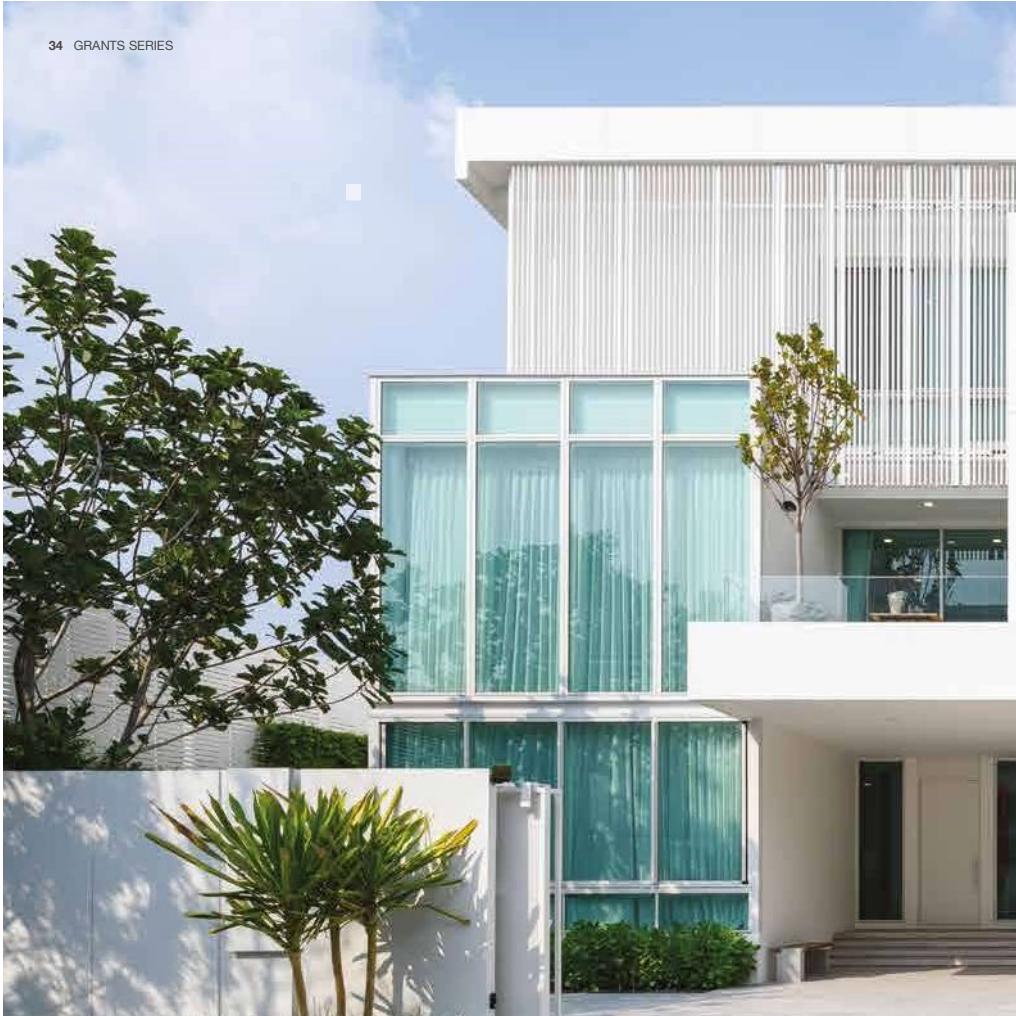
Conceal panel design



Double barrier drainage system



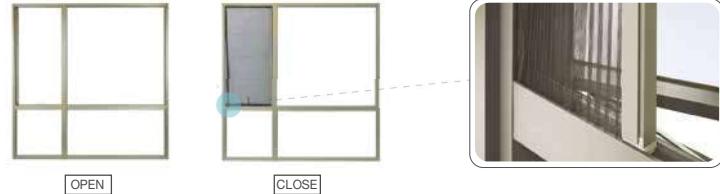
"L-Fit" design hardware.



GRANTS SCREEN SYSTEM

FOR AWNING & CASEMENT WINDOWS

- Fully embedded in the frame.
- Easy to remove for maintenance.



FOR SLIDING AND SWING DOORS



- Same color sub-frame.
- Flat sill design for safety.



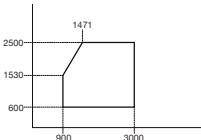
GRANTS PROJECT REFERENCE

WINDOWS

Sliding Window (2 panels on 2 tracks)



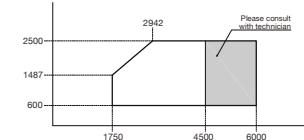
- Available in SG and IG unit
- Select panel position from L/R
- Single slide (L/R) available
- Handle option
- Pleated insect screen available
- Glazing Finish
 - 5 - 6 mm : Sealant
 - 8 - 13.52 mm : Glazing channel
 - 18 - 31.52 mm : Sealant



Sliding Window (4 panels on 2 tracks)



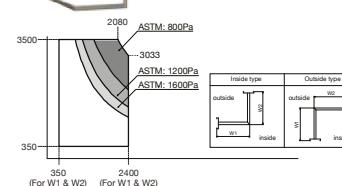
- Available in SG and IG unit
- Handle option
- Pleated insect screen available
- Select from (SSSS, FSSF)
- Glazing Finish
 - 5 - 6 mm : Sealant
 - 8 - 13.52 mm : Glazing channel
 - 18 - 31.52 mm : Sealant



Corner Fixed Window



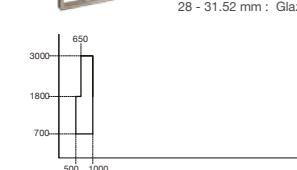
- Only available in SG
- Only available with sealant finish
- Both in/outward corner available



Awning Window



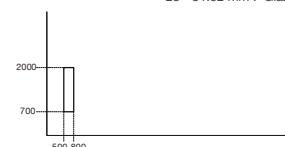
- Available in SG and IG unit
- In case of IG, please consult with our technician for size and performance
- Pleated insect screen available
- Glazing Finish
 - 5 - 6 mm : Sealant
 - 8 - 13.52 mm : Glazing channel
 - 28 - 31.52 mm : Glazing channel



Casement Window (with friction stay)



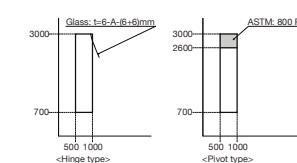
- Available in SG and IG unit
- In case of glass thickness over 8 mm and IG unit please consult with our technician
- Select from L/R
- Pleated insect screen available
- Glazing Finish
 - 5 - 6 mm : Sealant
 - 8 - 13.52 mm : Glazing channel
 - 28 - 31.52 mm : Glazing channel



Casement Window (with hinge or pivot)

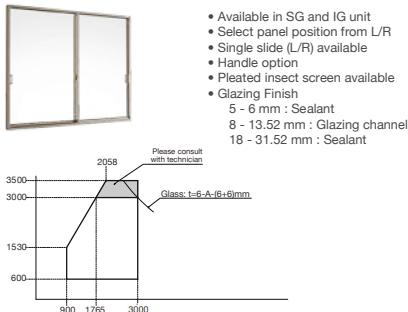


- Available in SG and IG unit
- Select from L/R
- Pleated insect screen available
- Glazing Finish
 - 5 - 6 mm : Sealant
 - 8 - 13.52 mm : Glazing channel
 - 28 - 31.52 mm : Glazing channel

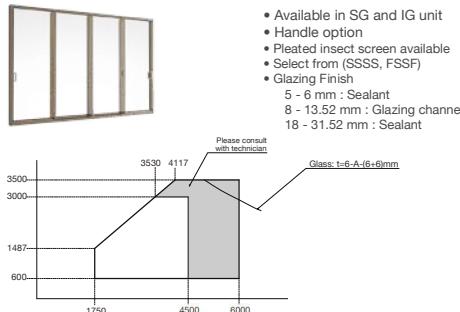


DOORS

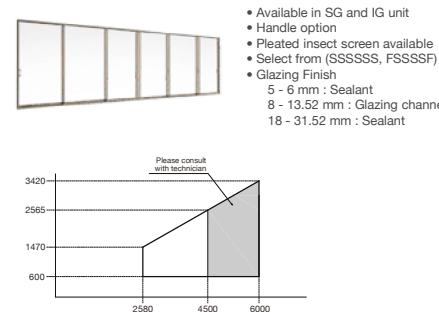
Sliding Door (2 panels on 2 tracks)



Sliding Door (4 panels on 2 tracks)



Sliding Door (6 panels on 3 tracks)



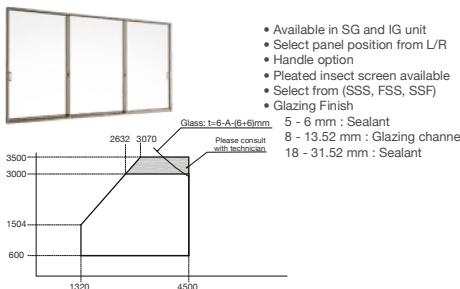
Out-Swing Door (Single)



Sliding Door (3 panels on 2 tracks) SFS



Sliding Door (3 panels on 3 tracks)



MIXED & COMBINATION WINDOW

- Mullions are available for various windows and doors. Please consult with our sales representative for selection.
 - 180°mullion (standard and reinforced)
 - 90°mullion (only for outward corner)

UNIT WINDOWS

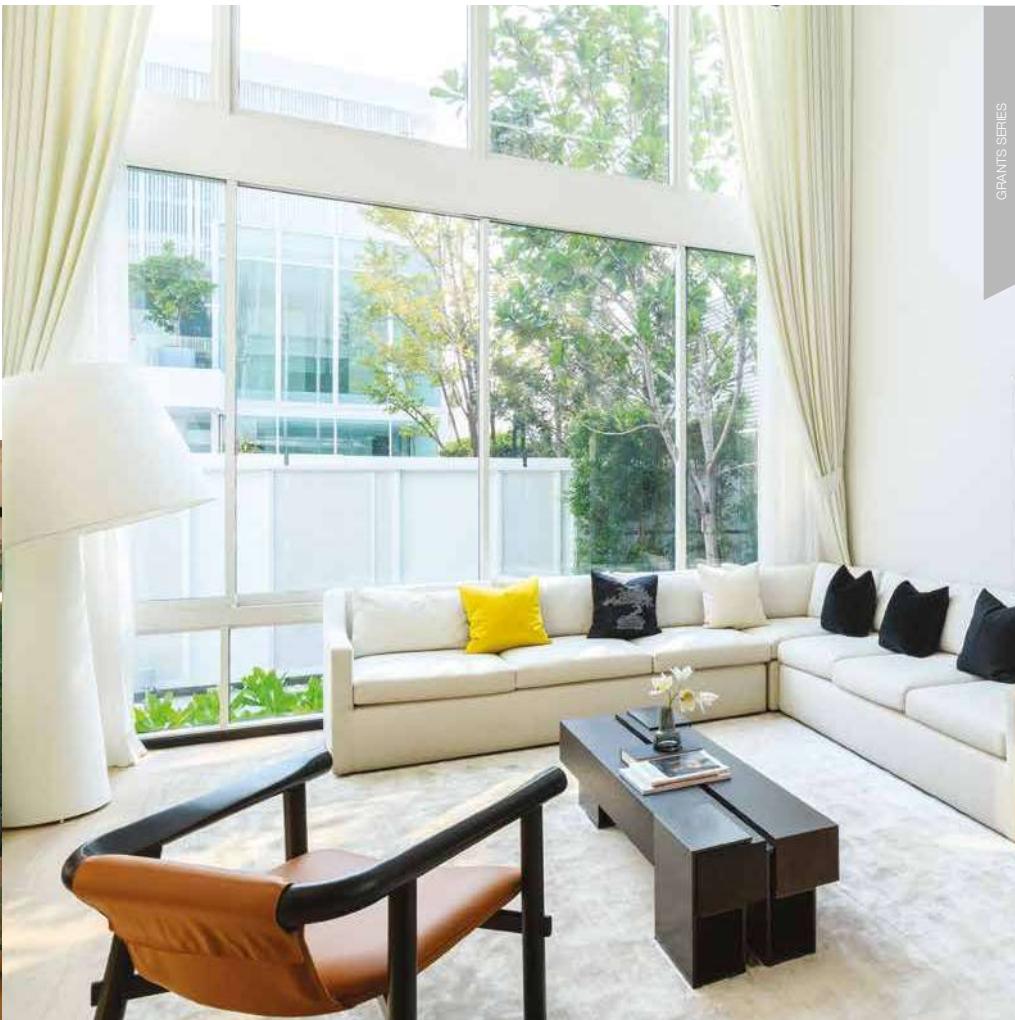
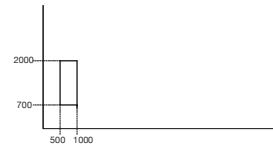
Bottom Windows	Top Windows			
	Single Awning	Single Casement	Single Fix	Sliding
Single Awning			●	
Single Casement			●	
Swing Door			●	
Single Fix	●	●	●	●
Double Fix				●

OPTIONS

Insect screen for awning & casement



- For awning and casement window over 2000 mm in height, use insect sliding screen





WE PLUS SERIES

WE Plus has passed rigorous tests based on ASTM, and TOSTEM in-house's toughest standards.

Available in various designs with a maximum height of 3 meters to satisfy various designers' needs in high-rise market.

SPECIFICATIONS

Frame depth	72 mm 104 mm (3 tracks sliding)
Height of sill	35 mm 50 mm (all slidings)
Glass thickness	5, 6, 8, 13.5 mm

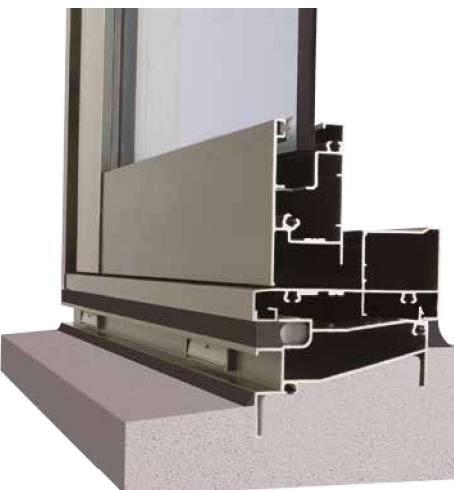
COLORS



PERFORMANCES

	Wind pressure ASTM E330: 1600 Pa		Water tightness ASTM E330: 240 Pa		Air tightness ASTM E283: 10.7 m³ / h·m²		Noise insulation JS (A4706 & A4702): 25 dB
--	-------------------------------------	--	--------------------------------------	--	--	--	---

* Sound performance test has been done in JS standard controlled environment. Performance will vary by room condition.
Please consult with sound insulation specialist.

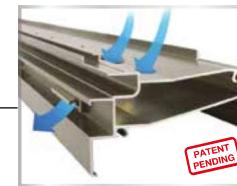


* With precast attachment (Option)

UNIQUE FEATURES



Preinstalled still attachment for pre-cast concrete (option)



Attachment allows stability around windows for a longer time against the aged deterioration of a sealant.
In case of water entry from outside sealant, attachment prevents water from penetrating inside.



Sliding door meeting stiles are designed to withstand high wind loads



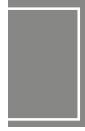
High quality security lock



Easily adjustable outer-panel lock



Limit arm (Window Restrictor)



WE PLUS PROJECT REFERENCE

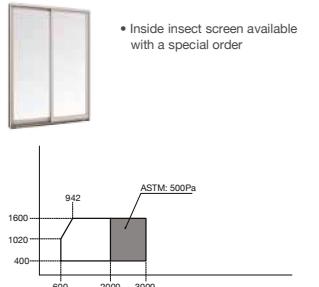


WE PLUS PROJECT REFERENCE

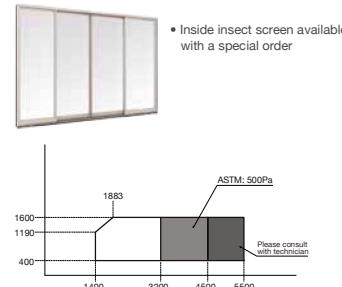


WINDOWS

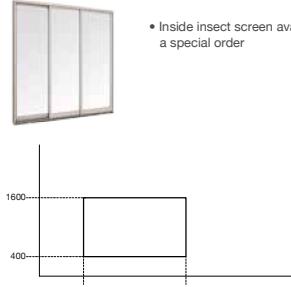
Sliding Window (2 panels on 2 tracks)



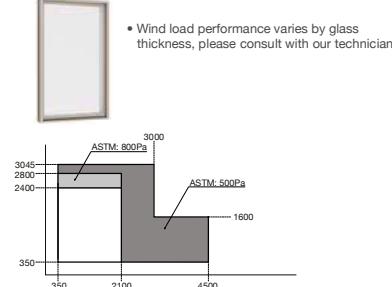
Sliding Window (4 panels on 2 tracks)



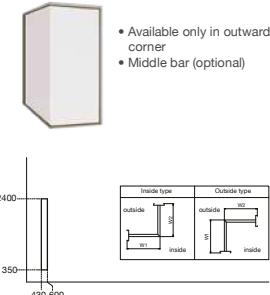
Sliding Window (3 panels on 3 tracks)



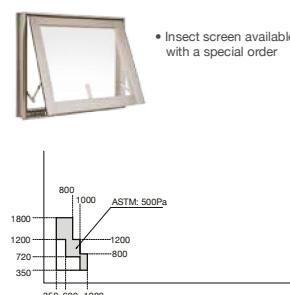
Fixed Window



Corner Fixed Window



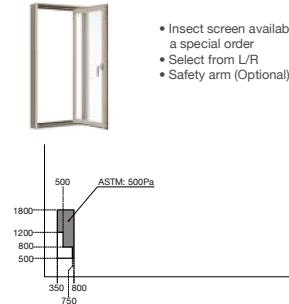
Awning Window (Single Lock)



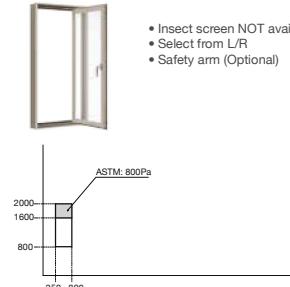
Awning Window (Multi Lock)



Casement Window (Single Lock)

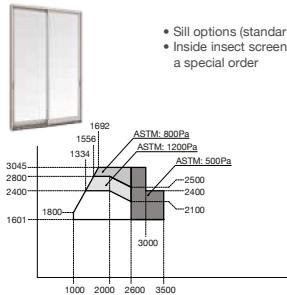


Casement Window (Multi Lock)

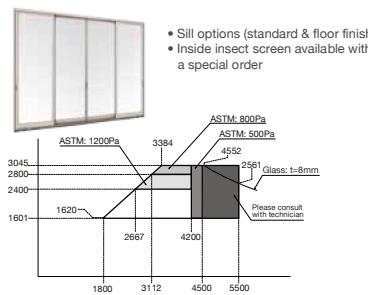


DOORS

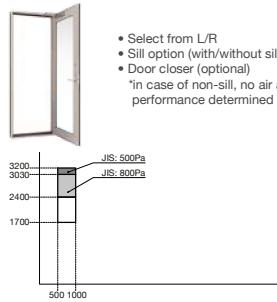
Sliding Door (2 panels on 2 tracks)



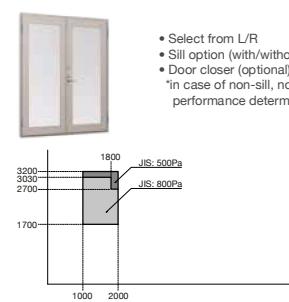
Sliding Door (4 panels on 2 tracks)



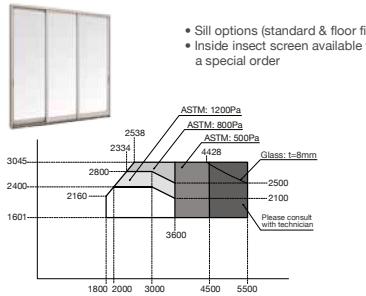
Out-Swing Door (Single)



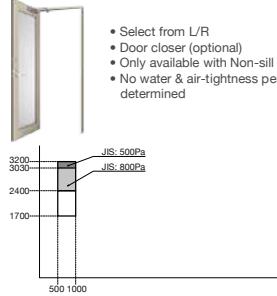
Out-Swing Door (Double)



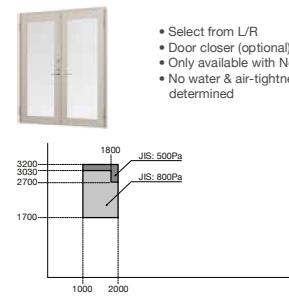
Sliding Door (3 panels on 3 tracks)



In-Swing Door (Single)



In-Swing Door (Double)



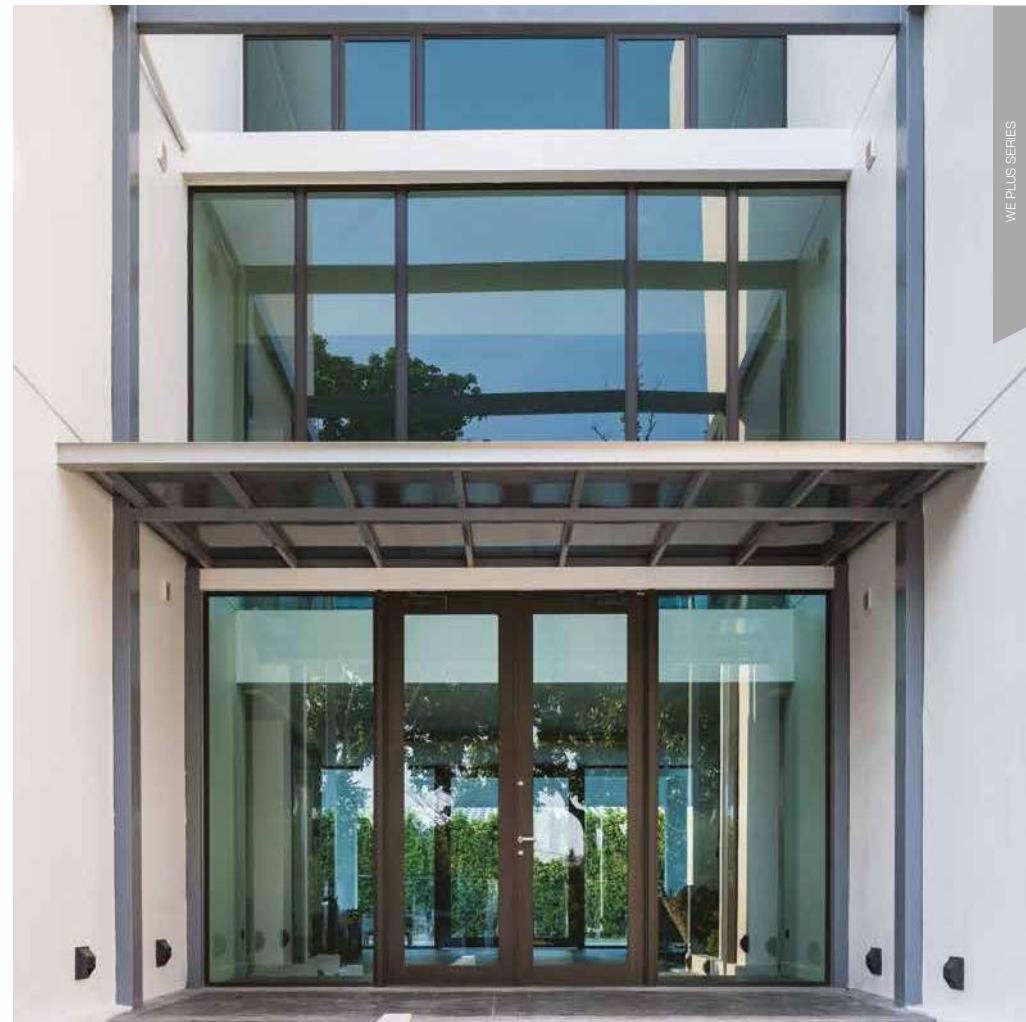
MIXED & COMBINATION WINDOW

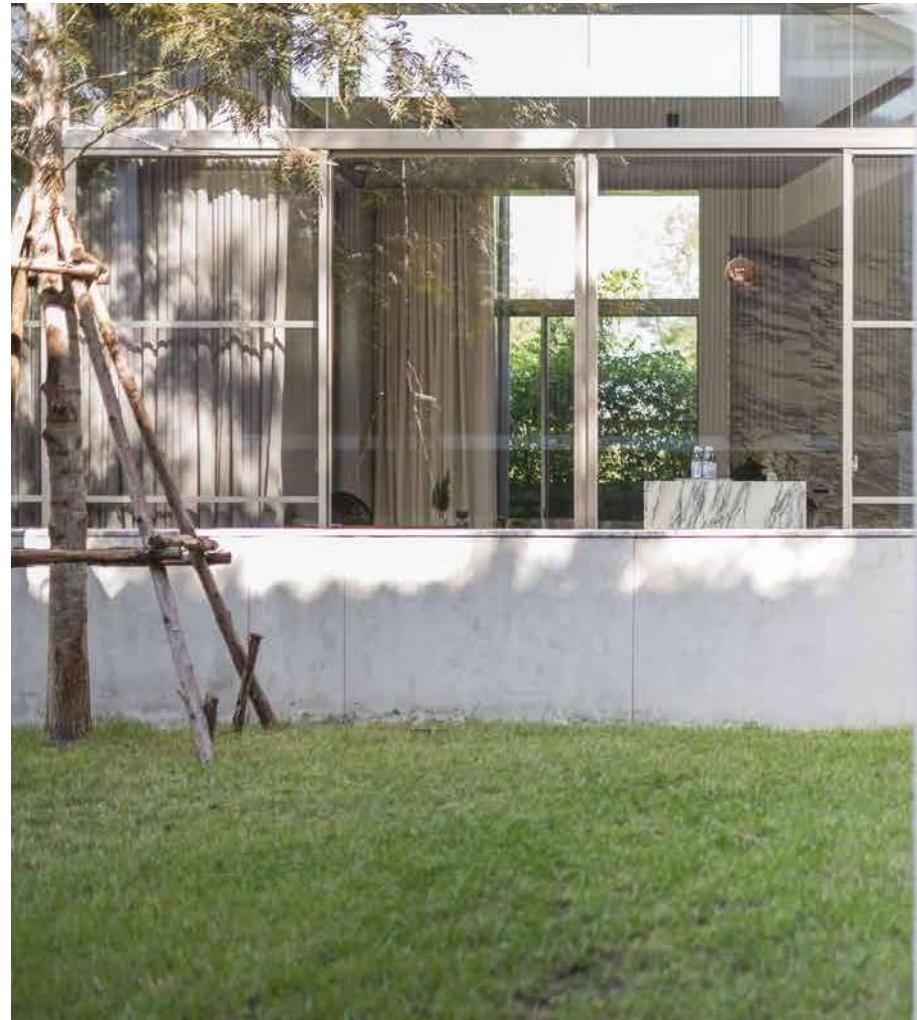
• Mullions and transoms are available for each windows and doors. Please consult with our sales representative for selection.

- 180°mullion (standard and reinforced)
- 90°mullion (only for outward corner)
- Transom (standard and reinforced)

UNIT WINDOWS

Top Windows			
Bottom Windows	Single Awning	Single Casement	1 Panel Fix
Single Awning			●
Single Casement			●
1 Panel Fix	●	●	●





WE PLUS SERIES

P7 SERIES

P7 series is a luxury residential series, uses only the most premium materials and features for specialty and high-end residential properties. Suitable for low rise luxury projects.



Please scan for
product demonstration

SPECIFICATIONS

Frame depth	101.6 mm
Height of sill	50 mm
Glass thickness	5, 6, 8 mm

COLORS



PERFORMANCES



Wind
pressure
JS: S-2 (1200 Pa)



Water
tightness
JS: W-3 (250 Pa)



Air
tightness
JS: A-4



Noise
insulation
JS: 25 dB

* Sound performance test has been done in JS standard controlled environment. Performance will vary by room condition.
Please consult with sound insulation specialist.



UNIQUE FEATURES



Watertight sill with drainage devices
prevents rain water



Vertical panel frame that enables
easy opening and closing



Easily adjustable
outer-panel lock



High quality security lock

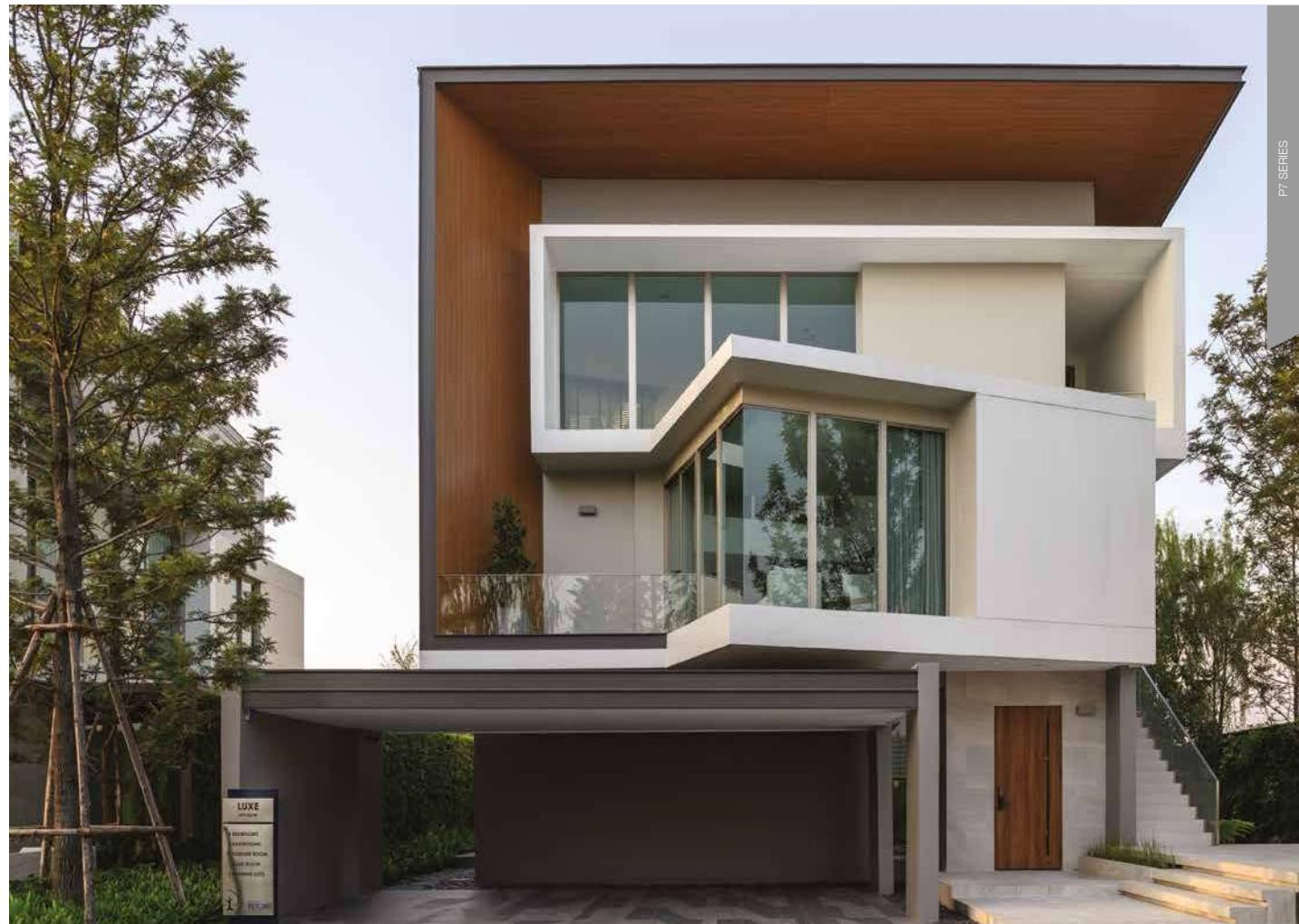


High security sub-lock



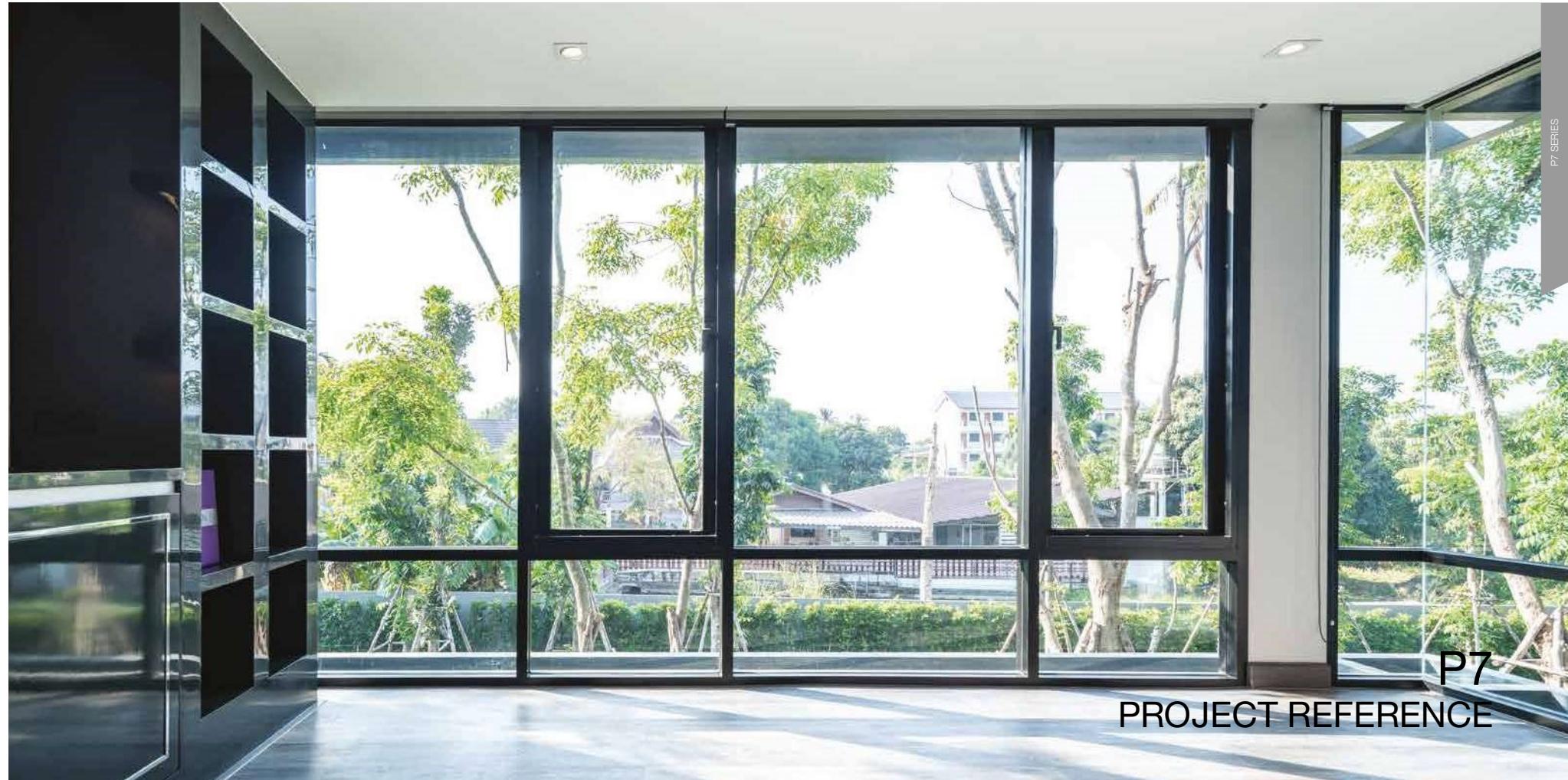
Sliding external insect screen

P7
PROJECT REFERENCE



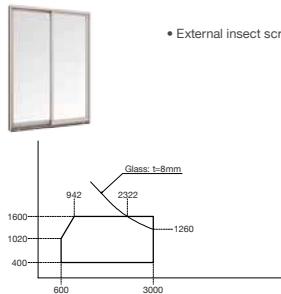
P7 SERIES

P7
PROJECT REFERENCE

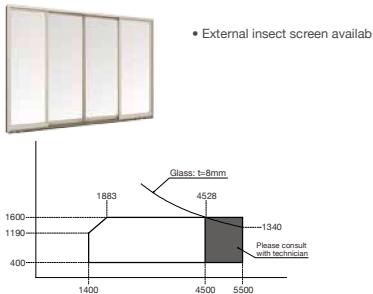


WINDOWS

Sliding Window (2 panels on 2 tracks)



Sliding Window (4 panels on 2 tracks)



Corner Fixed Window



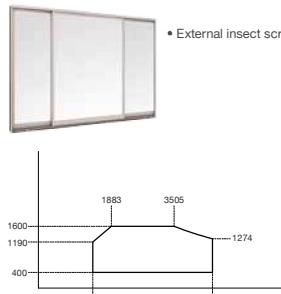
- By special order only
- Out side corner only

Awning Window

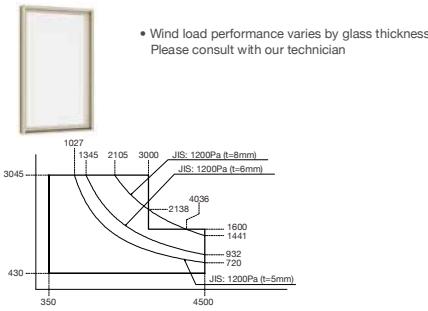


- Insect Screen available
- Height over 875 mm is equipped with limit arm.

Sliding Window (3 panels on 2 tracks) SFS



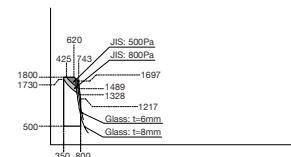
Fixed Window



Casement Window



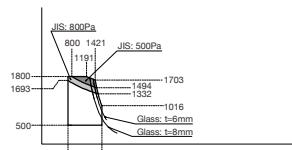
- Select from L/R
- Insect screen available



Double Casement Window

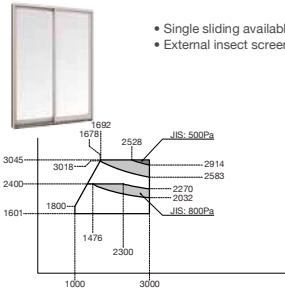


- Insect Screen available

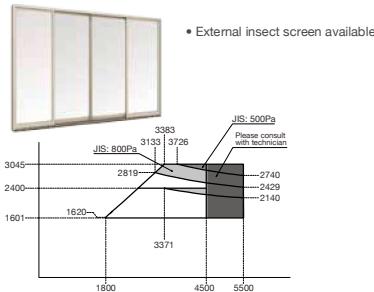


DOORS

Sliding Door (2 panels on 2 tracks)



Sliding Door (4 panels on 2 tracks)

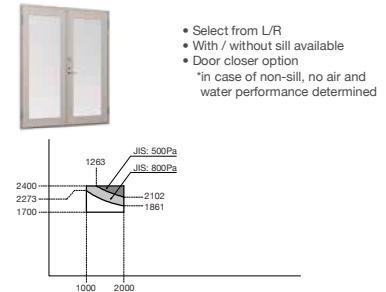


DOORS

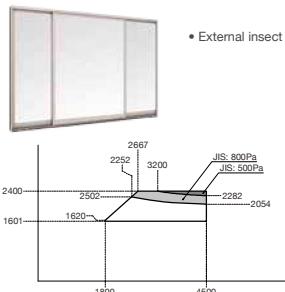
Out-Swing Door (Single)



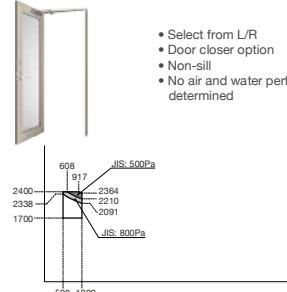
Out-Swing Door (Double)



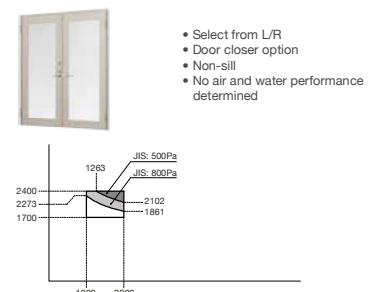
Sliding Door (3 panels on 2 tracks) SFS



In-Swing Door (Single)

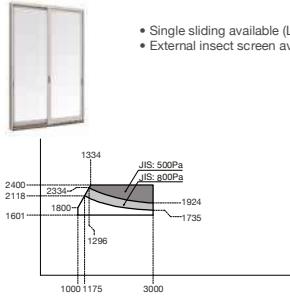


In-Swing Door (Double)

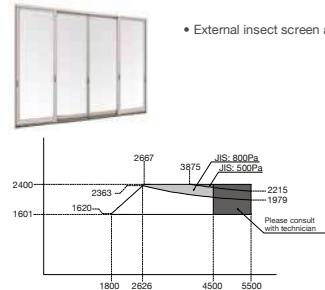


DOORS

Entrance Sliding Door (2 panels on 2 tracks)



Entrance Sliding Door (4 panels on 2 tracks)



MIXED & COMBINATION WINDOW

• Mullions and transoms are available for each windows and doors. Please consult with our sales representative for selection.

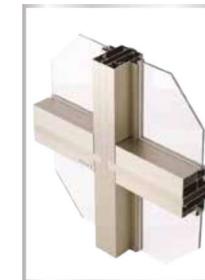
- 180°mullion
- 90°mullion (only for outward corner)
- Transom

* Hinges cannot be on mullion side in case of swing door.

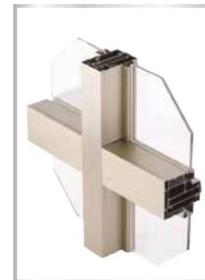
UNIQUE FEATURES



Transom & Mullion
(outside view)



Transom & Mullion
(inside view)



Transom & Mullion with cover
(inside view)

WE 70 SERIES

WE 70 series brings legendary TOSTEM quality to everyday life. Built for the mass market, yet maintaining strict quality standards. The WE 70 series is priced within everyone's reach.

SPECIFICATIONS

Frame depth	72 mm 104 mm (3 tracks sliding)
Height of sill	35 mm
Glass thickness	5, 6, 8 mm

COLORS



PERFORMANCES



Wind
pressure
JS: S-1 (800 Pa)



Water
tightness
JS: W-2 (150 Pa)



Air
tightness
JS: A-3



Noise
insulation
JS: 25 dB

* Sound performance test has been done in JS standard controlled environment. Performance will vary by room condition.
Please consult with sound insulation specialist.



UNIQUE FEATURES



Watertight sill with drainage devices
prevents rain water



Easy-grip handle



Easily adjustable outer-panel lock



High quality security lock



Combination with fixed window
without additional transom.



Internal sliding insect screen

72 VENTILATION DOOR

VENTILATION SYSTEMS



CLOSED A FULLY OPENED E LEAST OPENED



SECURITY GRILLS AND INSECT SCREEN



Please scan for
product demonstration



WE 70 SERIES



Inside view



Smooth operation with bearing rollers



Detachable insect screen for cleaning



Inside view



Air tightness: JIS A-3 when closed

PATENT
PENDING

*Available in January 2021

FOLDING DOOR

Smart design profiles and high quality accessories create an elegant and stylish look while being easy to use. Suitable for both luxury residential and commercial projects.



Please scan for
product demonstration



PRODUCT VARIETY Inside View

PANELS	ONE WAY	BOTH WAYS	CENTER
4 Panels			
6 Panels			
8 Panels			
12 Panels			
16 Panels			

UNIQUE FEATURES



Watertight sill with
drainage system



Flat sill is available and allows
barrier-free passage

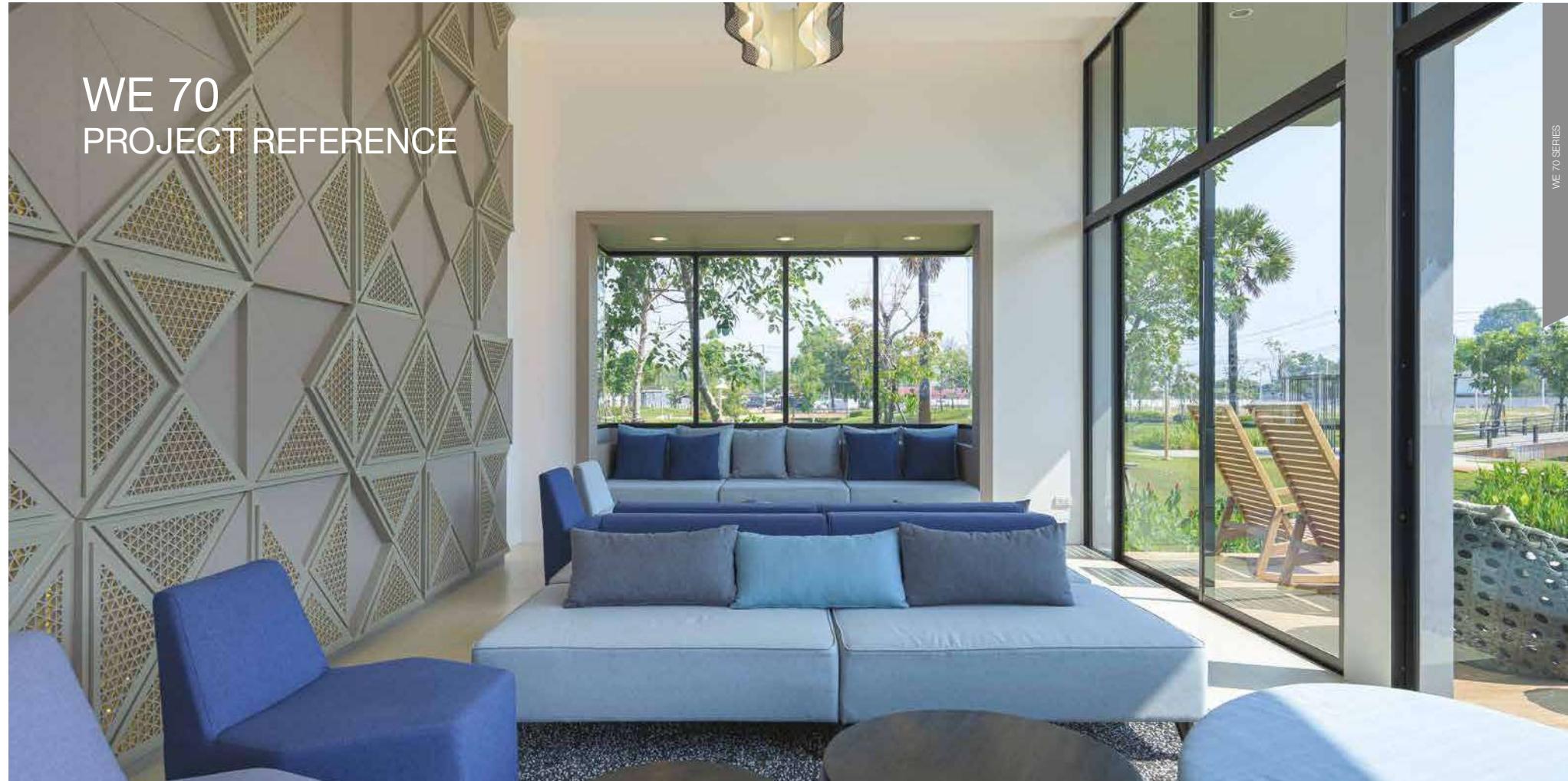


Smart designs prevent
finger injuries

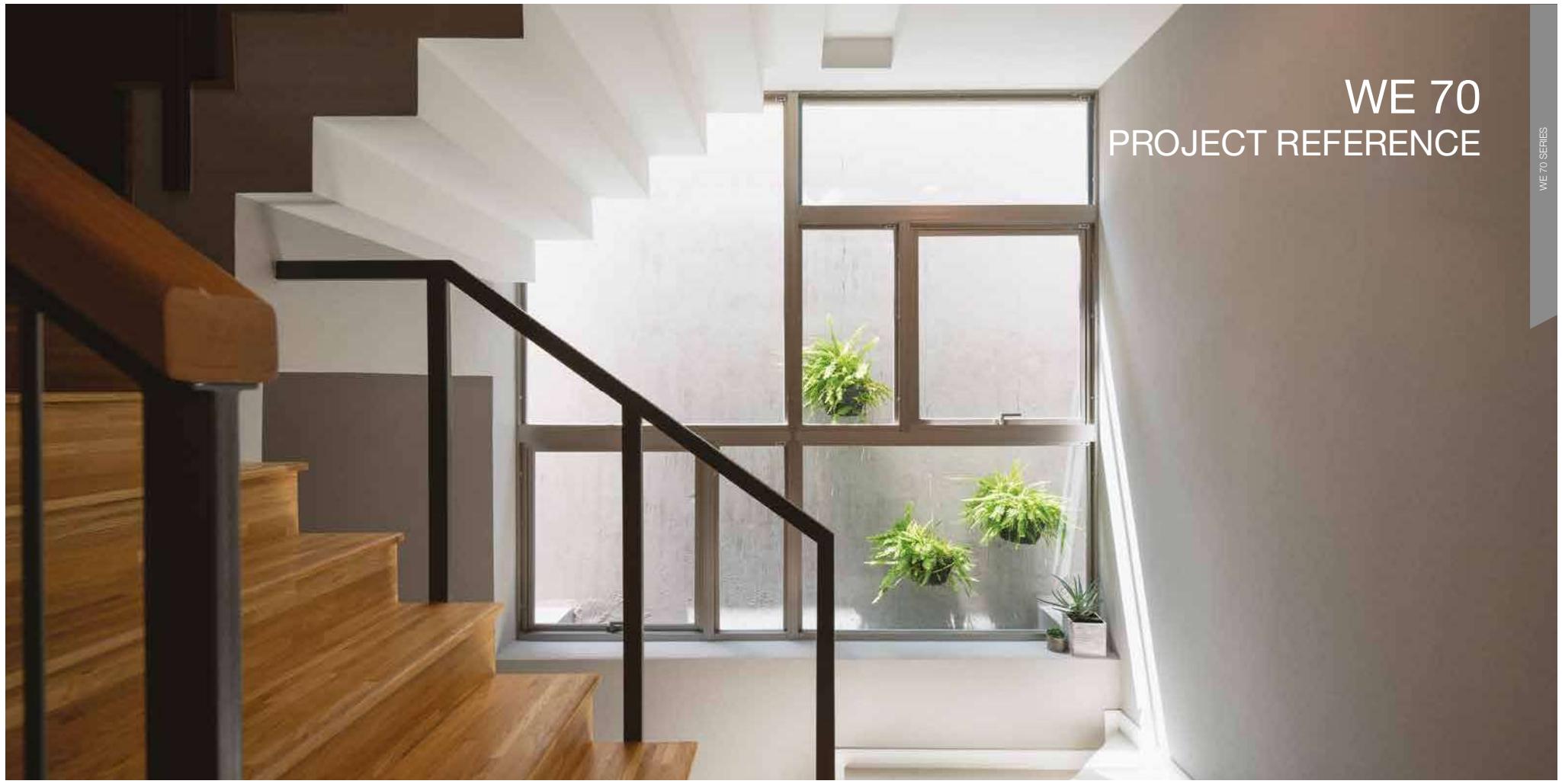


Hinge-less Design

WE 70
PROJECT REFERENCE



WE 70 SERIES

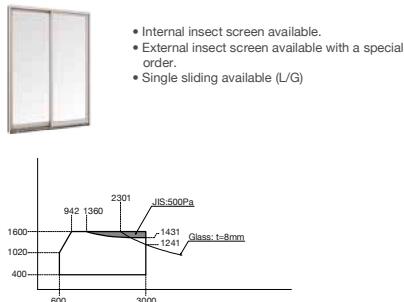


WE 70
PROJECT REFERENCE

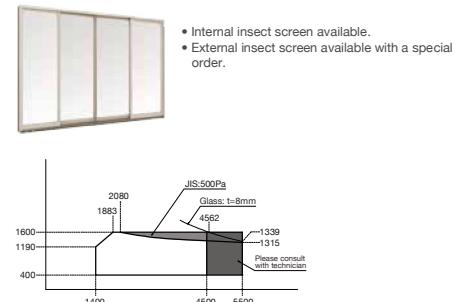
WE 70 SERIES

WINDOWS

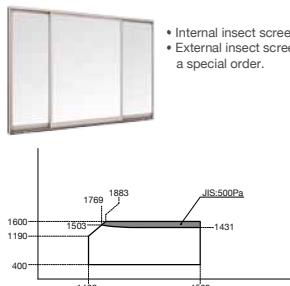
Sliding Window (2 panels on 2 tracks)



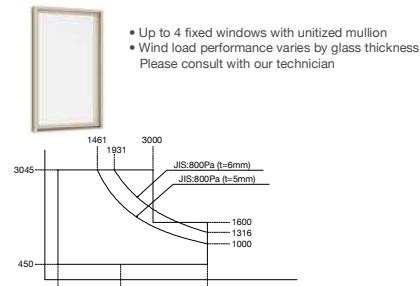
Sliding Window (4 panels on 2 tracks)



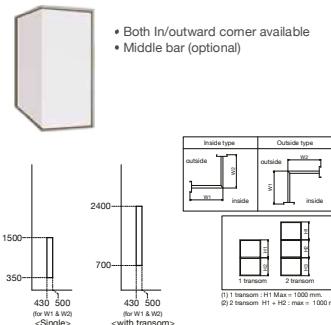
Sliding Window (3 panels on 2 tracks)



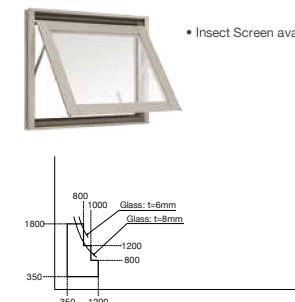
Fixed Window



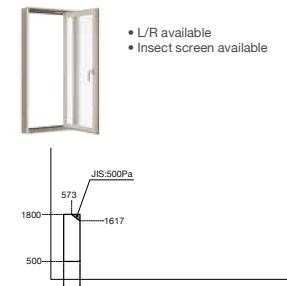
Corner Fixed Window



Awning Window



Casement Window



Double Casement Window

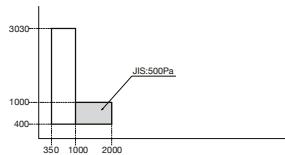


WINDOWS

Aluminium Louver



- No performance determined



Glass Louver



- Single, double, triple are available
- Insect screen available
- Water performance JIS: W-1 (100Pa)

Please consult with our sales rep. for lead-time

Size	Blades	Handles	Width (W)		
			Single	Double	Triple
3030	2				
2667	3				
2000	4				
1620	5	1			
1334	6				
1024	7				
1113	8				
1202	9				
1291	10				
1380	11				
1469	12				
1558	13				
1647	14				
1736	15				
1825	16				
1914	17				
2003	18				
2092	19				
2181	20				
2270	21				
2359	22				

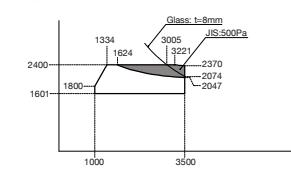


DOORS

Sliding Door (2 panels on 2 tracks)



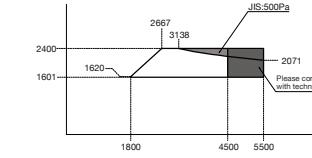
- Sill options (standard & floor finish)
- Single sliding available (L/R)
- Insect screen available (internal)



Sliding Door (4 panels on 2 tracks)



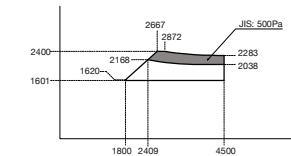
- Sill options (standard & floor finish)
- Insect screen available (internal)



Sliding Door (3 panels on 2 tracks) SFS



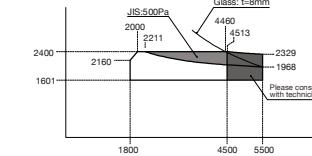
- Sill options (standard & floor finish)
- Insect screen available (internal)



Sliding Door (3 panels on 3 tracks)

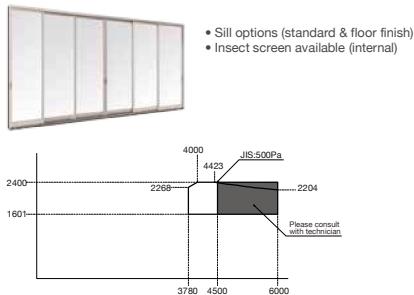


- Sill options (standard & floor finish)
- Insect screen available (internal)

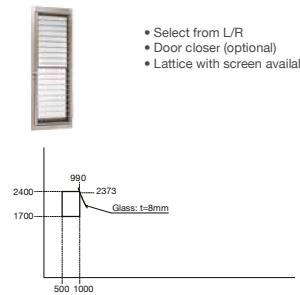


DOORS

Sliding Door (6 panels on 3 tracks)



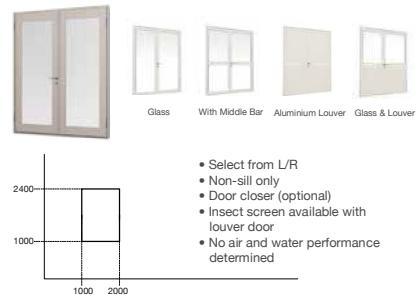
Ventilation Door



In-Swing Door (Single)



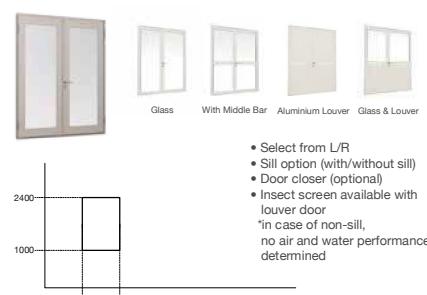
In-Swing Door (Double)



Out-Swing Door (Single)



Out-Swing Door (Double)



Folding Door (4 panels)



Folding Door (6 panels)

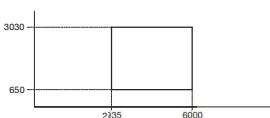


DOORS

Folding Door (8 panels)

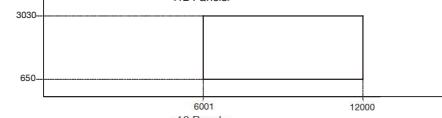
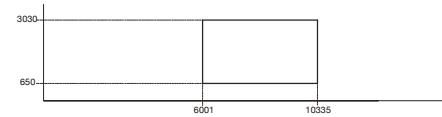


- Sill option (standard & flat)
- 1 panel weight cannot exceed 40 kg.
- 1 panel width limit 350 - 850 mm.
- Choose from
 - One way open (select L/R)
 - Both ways open
 - Center open
- Water performance is JIS: 120 pa
*in case of flat-sill, no air and water performance determined



Folding Door (12,16 panels)

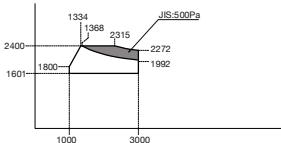
- Sill option (standard & flat)
- 1 panel weight cannot exceed 40 kg.
- 1 panel width limit 350 - 850 mm.
- Center open only
- No air and water performance determined



Entrance Sliding Door (2 panels on 2 tracks)



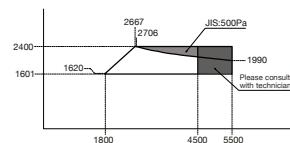
- Sill options (standard & floor finish)
- Single sliding available (L/R)
- External Insect screen available



Entrance Sliding Door (4 panels on 2 tracks)



- Sill options (standard & floor finish)
- External Insect screen available



MIXED & COMBINATION WINDOW

• Mullions and transoms are available for each windows and doors. Please consult with our sales representative for selection.

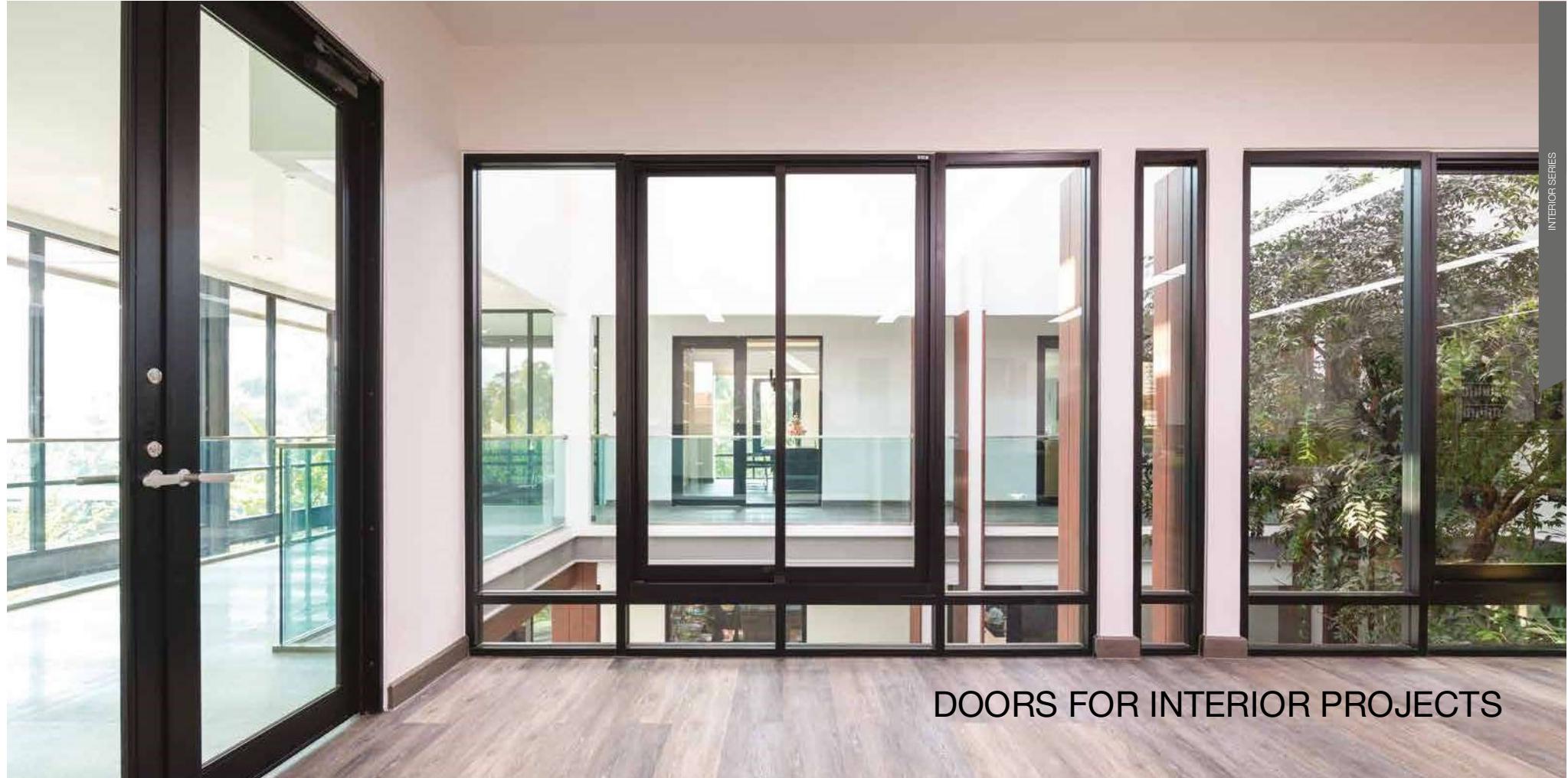
- 180°mullion (standard)
- 90°mullion (only for outward corner)
- Transom (standard)

UNIT WINDOWS

Bottom Windows	Top Windows										
	Sliding Window (2 panels on 2 tracks)	Sliding Window (4 panels on 2 tracks)	Sliding Window (3 panels on 2 tracks) SFS	Single Awning	Single Casement	Double Casement	1 Panel Fix	2 Panels Fix	3 Panels Fix	4 Panels Fix	Outward Corner Fix
Sliding Window (2 panels on 2 Tracks)							●	●			
Sliding Window (4 panels on 2 Tracks)							●	●	●	●	
Sliding Window (3 panels on 2 Tracks) SFS							●	●	●	●	
Single Awning				●							
Single Casement				●							
Double Casement				●							
1 Panel Fix	●			●	●	●	●	●	●		
2 Panels Fix	●	●	●	●	●	●	●	●	●	●	
3 Panels Fix		●	●	●	●	●	●	●	●	●	
4 Panels Fix		●	●	●	●	●	●	●	●	●	
Outward-Corner Fix											●
Inward-Corner Fix											●

UNIT DOORS

Bottom Doors	Top Windows			
	1 Panel Fix	2 Panels Fix	3 Panels Fix	4 Panels Fix
Sliding Door (2 panels on 2 Tracks)	●	●		
Sliding Door (4 panels on 2 Tracks)		●	●	●
Sliding Door (3 panels on 2 Tracks) SFS		●	●	●
2 Panels Fix		●	●	●
3 Panels Fix		●	●	●
4 Panels Fix		●	●	●
Swing Door (Single)		●		
Swing Door (Double)		●		



DOORS FOR INTERIOR PROJECTS

INTERIOR SERIES

INTERIOR SERIES, a luxurious and durable choice to divide interior living spaces. Available are the hanging type without floor track, sliding type with floor track, and swing type. Slim design aluminium profiles give a modern accent to your space.

SPECIFICATIONS

	Hanging door	Sliding door
Frame depth	(1 track) Top 47.2 mm Jamb 49.1 mm (2 tracks) Top 88.5 mm Jamb 90.4 mm	(2 tracks) 72 mm (3 tracks) 104 mm
Height of sill	No sill	20 mm
Glass thickness	5, 6, 8 mm	5, 6, 8 mm

COLORS



FEATURES



Effortless movement



Safety

UNIQUE FEATURES (HANGING DOOR)



Durable rollers for smooth operation



Soft close for extra safety (option)



Pull (Standard) Handle & Lock-set (option)



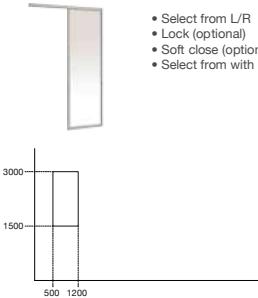
Sill-less design provides safety and comfort for all



Panel guide piece to prevent panel from shaking when sliding

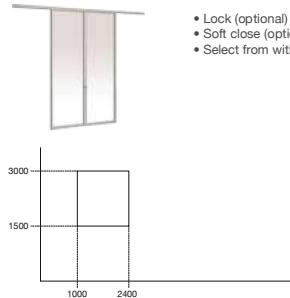
DOORS

On-wall Hanging door (1 panel on 1 track)



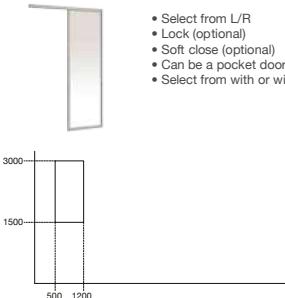
- Select from L/R
- Lock (optional)
- Soft close (optional)
- Select from with or without ending jamb

On-wall Hanging door (2 panels on 1 track)



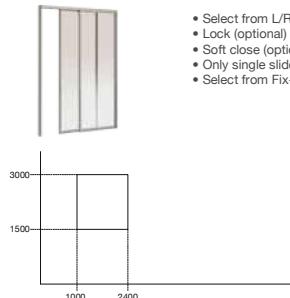
- Lock (optional)
- Soft close (optional)
- Select from with or without ending jamb

In-wall Hanging door (1 panel on 1 track)



- Select from L/R
- Lock (optional)
- Soft close (optional)
- Can be a pocket door
- Select from with or without ending jamb

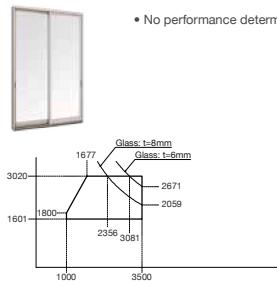
Hanging door (2 panels on 2 tracks)



- Select from L/R
- Lock (optional)
- Soft close (optional)
- Only single slide L/R available
- Select from Fix-Slide or Slide-Fix

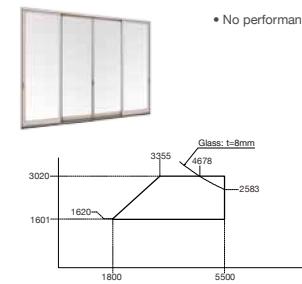
DOORS

Partition Door (2 panels on 2 tracks)



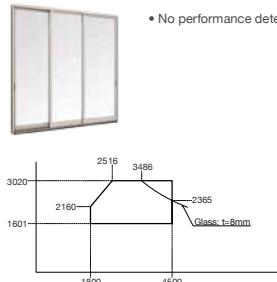
- No performance determined

Partition Door (4 panels on 2 tracks)



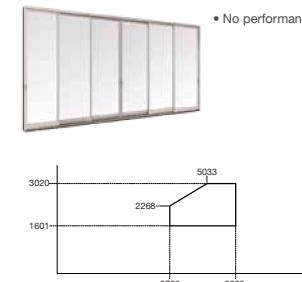
- No performance determined

Partition Door (3 panels on 3 tracks)



- No performance determined

Partition Door (6 panels on 3 tracks)



- No performance determined

ENTRANCE DOOR

96 ENTRANCE DOOR



In-swing type

Your home starts from your entrance door

Stepping into your home should make you relieved, comfortable and happy. GUESTA's high quality wood-pattern or metallic finish-doors, equipped with user-friendly handles with high security lock systems give increased convenience to both family and visitors and make us feel glad to be home.

ENTRANCE DOOR 97



Out-swing type



GIESTA SERIES

High quality wood-pattern or metallic finish-doors equipped with user-friendly handle with high security lock system gives better convenience to both family and visitors and make us feel glad to be home.



Please scan for
product demonstration

SPECIFICATIONS

Frame depth	101.6 mm
Height of sill	Out-Swing 50 mm In-Swing Outside 30 / Inside 14 mm
Door frame materials	Frame Wood pattern type: Wood pattern resin sheet, wrapping on aluminium profile with synthetic rubber
	Painted type Anodized aluminium profile
Door panel materials	Sill Anodized aluminium profile
	External sheet Wood pattern type : (External) Resin laminated sheet/ (Internal) Anti-rust epoxy coating
	Inner Core Polystyrene (EPS Foam)
Glass	Insulating glass thickness 23 mm (Cleared 3+Air gap 16+Patterned glass 4)



PERFORMANCES



Wind
pressure



Water
tightness



Air
tightness
Out - swing : JS : A-4
In - swing : Not rated



Noise
insulation

Not rated

PRODUCT VARIETY Outside View

LARGE	In-Swing non sill L R	In-Swing L R	Out-Swing L R
STANDARD			
Single Leaf	 2548 2300 1395 (2235) 715 (868) 900	 2561 2300 1951 (2251) 715 (868) 900	 2575 2300 1962 (2262) 715 (868) 900
With Sidelight	 With glass Without glass 2548 2300 1395 (2235) 1200 1034 1438 (1184)	 2564 2300 1951 (2251) 1200 1034 1438 (1184)	 2575 2300 1962 (2262) 1200 1034 1438 (1184)
Double Leaf	 2548 2300 1395 (2235) 1374 1800 2098 (1674)	 2564 2300 1951 (2251) 1374 1800 2098 (1674)	 2575 2300 1962 (2262) 1374 1800 2098 (1674)

* Numbers indicated in () are the minimum dimensions for G01 design.



Smart design to prevent finger pinching when door is closed

UNIQUE FEATURES



Convenient and comfortable Push & Pull bar handle when applied to Out-swing type



Higher security with double lock system, triple sickle-shaped latches



Wrapped steel panels with insulating structure inside are tough against surrounding weather and termite. It also prevents heat transmission



Reversible key. User can lock and unlock with the key facing either up or down



Removable thumb-turn to prevent accidental opening without key

SIMPLE AND MINIMALISTIC



P01

P02

P03

COLORS



Turin Pine

Crea Mocha

Crea Rusk

Teak

Autumn Brown

Polish Silver

Silky White

MODERN BUT TRADITIONAL



D01

D02

D03

COLORS



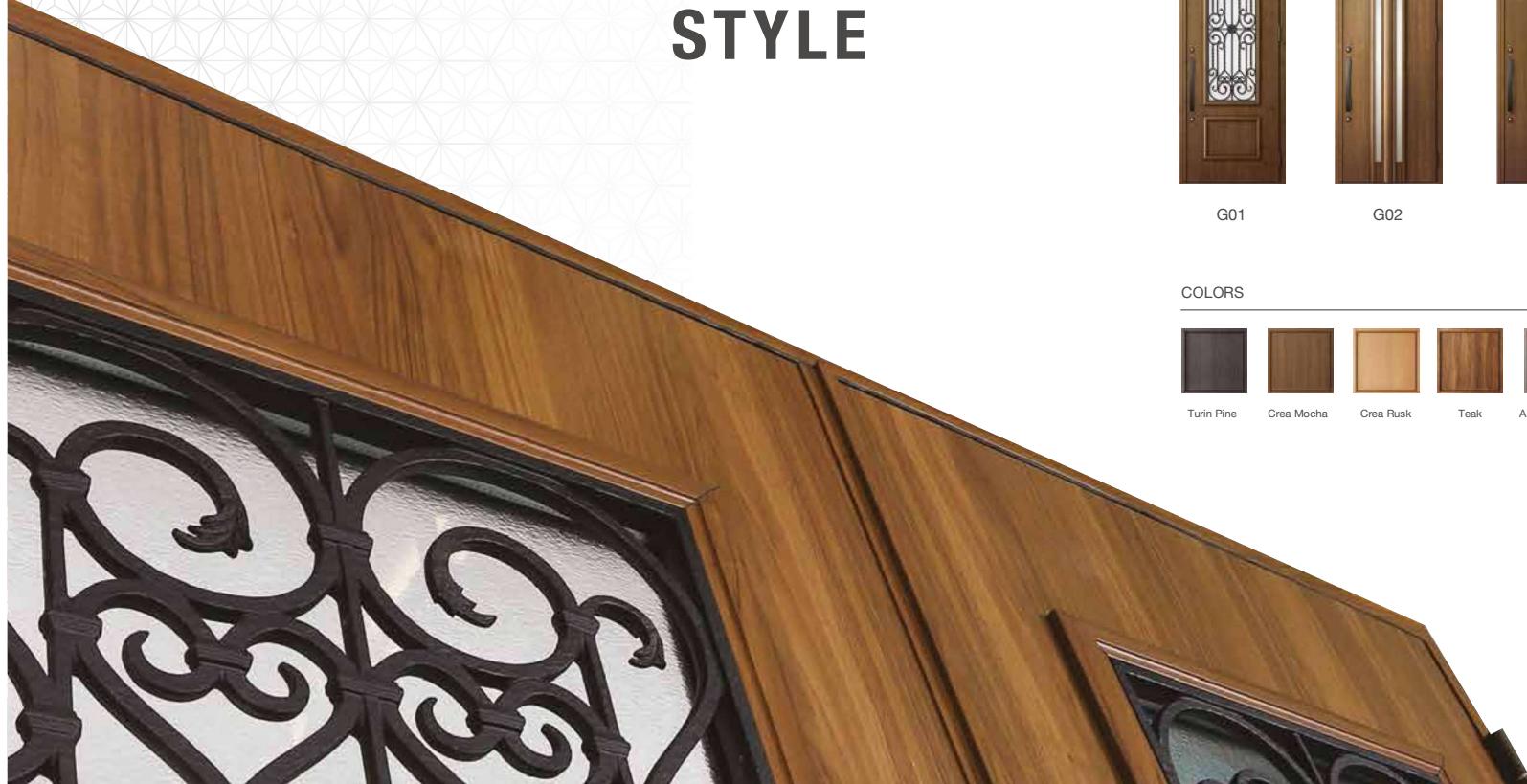
Turin Pine

Crea Mocha

Crea Rusk

Teak

GLASS WITH STYLE



G01

G02

G03

G04

COLORS



Turin Pine

Crea Mocha

Crea Rusk

Teak

Autumn Brown*

Polish Silver* Silky White*

*Not available for G01

HANDLES

	TYPE A	TYPE F	TYPE K	TYPE L	DIGITAL LOCK
Shapes					
Colors	Blast Silver Silky Matte Black	Blast Silver Silky Matte Black	Satin Gold Silky Matte Black	Blast Silver Silky Matte Black	Silver Black
Applications	Apply for Out-swing door only	Apply for Out-swing door only	Apply for both Out-swing and In-swing door	Apply for both Out-swing and In-swing door	Apply for both Out-swing and In-swing door

*Handle A and F
 • Can be applied to In-swing door as special order.
 • Handle will be inside out.

ACCESSORIES

	DOOR CLOSER	DOOR GUARD	CYLINDER LOCK & KEY
For Out-swing doors			Inside Outside Construction keys: 3 Owner keys: 5
For In-swing doors			(For single leaf type only)
Main materials	Aluminium	Aluminium	Steel with resin coating

DESIGN AND COLOR TABLE

	SIMPLE AND MINIMALISTIC						MODERN BUT TRADITIONAL						GLASS WITH STYLE														
	P01			P02			P03			D01			D02			D03			G01			G02			G03		
	Single	Sidelight	Double	Single	Sidelight	Double	Single	Sidelight	Double	Single	Sidelight	Double	Single	Sidelight	Double	Single	Sidelight	Double	Single	Sidelight	Double	Single	Sidelight	Double	Single	Sidelight	Double
Turin Pine																											
Crea Mocha																											
Crea Rusk																											
Teak																											
Autumn Brown								N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									
Silk White								N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									
Polish Silver								N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									

GIESEN SERIES

*Sidelight without glass (side panel) is also available.

*For handle type K.L and digital lock, the handle will only be on the main panel.

GIESTA PROJECT REFERENCE



ALUMINIUM EXTERIOR SERIES



ALUMINIUM EXTERIOR



FENCE & GATE EXTERIOR

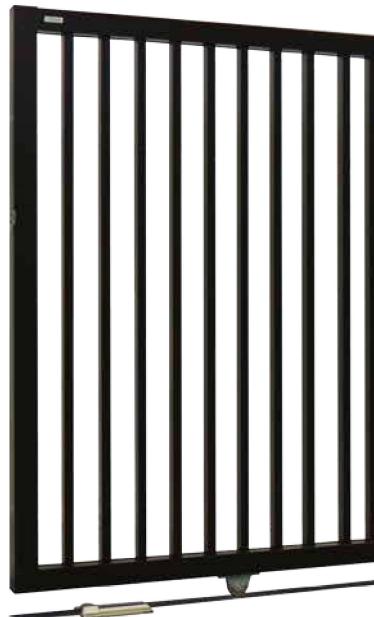
FENCE & GATE is a perfect fencing choice for your residence. Our fence and gate solutions will enhance the look, feel and overall value of your property, while providing safety and security for your family.



Please scan for
product demonstration

FEATURES

- Ultra lightweight
- Effortless movement
- Impact test
- Low maintenance
- Anti-rust durability



COLORS



Natural Silver



Shine Grey



Autumn Brown



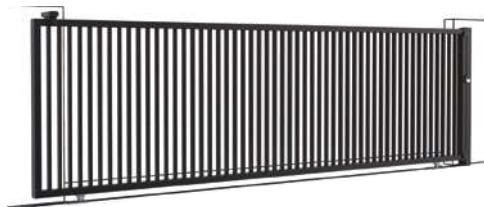
Natural Black

LATTICE PATTERN

Shape of lattice	Pitch 060	Pitch 080	Pitch 100	Pitch 120	Pitch 140
Sliding gate					
Folding gate Swing gate Fence					



SINGLE SLIDING GATE



UNIQUE FEATURES

	Minimum	Maximum
Width (Opening width)	2,100 mm	5,600 mm
Height (Product height)	1,200 mm	1,600 mm

*please see reference drawing for detail



DOUBLE SLIDING GATE



	Minimum	Maximum
Width (Opening width)	5,000 mm	8,000 mm
Height (Product height)	1,200 mm	1,600 mm

*please see reference drawing for detail



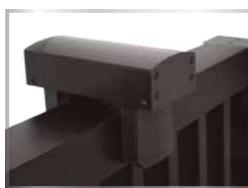
Square pipe design provides strength and durability.



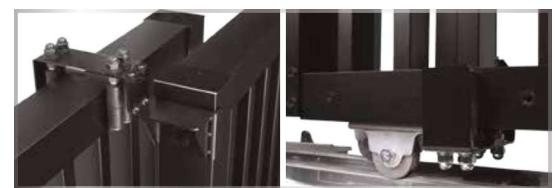
Durable stainless-steel wheel and track enable light and smooth gliding.



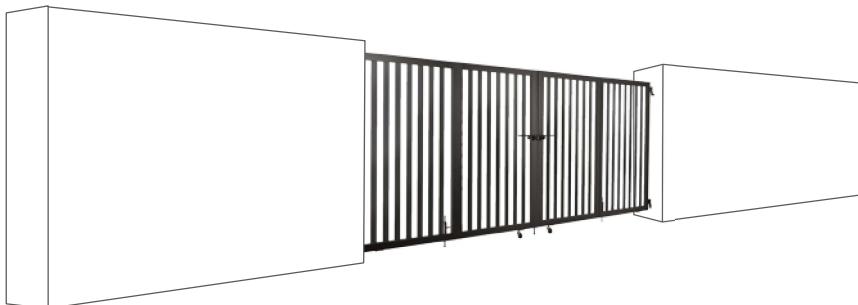
Wheel stopper ensures stop and hold when gate is closed.



Panel guide for safety to hold panel when gliding (for single panel type).



Panel guide to hold both panels when gliding for safety (for double panel type).

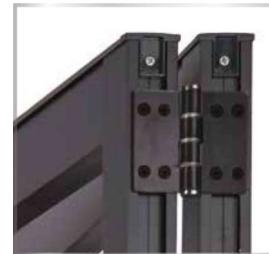

FOLDING GATE


4 PANELS FOLDING GATE	Minimum	Maximum
Width (Opening width)	3,000 mm	4,900 mm
Height (Product height)	1,200 mm	1,600 mm

*please see reference drawing for detail

6 PANELS FOLDING GATE	Minimum	Maximum
Width (Opening width)	4,300 mm	6,000 mm
Height (Product height)	1,200 mm	1,600 mm

*please see reference drawing for detail

UNIQUE FEATURES


Hinges

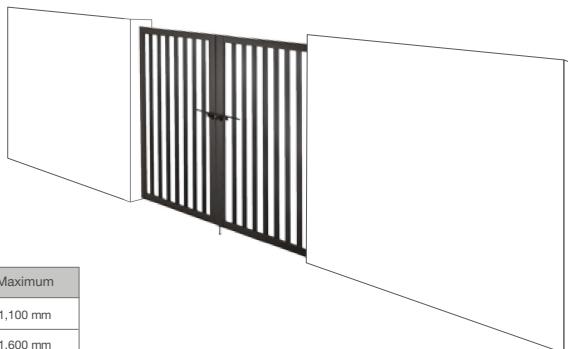


Rollers



Drop rod

SINGLE SWING GATE



UNIQUE FEATURES

	Minimum	Maximum
Width (Opening width)	600 mm	1,100 mm
Height (Product height)	1,200 mm	1,600 mm

*please see reference drawing for detail

DOUBLE SWING GATE

	Minimum	Maximum
Width (Opening width)	1,080 mm	2,080 mm
Height (Product height)	1,200 mm	1,600 mm

*please see reference drawing for detail



Durable hinges



Concealed Drop rod
(for double swing only)



FENCE



	Minimum	Maximum
Width (Opening width)	500 mm	2,000 mm
Height (Product height)	600 mm	1,200 mm

*please see reference drawing for detail



UNIQUE FEATURES



Minimalist slim design yet sturdy.
Wall anchor can be
adjusted up to 7.5 mm.



Straight and corner type fence
joiner available.
Adjustable from 90–180 degrees.



Fence post with
concrete surface mount (with cover).
Set-in-concrete type also available.



EXTERIOR PROJECT REFERENCE





CARPORT EXTERIOR

TOSTEM NESCA Light aluminium carport
Japanese Industrial Standard (JIS) certified.



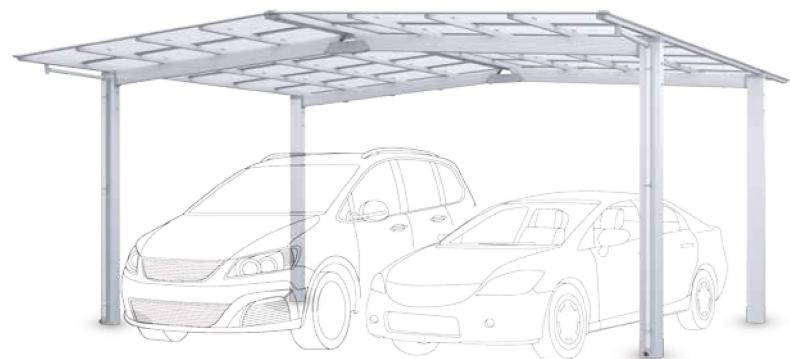
Prevents direct exposure to rain.



Protects car's paint work and accessories from UV rays.



Shortens car washing time.



Accessories tone aligns
with aluminium color



Rain gutters come as
standard

SINGLE TYPE



Parking Size after Installation	1 car Width 2.4 x Length 5.0 x Height 2.6 m (Post 2.2 m)
Installation area Space needed Hole for 1 post	Width 2.7 x Length 5.1 x Height 2.6 m Size 70 x 60 cm, 55 cm deep
Slope of roof Post size	4 degrees 9 x 15.8 cm 2.9 m

DOUBLE TYPE



Parking Size after Installation	2 cars Width 4.8 x Length 5.0 x Height 2.6 m (Post 2.2 m)
Installation area Space needed Hole for 1 post	Width 5.3 x Length 5.1 x Height 2.6 m Size 70 x 60 cm, 55 cm deep
Slope of roof Post size	4 degrees 9 x 15.8 cm 2.9 m



TOSTEM

PART OF **LIXIL**