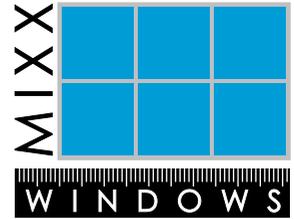




# MIXX WINDOWS



## Window And Facade Solutions In

Aluminium | Alu Wood | Wood | Wood Aluminium | Bronze

acristalia

Spain

KLIMAFLEX  
ALUMINIUM SYSTEME

Germany



Italy

OTIIMA  
much more than a window

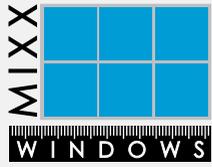
Portugal

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# ABOUT US



## MIXX WINDOWS

**Mixx Windows is one of the leading enterprises in North India specializing in Design, Manufacture and Installation of Aluminum Doors and Windows Systems and adopt the most comprehensive quality management system.**

Mixx Windows is a one stop shop for all your Luxury Fenestration requirements for Doors & Windows, Curtain Glazing's and Façade Claddings solutions in Aluminum, Alu-wood, Engineered Burma Teak and other exotic materials such as Bronze and Copper to name a few. Located in the National Capital Region of Delhi - Gurgaon, with an exclusive display over 30000sqft, it is an exclusive Indo-European association, for nothing else but the best in class technical solutions for your window requirements for the selective elite Indian Clientele.

Mixx windows exclusively represents Metra SpA, Italy, Otiima, Portugal, Acristalia, Spain, Secco Sistemi, Italy and Klimaflex, Germany for the Indian market currently catering to High End Clientele and a very professional network of Architects and Interior Designers offering a combination of solutions in Aluminum, Bronze, Steel, Alu-wood and Engineered Burma Teak and wood Alu-systems. Having more than 17 years experience in installation of Doors and Windows and an In-house R&D giving us a lead over the other processing and fabrication workshops.



## METRA Italian Style Emotions

**METRA, leader in the field of extrusion, coating, oxidation and anodization of aluminum offers design and technology to the world thanks to its wide range of products which it is promoting. Windows, sliding doors and swing doors, continuous facades, shutters and solar shading systems are just some of the products included in METRA's offer for building applications, all available in a wide range of finishes.**

Due to the intrinsic characteristics of aluminum and the great know-how gained in over fifty years of history, METRA is able to support the designer in his every single request in the designing and creation of profiles to drawing even on a large scale.

METRA's systems for windows and doors have gained over the years a leading role in establishing themselves on the national and international market as quality products for their resistance at every latitude and climate zone, for their durability, for their high-performance thermal and acoustic insulation, for their ability to keep out wind and water, for their burglarproof and scratchproof properties. METRA's windows and doors made of aluminum, a material with excellent mechanical properties, require low maintenance unlike wooden frames, an advantage which also translates into significant cost savings over the life of the product.

METRA's fixtures can be set in any architectural environment, from new works to restructuring, as well as in the restoration of buildings and constructions of historical importance. The Italian Style and aesthetic beauty characterizing the windows and doors in METRA aluminum, combined with a great technological innovation, are the main distinctive elements that make the METRA doors and windows the standard for those who want design and technology for their own house.

Choosing windows and doors in METRA aluminum also means making a choice that respects the environment around us as aluminum, unlike PVC, has a great resistance to weathering and therefore greater durability as well as being a fully recyclable material. Another great advantage of aluminum over PVC is also the unlimited availability of finishes, so as to ensure the satisfaction of every need and taste. processing and fabrication workshops.

# OTIIMA **Much more than a Window**

**Responsible for the introduction of the minimal frame systems on the Iberian market (2003) and consequently founder of his own first brand-system (2008), José Maria Ferreira develops and presents to the market on 2014, the new updated system of minimal frames and brand: OTIIMA. Much more than a Window.**

OTIIMA is the perfect solution for you project, when the combination of quality, high technology and aesthetics are the main reasons for your choice. By using self-supporting glasses, OTIIMA systems pushes back architectural limits and offers the possibility to use glazed surfaces up to 36 Sq. m per pane.

From the floor to the ceiling, a 20mm vertical reinforced profile provides a minimal appearance, merging indoor and outdoor into one, with top quality guarantee. The slim and elegant handle, provides a streamlined appearance, which combined with the special OTIIMA rolling system, guaranties an easy hand opening and maintenance of the panes.

In combination with a safe toughened glass, the OTIIMA exclusive security lock system assures a high quality level of security to the windows. With the brand new security system, OTIIMA offers you a hidden lock, an elegant solution unique on the market.

OTIIMA offers a full and complete range of solutions according to each architecture project needs. A technical team especially dedicated to each national market is in charge of each project, accompanying and providing technical assistance, assembly and after-sales service.

## **KLIMAFLEX** **With German engineering Quality** ALUMINIUM SYSTEME

**KLIMA FLEX's movable glass walls are manufactured to as per individual customer requirements. Your advantage: With us, the planning, consulting and execution are all from a single source. The superior manufacturing quality, makes our movable glass walls extremely weather resistant.**

We also offer highly precise special solutions for particularly difficult requirements. The foundation of all these engineering skills: our in-house R&D department, the utilization of high quality materials, as well as modern CAD technology in conjunction with high-precision CNC technology. We secure our technological leadership through a variety of European patents and registered utility models.

## **acristalia** **Always, Looking Ahead**

**In 2007, professionals with more than 20 years of experience on the sector of the aluminum decided to go one step further. They founded Acristalia, a company specialized in the development, manufacture & distribution of high quality, functional and efficient glass enclosures that offer the utmost confidence to our customers.**

Since then, we have been working harder: researching, innovating, gathering experience to open up possibilities to the point of becoming a leading company in Spain and with great international presence constantly expanding. Always one step forward.

If Acristalia is considered nowadays to be a reference within the enclosure sector is thanks to its steady investment in R&D&I from the start. The result: glass curtains systems, sliding roofs, glass railings, windbreaks or bioclimatic pergolas that stand out in the market for their high quality.

## **SECCO SISTEMI** Italy

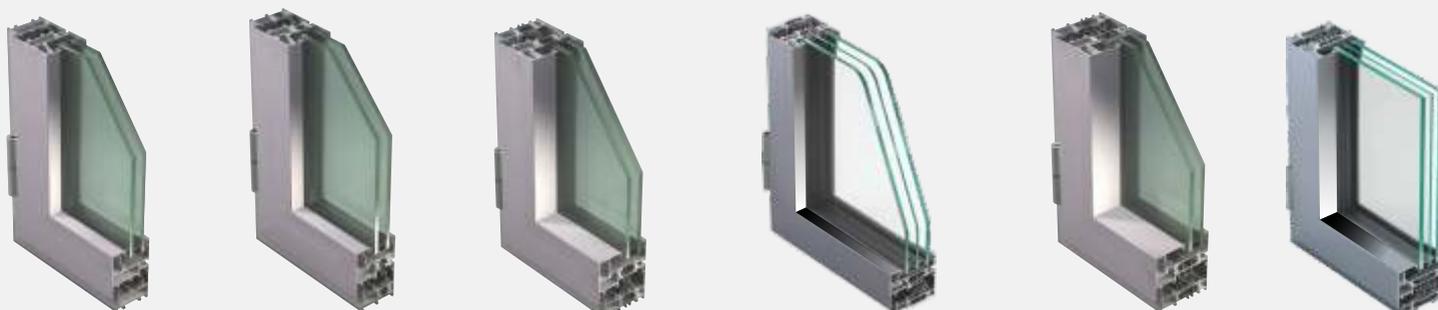
**With 70 years of experience, Secco Sistemi is the leading Italian brand in the production of integrated systems for doors, windows, shutters, and façades in galvanized steel, stainless steel, corten or weathering steel & brass. Every year it transforms 2 million metres of section bars in 200,000 doors and windows. Fixtures are interpreted as part of an integrated and versatile system at the architect's disposal, the results blending industrial technology with creativity and craftsmanship.**

Secco Sistemi guarantees maximum levels of sustainability, comfort and wellbeing. The company collaborates with professional experts and leading figures on the contemporary scene of architecture, the common denominator being the passion for materials, attention to detail and the culture of the project.



## Casement Windows

The NC 50 I system is recommended for both industrial buildings as well as communal spaces that are not heated or cooled.



**NC 50 I**

**NC 50 STH**

**NC 65 HES**

**NC 65 HES SLIM**

**NC 75 STH**

**NC 90 STH**

**NC 50 I** ensures great durability, resistance to atmospheric agents and high acoustic insulation. The two lines available (Piana and Sagomata) are able to give added value to countless architectural settings.

**NC 65 HES** is a very complete system due to the possibility of creating large-sized windows. Mechanical strength, resistance, sealing performance as well as thermal and acoustic insulation are all excellent.

From the vents that disappear completely until they are no longer visible from the outside, to the many opening solutions (tilt-and-turn, pivot, folding, etc.), up to the safety locks and the lowered thresholds that reduce architectural barriers, NC 65 HES is the ideal way to immerse your life in design and well-being.

### AESTHETIC LINES

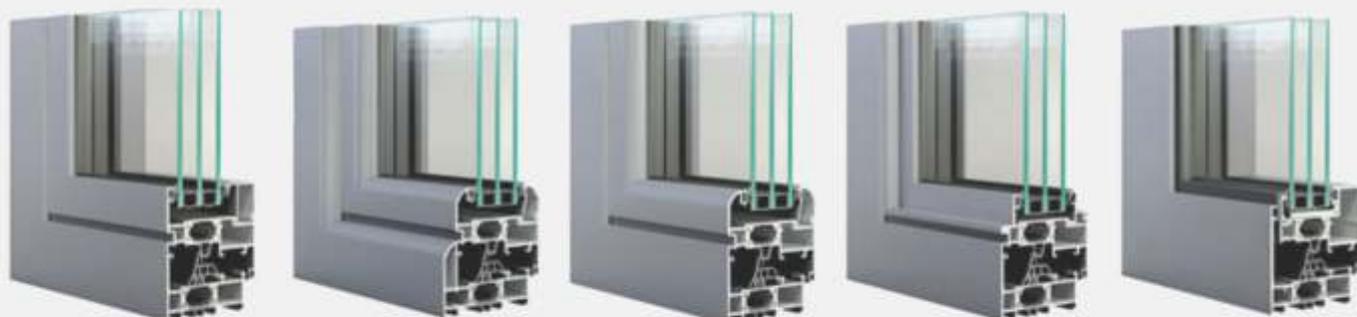
**PIANA**

**SAGOMATA**

**RAGGIATA**

**FERRO**

**SCOMPARSA**





## Performance

### Water Tightness

EN 1027 EN 12208

### Air permeability

EN 1026 - EN 12207

### Wind load resistance

EN 12211 - EN 12210

### Sound insulation

EN ISO 140-3 - EN ISO 717-1

1A (0Pa)	2A (50Pa)	3A (100Pa)	4A (150Pa)	5A (200Pa)	6A (250Pa)	7A (300Pa)	8A (450Pa)	9A (600Pa)	Exxx (xxxPa)
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1 (150Pa)	2 (300Pa)	3 (600Pa)	4 (600Pa)
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MAX PRESSURE	5A (200Pa)	6A (250Pa)	7A (300Pa)	8A (450Pa)	9A (600Pa)	Exxx (>2000Pa)
	WITH DEFLECTION		A (s 1/150)	B (s 1/250)	C (s 1/350)	

**Up to 43 dB**

Thermal Transittance  **2.35**

Uf W/m² K  **1.1**

• 1 vent window 1230 1480 mm ; Glass: Ug = W/m² K,psi= 0.05 W/mK

Uf W/m² K

Burglar Resistance EN 1627 - EN 1630	WK2	WK2	WK2
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Operating Forces EN 13115	Class 0	Class 1 100 N	Class 2 30 N
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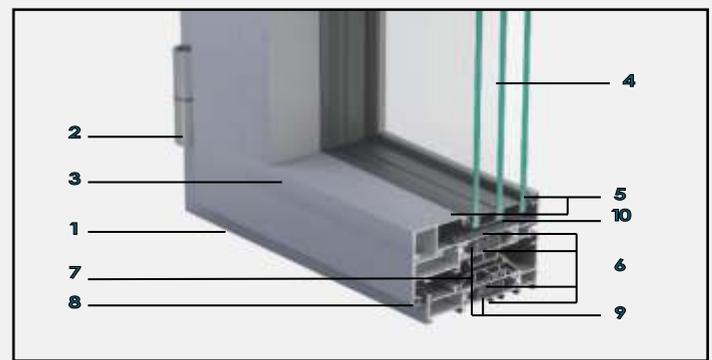
Mechanical Strength EN 12046-EN 13115	Class 0	Class 1	Class 2	Class 3	Class 4
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Resistance to repeated opening and closing- EN 1191- EN 12400

	Windows and Doors				Doors only				
Classif./ nr of cycles	0	1 5000	2 1000	3 2000	4 50000	5 10000	6 20000	7 500000	8 100000

Impact Resistance EN 13049	Classif./ Drop H	1 200mm	2 300mm	3 450mm	4 700mm	5 950mm
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## Technology



1. Frame
2. Sash
3. Glazing bead available in different sizes depending on glass thickness
4. Insulating glass with one air space (double glazing) or two air spaces (triple glazing)
5. EPDM gasket for glazing
6. Insulating bars made of polyamide 6.6 reinforced with 25% fibreglass
7. Open joint tightness central gasket
8. EPDM internal rabbet basket
9. Insulating bars which reduce the heat dispersion due to convection
10. Under-glass insulating gasketv





## Casement Doors

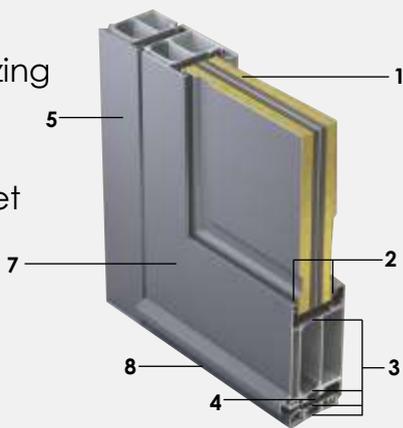
The METRA doors systems NC 50I, NC 50 STH, NC 65 STH, NC 75 STH and NC 90 STH doors are the best answer to all performance requirements.

The exclusive range of original accessories ensure a fast fabrication, resistance and perfect tightness, preventing from draughts and water infiltrations.

It is also possible to apply insulating panels or totally glazed sashes.

### Technology

1. Panel
2. Gasket for glazing and/or panel
3. Insulating bars
4. Tightness gasket
5. Frame
6. Thin hinge
7. Glazing bead
8. Sash
9. Door sill





# NC 75 STH Doors

## Features

- Basic Dimensions:** 75 to 85 mm
- Air-Water-Wind Tightness:** Double Rabbet Gasket
- Glass Thickness:** 14 to 58 mm
- Aesthetic Lines:** Piana Sagomata

## Performance

- Water Tightness:** EN 1027 - EN 12208
- Air Permeability:** EN 1026 - EN 12207
- Wind Load Resistance:** EN 12211 - EN 12210
- Sound Insulation:** EN ISO 140-3 - EN ISO 717-1



Concealed Hinges



Motorized Hinges



Locks



Door Sill



1A (0Pa)	2A (50Pa)	3A (100Pa)	4A (150Pa)	5A (200Pa)	6A (250Pa)	7A (300Pa)	8A (450Pa)	9A (600Pa)	Exxx (xxxPa)		
1 (150Pa)		2 (300Pa)		3 (600Pa)		4 (600Pa)					
MAX PRESSURE						1 (400Pa)	2 (800Pa)	3 (1200Pa)	4 (1600Pa)	5 (2000Pa)	Exxx (>2000Pa)
WITH DEFLECTION						A (≤ 1/150)		B (≤ 1/200)		C (≤ 1/300)	

Up to 42 dB

Thermal Transittance	2.1
Uf W/m² K	1.1
Uf W/m² K with panel*	1.4

- 1 vent door 1480 x 2180 mm with panel  $U_p=0.5 \text{ W/m}^2 \text{ K}$
- 1 vent door 1480 x 2180 mm with glass  $U_g=1.0 \text{ W/m}^2 \text{ K}$ ,  $\psi=0.05 \text{ W/mK}$

Operating Forces EN 1315	Class 0	Class 1 100 N	Class 2 30 N		
	Class 0	Class 1	Class 2	Class 3	Class 4
Mechanical Strength EN 12046-EN 12217					

Resistance to repeated opening and closing- EN 1191- EN 12400

Classif./ nr of cycles	Windows and Doors					Doors only			
	0	1 5000	2 1000	3 2000	4 50000	5 100000	6 20000	7 500000	8 1000000

Impact Resistance EN 13049	Classif./ Drop H	1 200mm	2 300mm	3 450mm	4 700mm	5 950mm
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## NC 50 I Casement Door

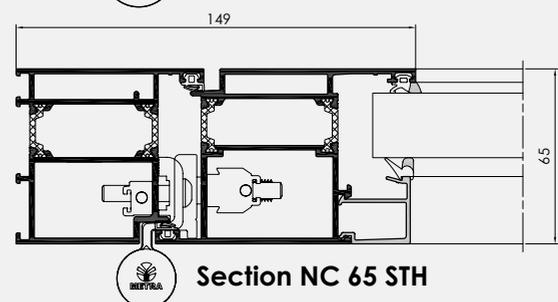
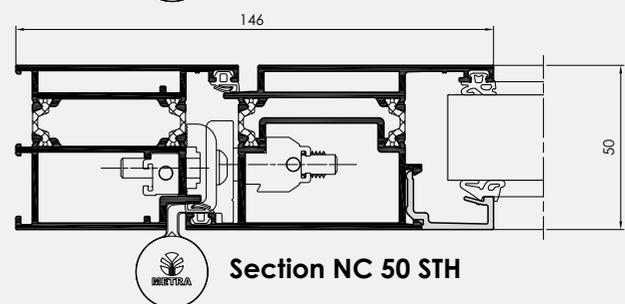
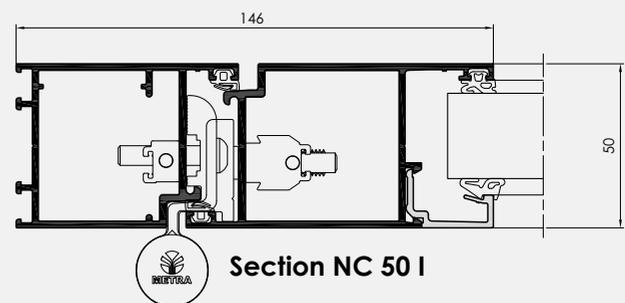
The NC 50 I system is recommended for both industrial buildings as well as communal spaces that are not heated or cooled. NC 50 I ensures great durability, resistance to atmospheric agents and high acoustic insulation. The available lines (Piana, Sagomata, Raggiata) are able to give added value to countless architectural settings.

## NC 50 STH Casement Door

NC 50 STH is an ideal system, very lightweight with great sealing performance. The thermal break enables high thermal insulation and energy saving all within just 50 mm of depth. NC 50 STH can enhance various housing types that require small-medium lighting.

### Advantages:

- Wide range of finishes
- Easy maintenance
- High-level design
- Various opening typologies
- Minimal amount of space
- Maximum thermal insulation
- Maximum acoustic insulation



## NC 65 STH Casement Door

Mechanical strength, resistance, sealing performance as well as thermal and acoustic insulation. NC 65 STH is a very complete system due to the possibility of creating largesized windows. The system is also burglar-proof. NC 65 STH is the ideal way to immerse your life in design and well-being.

The NC 65 STH-i version possesses all the same features as the NC 65 STH series with the addition of a special insert in the thermal break profiles which further increases the already high thermal insulation performance, thus increasing energy saving.



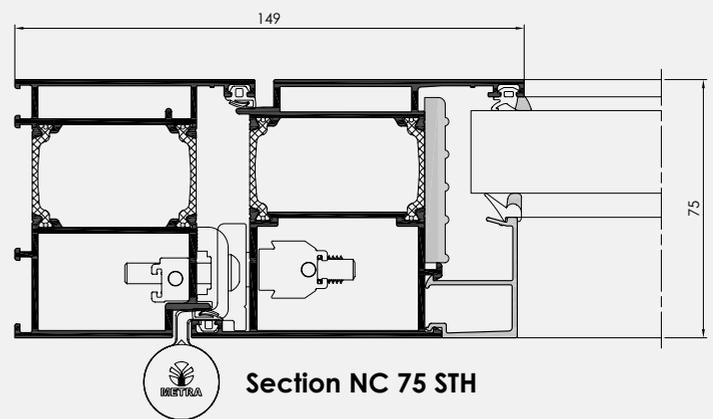
### Advantages:

- Wide range of finishes
- Easy maintenance
- High-level design
- Various opening typologies
- Minimal amount of space
- Maximum acoustic insulation
- Maximum thermal insulation - with the profile NC 65 STH-i the insulation can be increased

## NC 90 STH Casement Door

To those who want to experience their living space in full comfort while saving energy and minimising environmental impact, METRA offers the ideal solution: the NC 90 STH HES system.

Recyclable materials, excellent performance levels and reduction of energy costs enable NC 90 STH HES to meet and satisfy every need, also because of the great variety of finishes available. Yesterday's novelty was thermal break; today's innovation is NC 90 STH HES.





# Sliding Windows

## Performance

**Water Tightness**

EN 1027 EN 12208

**Air permeability**

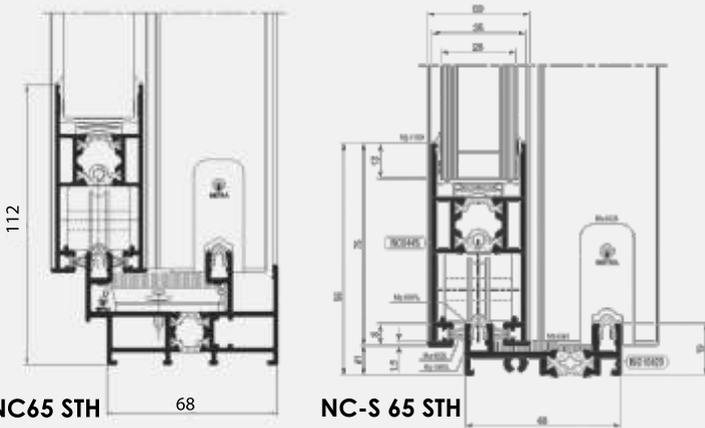
EN 1026 - EN 12207

**Wind load resistance**

EN 12211 - EN 12210

**Sound insulation**

EN ISO 140-3 - EN ISO 717-1



1A (0Pa)	2A (50Pa)	3A (100Pa)	4A (150Pa)	5A (200Pa)	6A (250Pa)	7A (300Pa)	8A (450Pa)	9A (600Pa)	Exxxx (xxxxPa)
1 (150Pa)		2 (300Pa)		3 (600Pa)			4 (600Pa)		
max pressure		1 (400Pa)	2 (800Pa)	3 (1200Pa)	4 (1600Pa)	5 (2000Pa)	Exxx (>2000Pa)		
with deflection		A (≤ 1/150)		B (≤ 1/200)		C (≤ 1/300)			

**Thermal Transittance**

Uf W/m<sup>2</sup> K

Uw W/m<sup>2</sup> K Roma\*

Uw W/m<sup>2</sup> K Miami\*



\* 2 vents French window 2500 x 2500 mm; Ug=1.0 W/m<sup>2</sup>K, psi=0.05 W/mK

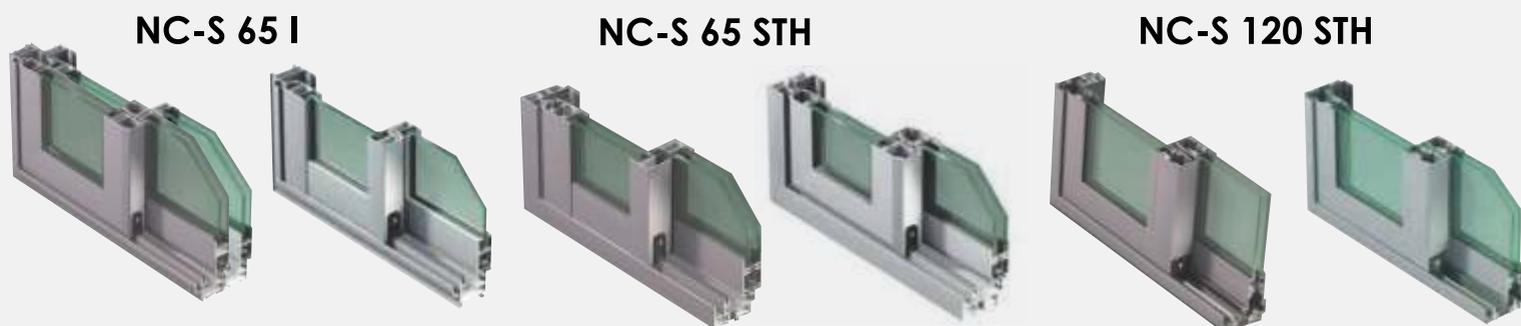
	Windows and Doors				Doors only				
Classif./nr of cycles	0	1	2	3	4	5	6	7	8
	-	5000	10000	2000	50000	100000	20000	500000	100000

Impact Resistance EN 13049	Classif./Fall H	1	2	3	4	5
		200mm	300mm	450mm	700mm	950mm

Operating Forces EN 1315	Class 0	Class 1 100 N	Class 2 30 N		
Mechanical Strength EN 12046-EN 13115	Class 0	Class 1	Class 2	Class 3	Class 4





Compared to other materials, METRA sliding systems offer performance, aesthetics, safety, air-tightness, durability and comfort... in addition to a vast range of stunningly stylish surfaces, including natural wood

## Features

- Sliding systems with thermal-break and non-insulated profiles which can be integrated with casement series NC 50 I, NC 50 STH and NC 65 STH.
- Ergonomic design with flat profiles on the external side, easy to clean.
- Water drainage slots carried out in non-visible parts for a better look and lower costs.
- High quality accessories, realized with anti-corrosion materials, suitable for the sea-side environment.
- Reduced dimensions of the sections, better visibility and more incoming light.
- Easy sliding of the sashes thanks to the carriages with roller bearings and anti-friction polyamide sliding tracks.
- Huge surfaces and high loads up to 150 kg each sash.
- Acoustic comfort and energy saving with the thermal-break profiles, produced in conformity with latest regulations.
- Special design which gives a positive image of the product.
- Lift-and-slide system for big-size frames, with high loads and the best performances

## Sliding windows and doors

Choosing and offering a METRA sliding system means adopting a lifestyle increasingly contemporary and comfortable.

METRA sliding systems encompass all the technology and design a designer needs to enhance interior and exterior solutions. Large windows, refined designs, even ultra-thin windows (ranges from 50 mm to 150 mm) with an aluminium core.

## Applications

- Sliding windows and French windows with 2 or 3 tracks.
- Big dimensions lift-and-slide French windows.

## Advantages

- Easy maintenance
- Thermal and acoustic insulation
- No architectural barriers
- Optimization of spaces
- High level design
- Inalterable and long-lasting
- Burglar-proof features
- Suitable for anti-theft systems
- Suitable for household automation and domotics
- Extremely smooth sliding action





# Aluminium Lift and Slide series

## NC 150 HES

### Features

**Basic Dimensions :**

140-150 mm

**Air-water-wind tightness :**

EPDM or brush gasket

**Glass thickness :**

max 43 mm

**Max load each sash:**

330-440 kg Lift-and-slide version



### Performances

Water tightness  
EN 1027 - EN 12208

1A (0Pa)	2A (50Pa)	3A (100Pa)	4A (150Pa)	5A (200Pa)	6A (250Pa)	7A (300Pa)	8A (450Pa)	9A (600Pa)	Exxxx (xxxxPa)
-------------	--------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	-------------------

Air permeability  
EN 1026 - EN 12207

1 (150Pa)	2 (300Pa)	3 (600Pa)	4 (600Pa)
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Wind load resistance  
EN 12211 - EN 12210

max pressure	1 (400Pa)	2 (800Pa)	3 (1200Pa)	4 (1600Pa)	5 (2000Pa)	Exxx (>2000Pa)
	with deflection		A (≤ 1/150)	B (≤ 1/200)	C (≤ 1/300)	

Sound insulation  
EN ISO 140-3 - EN ISO 717-1

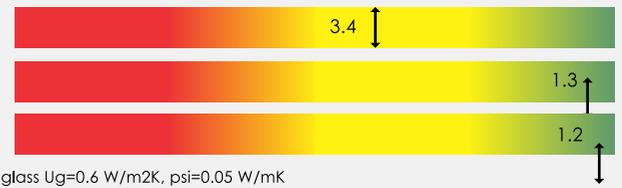
**up to 42 dB**

Thermal Transmittance

Uf W/m<sup>2</sup> K

Uw W/m<sup>2</sup> K Rodos\*

Uw W/m<sup>2</sup> K Petra\*



\* 2 vents French window 2500 x 2500 mm; glass Ug=0.6 W/m<sup>2</sup>K, psi=0.05 W/mK

Operating forces  
EN 13115

Class 0	Class 1 100 N	Class 2 30 N
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Mechanical strength  
EN 12046 - EN 13115

Class 0	Class 1	Class 2	Class 3	Class 4
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Resistance to repeated opening and closing - EN 1191 - EN 12400

Classif./ nr. of cycles	Windows and doors					Doors only			
	0	1	2	3	4	5	6	7	8
-	5000	10000	20000	50000	100000	200000	500000	1000000	1000000

Impact resistance  
EN 13049

Classif./ Fall H	1 200 mm	2 300 mm	3 450 mm	4 700 mm	5 950 mm
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### Opening Typologies



1 sliding sash  
1 fixed sash

2 sliding sashes on two tracks

1 vantail + fixe

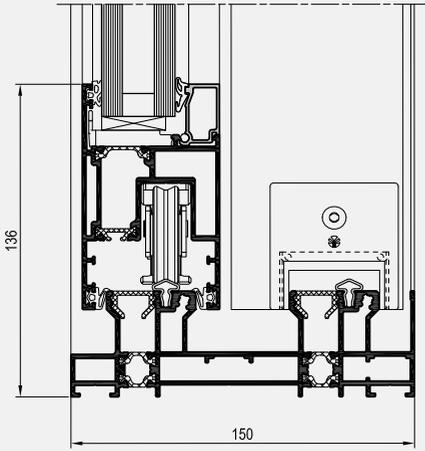
Monorail pocket door

3 sliding sashes on 3 tracks

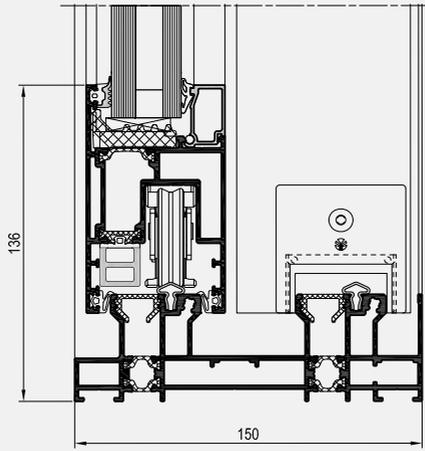
2 fixed sashes with 1 central openable

2 sliding sashes with 2 fixed sashes

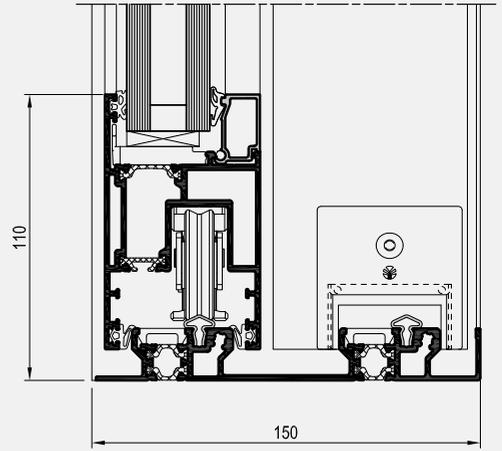
4 sliding sashes on 2 tracks



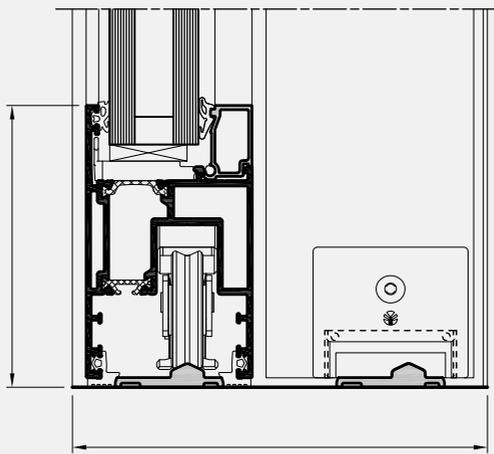
Standard



Plus



Lowered Sill



Ultra-Lowered Sill





## NC S 170 STH HES

The cutting-edge METRA lifting sliding system NC-S 170 STH HES removes borders between inside and outside. Interiors perfectly fit into the surrounding nature and create a totally new experience, which embraces the whole space. The excellent thermal and acoustic insulation give you the best comfort and will let you minimise your power consumption, and save your money.

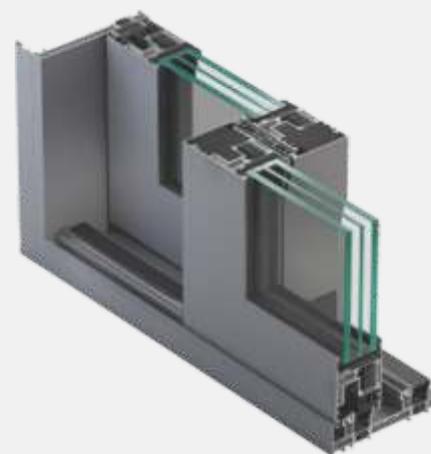
The presence of anti-tripping binaries with low thresholds avoids bothering steps and establishes a direct link between the inside and outside environment. The METRA lifting sliding system NC-S 170 STH HES offers a unique design, also thanks to the availability of special finishing. NC-S 170 STH HES is an innovative project which transforms the sliding profile systems, making them the best solution for high-profile architecture operations.

### Technical Features:

- Base dimensions : 170 mm
- Air-water-wind tightness : EPDM gaskets
- Glass thickness : max 56 mm
- Max. sash weight : 330 - 440 kg (lifting sliding)
- Profiles for frames : cut at 45° or 90°
- Profiles for sashes : cut at 45°
- Closing systems : multipoint.

**Handles with or without cylinder and key**

**Lower binary stainless steel sliding tracks**

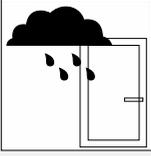


**Aesthetic Lines**

### Opening Typologies



# Performances

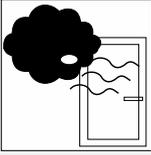


## Water Tightness EN 1027 - EN 12208

The METRA window or door has not had any seepage of water even with a wind pressure equal to a speed of 111,54 km/h (600Pa).

Air pressure applied km/h	(0Pa)	(50Pa)	(100Pa)	(150Pa)	(200Pa)	(250Pa)	(300Pa)	(450Pa)	(600Pa)	(900Pa)
	0	32,2	45,53	55,77	64,39	72	78,87	96,59	<b>111,54</b>	136,6
<b>Class achieved</b>	1A	2A	3A	4A	5A	6A	7A	8A	<b>9A</b>	E900

Capacity of the window or door to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

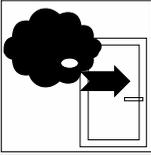


## Air Permeability EN 1026 - EN 12207

The METRA window or door was subjected to a wind pressure equal to a speed of 111,54 km/h (600Pa) and passed the test with positive results.

Class achieved	1	2	3	4
Air pressure applied	(150Pa)	(300Pa)	(600Pa)	<b>(600Pa)</b>

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

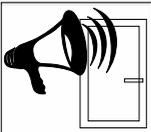


## Resistance to wind load EN 12211 - EN 12210

The METRA window or door was subjected to a wind pressure equal to a speed of 157,7 km/h (1200Pa) and passed the test with positive results.

Air pressure applied	(400Pa)	(800Pa)	(1200Pa)	(1600Pa)	(2000Pa)	(>2000Pa)
With deflection	A ( 1/150)		<b>B(1/200)</b>		C ( 1/300)	
<b>Class achieved</b>	1	2	<b>3</b>	4	5	Exxx

Capacity of a window or door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

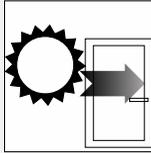


## Soundproofing Power EN ISO 140-3, EN ISO 717-1

METRA windows and doors are able to cut out airborne noise from the outside up to 42dB.

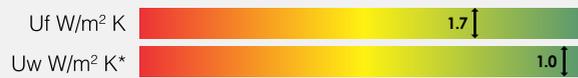
Up to 42 dB

Capacity of a window and door to attenuate external noise.



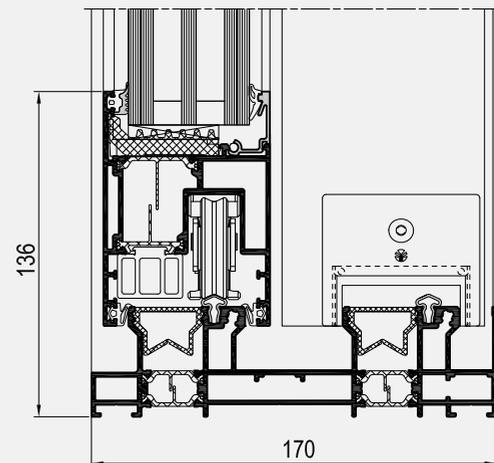
## Thermal Transmittance

METRA's windows and doors comply with the energy saving standards



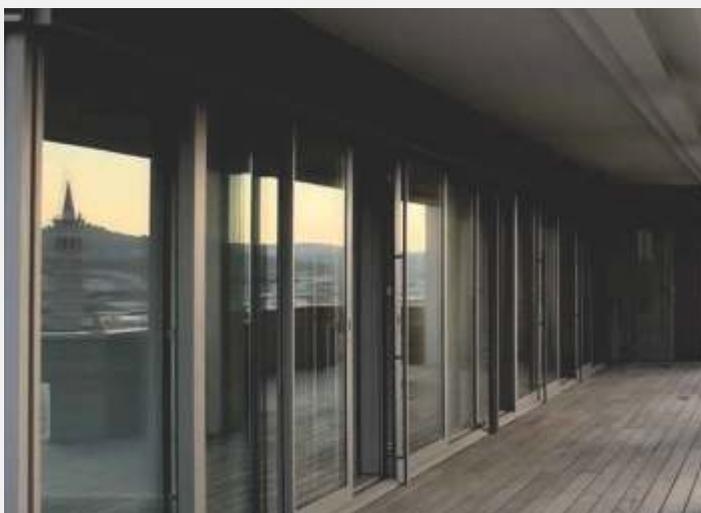
\* Door 2 sashes 3000 x 2500 mm; glass: Ug=0.6 W/m<sup>2</sup>K, psi=0.031 W/m K

The heat transmission rate U is the heat flow which goes through the window or door according to m<sup>2</sup> of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m<sup>2</sup>K.



NC S 170 STH HES Line Section

Comfort Close



Soft Lift Handles



# Slim Series for Sliding System

Choosing and offering METRA sliding system NC-S 120 STH Slim line means to adopt a lifestyle increasingly contemporary and comfortable.

The slim line contains all the technology and design necessary to enhance interior and exterior Solutions:

- Large windows
- Refined and ultra-thin designs
- Aesthetics performance
- Safety
- Air-tightness
- Durability and comfort

## Technical Features:

**Frame dimensions:**

120 - 140 mm

**Glass thickness:**

26 - 42 mm

**Air-water-wind tightness:**

Brush gasket

**Maximum sash weight:**

400 kg

## Performances

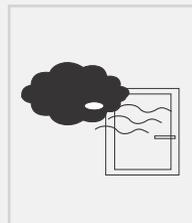


Water tightness EN 1027, EN 12208

The METRA window or door has not had any seepage of water even with a wind pressure equal to a speed of 96.59 Km/h (450 Pa).

Air pressure applied Km/h	(0Pa)	(50Pa)	(100Pa)	(150Pa)	(200Pa)	(250Pa)	(300Pa)	<b>(450Pa)</b>	(600Pa)	(900Pa)
	0	32,2	45,53	55,77	64,39	72	78,87	<b>96,59</b>	111,54	136,6
<b>Class achieved</b>	1A	2A	3A	4A	5A	6A	7A	<b>8A</b>	9A	E900

Capacity of the window or door to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

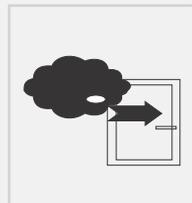


Air permeability EN 1026, EN 12207

The METRA window or door was subjected to a wind pressure equal to a speed of 111.54 Km/h (600 Pa) and passed the test with positive results.

Air pressure applied Km/h	(150Pa)	(300Pa)	(600Pa)	<b>(600Pa)</b>
	55,77	78,87	111,54	<b>111,54</b>
<b>Class achieved</b>	1	2	3	<b>4</b>

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

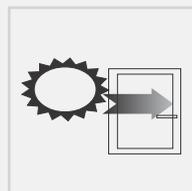


Resistance to wind load EN 12211, EN 12210

When the METRA window or door was subjected to a wind load equal to a speed of 157.74 Km/h (1000 Pa), neither breakages nor permanent deformation occurred.

Air pressure applied Km/h	(400Pa)	(800Pa)	<b>(1200Pa)</b>	(1600Pa)	(2000Pa)	> (2000Pa)
	A (≤ 1/150)		<b>B ( 1/200 )</b>		C (≤ 1/300)	
<b>Class achieved</b>	1	2	<b>3</b>	4	5	Exxx

Capacity of a window or door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.



Thermal transmittance

The METRA window and door comply with the energy saving standards.

Uf W/m <sup>2</sup> K	3.7	* 2 leaf door 2500 x 2500 mm; glass: Ug=0.8 W/m <sup>2</sup> K, psi=0.05 W/mK
Uw W/m <sup>2</sup> K*	1.6	

The heat transmission rate U is the heat flow which goes through the window or door according to m<sup>2</sup> of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m<sup>2</sup>K.

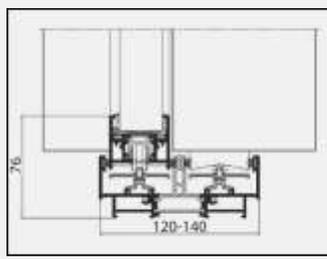
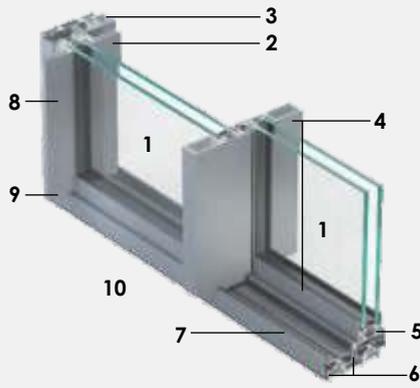


## Opening Typologies

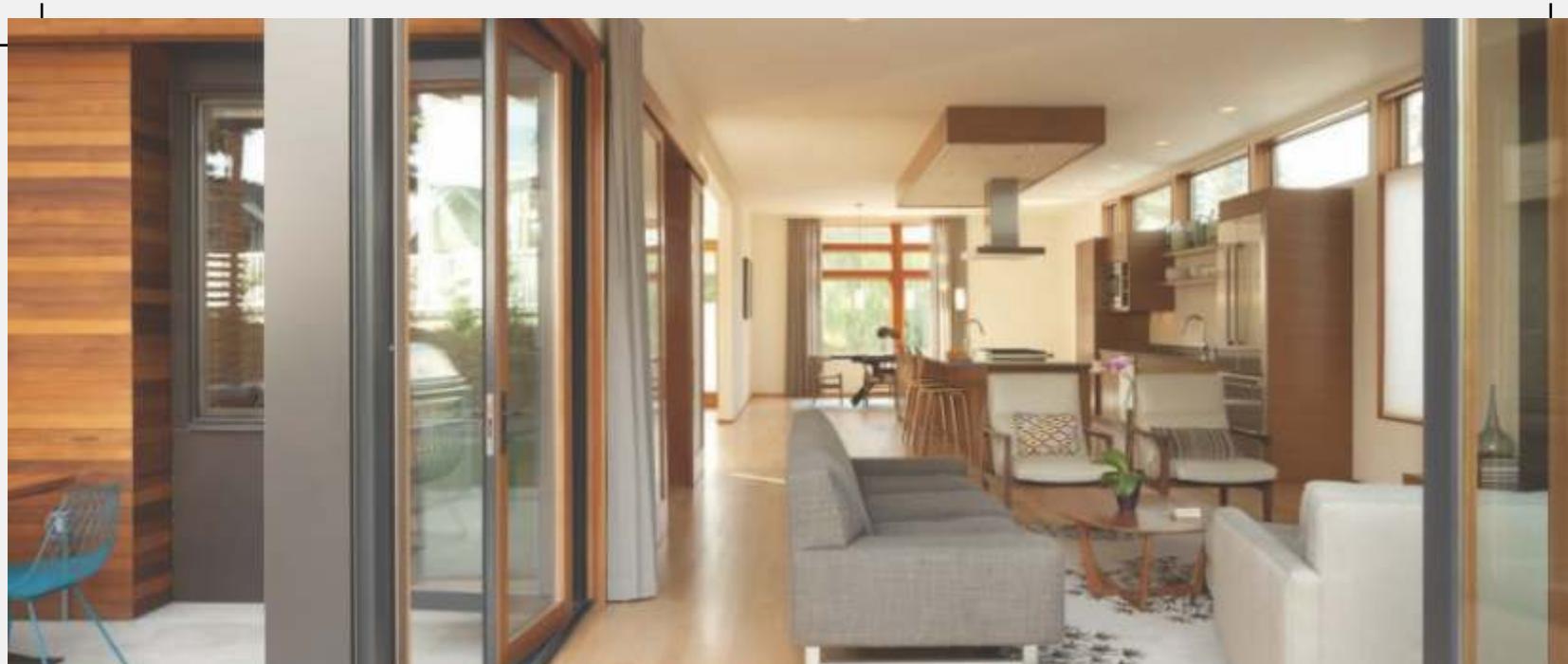


## Technology

1. Glazed sash: double glazing with an EPDM gasket (possibility of using high thickness shatter-proof glass)
2. Finishing resistant to atmospheric agents
3. Frame. It can be inserted and hidden inside the wall.
4. Reduced size of the central junction and the profiles that remain visible (30 mm)
5. Polyamide bars for thermic insulation
6. Water-repellent brushes with triple tightness layers
7. Stainless steel sliding tracks
8. Multi-point locks
9. Vertical reinforced profiles with built-in pull handle
10. High performance multi-wheel sliding carriages (max. sash weight 400 kg)







# Alu-Wood Doors Systems with Thermal Break

## Technical features

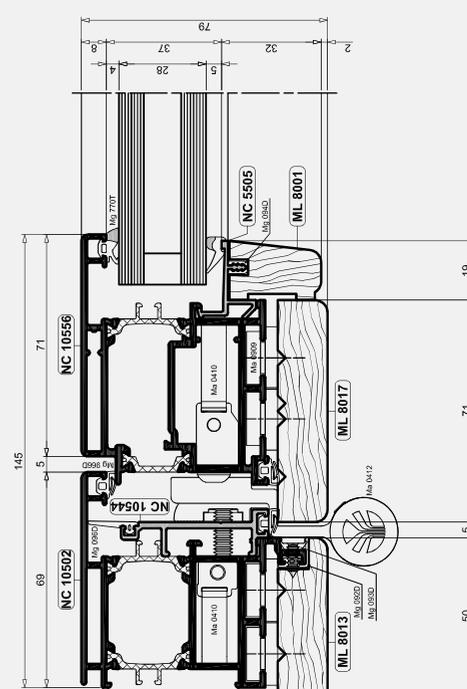
- Thermal-break series for windows and doors.
- Glass thickness: from 26 to 59 mm

### Windows series:

- 79 mm frame basic profiles, 100 mm sash profile with 21 mm internal overlap (Piana line)
- 89 mm frame basic profiles, 100 mm sash profile with 21 mm internal overlap (Sagomata line)
- Air-water-wind tightness: open joint central gasket
- Aluminium aesthetic lines: Piana, Sagomata
- Wood aesthetic lines: Piana, Sagomata

### Doors series:

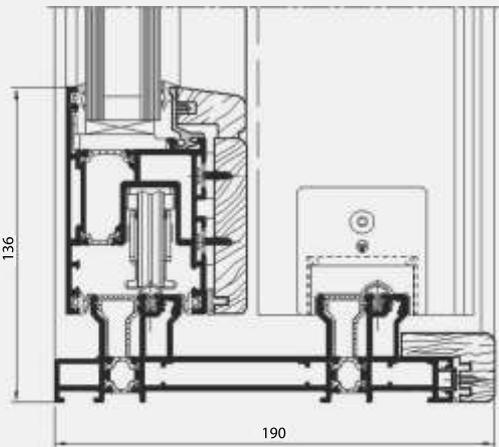
- 79 mm coplanar frame and sash profiles
- 79 mm sash profile
- Air-water-wind tightness: double rabbet gasket
- Aluminium aesthetic lines: Piana
- Wood aesthetic lines: Piana





# Alu-Wood Lift and Slide Series

## Performances



Water tightness  
EN 1027 - EN 12208

1A (0Pa)	2A (50Pa)	3A (100Pa)	4A (150Pa)	5A (200Pa)	6A (250Pa)	7A (300Pa)	8A (450Pa)	9A (600Pa)	E900 (900Pa)
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Air permeability  
EN 1026 - EN 12207

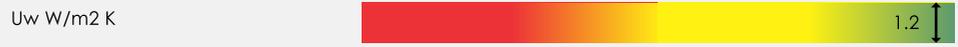
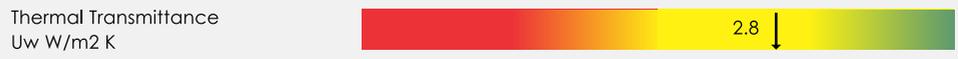
1 (150Pa)	2 (300Pa)	3 (600Pa)	4 (600Pa)
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Wind load resistance  
EN 12211 - EN 12210

max pressure	1 (400Pa)	2 (800Pa)	3 (1200Pa)	4 (1600Pa)	5 (2000Pa)	Exxx (>2000Pa)
	with deflection		A (≤ 1/150)	B (≤ 1/200)	C (≤ 1/300)	

Sound insulation  
EN ISO 140-3 - EN ISO 717-1

**up to 42 dB**



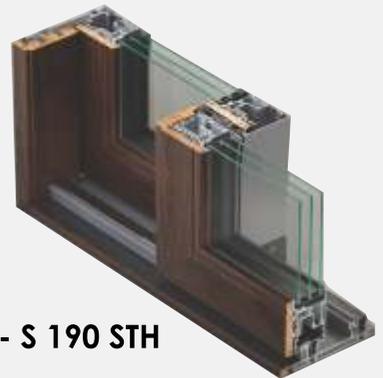
\* 2 vents French window 2500 x 2500 mm; glass: Ug=0.6 W/m2K, psi=0.05 W/mK





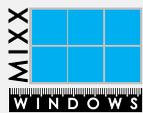
## AELLE-S 190 STH Technical features

- Thermal-break series for windows and doors
- Glass thickness : 26 to 44 mm
- windows series 190 mm
- Frame basic profiles 78 mm
- Sach basic profile air water wind tightness : EPDM gaskets
- Hardware lift and slide hardware mas load 300 / 400 kg



**AELLE- S 190 STH**





## Mixx Engineered Wood Window & Door System Luxury Burma Teak Solutions

Mixx Windows design is always up-to-date: its elegance and neutrality come from its simple yet rigorous lines, which fit perfectly in every architectural context, from contemporary to restoration.

*Features a modern design, with square lines, and belongs to the tradition of classic doors and windows. Thanks to the broad range of profiles, this system can meet all construction requirements.*

Mixx Windows has been in the wood industry for over 20 years and is the number one name for specializing in Burma Teak solutions. Mixx Windows uses nothing but Grade A Burma Teak. Our in-house quality team ensures that all the defects like Cracks, Knots, Sapwood, Insect and water Channels, Rot etc are removed from the wood as the basic step.

Our in-house seasoning plant ensures that the moisture in wood is kept at the optimal level to enable a balanced engineering of wood by joining layers of wood with opposing grains to negate any effects of warping and twisting of the wood. This ensures a smooth functioning for a longer time period and ensures windows do not jam specially when weather changes.

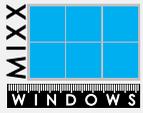
Mixx Windows come with the option of double glazed units as a standard that offer remarkable thermal performance by reducing the heat transfer up to 70% as compared to single glass pane. Options of single glazed glass, tinted glass, reflective glass can be analysed for optimal balance between performance and costing.

The double glazed units in Mixx Windows act as an effective sound barrier by bringing down the noise levels by almost 30-35 decibels. This performance is further enhanced by using sandwiched laminated glass with acoustic films.

Engineered Wood with Weather Resistance, Italian Hardware & Italian Pu Polish.

**Also available in other species of wood such as Ash, Oak etc.**





## Mixx Engineered Wood Lift & Slide System

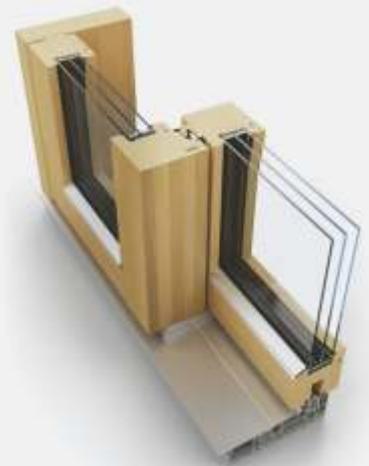
**Mixx Engineered / Laminated Profile:** Engineered wood is a solution where wood is sliced, dried & glued back together in reverse order of grains to negate the impact of natural bending tendencies of wood which happen over a period of time.

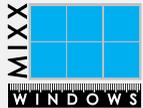
**Thermal Insulation:** Wood has natural thermal insulation properties, significantly reducing energy requirements for heating and cooling. Wood does not heat up when exposed to summer sun, and improves thermal insulation during the winter months.

**Noise Insulation:** Unlike metal frames, the wooden structures of our frames have no hollow sections, a very important feature for better soundproofing.

**Eco Sustainability:** Wood is a natural material. In the process of converting it into a laminated profile, no toxic substances or harmful wastes are produced, avoiding damage to the environment. The energy required to obtain the finished product, approx. 300 kWh/t, is particularly low when compared to that required for other building materials (72,500 kWh/t required for aluminum and 3,500 kWh/t for steel).

**Comfortable Living Space:** Well-being inside buildings. The use of wood minimizes the source of indoor pollution which reduce air quality, produce artificial electromagnetic fields or generate harmful emissions.





## MixX Engineered Wood-Alu Window & Door System

Engineered wood is a solution where wood is sliced, dried & glued back together in reverse order of grains to negate the impact of natural bending tendencies of wood which happen over a period of time. Aluminium is clipped at the exterior side of windows to prevent wood from directly being exposed to sunlight, rain & other external environment to prolong the life of wood. In the Mixx Alu-Wood Engineered system, the series of accessories and gaskets allow to avoid using screws in the assembly of aluminium frames on wood. This is a time saving solution that prevents all possibilities of error in positioning clips.

**Features an innovative frame that no longer needs the central gasket, though ensuring perfect water-tightness while reducing production costs.**



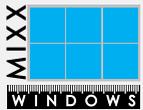


## MIXX Engineered Wood-Alu Lift & Slide System

The silhouette is squared and oriented to contemporary design: we have emphasized the concept of coplanarity to extend the use of wood-alu doors and windows in residential as well as in executive contexts where preference is towards flat geometries and coplanarity with the building's facade.

The flush surface of the profiles allows perfect welding of all elements.



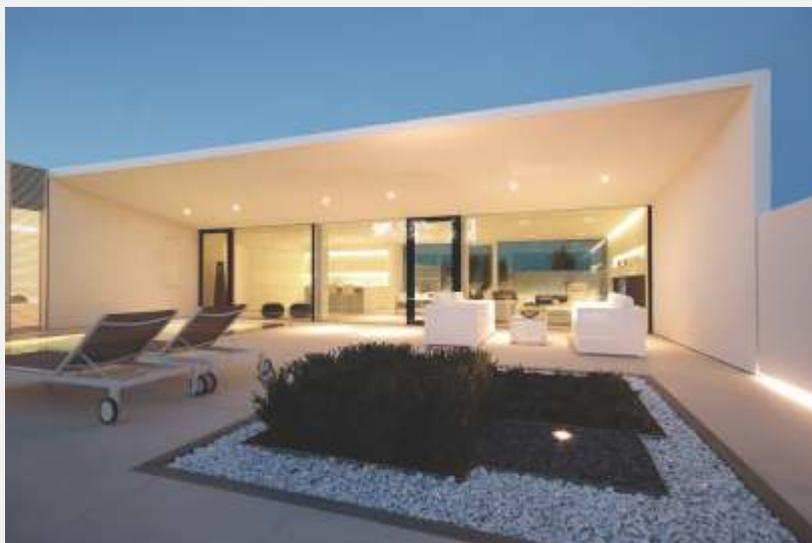


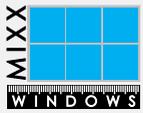
## Glass & Glass Window Systems Frameless Double Glazed Glass Solutions

With Mixx Glass and Glass everything that has been achieved in the field of windows has been revolutionised. Simply stated, Mixx Glass and Glass is the technical cornerstone marking the disappearance of visible wood in a window. The leaf merely consists of two-sided pane of glass with standard concealed hinges and a handle applied directly to the glass.

Mixx Glass and Glass can be fixed to a walled frame or a counter-frame concealed into the wall the structure disappears and all glass remains, like a blade coming out of the wall without interfering with the architecture.

Minimal aesthetic impact that makes your home truly unique.





## Wood Glass Window Systems Engineered Wood Solution with Glazed Glass

A structural wood/glass window frame in modern style, creating the perfect blend of top performance and design. Inside the warmth of wood, without glazing beads, with a standard bottom hinge; outside, the transparency of maintenance-free glass.

The stepped glass is glued structurally to ensure increased rigidity and resistance of the leaf, making Mixx Wood Glass window solution the ideal frame for large openings. The Characteristics of the glazing, the gluing method and the absence of glazing beads guarantee better resistance to breaking-in, optimal thermal insulation and considerable noise abatement (to 46 dB).





## Luxury Fenestration solutions in Bronze and Steel

Secco Sistemi is the leading Italian brand in the production of integrated systems for doors, windows and shutters, and façades in galvanized steel, stainless steel, corten or weathering steel and brass.



### OS2 65

Thermal break steel windows for glazing of 40 mm, profiles of 27 mm, central section 62 mm and series of sashes in the prospectus



### OS2 75

Thermal break steel window with tilt-and-turn fitting for glazing up to 50 mm, profiles from 27 mm, central section 62 mm and sashes that can be selected in the prospectus



### EBE 65

EBE thermal break system, depth 65 mm for glazing of up to 48 mm, internal rebate and external flush mount between sash and frame



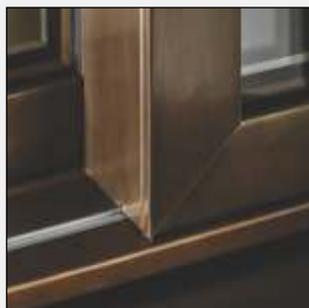
### EBE 75

EBE 75 thermal break system, 75 mm depth for glazing of up to 48 mm, internal and external flush-mounting between sash and frame



### EBE 85

EBE thermal break system, depth of 85 mm for glazing of up to 68 mm internal rebate and external flush mount between sash and frame



### EBE 85 AS

EBE thermal break system for lift-and-slide doors of large dimensions and high-performing insulation and air/water-tightness, flush with the floor



### EBE Style

EBE thermal break system with depth of 65 mm, in the variation with symmetrical internal-external convex moulding (ovolo) of the profile



### EBE ML

EBE thermal break system, 65 mm depth, in the variation with internal wooden panelling



## Luxury Fenestration solutions in Bronze and Steel

OS2 65 is the thermal break steel window with profiles of just 27 mm - 47 mm for the lateral section, 62 mm for the central section and depth of 65 mm. It can house insulating glazing of up to 40 mm. Also available in Brass.





## Luxury Fenestration solutions in Bronze and Steel



### EBE AF

EBE thermal break fire stop system for doors and fixed panels that can be used in connection with other fixtures in the EBE set



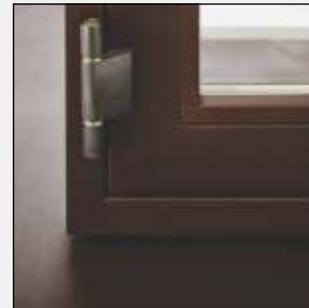
### SA 15

System of profiles with sheet thickness of 1,5 mm, depth 55 mm for glazing of up to 40 mm, flush-mounted externally and internally between sash and frame



### SA 20

System of profiles with sheet thickness of 2mm, depth of 60 mm for glazing of up to 48 mm, externally and internally flush-mounted between sash and frame



### SA AF

System of profiles for fire doors and fire-proof fixed panels EW 30/60/90 that may be used with the other fixtures of the SA set



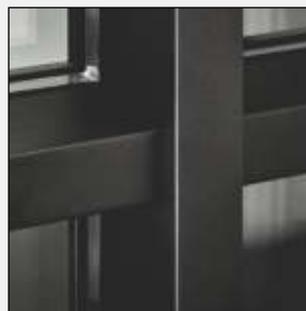
### 4F1

Thermal break self-supporting curtain wall with mullions and transoms, with external cover available in four materials



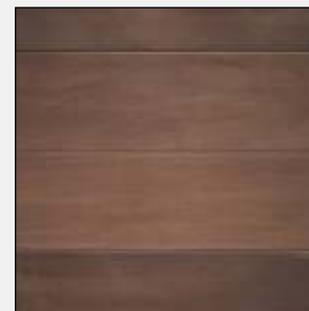
### 4F2

Thermal break curtain wall that may be applied to a load-bearing substructure with external cover available in four materials



### 4F AF

Self-supporting curtain wall with EI 30-60-90 fire-proof mullions and transoms, and external cover available in four materials



### HT Infinities

Wall cladding system for ventilated façades: thermal break panels with reduced sections in the complete range of materials and finishes



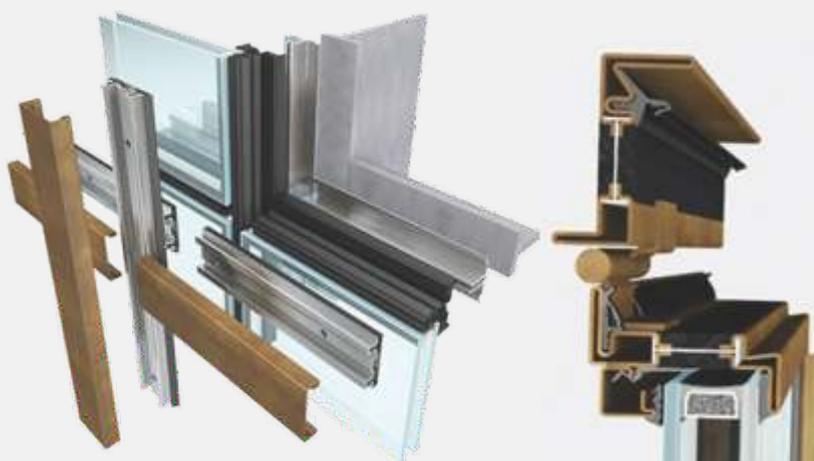
## **SECCO** Luxury Fenestration solutions in Bronze and Steel

OS2 65 is part of the group of OS2 profiles, studied, conceived and created by Secco Sistemi to replace the doors and windows used from the nineteenth century up to the middle of the last century.

Utilised also in contemporary architecture to satisfy the need for transparency and purity of lines, the slim profiles of the OS2 system lighten the walls of their weight and allow total freedom in the design of the fixture.

Os2 65 is the thermal break steel window which comes in an array of more than 40 profiles, with visible sections reduced to the minimum: from just 27 mm to 47 mm for the lateral section, 62 mm for the central section and 65 mm depth. This steel window can house glazing panels for insulation of up to 40 mm thickness. With the many possible variations of the system OS2 65, moreover, the profiles can have glass panels which are flush-mounted or inset within the frame, which underline the borders of the sashes and blend into the unicoloured area of the fixed panes or be composed freely with the same design for fixed and openable sashes.

The performance of the OS2 thermal break system has been tested by the best European certifying laboratories in compliance with the current specific standard EN 14351-1 regulations.





# OTIIMA **Much more than a Window**

**FRAME SYSTEM:** OTIIMA is currently available in four different main series according to the glass type measure: 16, 26, 38 and 54. These series are developed in five systems: Classic, Plus, Drain, Comfort, Open and Fusion.

**FUSION SYSTEM:** OTIIMA FUSION SYSTEM is a sliding WINDOW WITHOUT ANY VISIBLE PROFILE.

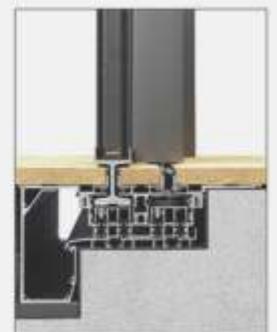
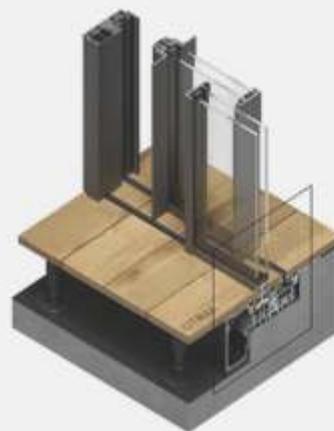
## **REVERSIBLE FIBER GLASS SYSTEM - LARGLASS**



LARGLASS® is a VEC curtain wall system, made up of the latest fiberglass profile technology, obtained by pultrusion process, which was developed for fenestrations and facades when a full exterior view of glass is desired.

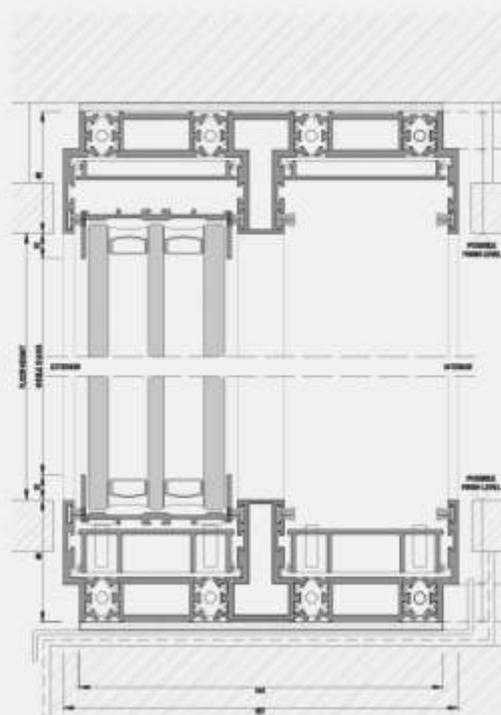
With the use of fiberglass profiles with low thermal conductivity ( $W/m K = 0.40$ ), we have taken up the challenge of the most demanding energy efficiency certifications and developed a system that can easily meet them, such as PASSIVHAUS and MINERGIE.

In addition to the traditional façade typologies, we have also developed an internationally patented reversible system that allows the window an opening angle of  $165^\circ$ , making it possible to clean the glass from the inside of the building.





## OTIIMA 54 CLASSIC Sliding series



# OTIIMA 38 CLASSIC

Rim profiles with reinforced binding polyamides for an improved thermal insulation performance. Our system uses a toughened glass that allows an optimized resistance, with surfaces up to 18 sq. m. per glazed pane.

Vertical profiles with only 20mm thickness prepared for a superior thermal, water and air permeability performances.

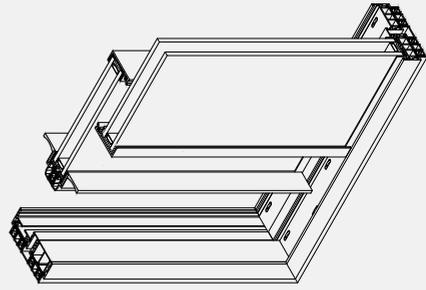
Exclusive sliding system with vertical double rollers, for a smooth hand opening with no effort needed.

*Profils périphériques intégrant des joints en polyamide pour des performances thermiques et acoustiques améliorées.*

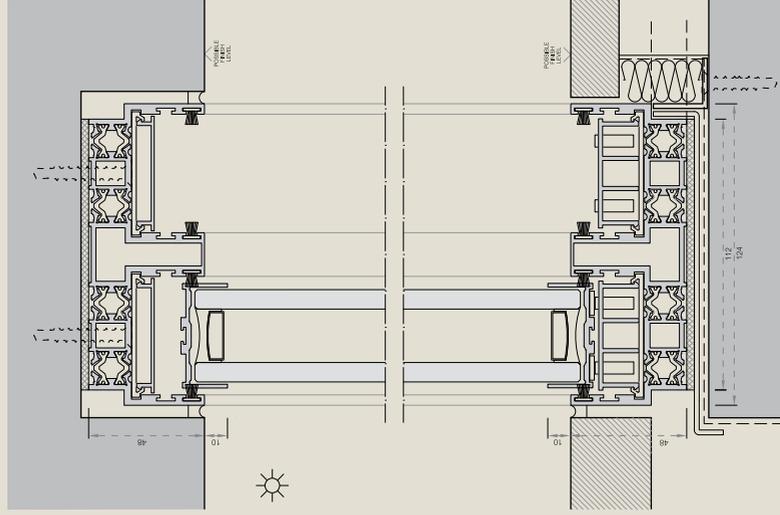
*Notre système utilise un verre trempé pour une excellente résistance, et permet d'atteindre des surfaces vitrées jusqu'à 18m².*

*Profils verticaux de seulement 20mm d'épaisseur, adaptés pour une isolation acoustique optimale et, en cas d'utilisation en extérieur, une bonne perméabilité à l'air et une résistance à l'eau.*

*Système de roulements exclusifs intégrant des roulettes verticales, pour une ouverture manuelle sans effort.*

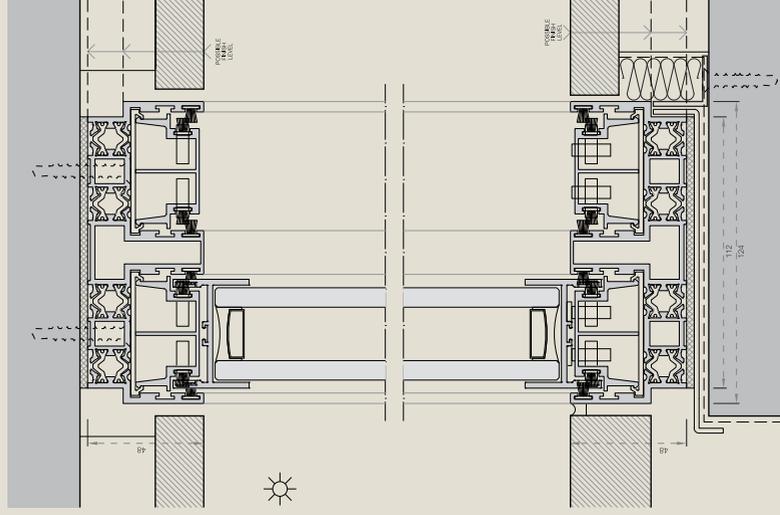


	<b>Thermal transmittance</b> U <sub>w</sub>	Up to 1,0 (ug 0,7)	Calculation module 4,60 x 3,00 ISO EN 10077-1 + ISO EN 10077-2 (up to)
	<b>Watertightness</b>	<b>8A</b>	(450 Pa or 95 Km/h)
	<b>Air Permeability</b>	<b>Class 3</b>	(600 Pa or 110 Km/h)
	<b>Wind Resistance</b>	<b>Class B3</b>	(1500 Pa or 155 Km/h)
	<b>Impact Resistance</b>	<b>Class 5</b>	(In 6 possible classes)
	<b>Acoustic Insulation</b>	<b>Rw: 38db</b>	
	<b>Security</b>	<b>RC2:(WK2)</b>	ISO EN 1627



VERTICAL SECTION (SCALE 1:2)  
SECTION VERTICALE (ECHELLE 1:2)

	<b>Thermal transmittance</b> U <sub>w</sub>	Up to 1,0 (ug 0,7)	Calculation module 4,60 x 3,00 ISO EN 10077-1 + ISO EN 10077-2 (up to)
	<b>Watertightness</b>	<b>E1050</b>	(3 classes above 9A)
	<b>Air Permeability</b>	<b>Class 4</b>	(600 Pa or 110Km/h)
	<b>Wind Resistance</b>	<b>Class C5</b>	(2000 Pa or 200 Km/h)
	<b>Impact Resistance</b>	<b>Class 5</b>	(In 6 possible classes)
	<b>Acoustic Insulation</b>	<b>Rw: 38db</b>	
	<b>Security</b>	<b>RC2:(WK2)</b>	ISO EN 1627



VERTICAL SECTION (SCALE 1:2)  
SECTION VERTICALE (ECHELLE 1:2)

# OTIIMA 38 PLUS



reddot award 2017  
winner

Rim profiles with reinforced binding polyamides and toughened glass qualities (glazed pane up to 18 Sq m) provide superior performance of thermal/water/air permeability and resistance. Vertical profiles with only 20mm thickness prepared for a superior thermal, water and air permeability performances.

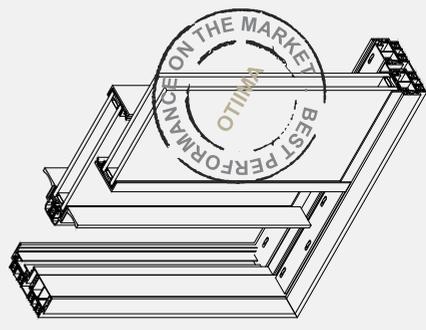
The vertical double rollers sliding system integrates additional horizontal rollers for easier opening and an improved stability of the panels. Ideal for sloping and skylight solutions.

Achievement of excellent continuity between the interior and the exterior.

*Profils verticaux de seulement 20mm d'épaisseur, adaptés pour une isolation acoustique optimale et, en cas d'utilisation en extérieur, une bonne perméabilité à l'air et une résistance à l'eau.*

*Système de roulements exclusifs intégrant des roulettes verticales, pour une ouverture manuelle sans effort. Intégration supplémentaire de roulements horizontaux, pour une meilleure stabilité des panneaux, et un perfectionnement des solutions de menuiseries inclinées et de fenêtres de toit.*

*La périphérie de la fenêtre est parfaitement affleurante, et de niveau avec le matériau de finition au sol, sans partie aluminium visible. Elle offre une continuité parfaite entre intérieur et extérieur.*



# OTIIMA 38 DRAIN



Rim profiles with reinforced binding polyamides and toughened glass qualities (glazed pane up to 18 Sq m) provide superior performances of thermal/water/air permeability and resistance.

Vertical profiles with only 20mm thickness prepared for a superior thermal, water and air permeability performances.

The vertical double rollers sliding system integrates additional horizontal rollers for easier opening and an improved stability of the panels. Ideal for sloping and skylight solutions.

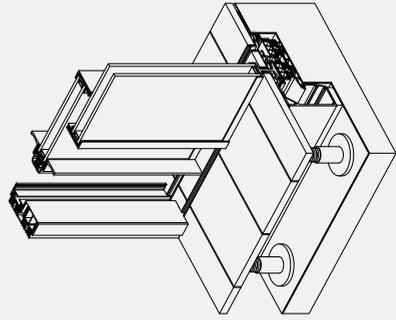
Drainage profile channel, able to drain a large amount of rainwater, even in extreme rainfall situations.

*Profilis verticaux de seulement 20mm d'épaisseur, adaptés pour une isolation acoustique optimale et, en cas d'utilisation en extérieur, une bonne perméabilité à l'air et une résistance à l'eau.*

*Profilis verticaux de seulement 20mm d'épaisseur, adaptés pour une isolation acoustique optimale et, en cas d'utilisation en extérieur, une bonne perméabilité à l'air et une résistance à l'eau.*

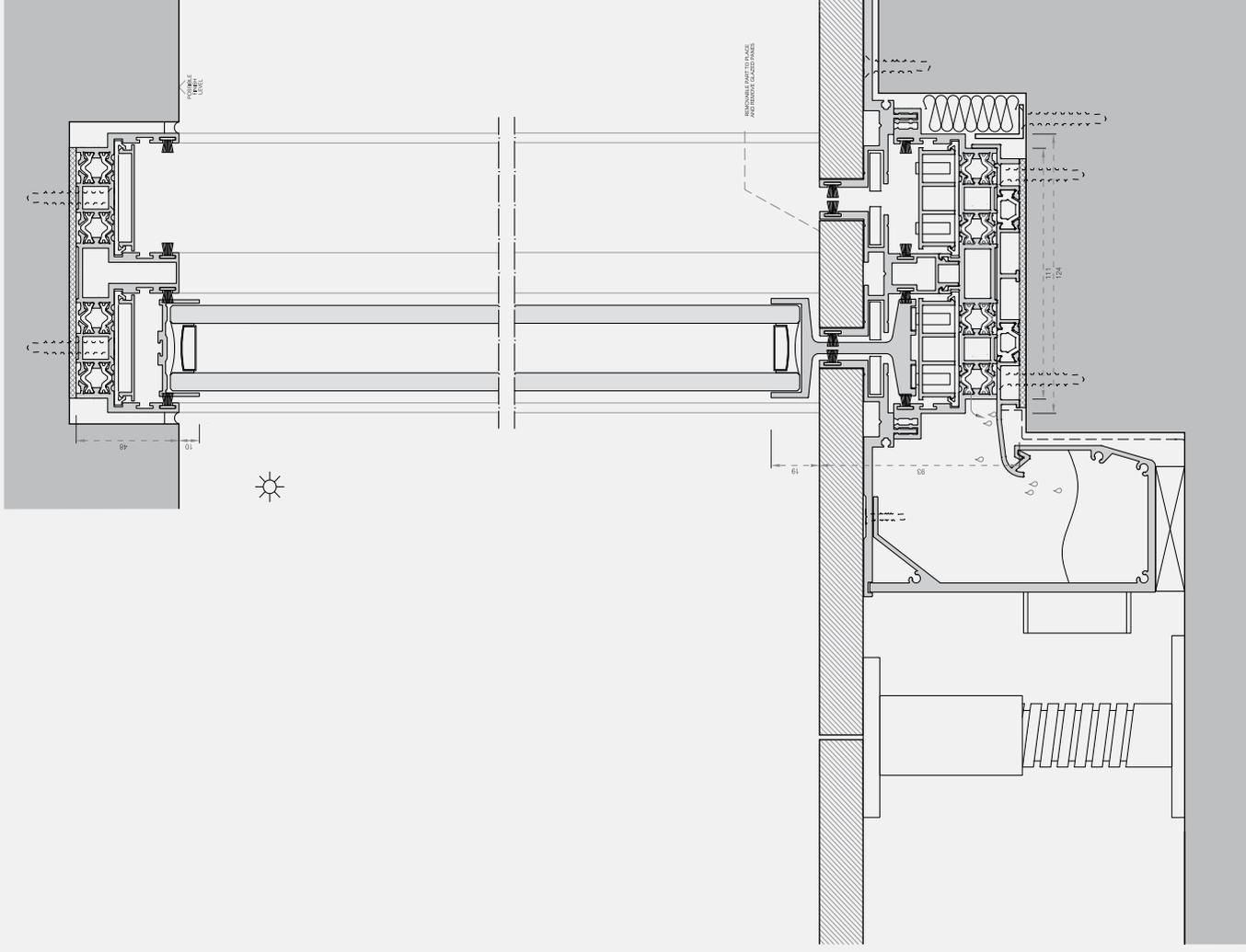
Système de roulements exclusifs intégrant des roulettes verticales, pour une ouverture manuelle sans effort. Intégration supplémentaire de roulements horizontaux, pour une meilleure stabilité des panneaux, et un perfectionnement des solutions de menuiseries inclinées et de fenêtres de toit.

Système de drainage intégré, capable de drainer une grande quantité d'eau de pluie, même pluviosité extrême.



- Thermal transmittance**  
Uw  
Up to 1,0  
**Calculation module 4.60 x 3.00**  
ISO EN 10071 + ISO EN 10072 (up to) **(ug 0.7)**
- Waterproofness**  
ISO EN 12308 + ISO EN 1027  
**E1650**  
(7 classes above 9A)
- Air Permeability**  
ISO EN 12207 + ISO EN 1026  
**Class 4**  
(600 Pa or 10Kmh)
- Wind Resistance**  
ISO EN 12210 + ISO EN 12211  
**Class C3**  
(1200 Pa or 155 Km/h)
- Impact Resistance**  
ISO EN 12600 + ISO EN 1630  
**Class 5**  
(In 6 possible classes)
- Acoustic Insulation**  
ISO EN 10140 + ISO EN 717  
**Rw: 38db**
- Security**  
ISO EN 1627  
**RC2(WK2)**

VERTICAL SECTION (SCALE 1:2)  
SECTION VERTICALE (ECHELLE 1:2)



## OTIIMA 38 OPEN

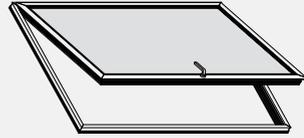
Rim profiles with reinforced binding polyamides for an improved thermal insulation performance. Toughened double glass (38mm) allows optimized resistance and best thermal performance for your project.

Perimeter profiles with the same size and configuration of the sliding series profiles. You may now have tilt & turn and sliding windows in the same building without noticing the difference between windows systems.

*Profilis périphériques intégrant des joints en polyamide pour des performances thermiques améliorées.*

*Notre système utilise un verre trempé monté en double vitrage (de 38mm) qui offre une résistance optimale.*

*Les profils périphériques ont la même taille et présentent la même configuration que les profils de la série coulissante. Vous pouvez désormais intégrer des fenêtres oscillo-battantes et coulissantes dans le même bâtiment sans remarquer de différence entre les systèmes de fenêtre.*



TILT & TURN POSITIONS  
POSITIONS OSCILLO-BATTANTS

**Thermal transmittance**  
U<sub>w</sub>



Calculation module 1,23 x 1,48  
ISO EN 10077-1 + ISO EN 10077-2 (up to)

Up to 1,0

(ug 0.7)



**Watertightness**  
ISO EN 12208 + ISO EN 1027

**E1200**  
(4 classes above 9A)



**Air Permeability**  
ISO EN 12207 + ISO EN 1026

**Class 4**  
(600 Pa or 110km/h)



**Wind Resistance**  
ISO EN 12210 + ISO EN 12211

**Class B5**  
(2000 Pa or 200 Km/h)



**Impact Resistance**  
ISO EN 12680 + ISO EN 1630

**Class 5**  
(in 5 possible classes)



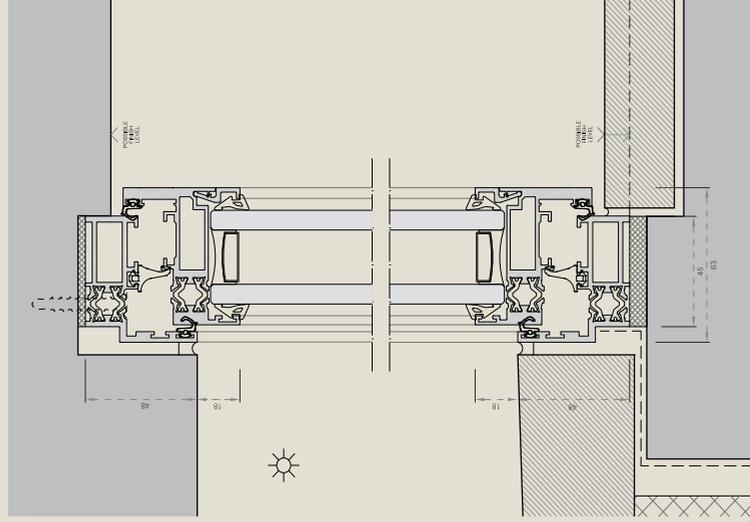
**Acoustic Insulation**  
ISO EN 10140 + ISO EN 717

**Rw: 38db**



**Security**  
ISO EN 1627

**RC2:(WK2)**



VERTICAL SECTION (SCALE 1:2)  
SECTION VERTICALE (ÉCHELLE 1:2)

**Thermal transmittance**  
U<sub>w</sub>



Calculation module 1,23 x 1,48  
ISO EN 10077-1 + ISO EN 10077-2 (up to)

Up to 0,8

(ug 0.5)



**Watertightness**  
ISO EN 12208 + ISO EN 1027

**E2100**  
(10 classes above 9A)



**Air Permeability**  
ISO EN 12207 + ISO EN 1026

**Class 4**  
(600 Pa or 110km/h)



**Wind Resistance**  
ISO EN 12210 + ISO EN 12211

**Class C5**  
(2000 Pa or 200 Km/h)



**Impact Resistance**  
ISO EN 12680 + ISO EN 1630

**Class 5**  
(in 5 possible classes)



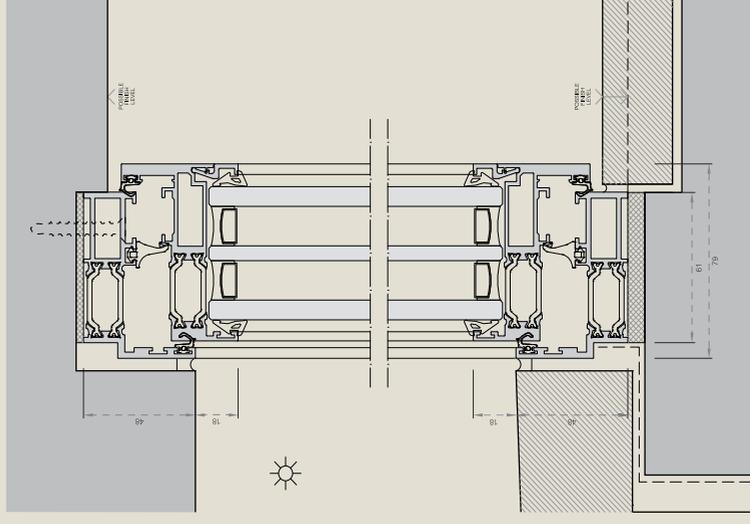
**Acoustic Insulation**  
ISO EN 10140 + ISO EN 717

**Rw: 44db**



**Security**  
ISO EN 1627

**RC2:(WK2)**



VERTICAL SECTION (SCALE 1:2)  
SECTION VERTICALE (ÉCHELLE 1:2)

## OTIIMA 54 OPEN

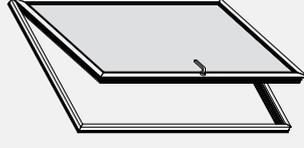
Rim profiles with reinforced binding polyamides for an improved thermal insulation performance. Toughened triple glass (54mm) allows optimized resistance and best thermal performance for your project.

Perimeter profiles with the same size and configuration of the sliding series profiles. You may now have tilt & turn and sliding windows in the same building without noticing the difference between windows systems.

*Profilis périphériques intégrant des joints en polyamide pour des performances thermiques améliorées.*

*Notre système utilise un verre trempé monté en triple vitrage (54mm) qui offre une résistance optimale.*

*Les profils périphériques ont la même taille et présentent la même configuration que les profils de la série coulissante. Vous pouvez désormais intégrer des fenêtres oscillo-battantes et coulissantes dans le même bâtiment sans remarquer de différence entre les systèmes de fenêtre.*



TILT & TURN POSITIONS  
POSITIONS OSCILLO-BATTANTS

# OTIIMA 54 DRAIN

Rim profiles with reinforced binding polyamides and toughened glass qualities (glazed pane up to 23 Sq m) provide superior performances of thermal/water/air permeability and resistance.

Vertical profiles with only 20mm thickness prepared for a superior thermal, water and air permeability performances.

Achievement of a perfect continuity between the interior and the exterior, with no visible aluminium frame.

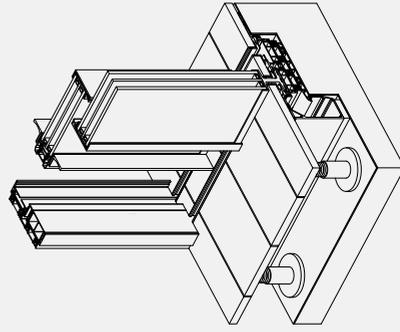
Drainage profile channel, able to drain a large amount of rainwater, even in extreme rainfall situations.

*Profils verticaux de seulement 20mm d'épaisseur adaptés pour une isolation acoustique optimale et en cas d'utilisation en extérieur, une bonne perméabilité à l'air et une résistance à l'eau.*

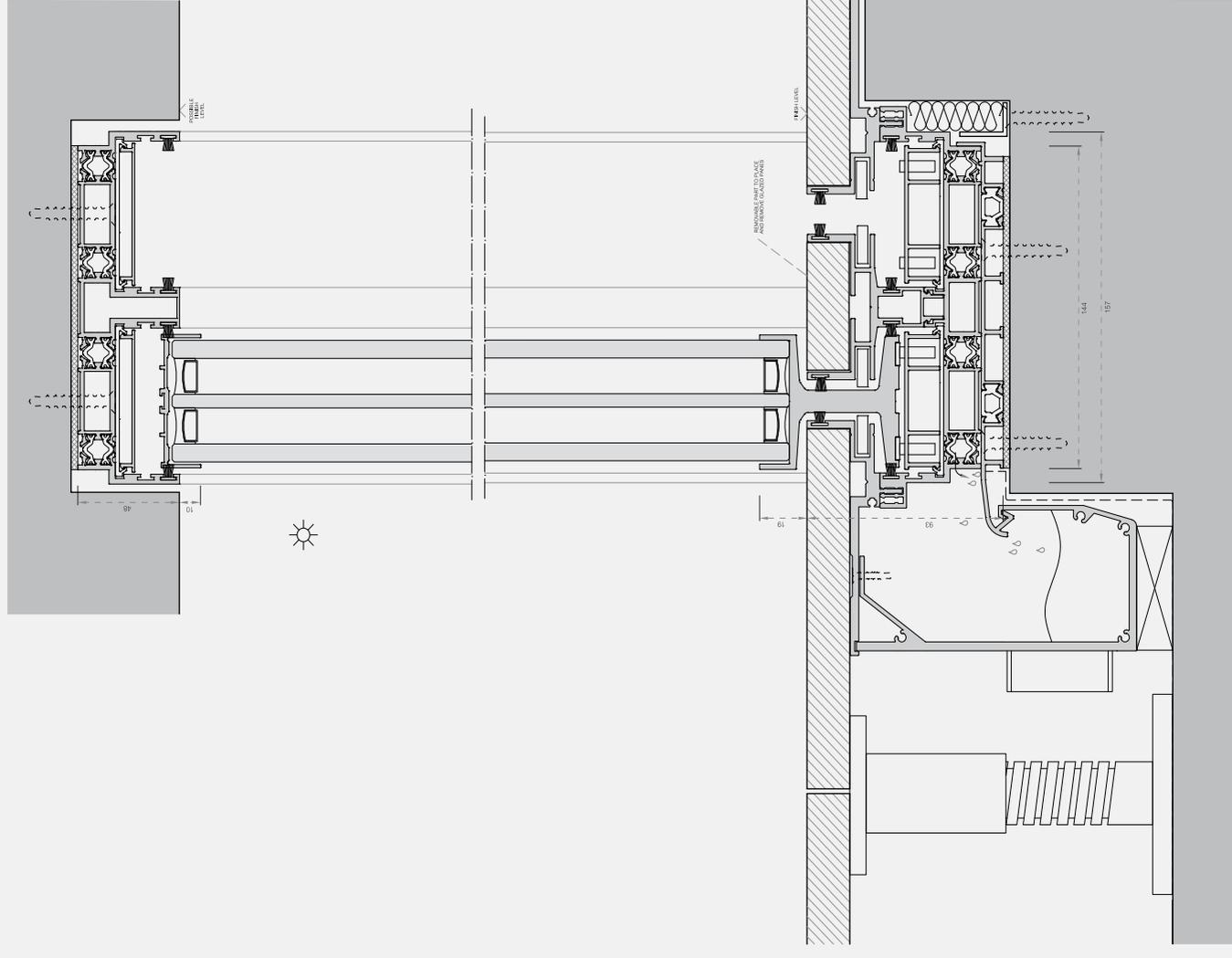
*Profils verticaux de seulement 20mm d'épaisseur adaptés pour une isolation acoustique optimale et en cas d'utilisation en extérieur, une bonne perméabilité à l'air et une résistance à l'eau.*

Une continuité parfaite entre intérieur et extérieur, sans profils de châssis visibles.

Système de drainage intégré, capable de drainer une grande quantité d'eau de pluie, même pluviosité extrême.



	<b>Thermal transmittance</b> Uw Up to 0,8	<b>Solar radiation</b> ISO EN 10077-1, ISO EN 10077-2 (up to 0,5)
	<b>Waterproofness</b> ISO EN 12208 + ISO EN 1027	<b>E1650</b> (7 classes above 9A)
	<b>Air Permeability</b> ISO EN 12207 + ISO EN 1026	<b>Class 4</b> (600 Pa or 110Km/h)
	<b>Wind Resistance</b> ISO EN 12210 + ISO EN 12211	<b>Class C3</b> (1200 Pa or 155 Km/h)
	<b>Impact Resistance</b> ISO EN 12600 + ISO EN 1630	<b>Class 5</b> (in 6 possible classes)
	<b>Acoustic Insulation</b> ISO EN 10140 + ISO EN 717	<b>Rw: 44db</b>
	<b>Security</b> ISO EN 1827	<b>RC2:(WK2)</b>



VERTICAL SECTION (SCALE 1:2)  
SECTION VERTICALE (ECHELLE 1:2)

## OTIIMA 54 COMFORT

All the aluminium profiles with reinforced bonding polyamides for the best thermal insulation performance. System that meet the most demanding label standards, such as Minerigie and Passivhaus.

Our system uses a toughened glass that allows an opening of 20mm. By using a triple glass, you now have the best thermal performance for your project.

Vertical profiles with only 20mm thickness and prepared for a superior thermal, water and air permeability performances.

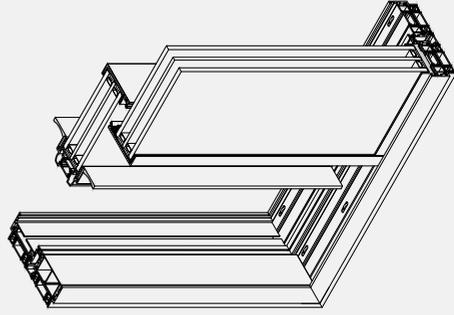
Exclusive sliding system with vertical double rollers, for a smooth hand opening with no effort needed.

*Profils intégrant des joints en polyamide pour le meilleur performances thermiques. Système qui répondre à toutes les nouvelles certifications passives, selon les normes d'étiquetage les plus exigeantes, telles que Minerigie et Passivhaus.*

*Notre système utilise un verre trempé pour une excellente résistance, et permet d'atteindre des surfaces vitrées jusqu'à 3000mm. Les performances thermiques possibles pour votre projet.*

*Profils verticaux de seulement 20mm d'épaisseur, adaptés pour une isolation acoustique optimale et, en cas d'utilisation en extérieur, une bonne perméabilité à l'air et une résistance à l'eau.*

*Système de roulements exclusifs intégrant des rouleaux verticales, pour une ouverture manuelle sans effort.*



**Thermal transmittance**  
U<sub>w</sub>



Up to 0,8

(ug 0.5)

Calculation module 4,60 x 3,00  
ISO EN 10077-1 + ISO EN 10077-2 (up to)

**Impact Resistance**



Class 5

ISO EN 12600 + ISO EN 1630

**Acoustic Insulation**



Rw: 44db

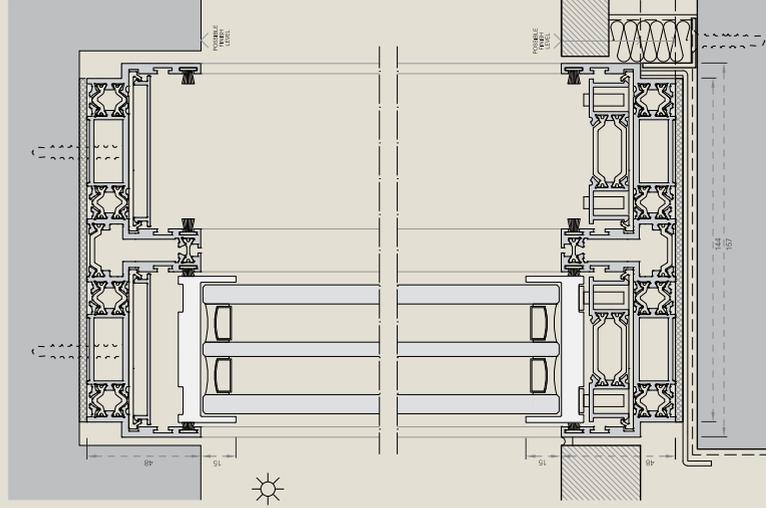
ISO EN 10140 + ISO EN 717

**Security**



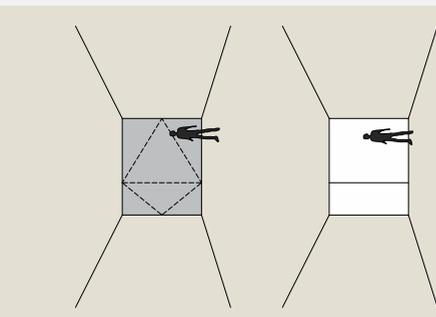
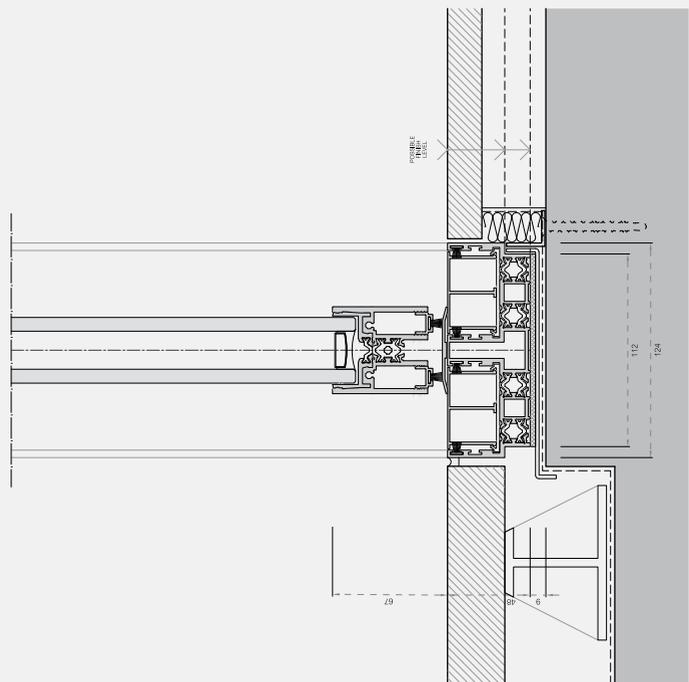
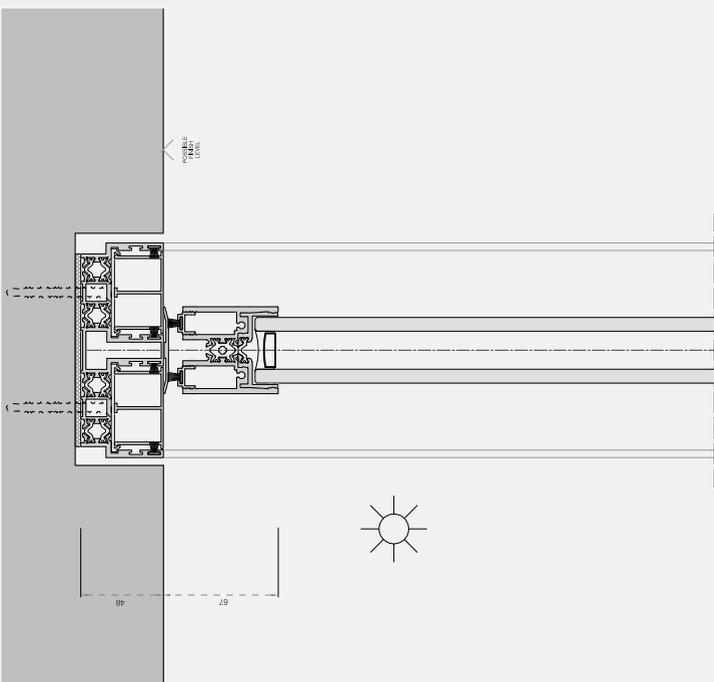
RC2:(WK2)

ISO EN 1627



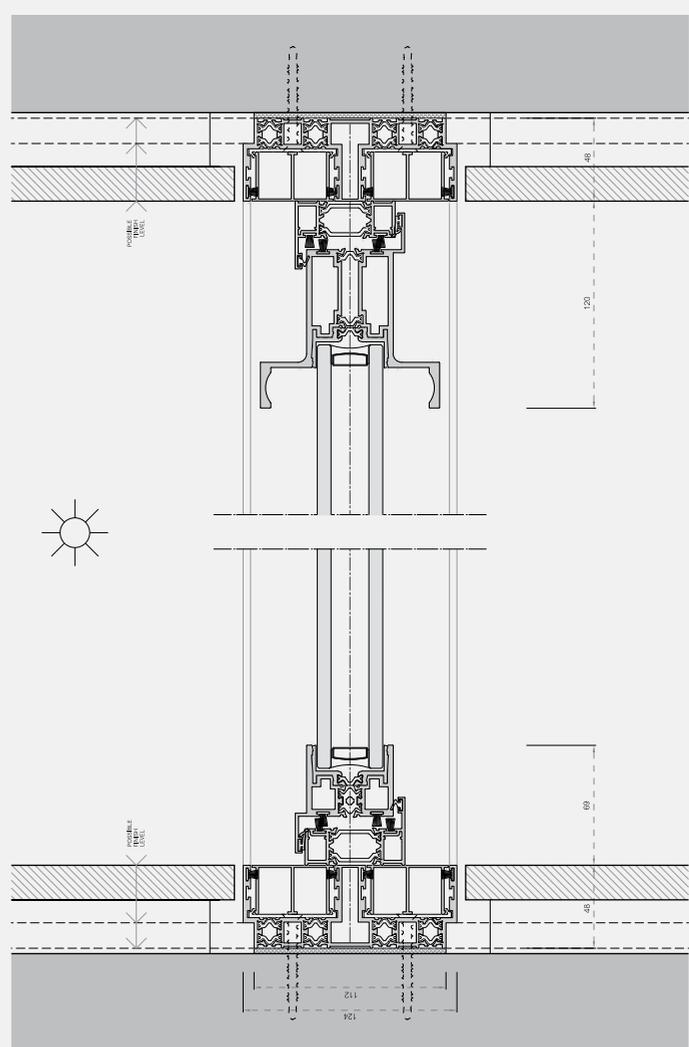
VERTICAL SECTION (SCALE 1/2)  
SECTION VERTICALE (ECHELLE 1/2)

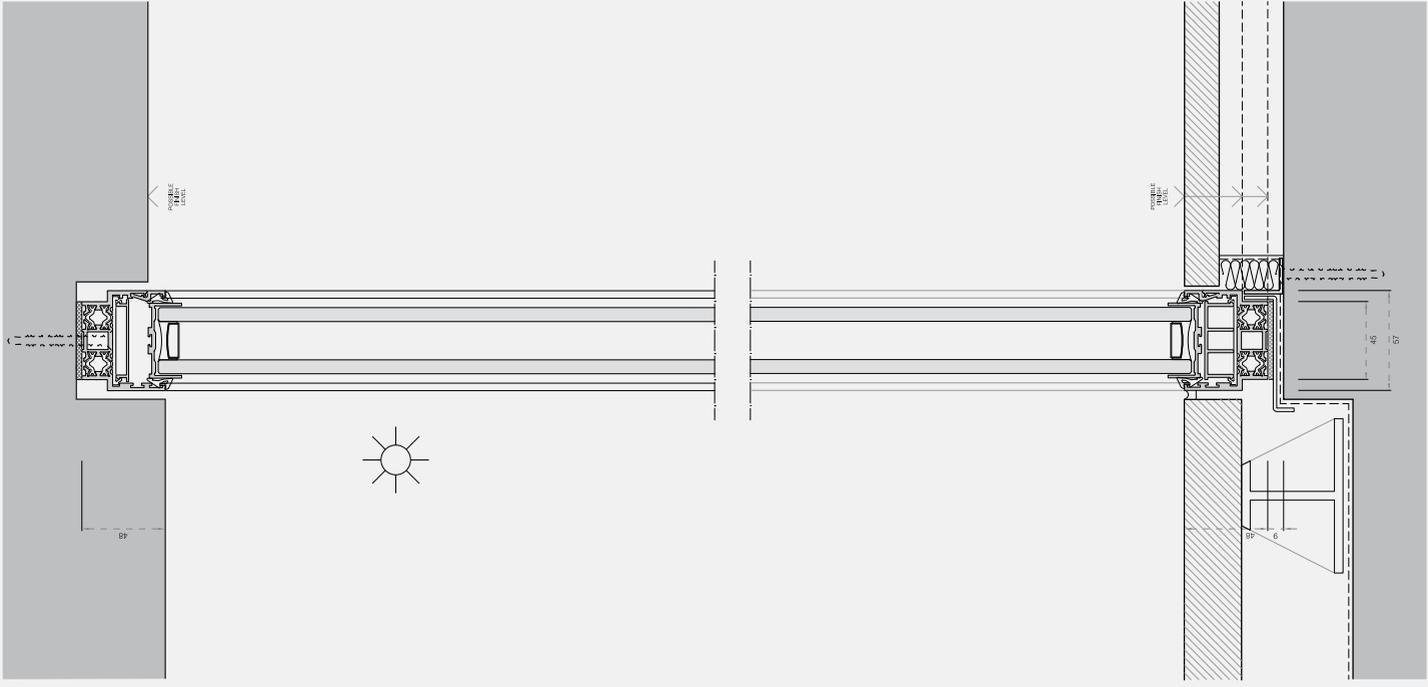
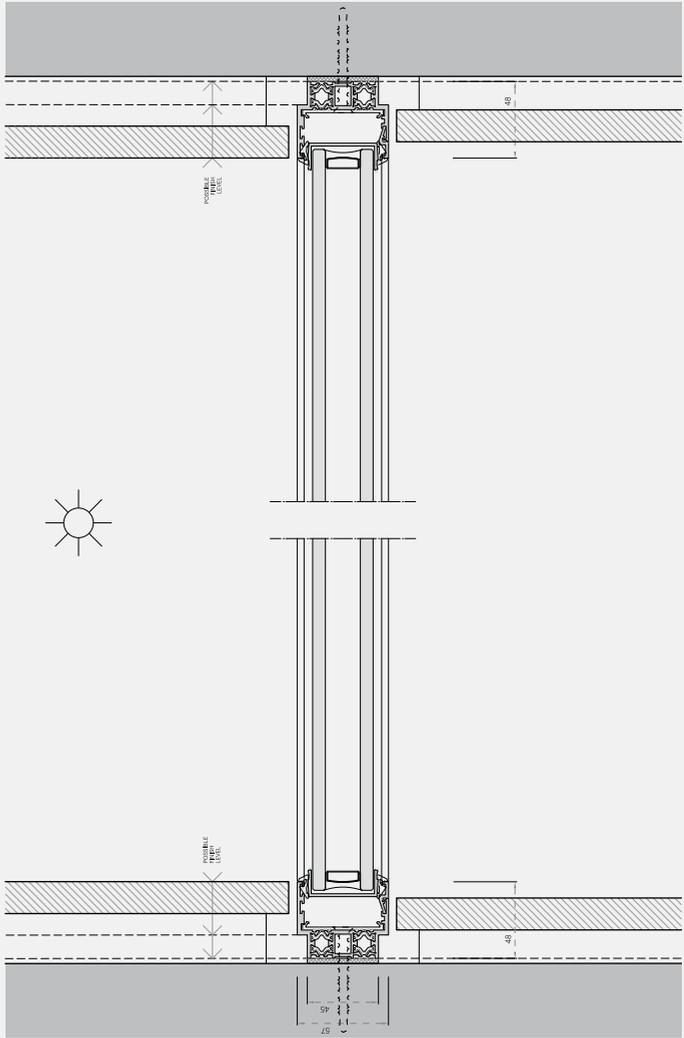
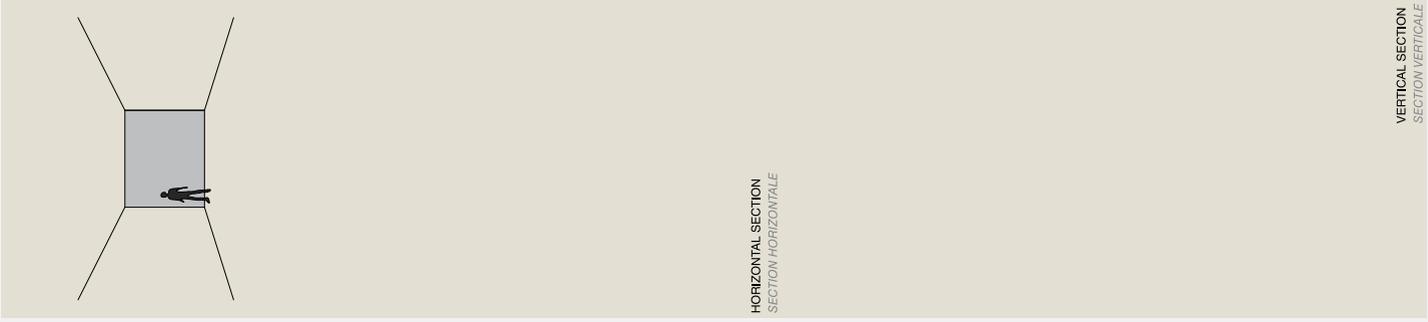
**PIVOT OPENING**  
**OUVERTURE PIVOT**



VERTICAL SECTION  
SECTION VERTICALE

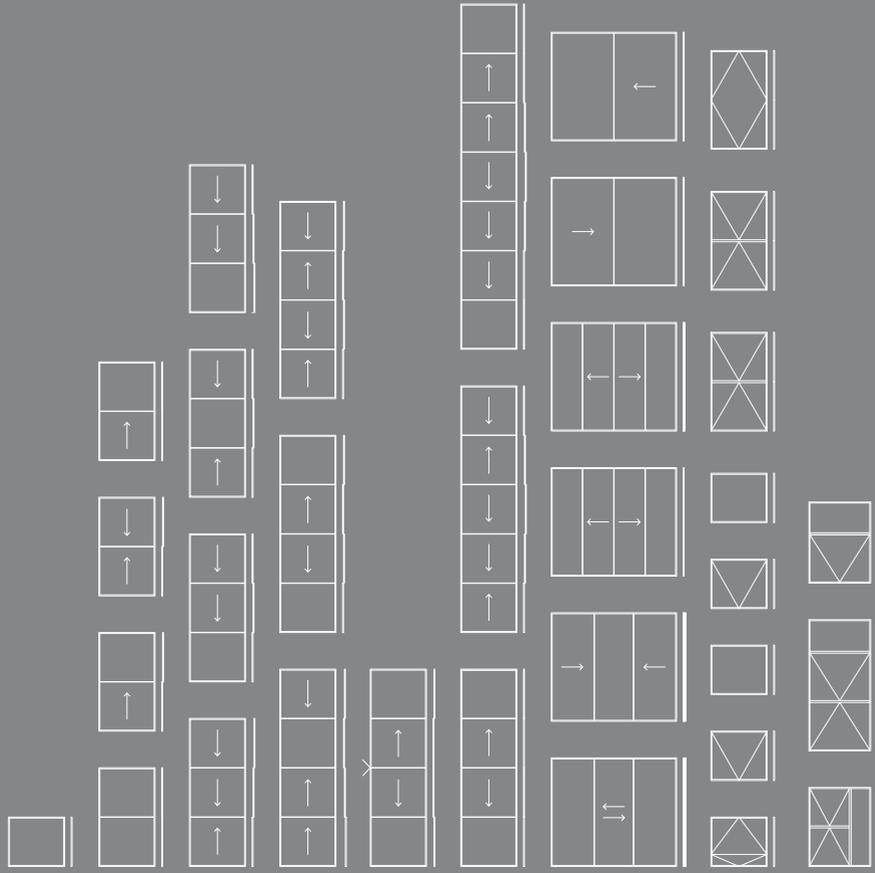
VERTICAL SECTION  
SECTION VERTICALE





Much more  
than a Window.

**OTIIMA**  
www.otiima.com info@otiima.com



## OPENING TYPES

sliding Bifairl	52
sliding Ttrairl	54
sliding Corner	56
Pocket	58
Sash	60
Pivot	62
Fix	64

	SLIDING CLASSIC	COLLISSANT CLASSIC	SLIDING CORNER	POCKET	SASH VERTICAL	SLIDING	PIVOT	FIXED	CASEMENT	TIILT & TURN	SCLOPPA-PARTANTS	INCLINE	BOMBER	SCOPE	SCLOPPED SHUTTER	MOTORIZED	FIXED
OTIIMA 16	•			•			•										•
OTIIMA 26	•			•	•		•										•
OTIIMA 38	•			•	•		•		•								•
OTIIMA 54	•			•	•		•										•

**+ Sloped  
and Curved Glass**

**+ Verre Incliné  
ou Bombé**

Luminous and playful solutions can be  
manufactured by OTTIMA sloped and curved  
glasses.

Challenge us!

*Les fenêtres OTTIMA peuvent intégrer des verres  
inclinés ou bombés, pour démultiplier à l'infini  
les possibilités pour votre projet.*

*Défilez-nous!*

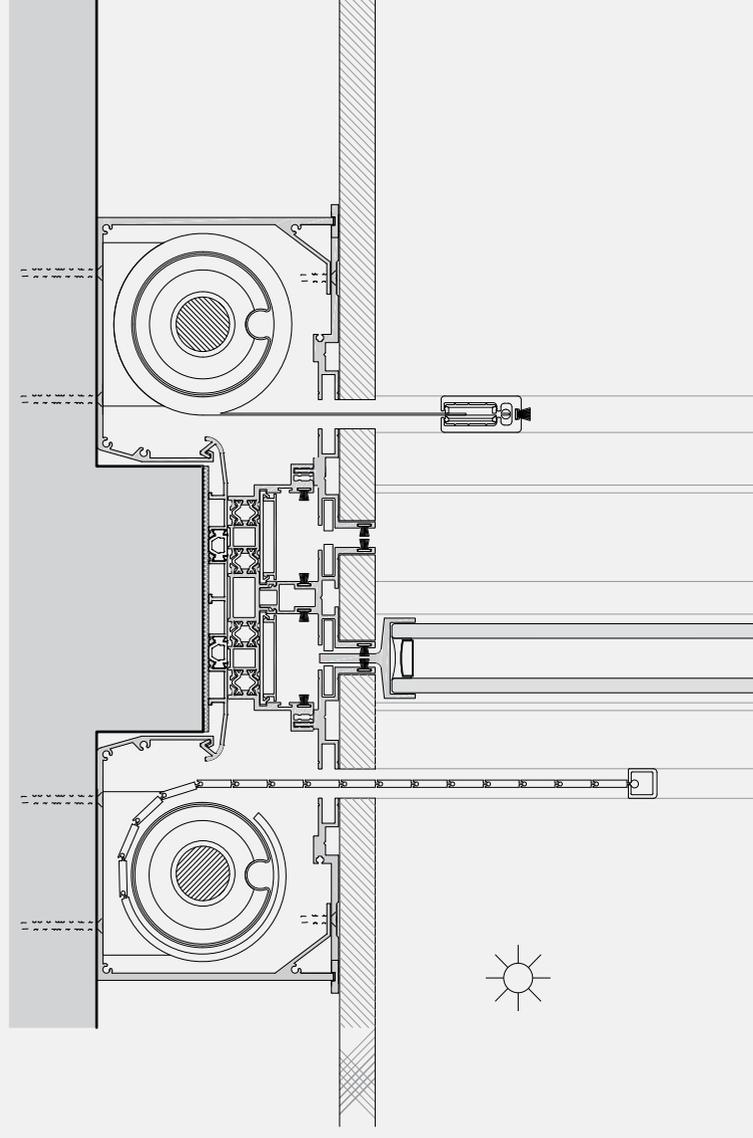


**+ Integrated  
Sun Protection**

**+ Store  
et BSO**

Let's choose a total comfort by filtering part of  
the light, or completely closing it. As an option,  
sun protection system can be integrated on  
the inside or outside of the window.

*Optez pour un confort total en filtrant  
partiellement la lumière, ou en la masquant  
entièrement. En option, des protections solaires  
peuvent être intégrées à l'intérieur ou à l'extérieur  
de vos menuiseries.*



“There are 360 degrees,  
so why stick to one?”

Zaha Hadid

## + Motorization and Home Automation

## + Motorisation et Domotique

As an option, each OTIIMA window can be motorized. Today, we can put our automatism at any position of the window. The OTIIMA motorization system, has now an exclusive technology that allows you to easily switch from automatic to manual opening, by clutch disengagement.

This system becomes highly useful if the operation of the window is hindered by a general failure of electricity and if the backup batteries get discharged. The motorization system can be applied in every type and OTIIMA series offering the option of superior, lateral or interior installation.

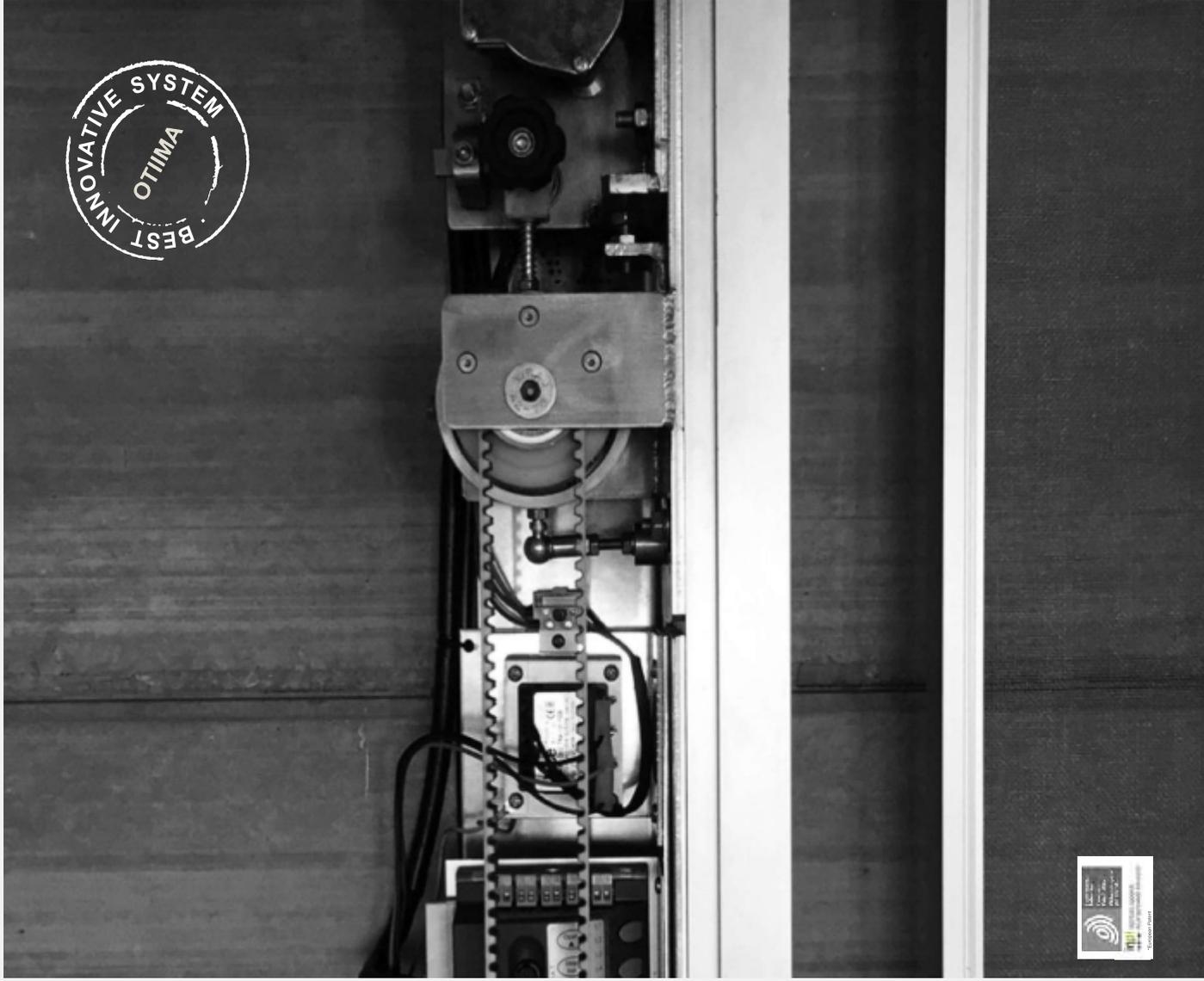
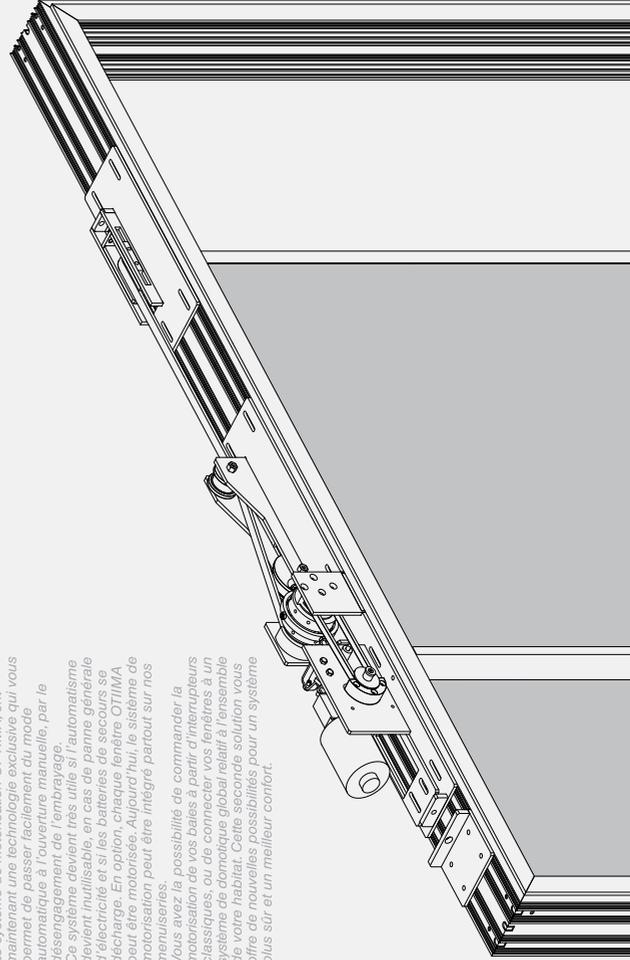
You are now able to operate your windows motorization with classic switches of by a global home automation system. This second solution offers new possibilities for a safer and more comfortable environment.

*En option, chaque fenêtre OTIIMA peut être motorisée. Aujourd'hui, le système de motorisation peut être intégré partout sur nos menuiseries.*

*Le système de motorisation OPTIIMA, ont maintenant une technologie exclusive qui vous permet de passer facilement du mode automatique à l'ouverture manuelle, par le désengagement de l'embrayage.*

*Ce système devient très utile si l'automatisme devient inutilisable, en cas de panne générale d'électricité et si les batteries de secours se déchargent. En option, chaque fenêtre OTIIMA peut être motorisée. Aujourd'hui, le système de motorisation peut être intégré partout sur nos menuiseries.*

*Vous avez maintenant la possibilité de commander la motorisation de vos baies à partir d'interrupteurs classiques, ou de connecter vos fenêtres à un système de domotique global relié à l'ensemble de votre habitat. Cette seconde solution vous offre de nouvelles possibilités pour un système plus sûr et un meilleur confort.*



## + Security and Lock Mechanisms

## + Sécurité et Mécanismes de Verrouillage

The OTIIMA windows are equipped with highly efficient security solutions. In addition to the traditional manual locking systems, you can choose an automatic electromagnetic lock and for an even higher level of security, you can equip your window with alarm cells. Our windows come standard equipped with a multiple point lock system.

Les fenêtres OTIIMA sont équipées des meilleures solutions de sécurité. En plus d'un système de verrouillage manuel traditionnel, vous pouvez opter pour une serrure électromagnétique automatique. Pour un niveau de sécurité encore plus élevé, vous pouvez équiper vos fenêtres de capteur d'alarme. Nos fenêtres sont équipées d'office d'un système de serrure multipoints.

### + ELECTROMAGNETIC LOCK SERRURE ELECTROMAGNETIQUE

To manage access control, or for optional security, a hidden electromagnetic lock can be included into OTIIMA windows.

Pour gérer le contrôle d'accès et pour une meilleure sécurisation, une serrure électromagnétique peut en option être intégrée dans les profils de nos fenêtres.

### + SAFETY SENSOR (HANDLE POSITION) DETECTEUR DE SECURITE

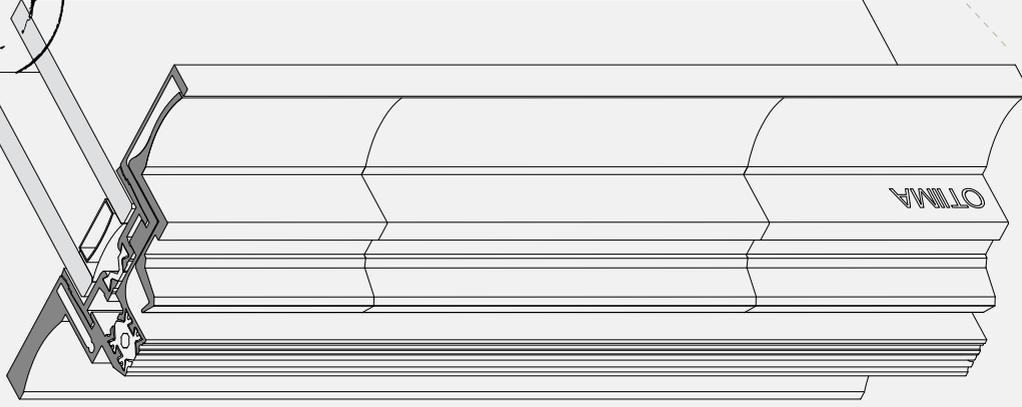
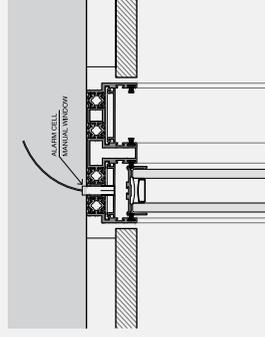
With the safety band installed on the whole extension of the handle, the user's safety will always be guaranteed.

Avec la bande de sécurité installée sur toute la longueur de la poignée, la sécurité de l'utilisateur est toujours garantie.

### + ALARM ALARME

The OTIIMA new generation windows allows a perfect integration of alarm cells.

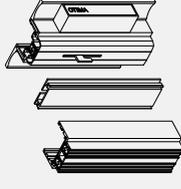
En option, la nouvelle génération de baies OTIIMA permet l'intégration parfaite de capteurs d'alarme, pour l'assurance d'une sécurité optimale.



### + LOCKING MECHANISMS OTIIMA windows are equipped with highly efficient security solutions.

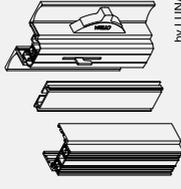
MECANISMES DE VERROUILLAGE  
Les fenêtres OTIIMA sont équipées des meilleures solutions de sécurité.

LOCK TYPE S2.H  
SERRURE TYPE S2.H



by Philippe Meyer

LOCK TYPE S2.H  
SERRURE TYPE S2.H



by LUNA

LOCK TYPE S0.H + S0.C  
SERRURE TYPE S0.H + S0.C



European Design  
Patent No. 3744185

by AMITO

### + TWO-HAND LOCK CONTROL CONTRÔLE DE VERROUILLAGE À DEUX MAINS

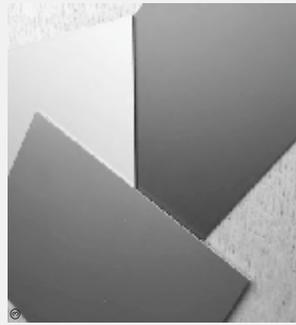
With the new generation of OTIIMA hidden security locks, it is possible to apply a security system, where the window opening only occurs when the operator uses both hands. This safety system is especially effective preventing the use by children.

Avec la nouvelle génération de serrures de sécurité cachées OTIIMA, il est possible d'appliquer un système de sécurité, où l'ouverture de fenêtre ne se produit que lorsque l'opérateur utilise les deux mains. Ce système de sécurité est particulièrement efficace pour prévenir l'utilisation par les enfants.



+ Gutter + Fly-net  
+ Finishing Types  
+ Anti-freeze System

+ Caniveau  
+ Moustiquaire  
+ Gamme de Finitions  
+ Système Anti-freeze



1. As an option, gutter system can be incorporated to your OTIIMA windows in order to drain off the rainwater.

*En option, un système de caniveau peut être incorporé à vos fenêtres OTIIMA pour récolter et évacuer les eaux de pluie.*

2. You can now equip your OTIIMA joinery with a mosquito net system, which now offers you a freedom to keep the window open without reducing visibility or air flow, and protects you from external parasites. The mosquito net can be installed on our sliding panels parallel to the OTIIMA window, indoors or outdoors, on a dimension of 3x3 meters (larger dimensions under consultation). It can also be fixed using a retractable vertical roller, hidden in the window cover, for maximum opening size of 40cm.

*Vous pouvez maintenant équiper vos menuiseries OTIIMA avec un système de moustiquaire, qui vous offre désormais la liberté de garder la fenêtre ouverte sans réduire la visibilité ni le débit d'air, et vous protège contre les parasites extérieurs. La moustiquaire peut être installée sur nos panneaux coulissants parallèlement à la fenêtre OTIIMA, à l'intérieur ou à l'extérieur, et ce sur une dimension de 3x3 mètres (plus grandes dimensions sous consultation). Elle peut également être fixée à l'aide d'un rouleau vertical rétractable, caché dans l'habillage de la fenêtre, pour une taille d'ouverture maximale de 40cm.*

3. OTIIMA offers a complete range of finishing types: anodized and powder coating (all RAL colour standard). Special surface treatments: polished, brushed or textured (Sablé Collection). Finishing such as bronze, stainless, golden or white are perfectly possible. All OTIIMA finishing solutions are guided by the best international quality standards, established by the european responsible entities: Qualanod, Qualicoat and Qualiteco.

*OTIIMA vous offre une gamme complète de finitions, comme l'anodisation ou la peinture époxy (tous les RAL standards disponibles). Nous vous proposons également des traitements de surface spéciaux: poli, brossé, ou texturé (Collection Sablé). Les finitions telles que le bronze, l'acier inoxydable, l'or ou le bois sont parfaitement réalisables. Toutes les solutions de finitions OTIIMA sont soumises et approuvées par les meilleures normes internationales standards, mises en place par les entités responsables européennes, telles que : Qualanod, Qualicoat et Qualiteco.*

4. An innovative hidden system that provides the anti-condensation process on the glasses. This system also prevents the defrosting of ice formations inside the gutter system of the window, providing an improved water drainage even in extreme weather conditions.

*Un nouveau système caché qui protège les verres de condensation. Ce système potentialise également le dégel des formations de glace à l'intérieur du système de gouttière de la fenêtre, permettant le drainage efficace de l'eau de pluie, même dans des conditions météorologiques extrêmes.*



reddot award 2017 winner

## GENERAL PERFORMANCES

Thermal transmittance - Uw		Calculation module: 4,60 x 3,00 - ISO EN 10077-1 + ISO EN 10077-2 (up to)										
		Ug 0,5	Ug 0,6	Ug 0,7	Ug 0,8	Ug 0,9	Ug 1,0	Ug 1,1	Ug 1,2	Ug 1,3	Ug 1,4	Ug 1,5
OTIIMA 38		0,81	0,90	1,02	1,12	1,21	1,30	1,40	1,49	1,58	1,67	1,76
OTIIMA 54		0,81	0,90	1,02	1,12	1,21	1,30	1,40	1,49	1,58	1,67	1,76
Watertightness		ISO EN 12208 + ISO EN 1027										
OTIIMA 26 - PLUS		E900 (2 classes above 9A)										
OTIIMA 38 - CLASSIC		8A (450 Pa or 95 Km/h)										
OTIIMA 38 - PLUS		E1050 (3 classes above 9A)										
OTIIMA 38 - DRAIN		E1650 (7 classes above 9A)										
OTIIMA 38 - OPEN		E1200 (4 classes above 9A)										
OTIIMA 54 - CLASSIC		8A (450 Pa or 95 Km/h)										
OTIIMA 54 - PLUS		E1200 (4 classes above 9A)										
OTIIMA 54 - DRAIN		E1650 (7 classes above 9A)										
OTIIMA 54 - OPEN		E2100 (10 classes above 9A)										
Air Permeability		ISO EN 12207 + ISO EN 1026										
OTIIMA 26 - PLUS		Class 3 (600 Pa or 110Km/h)										
OTIIMA 38 - CLASSIC		Class 3 (600 Pa or 110Km/h)										
OTIIMA 38 - PLUS		Class 4 (600 Pa or 110Km/h)										
OTIIMA 38 - DRAIN		Class 4 (600 Pa or 110Km/h)										
OTIIMA 38 - OPEN		Class 4 (600 Pa or 110Km/h)										
OTIIMA 54 - CLASSIC		Class 4 (600 Pa or 110Km/h)										
OTIIMA 54 - PLUS		Class 4 (600 Pa or 110Km/h)										
OTIIMA 54 - DRAIN		Class 4 (600 Pa or 110Km/h)										
OTIIMA 54 - OPEN		Class 4 (600 Pa or 110Km/h)										
Wind Resistance		ISO EN 12210 + ISO EN 12211										
OTIIMA 26 - PLUS		Class B3 (1200 Pa or 155 Km/h)										
OTIIMA 38 - CLASSIC		Class B3 (1200 Pa or 155 Km/h)										
OTIIMA 38 - PLUS		Class C5 (2000 Pa or 200 Km/h)										
OTIIMA 38 - DRAIN		Class C3 (1200 Pa or 155 Km/h)										
OTIIMA 38 - OPEN		Class B5 (2000 Pa or 200 Km/h)										
OTIIMA 54 - CLASSIC		Class C4 (1600 Pa or 179 Km/h)										
OTIIMA 54 - PLUS		up to CE (4500 Pa or 300 Km/h)										
OTIIMA 54 - DRAIN		Class C3 (1200 Pa or 155 Km/h)										
OTIIMA 54 - OPEN		Class C5 (2000 Pa or 200 Km/h)										
Impact Resistance		ISO EN 12600 + ISO EN 1630										
OTIIMA 38		Class 5 (in 6 possible classes)										
OTIIMA 54		Class 5 (in 6 possible classes)										
Acoustic Insulation		ISO EN 10140 + ISO EN 717										
OTIIMA 38		Rw: 38db										
OTIIMA 54		Rw: 44db										
Security		ISO EN 1627										
OTIIMA 38		RC2:(WK2)										
OTIIMA 54		RC2:(WK2)										



OTTIMA work Switzerland | Philippe Meyer | Vila QDC 175 | © Joel Tettamanti



OTTIMA work Belgium | Steve Vandenborre | Pool House | © Tim Van de Velde





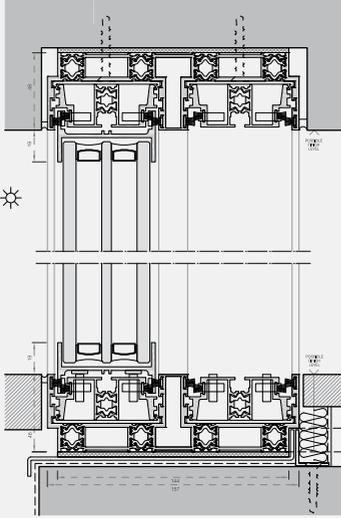
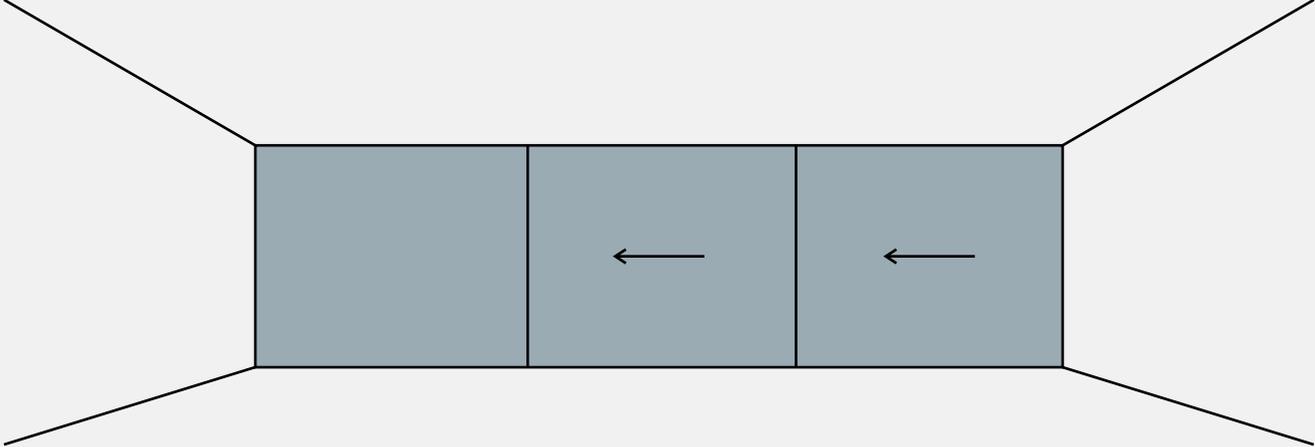
OTTIMA work France | RCR Arquitectos | House M | © Pep Sau

OTTIMA work Belgium | House RR | © Tim Van de Velde

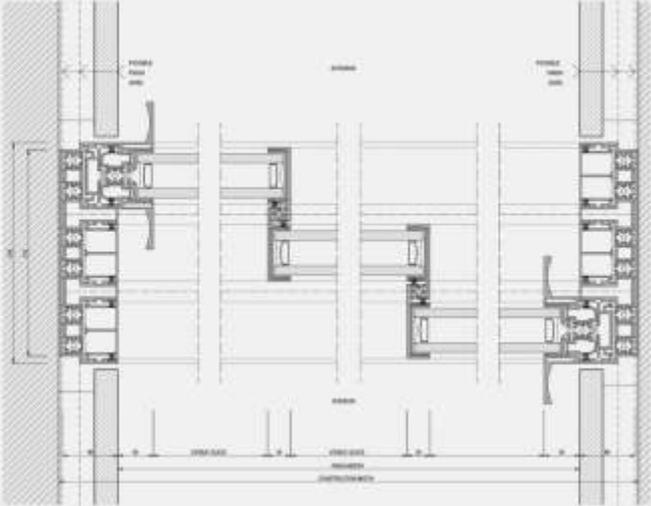




**OTIIMA** Horizontal Sliding Triail



Vertical Section



Horizontal Section



# OTIIMA **Much more than a Window**

OTIIMA strategy is established by the perfect combination of research, cutting-edge technology and industry, thus raising the minimal frame system market worldwide, together with its worldwide commercial network. Recognized as an award-winning organization with proven experience in its field, with an enterprising attitude and a powerful vision of the future.

## Technical Advantages

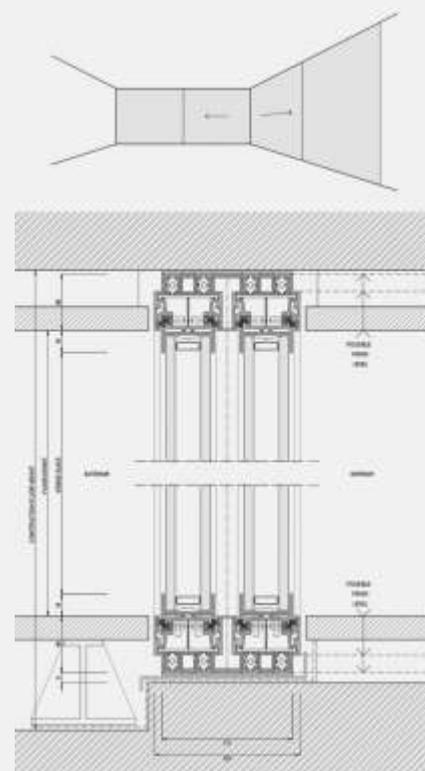
OTIIMA is the perfect solution for you project, when the combination of quality, high technology and aesthetics are the main reasons for your choice.

By using self-supporting glasses, OTIIMA systems pushes back architectural limits and offers the possibility to use glazed **surfaces up to 36 Sq. m per pane.**

From the floor to the ceiling, **a 20mm vertical reinforced profile provides a minimal** appearance, merging indoor and outdoor into one, with top quality guarantee. The slim and elegant handle, provides a streamlined appearance, which combined with the special OTIIMA rolling system, guarantees an easy hand opening and maintenance of the panes. Optionally, for an even higher level of comfort, the system can be **motorized** and automatically remote controlled.

In combination with a safe toughened glass, the OTIIMA exclusive security lock system assures a high quality level of security to the windows. With the brand new security system, OTIIMA offers you a **hidden lock**, an elegant solution unique on the market.

OTIIMA offers a full and complete range of solutions according to each architecture project needs.



Vertical Section

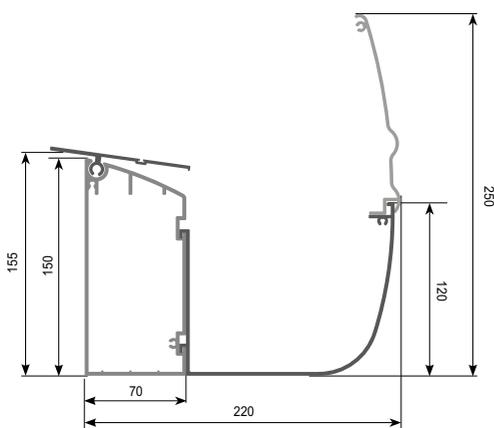


# acristalia Glass Enclosures

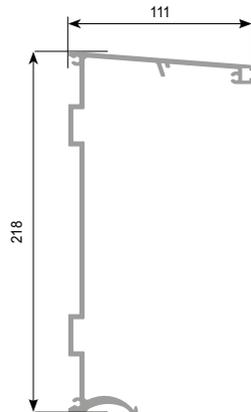
**Acristalia** is a company specialized in glazings and enclosures like Glass Curtains, Sliding Roofs and Glass Railings. Acristalia is a leading company in the industry at national and international levels which offers most functional and aesthetic enclosure option for homes and businesses.

Glass Curtains provide the greatest views and create a better spacious effect, so that you can enjoy the view comfortably. The Glass Curtain in Standard Series is the most versatile and panoramic curtain in the market, with systems up to 3 m high and panels up to 80 cm wide. An aesthetic and functional line, with the best guarantee of durability provided by glass up to 12 mm wide.

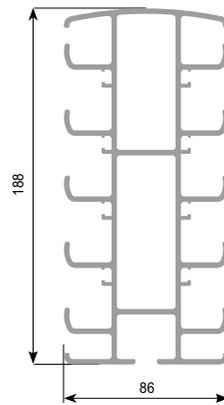
SECTION VIEW



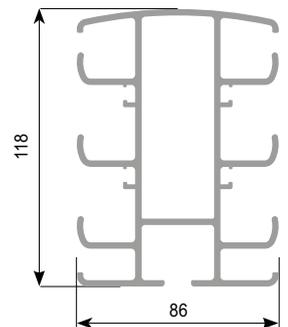
WALL PROFILE S5



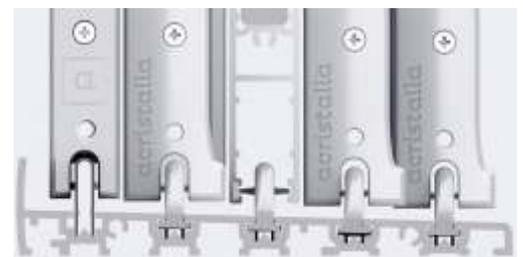
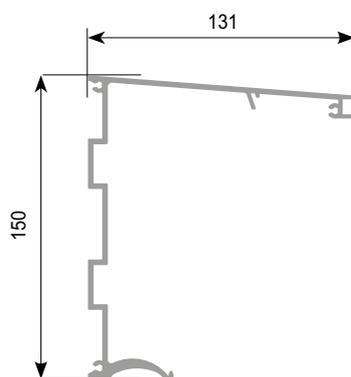
RAFTER S5



RAFTER S3



WALL PROFILE S3





## acristalia Retractable Glass Roofs

The **Acristalia** Sliding Roof in Sliding Series is a benchmark in horizontal enclosures industry in Europe. It counts on a modern design, an exclusive anti-stagnation system and hidden but easily accessible motorization.

The system enables a full installation from the inside and this ensures the comfort and minimizes the risk of accidents for workers.

The Sliding Series is the perfect solution to create new spaces and enjoy them whatever the weather conditions.





ANY WEATHER IS YOUR  
FAVOURITE WEATHER

## **KLIMAFLEX** ALUMINIUM SYSTEME **X** Aluminium System

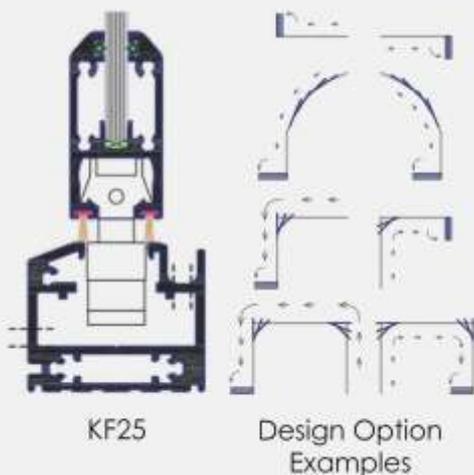
Klima Flex K25 all-glass system is perfect for balconies, terraces and other unheated spaces as wind and weather protection.

The slide and turn system K25 offers maximum transparency and flexibility, in conjunction with wind and weather protection and accessibility for an unbeatable price. The slide and turn system K25 is ideal for mounting on balcony railings.

A full-scale opening of the system is possible via one or more corners, as well as segmented floor plans. Since each leaf can be opened in the package area, the windows are also easy to clean exterior.

Klima Flex all-glass system is perfect for balconies, terraces and other unheated spaces as wind and weather protection.

The internal use as a room divider offers itself also.

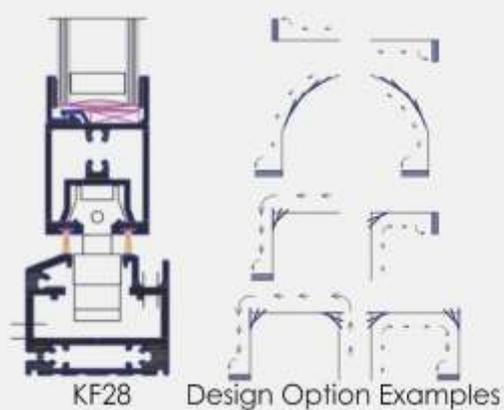


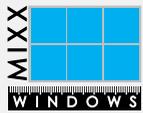


## KLIMAFLEX Aluminium System

The slide and turn system offers maximum transparency and flexibility, in conjunction with wind and weather protection and accessibility for an unbeatable price.

The slide and turn system is ideal for mounting on balcony railings. A full-scale opening of the system is possible via one or more corners, as well as segmented floor plans. Since each leaf can be opened in the package area, the windows are also easy to clean exterior.



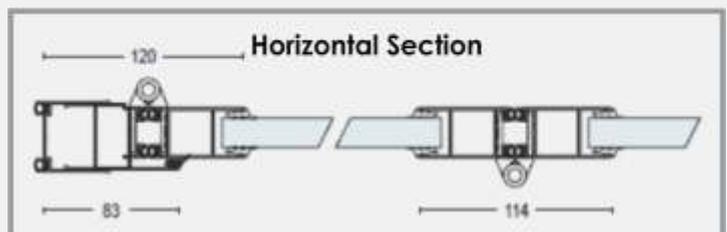
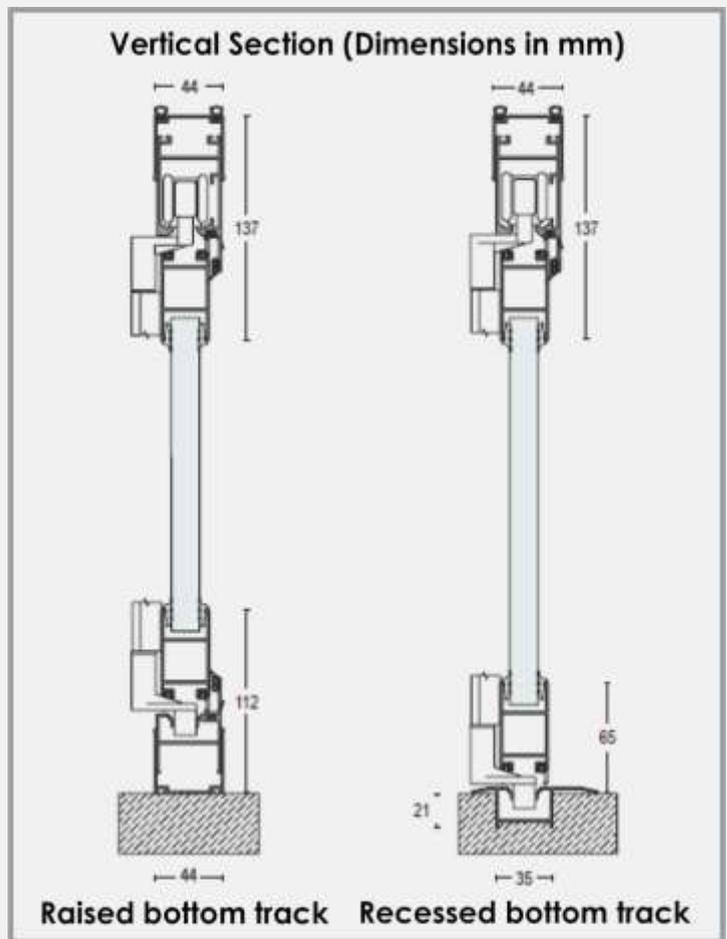


## Non Thermal Bi-Fold

Aluminium durability with aesthetic lines with rounded edges and a double weather-tight gasket allowing for the creation of curved systems.

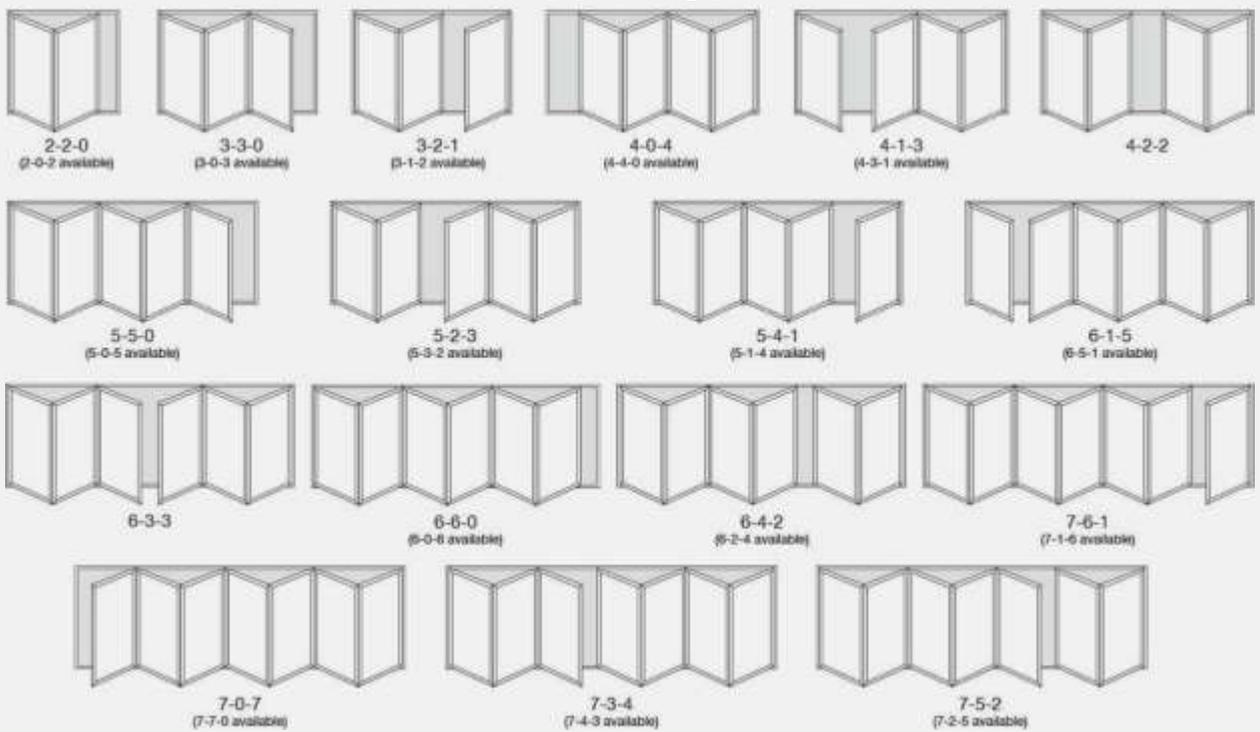
Available with 10, 13, 18, 24, 35 mm gaps for the incorporation of glazing or panels.

Leaves can open inwards or outwards, and can also incorporate one or more mid rails.





## Typology





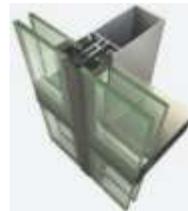
 **Aluminium Curtain Wall and Glazing Systems**



Poliedra-Sky 50



Poliedra-Sky 50 I



Poliedra-Sky 50 CV



Poliedra-Sky 50 S



Poliedra-Sky 60



Poliedra-Sky  
Fast 80



Urano Wall



Poliedra-Sky 50 S  
(Continuous Curtain Walls)







## Wood and Alu Wood Curtain Wall System

### The MixxGlaze

Wood Glazing system in wood-aluminium curtain wall is thought to be built and assembled with precision and speed.

MixxGlaze is the first in India to provide a structure of wooden serving Teak/OAK PVC laminated with thermal and external profiles in aluminium, bronze or laminated oak

The wooden structure, as well as an undeniable aesthetic value added, improves the level of thermal comfort of the building compared to a conventional aluminium structure, reducing the overheating by solar radiation in the summer months and the energy consumption during winter; the curtain wall in wood also provides a greater sound insulation and minor expansion due to temperature changes over time.

For its aesthetic characteristics, sealing and energy saving system MixxGlaze can be used in both new construction and renovations. The wide range of profiles, accessories and openable available allows the designer or developer to customize and adapt the structure to your needs.





## System Description

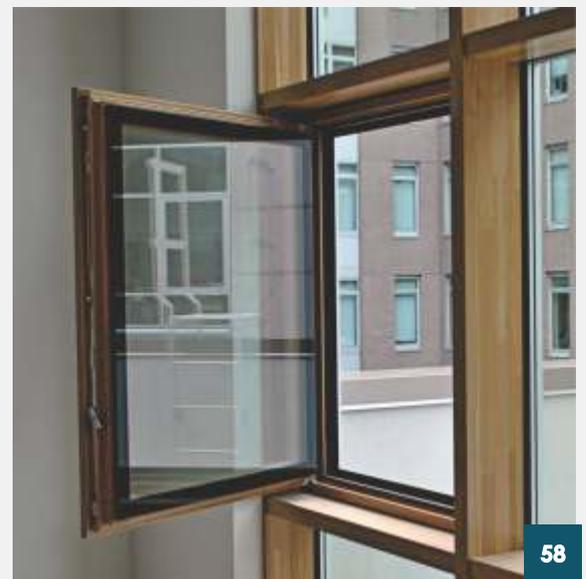
The curtain involves the use of a lattice mullions and transoms in Burma Teak or OAK lamellar be assembled on site, with showing the front of the structure by 50 mm. The section width of mullion and transom wood can vary in accordance with the different static requirements, depending on the load of the wind and of modular dimensions the facade. Standard sections: 50x110, 50x135, 50x160, 50x200, 50x240, 50x260mm.

The system mullion and transom allows the realization of a lattice of coating external vertical suitable to be applied to building structures in masonry, concrete and steel. The mounting of infill must take place from the outside, in order to cover buildings with masonry parapet wall portions or totally blind. The installation is performed by our own in house qualified team.

## Finishes

The available materials for the outer cover of the system are aluminium, in all finishes and RAL finishes including exotic finishes such as Corium, Brunelleschi, the Sable and a wide range of oxidation; or bronze, burnished finish, copper and gold.

The surface finish of the aluminium parts is performed by anodic oxidation in compliance EURAS-EWAA, with anodic oxide thickness 15-20 microns. The procedure may be the one for traditional impregnation or that of electro. If needed painting, this must be carried out in accordance with the QUALICOAT standards or GSB using polyester powder certified with a minimum thickness of 60 microns.





## **Urano Wall Systems**

Laminam Esterna: the evolution of ceramic cladding for ventilated façades. Laminam is the first manufacturer in the world of porcelain stoneware slabs of sizes up to 1000x3000x3 mm, created with innovative technology. Since 1962 METRA has specialised in aluminium and its extrusion and quickly has become a leader in Italy and abroad in the supply of profiles for industry and architectural systems.

By putting together LAMINAM Esterna and Laminam slabs, the system METRA Urano Wall offers new extraordinary opportunities to building design. Laminam Esterna by putting together the performance values of Urano Wall and the ceramic “skin” originates the added value of the extraordinary combination and lightness of the slabs.

Thanks to the size of Laminam slabs, the wide range of available finishing and the easy installation, Laminam Esterna presents itself on the market of ventilated facades as the ideal alternative to natural stone, glass, fibre cement, aluminium and composite panel cladding.

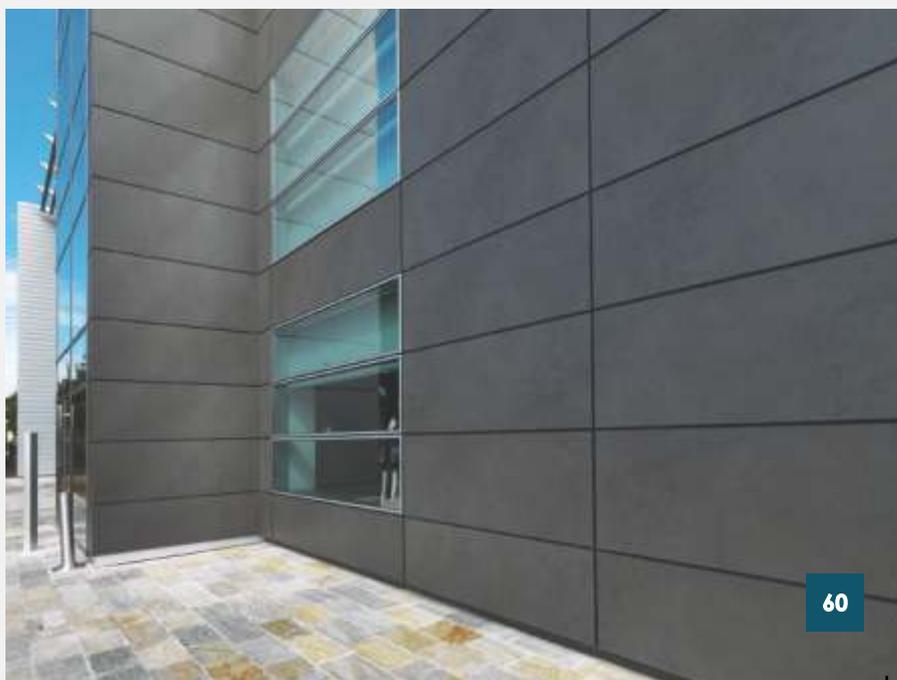
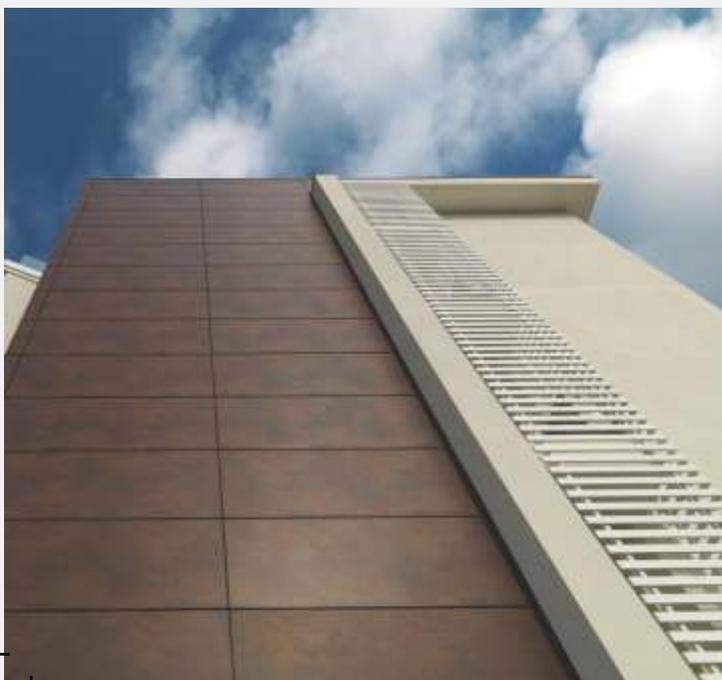
## Advantages

- Formats up to 1000x3000 mm
- Reduced thickness (3.5 mm)
- Inalterability and resistance to weather conditions and UV rays
- High wind resistance performance
- Graffiti and scratch resistance
- Easy cleaning and maintenance
- Wide range of finishing
- Easy to install
- Two slab fixing methods:  
mechanical and structural



## Lightness

Due to the reduced slab thickness of only 3 mm and the use of the Urano-Metra aluminium structure, the Laminam Esterna system weighs around 15 Kg/m<sup>2</sup>





**METRA SpA**  
Italy

**Skylight Systems**



**System for Handrails**





 **Sunblade Systems**



 **Verandas & Gazebos**





# METRA Shading Systems



## **Metra Shutters. Great light and shade ideas for windows and doors.**

Ten unexpected proposals for extraordinary styles, possessing the strength and resistance typical of aluminium and requiring zero maintenance. Equipped with surprising aesthetic expressivity, the shutters are available in finishes and colours able to enhance both the facade and the interior of a living space. Metra shutters, with their style and shapes, can meet any architectural requirement: in new constructions, renovations and preservative restorations, even in cases where very strict and restrictive standards are in place.

When choosing your Metra shutter... you will experience pure emotions in light and shade.

## **Performance**

Metra shutter and blind systems for windows and French windows and their finishes are durable and long lasting.





## Shading Systems

### Accessories

Style, durability and security. The sturdy hinges support the window and enhance its appearance. The hinges remain 'hidden' and the bolts are reinforced.

### Comfort

The excellent quality of the sliding mechanisms and the handles is combined with multiple solutions and types of opening. In all cases, the windows and doors communicate solidity, efficiency and ergonomic features.





Camargue



Panovista



L-Door - Batibouw



Linarte



Linarte



Fixscreen Shading



Fixscreen Max



Renson Sidefix



Renson Ventilators



Renson Ventilators



Renson Ventilator 3



Renson Garden Canopy



Renson Cilium



Top Fix



Top Fix



Renson Shading



Sliding Shutters Main



Renson Loggiatu Wooddesign



## Internal Alu-Doors



### NC 65 STH Doors

**Base size:** 65-75 mm

**Type of air-water-wind seal:**  
Rabbit double gasket

**Glass thickness:** 4-48 mm

**Aesthetic lines:** Sagomata,  
Piana



### NC 75 STH Doors

**Base size:** 75-85 mm

**Type of air-water-wind seal:**  
Rabbit double gasket

**Glass thickness:** 14-58 mm

**Aesthetic lines:** Sagomata,  
Piana



### Overlapping solution

*Doors can be made with panel and/or glass pane:*

- Sash 53 mm with lock mounted on pane
- Sash 86 mm with lock mounted directly on jamb
- Door with overlapping sash having a double rabbit gasket.



### Embedded sliding solution

*Doors can be made with panel and/or glass pane:*

- Sash 36 mm with lock mounted on panel
- Sash 92 mm with lock mounted directly on jamb
- Elastic safety gaskets introduced in compensator sections
- Door with sliding sash embedded in the wall



### Coplanar solution

*Doors can be made with panel and/or glass pane:*

Construction variations:

- All panel
- Panel trimmed with aluminum frame
- Sash 36-68-92 mm
- Door with rounded sash, coplanar with frame



### Glazed solution with hinge

*Doors can be made with glass:*

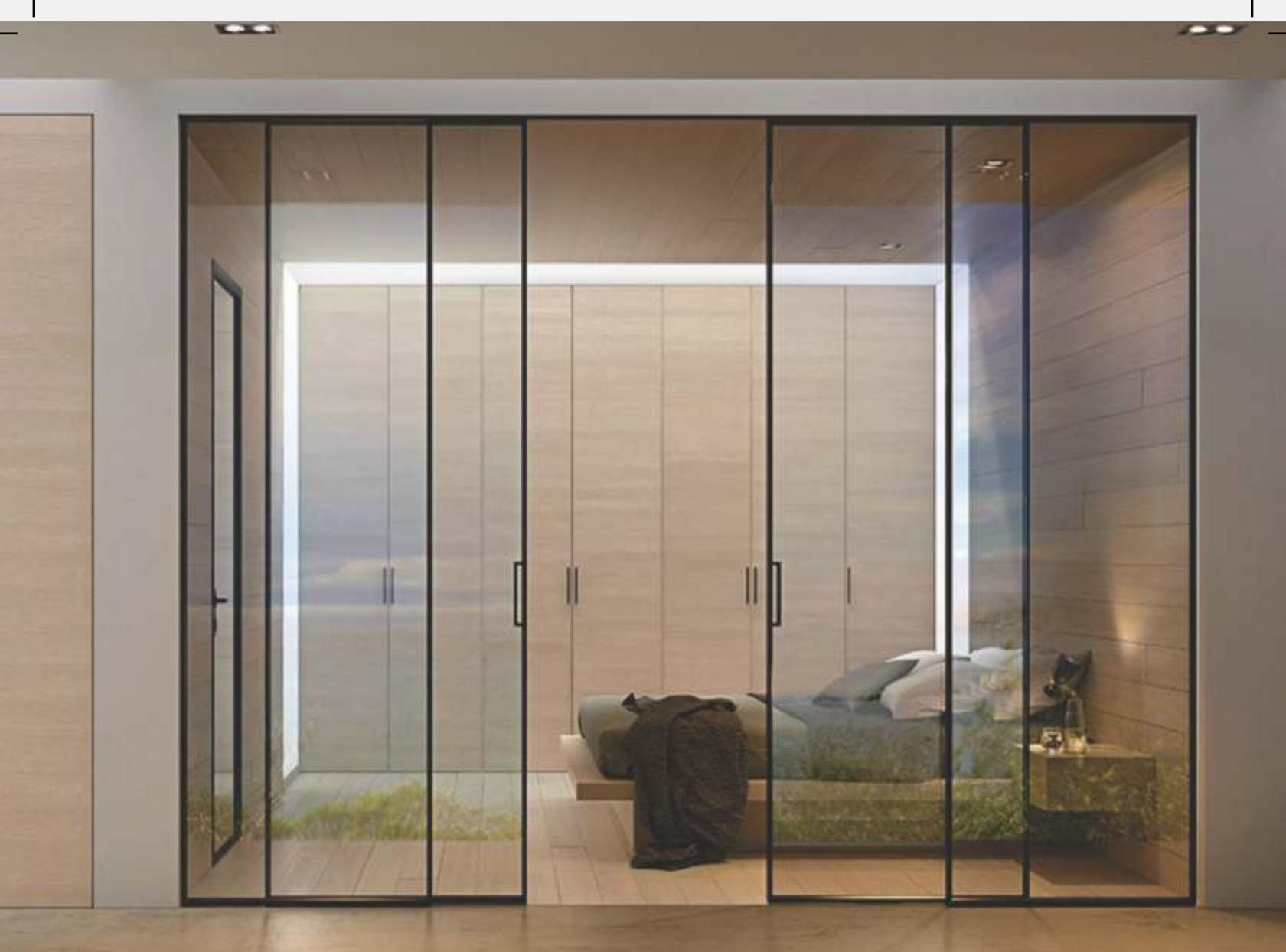
- Sash 36 mm with glass to slip 8 mm shim
- Glass shimming wedges
- Opening by hinges
- Door with aesthetic elliptical shape sash



## **Internal Alu-Doors**

The Mixx Minimal System, as its qualification suggests, divides in terms of lightness, with a minimum of presence and a maximum of fineness, marked by image and discretion. The spaces maintain their continuity and totality, but are enriched by the kindness, light and elegance that Mixx Minimal confers and receives from the environment, in a continuous dialogue in changing and in the alternation of the day, the night and the seasons.





## Internal Alu-Doors



### **Slider:**

Max Weight Carrying  
Capacity : 230 Kgs  
Max Height : 3.6 mtrs



### **Hinged Door:**

Max Weight : 80-100 Kgs  
Glass: Single & Double option  
Max Height: 3.6 mtrs



### **Pivot Door:**

Max Weight : 80 Kgs  
Glass: Single Glazed  
Max Height: 3.6 mtrs

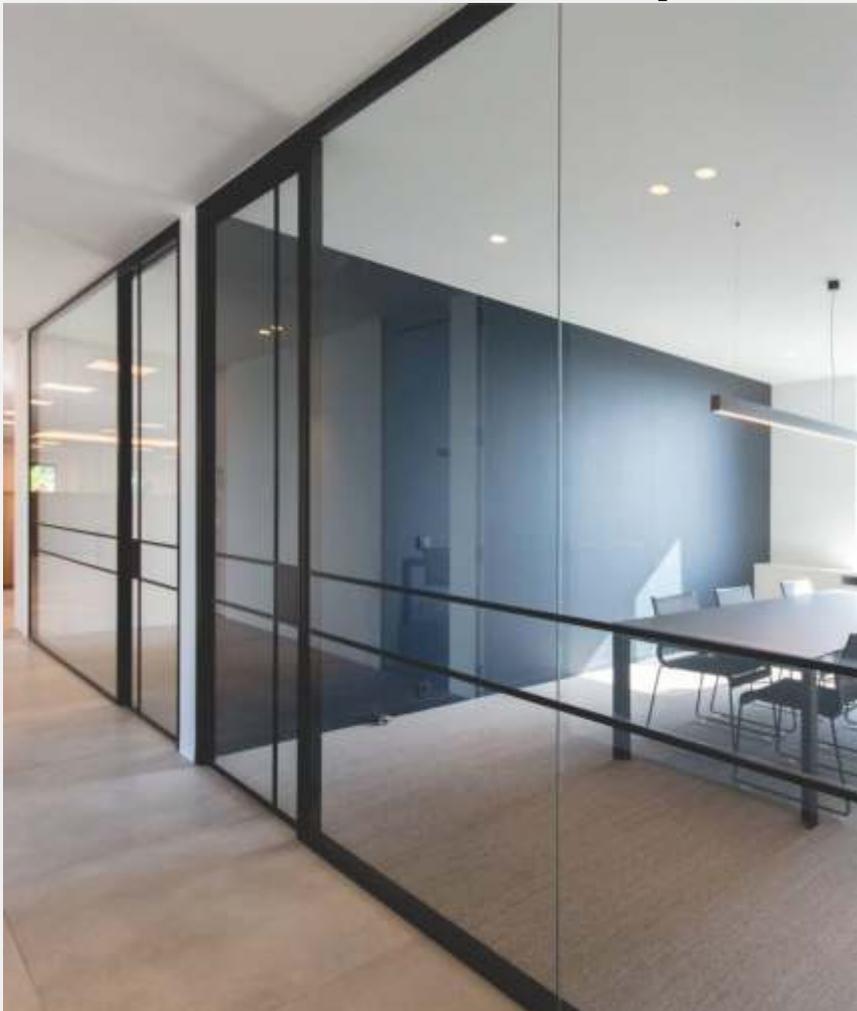


 **Internal Alu-Doors**





 **Office Partition Systems**

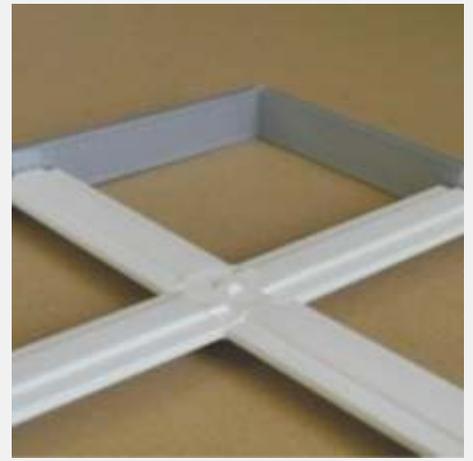




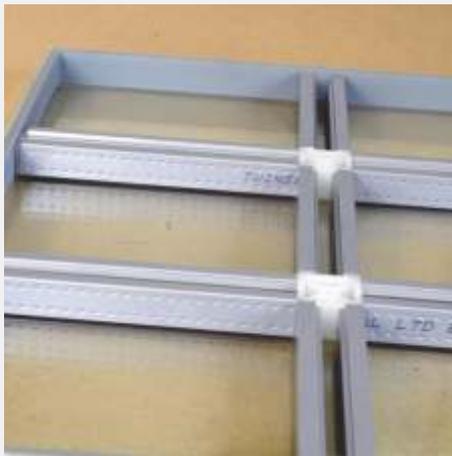
# Accessories



Georgian Bars Example



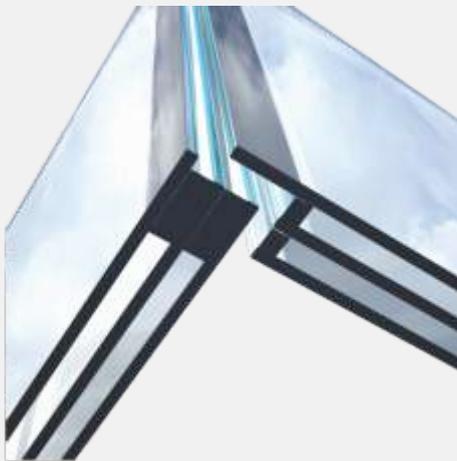
Georgian Bars Inside Glass



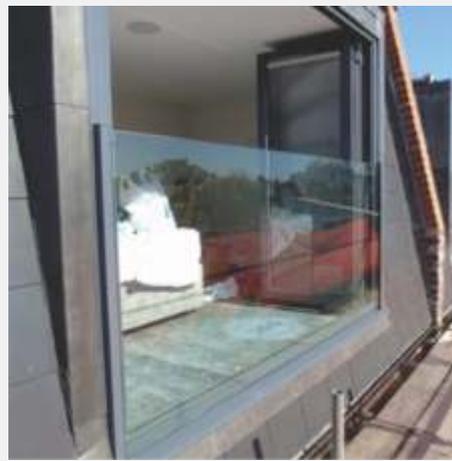
Glass Spacer Georgian Bars



Glass Options



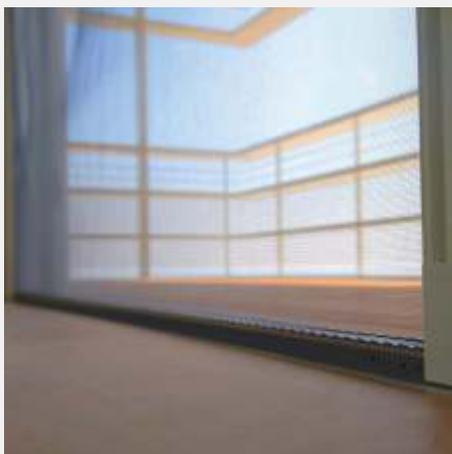
Strip Glass



Glass Railing Type 2



Retractable Insect Mesh

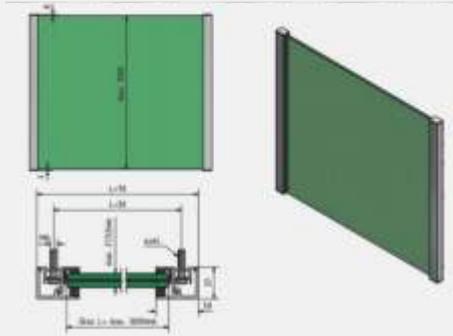


Insect Mesh



Insect Screen

# Accessories



Glass Protector



Motorised Alu Shutter



Motorised Alu Shutter Example



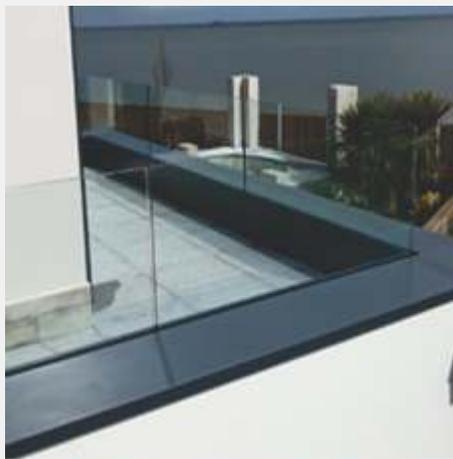
Posaclima



Venetian Blinds



Venetian Blinds Example



Aluminium Flashing's & Copings



Window Sill



Window Sill Example



Window Sill Section



Flushed Drainage Example

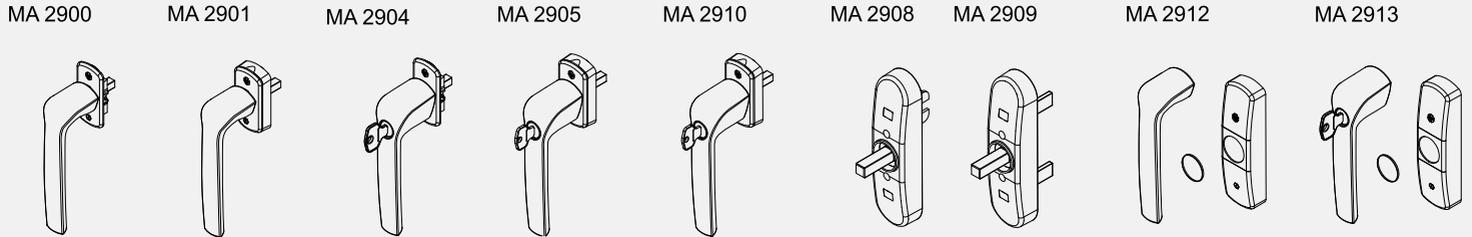


Flushed Drainage

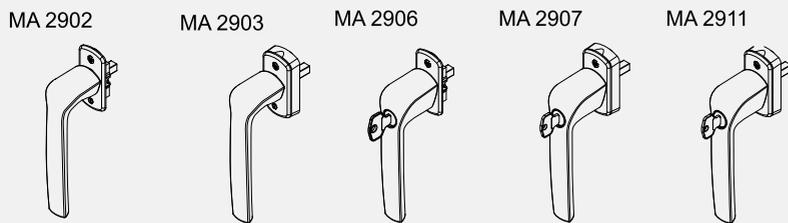
# Design Compliments

Safety, style, endurance... This unique collection meets all these requirements. All the opening types that your habitat needs in one matching design.

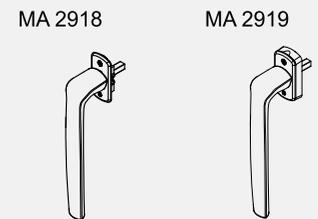
## Handles and cremone bolts for casement systems



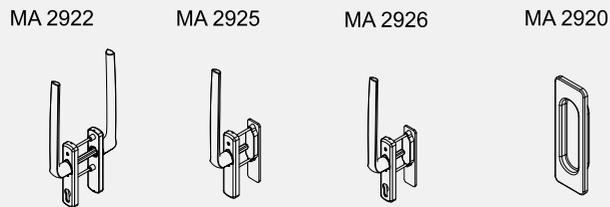
## Lever handles for aluminium/wood casement systems



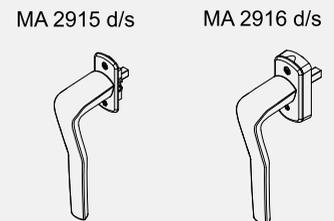
## Handles for tilt-and-slide



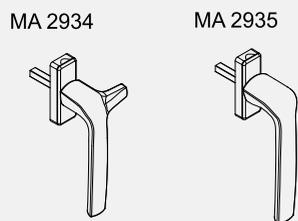
## Handles for sliding windows and doors



## Lever handles for curtain wall windows



## Handles for pivot windows



## Handles for entrance doors



## Handles for internal doors

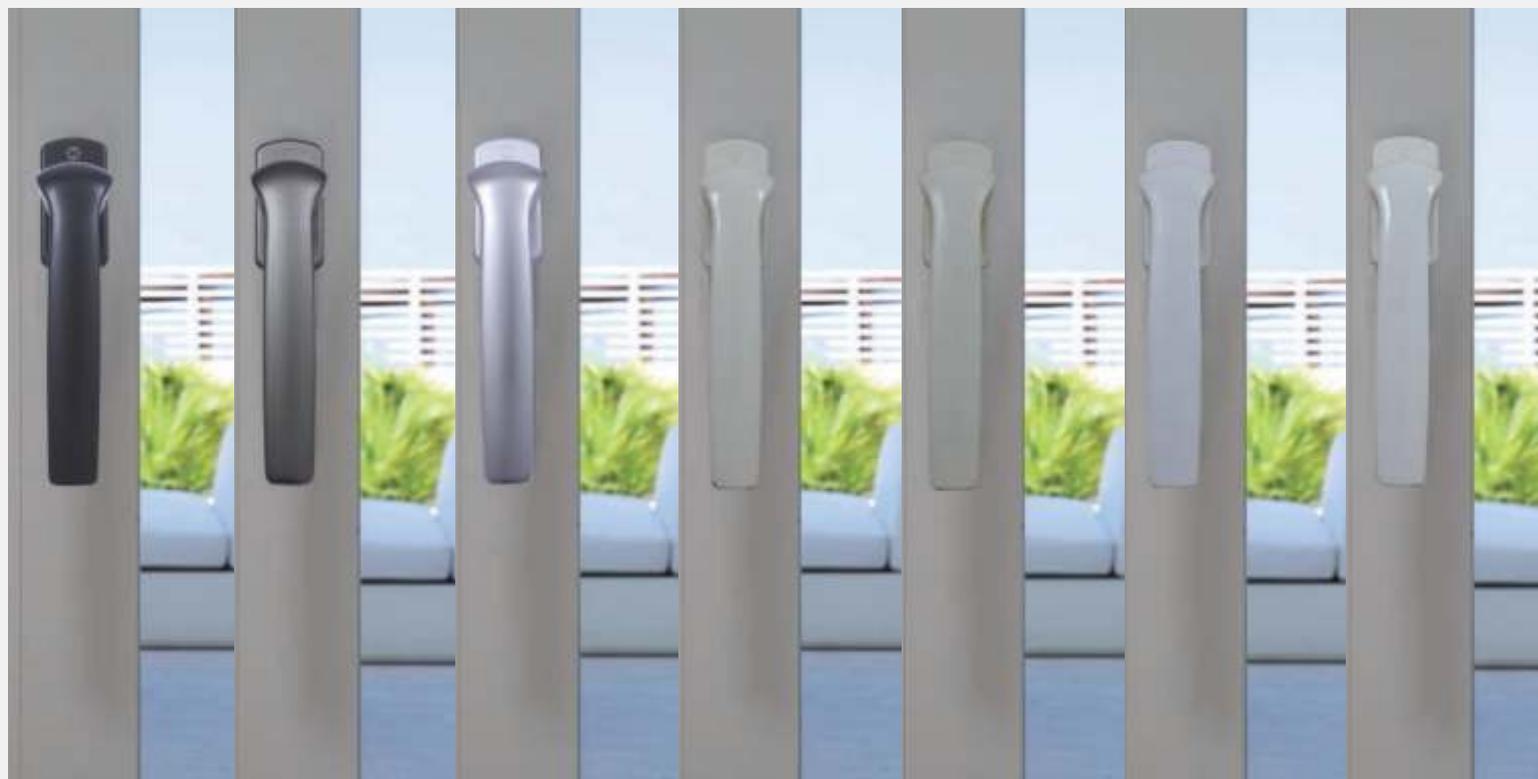


## Choose the colour that best suits your living quarter style

Metalsed, glossy, matt, glazed... finishes and shades that perfectly match your taste.

The Essence collection of METRA handles *Essence* are anodised or powder coated to guarantee longlasting colours.

Very high corrosion resistance falling into Grade 4 of EN 1670:1998.



M28

IS

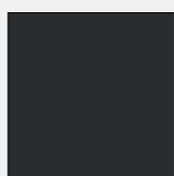
A1S

113

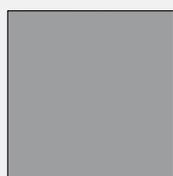
HB3

HB1

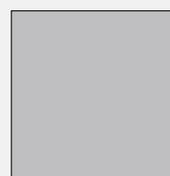
910



M28



IS



A1S



113



HB3



HB1



910



For technical reasons related to the finishing processes, the colours and the images shown here have a merely indicative value



 **Aluminium-Wood**

 **Evolution**

 **Sablé**



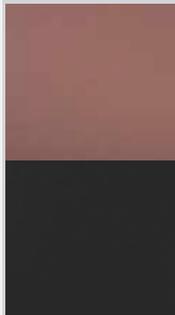
For those who love natural wood applied to contemporary forms, aluminium-wood is the perfect choice. Great resistance, security and airtightness with an aluminium core... as well as the stunningly stylish shades and look of various types of wood.



*For graphic reasons, the colours shown in this page are only indicative. Ask your Metra dealer the sample of the colour chosen.*



Natural oxidized effects, matt, gloss, and even extra-gloss, produce a cool and trendy effect. The evolution line was inspired by architects to enhance modern lifestyles. Evolution is highly sought after for all types of living spaces because of its strong aesthetic and durability in any type of climate.



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The Sablé finishes have a multi-sensorial effect. They are fantastic to look at and rough or satin to the touch. The sandblasted effect is quite versatile, trendy and easy to use in renovations and innovative living.



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 **Natur-Plus**



 **Raffaello**



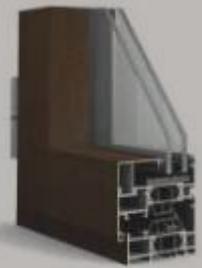
 **Decor**



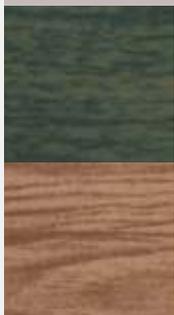
The Natur-Plus line combines the sturdiness and reliability of aluminium windows and doors with the colours of the wood. Two layers of powder reproduce the typical grain and hues of the various types of wood.



The Raffaello line was developed in collaboration with important design boards and offers two different finishes: smooth and hammered. Thanks to the specific use of the "pointillist" method - obtained by a controlled mix of several different shades of colour - both finishes have an original and exclusive feel and look.



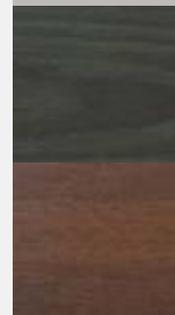
Decor combines the strength of aluminium with the aesthetics of wood. This line faithfully reproduces the grain of traditional types of wood thanks to the sublimation process carried out on the painted layer.



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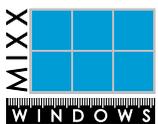


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