

ADVANCED ALUMINIUM SOLUTIONS

CONTEMPORARY NEEDS

REQUIREMENT



CHALLENGE

Energy Efficiency Optimization **SAVING**

Add value to the building image

Competitive Cost

+Security Soundproofing Perfect Functionality High Aesthetics Design Options

Upgrade the indoor climate creating quality living conditions.

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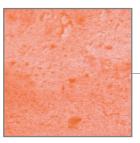


CONSTRUCTION STANDARDS	nZEB - ZEB 31/12/2018+
ENERGY NEEDS for heating a typical home	10-0
	kWh/(m².ε)
Building Conditions	Very low energy consumption
CONSTRUCTION MATERIALS	Typical U values & Insulation thickness
Outdoor Mansory	0,13
(25cm)	W/(m ² K)
Insulation Thickness	20 cm
Roof	0,1 W/(m ² K)
Insulation Thickness	30 cm
Flooring	0,15 W/(m ² K)
Insulation Thickness	20 cm
Frames	0,8 W/(m²K) triple glazing
Ventilation	Comfort ventilation with heat recovery
Emissions CO2 (m2.a)	1,5 kg
Petrol Energy Consumption in It / m ² / year	1-0 lt



Additional Insulation Zone with foam filled thermal brake chamber.

² TECHNOLOGY



INSULATION MATERIAL

Custom made

 With CERTIFIED - from the accredited Body CEIS- thermal conductivity value λ 0,023 W/mK

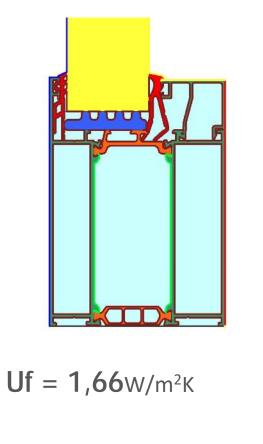


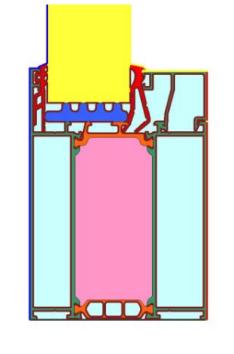
The profile thermal transmittance value (Uf) can be improved up to 38%

² TECHNOLOGY

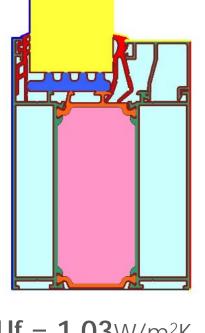
1. Profile Section Empty

2. Profile Section with ${\sf I}^2$





Uf = 1,06W/m²K **36% improvement** 3. Profile Section with I² and flat polyamide bar



Uf = 1,03W/m²K **38% improvement**

2 TECHNOLOGY

WIN-WIN: Significant advantages for all parties. FABRICATORS – ENGINEERS - CONSUMERS

- 1. The I² Technology is **exclusively implemented at** the innovative production facility.
- 2. No need for the fabricators to replan the internal production line, thus:
 - No extra costs are added
 - Quality of material & fulfillment are factory assured
- 3. Partners gain a **unique advantage** that differs them from their competitors, in these tough market conditions

2 TECHNOLOGY

WIN-WIN: Significant advantages for all parties. FABRICATORS – ENGINEERS - CONSUMERS

- 4. The new technology applies to ALL **Xclusive** & **Multilock** Thermal Brake systems, completing **a full range of energy saving products** for every consumer, covering every need of building and renovation.
- 5. We strategically decided **not to charge with significant extra costs** the application of the I² Technology, so that the I² products can become an **affordable though premium solution**.
- 6. With the I² Innovation, consumers can finally enjoy all the benefits of aluminium doors & windows, with OPTIMUM ENERGY EFFICIENCY performance.



ADDITIONAL BENEFITS!



windows, using I² Technology.

2 TECHNOLOGY

Practical example:

when

INTERNAL CONDITIONS

Relative Humidity Room temperature : 22° C

: 60%

then

DEW POINT 14° C

conditions every room surface having equal or less temperature than 14°C, will appear condensation.

² TECHNOLOGY

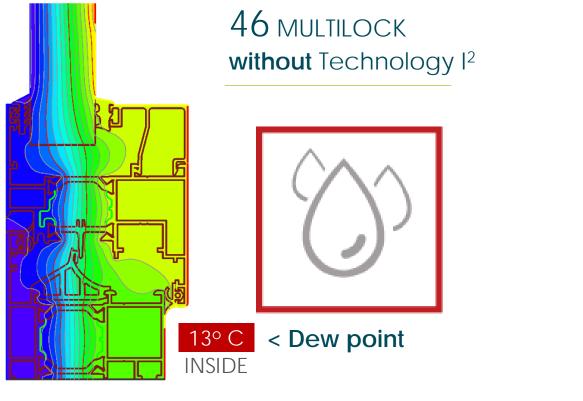
DEW POINT 14°C

46 MULTILOCK

With Technology I²

> Dew point

INSIDE



0°C 2°C 4°C 6°C 8°C 10°C 12°C 14°C 16°C 18°C 20°C

OUR PRODUCTS

We offer a **full range** of **advanced aluminium systems** that meet the highest architectural requirements for all design options.

OPENING SLIDING + L/S ATRIUM FACADES SHADING SYSTEMS



OUR PRODUCTS

All systems are offered in 400+ colors & adoring combinations of double color.

Our proposal to consumer should be DOUBLE COLOR

Because:

- Can be offered in short delivery time
- With no significant extra cost
- Consists a proposal that upgrades the every day living

New Class of Opening Systems

The New XCLUSIVE systems not only correspond to the complex requirements for maximum energy efficiency, sound proofing, security and water tightness but also meet the highest architectural requirements for design options with basic depth OF ONLY 77mm

85i² Camera Europea

86i² Multilock

87i² Aluminium/ Wood

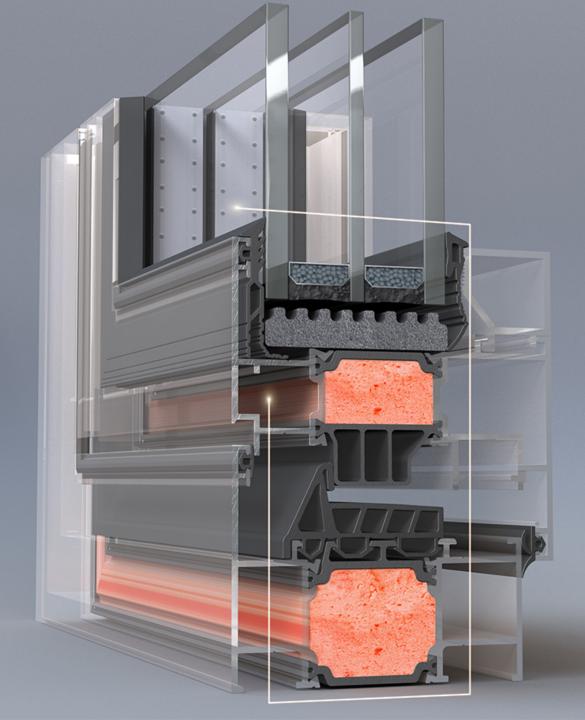


New Class of Opening Systems



✤ OUTSTANDING THERMAL INSULATION

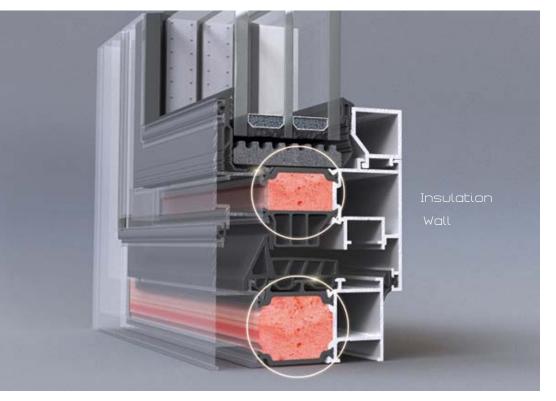
xclusive 87i ²	xclusive 85i ² / 86i ²
Uf : 1.1-1.4 W/m ² K	Uf : 1.1-1.6 W/m ² K
Uw [*] : 1.3 W/m ² K	UW [*] : 1.4 W/m ² K with double glazing (Ug 1.0)
Uw [*] : 1.0 W/m ² K	Uw^* : 1.1 W/m^2K with triple glazing (Ug 0.6)
Uw**: 0.78 W/m2K	Uw ^{**} : 0.81 W/m ² K με τριπλή υάλωση (Ug 0.5)



Insulation Wall



New Class of Opening Systems



☆ OUTSTANDING THERMAL INSULATION

- Multi-chamber polyamide bars 34mm with glass fibers reinforcement (25%,PA6.625 GF), for excellent insulation and extra rigidity.
- Specially designed central gasket with 5 cavities that covers all the polyamide surface and glazing gaskets with fins, for effective heat transfer minimization.
- Optimized Foam Filled insulation zone that ensures excellent Isothermal Flow of the window.



New Class of Opening Systems

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ADVANCED SEALING SYSTEM

Innovative Mullion End Cap of TPV EPDM corners for the central & glazing gaskets Special drainage channels on the frame & sash

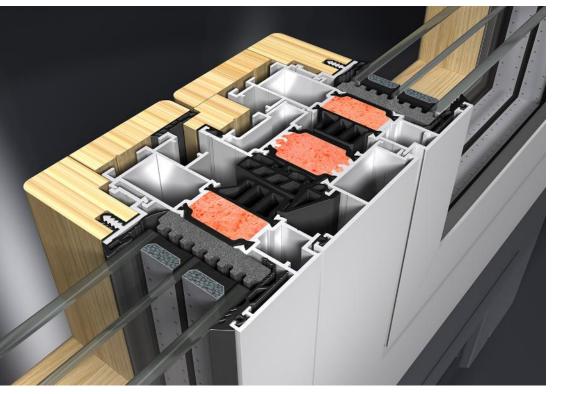
Certified RC2 (WK2) Security Level, with up to **21 locking points** around the window (86i² / 87i² editions)

SOUND REDUCTION

Certified 43Db Sound Reduction (85i² / 86i² editions)



New Class of Opening Systems



CO DURABILITY FOR A LIFE TIME

- **1.6m** /sash **1.30 kg** /sash
- Glazing up to **60mm** in 85i²/86i², up to **48mm** in 87i²
- Basic Depth 77 mm
- Min Face Width F-S 109.5 mm
- 3 Axis polyamide alignment corners with channels for glue inflow, providing extra rigidity to the final product
- Corner joints with specially designed recesses to fasten the hinge pins, absorbing the glazing weight and ensuring long lasting operation of the final product
- Re-enforced profile wall thickness (1.5-2.0 mm) with high values of moment of inertia, suitable for wide and complex constructions)
- In ALU+WOOD edition luxurious appearance with wood all over the inside surface, even on the adjoining profile.



New Class of Opening Systems

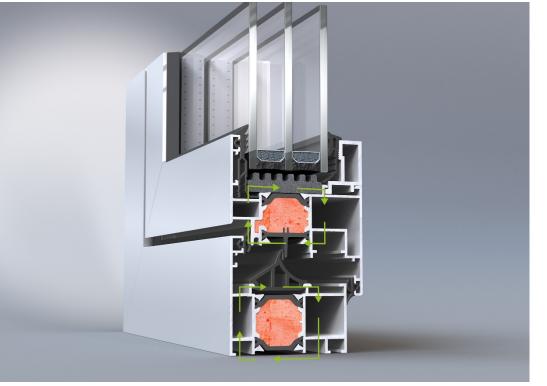


APPLICATIONS

- Fixed
- Opening and Tilt & Turn
- Folding Doors
- Parallel slide and Tilt Fitting Constructions (VW)
- Window Wall Constructions

OPENING SYSTEMS MULTILOCK 46i²





券 HIGH THERMAL INSULATION

Uf: **1.76-2.16** W/m²K UW*: **1.5** W/m²K with double glazing (Ug 1.0) UW*: **1.3** W/m²K with triple glazing (Ug 0.6)

WK2 Security Level, with up to 21 locking points around the window

*Single Sash window1.400mm x 1.400mm

OPENING SYSTEMS MULTILOCK 4612

max







SEALING SYSTEM

- EPDM corners for the central & glazing gaskets
- Optimized EPDM specimen to connect the Mullion Cap with the central gasket, ensuring effective water tightness

CO DURABILITY FOR A LIFE TIME

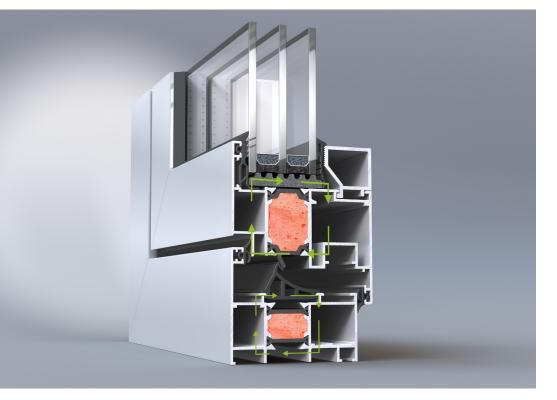
2.25 m ... 1.0 m /sash 90 kg /sash



- Glazing up to 45mm
- Basic Depth 58.6 mm / 69.0 mm
 - Min Face Width F-S 102.1 mm

OPENING SYSTEMS MULTILOCK 56i² / C.E.52i²





券 HIGH THERMAL INSULATION

Uf: 1.7-2.4 W/m²K UW*: 1.6 W/m²K with double glazing (Ug 1.0) UW*: 1.3 W/m²K with triple glazing (Ug 0.6)

WK2 Certified Security Level, with up to 21 locking points around the window

*Single Sash window1.400mm x 1.400mm

OPENING SYSTEMS MULTILOCK 56i² / C.E.52i²





SEALING SYSTEM

- EPDM corners for the central & glazing gaskets
- Optimized EPDM specimen to connect the Mullion Cap with the central gasket, ensuring effective water tightness

CO DURABILITY FOR A LIFE TIME

- max 2.35 m . 1.35 m /sash 130 kg /sash
- Glazing up to **53mm**
- Basic Depth **66.9** mm / **75.2** mm
 - Min Face Width F-S 108.2 mm

MODERN ARCHITECTURE perceives the **outdoor space** as an extension of the **indoor living** and aims to offer to the building maximum comfort and space efficiency.



The Sliding Systems are the ideal solution to these needs. With their large glass surfaces, they offer **maximum transparency** and allow **more natural light** to penetrate the building, while giving extra freedom and flexibility in **space utilization**.

We offer a wide range of sliding systems

- From Inwall solutions where the sliding sashes disappear into the wall
- 6 sashes solutions that create huge open areas (up to 12m)
- Lift & Slide solutions for excellent water tightness up to 300Pa and antiburglar protection WK2
- Solutions with Sliding Sash and a Fixed Glazing part, where the glazing is placed directly into the frame, creating a minimalistic look.



AN EXCELLENT PROPOSAL for renovations and hotel upgrades. The system offers numerous construction options and has distinguished - for its category - Uf values that improve the energy performance of the building.



 INWALL
 Uf:
 1.9-2.8 W/m²K

 SUCCESSIVE
 Uf:
 3.5-4.6 W/m²K

 UW*:
 1.8 W/m²K with double glazing (Ug 1.0)

O DURABILITY FOR A LIFE TIME

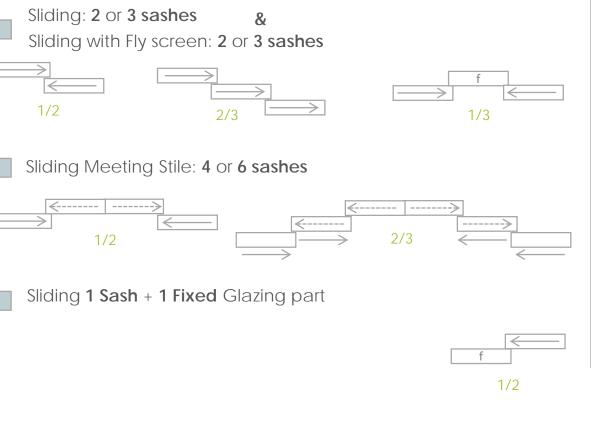
max	2.35 m	<u>max</u> 2.0 m /sash
	80 kg / sash S	150 kg /sash L/S
	Glazing up to 24	mm S 28 mm L/S

*Double Sash Successive Construction 2.500mm x 2.100mm



NUMEROUS DESIGN OPTIONS

SUCCESSIVE CONSTRUCTIONS

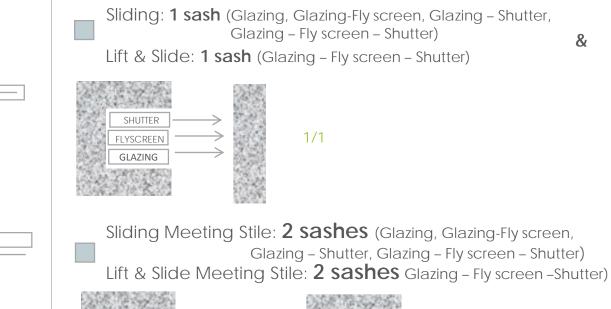


INWALL CONSTRUCTIONS

SHUTTER

FLYSCREEN

GLAZING



SHUTTER

FLYSCREEN

GLAZING

2/2

&



IDEAL FOR RENOVATIONS



- Inwall Frame Depth of only 93.3mm (Glazing-Fly Screen-Shutter)
- Modern and Linear design aligned to the contemporary Architectural trends

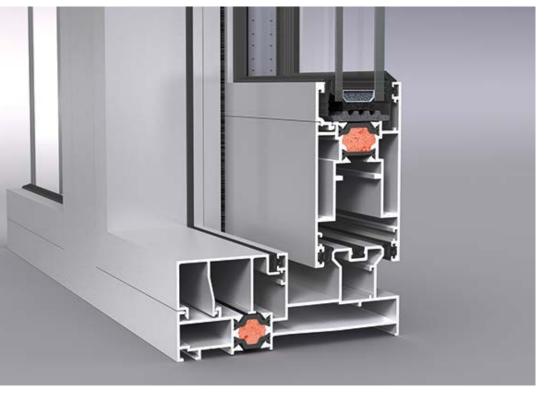
Narrow Successive Mullion Width:	56 mm only (instead of 91.7)
Basic Sash Depth:	33 mm
Min. Face Width:	119 mm

- Optional Use of 3 mechanisms (L/S 90Kg, L/S 150Kg and simple sliding)
- Innovative design of corner joint
- Silent function & Smooth sliding

Use of INOX tracks



With its exceptional WATER TIGHTNESS performance(300Pa) & ANTI-BURGLAR features of WK2 level, the thermal insulation system 6700 has reasonably gained the first place in the preferences (top selling Sliding System)



鉄 THERMAL INSULATION

 INWALL
 Uf:
 2.0-4.4 W/m²K

 SUCCESSIVE
 Uf:
 3.5-6.0 W/m²K

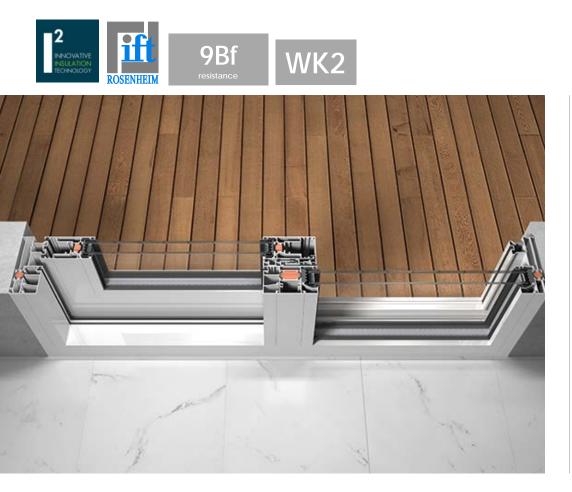
 UW*:
 1.7 W/m²K with double glazing (Ug 1.0)

ODURABILITY FOR A LIFE TIME

- ^{max} 2.35 m <u>max</u> 2.0 m /sash
- ¹⁵⁰ kg /sash

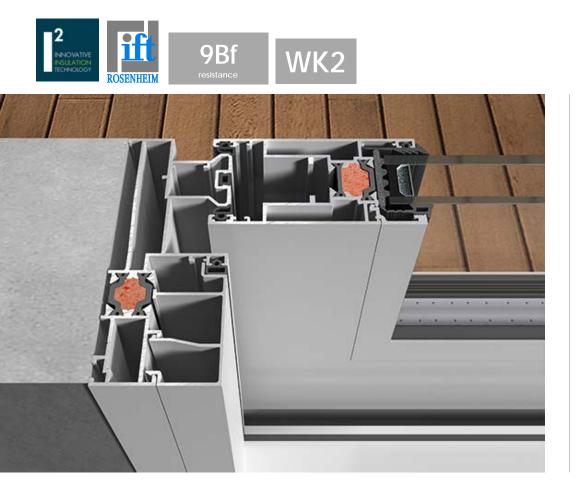
Glazing up to 28 mm

*Double Sash Successive Construction 4.000mm x 2.350mm



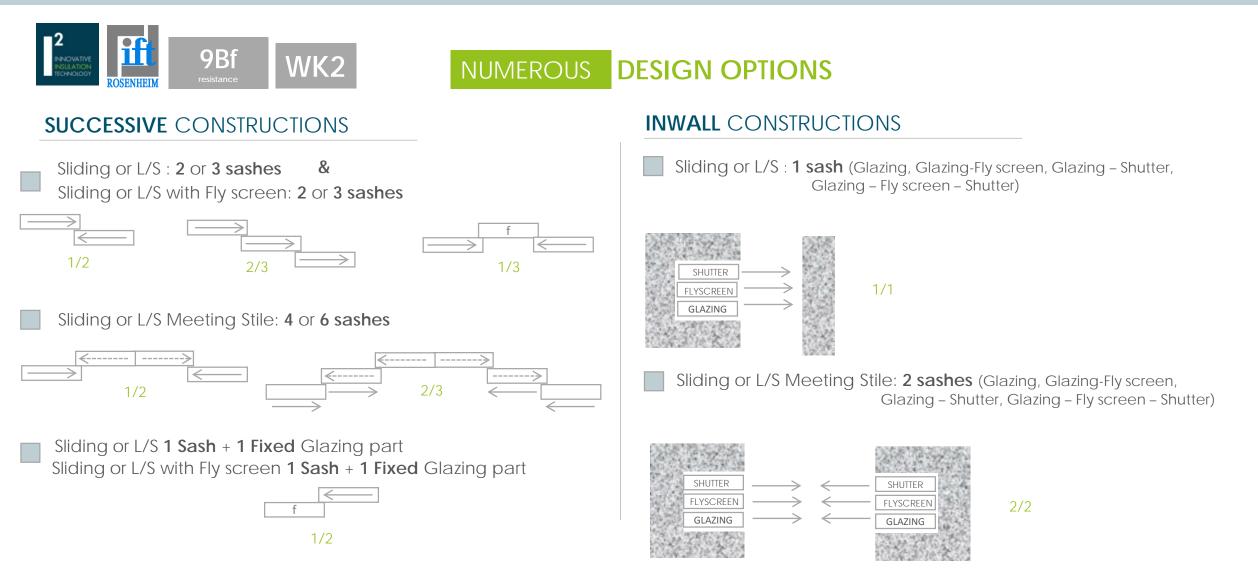
Modern and Linear design aligned to the contemporary Architectural trends

Narrow Successive Mullion Width:56.0 mm only (instead of 89.1)Basic Sash Depth:46.0 mmMin. Face Width:121.8 mm



EXTRA **FEATURES**

- Water tight sealing with EPDM gaskets and a complete set of innovative sealing specimens for both Successive & Inwall constructions (in L/S edition)
- Smooth operation due to linear alignment of the glazing weight with the rollers
- INOX tracks
- Optional Use of 3 mechanisms (L/S 90 kg, L/S 150kg and simple sliding)
- I² Technology can be applied on 6700 System, boosting its Energy Efficiency







IDEAL FOR HOTELS & PUBLIC BUILDINGS

Special edition: Combination of fixed glazing with sliding sash or lift & slide sash, with significant cost reduction up to 50%.

LIFT AND SLIDE SYSTEMS OPTIMUM 68





券 THERMAL INSULATION

Uf: **4.1-6.0** W/m²K UW*: 1.7 W/m²K with double glazing (Ug 1.0) UW*: **1.3** W/m²K with triple glazing (Ug 0.6)

CO DURABILITY FOR A LIFE TIME

- ^{max} 2.75 m <u>max</u> 3.0 m /sash

/kg 300 kg /sash

Glazing up to 44 mm

SOUND REDUCTION

Certified 41Db Sound Reduction

LIFT AND SLIDE SYSTEMS OPTIMUM 68





IDEAL FOR BIG OPENINGS

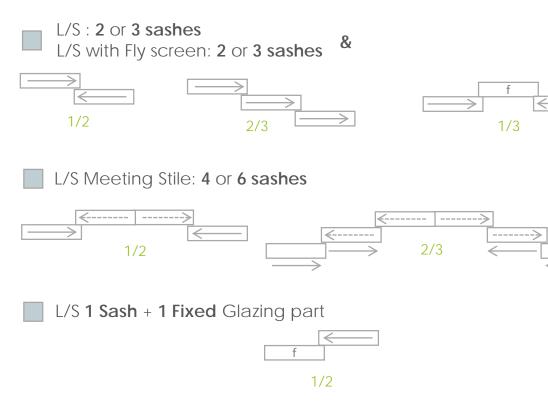
- Option of Electro motion with remote control
- Offers Ergonomics
- Silent Function
- Easy use and smooth sliding
- Solid Construction
- Modern, linear Design
- Use of INOX tracks
- Innovative central sealing and hook sealing
- Special Edition available with Sliding Sash and a Fixed Glazing part, where the glazing is placed directly into the frame, creating a minimalistic look.

LIFT AND SLIDE SYSTEMS OPTIMUM 68

NUMEROUS **DESIGN OPTIONS**



SUCCESSIVE CONSTRUCTIONS



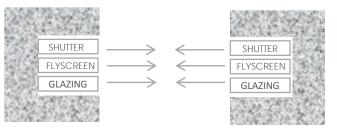
INWALL CONSTRUCTIONS

L/S : **1 sash** (Glazing, Glazing-Fly screen, Glazing – Shutter, Glazing – Fly screen – Shutter)

1/1

SHUTTER FLYSCREEN GLAZING

L/S Meeting Stile: **2 sashes** (Glazing, Glazing-Fly screen, Glazing – Shutter, Glazing – Fly screen – Shutter)



2/2



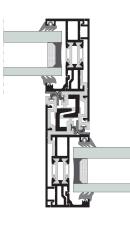
The MINIMAL Look SYSTEM

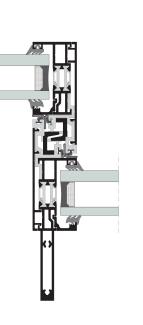
Free your imagination and transform a typical sliding system into a unique experience.

The Minimalist

Double or Triple Successive

3 design variants are developed for the middle vertical mullion, depending on the static needs of the project. All of them follow a gentle linear design, of only 35mm width.

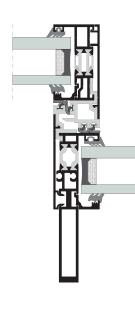


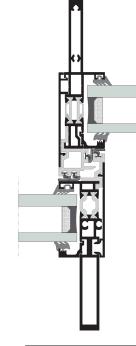


Standard Vertical Mullion [H < 1.500] Inside Rein orced Vertical Mullion Inside + Outside Rein orced Vertical Mullion



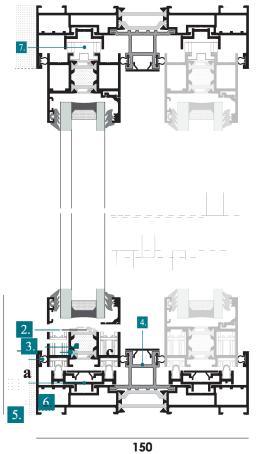
2 design variants are developed for the middle vertical mullion, depending on the static needs of the project. All of them follow a gentle linear design, of only 35mm width.





Inside Rein orced Vertical Mullion Inside + Outside Rein orced Vertical Mullion

The Minimalist TECHNOLOGY



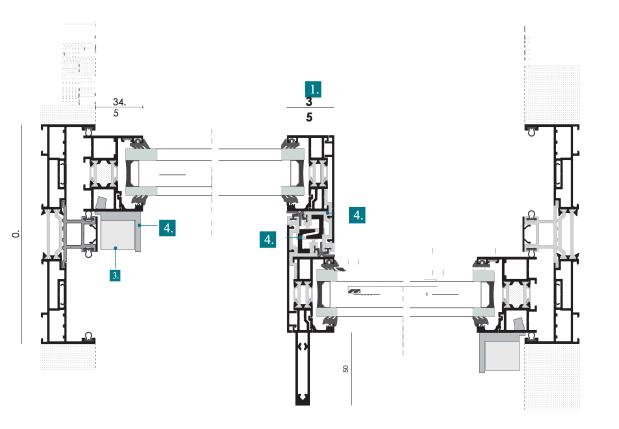
150 .5

> Indicative Vertical Section

Minimal Visible Height of only 34.5mm in the 1. integrated version and 75mm in the standard version.

- 2. Anti-distortion polyamides on all sashes, that minimize the banana effect and ensure excellent operation even when temperature difference on aluminium surface exceeds 40°C.
- 3. Linear square geometry of sash, standing on 2 roller sets, for optimized weight distribution and solid construction.
- 4. Optimization of system's thermal performance via customized insulating bar in the central area of the frame.
- 5. Add-on aluminium track for inox guides, offering extra easiness and speed in construction.
 - Q-lon or Special brushes are used, addressing
- 6. the peculiar issue of effective weather sealing in sliding systems.
- 7. Optional entry guide accessory, recommended for large openings.

The Minimalist TECHNOLOGY



]. Minimal Visible Face Width of only 35mm.

2. Customized Multi-Point Locking device, offering superior level of security.

Customized Locking Handle.

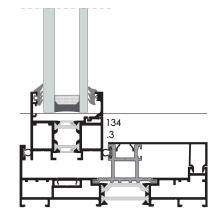
4. Aluminium Handle, with gentle linear shape.

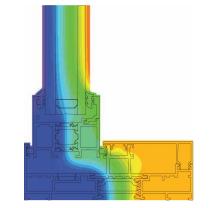
5. Aluminium Fixing Accessory, increasing middle mullion's stability.

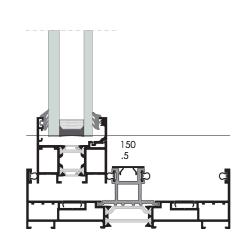
6. Specially designed labyrinth for Maximum Energy Efficiency.

Indicative Horizontal Section ENERGY PERFORMANCE

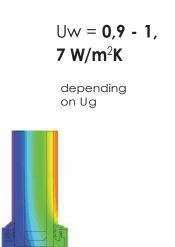
Excellent Isothermal Curves are achieved, in MINIMAL Look system.







Double Successive Uf= **3,5 W/m²K**



20°C 18°C 16°C 14°C 12°C

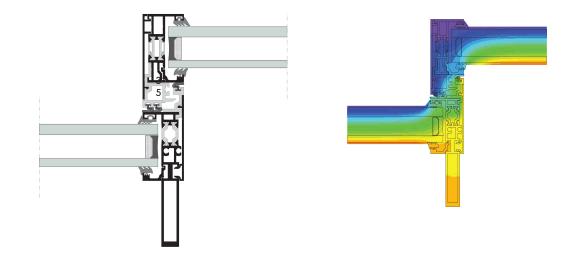
> 10°С 8°С

6°C 4°C 2°C

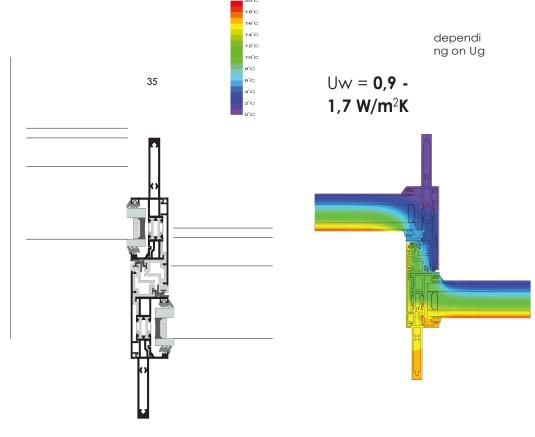
Sliding and Fixed Construction Uf= **3,4 W/m²K**

ENERGY PERFORMANCE

Excellent Isothermal Curves are achieved, in MINIMAL Look System.



Sliding and Fixed Construction



Double Successive

main entrances 80





Multiple Locking Points & tubular glazing clips

CO DURABILITY FOR A LIFETIME

- HH: | max | 2.55 m _ max 1.45 m /sash _ A /sash _ 150 kg /sash
- T4: max 2.35 m max 1.40m /sash
- Panel / Glazing up to 46mm

AUVANCED SEALING SYSTEM Automatic windbreak and threshold

<u>220 kg</u> /sash

RC3



New Class of Main Entrance

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The NEW Entrance System XCLUSIVE 88i² sets new standards in Energy Efficient Doors with a basic depth of only 77mm.

OUTSTANDING THERMAL INSULATION

- Uf : > 1.69 W/m²K
- Ud^* : **1.20** W/m²K with panel filling 28 mm (Up 1.0)
- Ud*: 0.95 W/m²K with panel filling 77 mm (Up 0.6)

Certified RC3 (WK3) Security Level thanks to its compatibility with wide range of security and anti-burglar locks.

Compatible with electronic access control systems.

*Single Sash Door 2.500mm x 1.350mm

New Class of Main Entrance



INNOVATIVE INSULATION

EXCELLENT SEALING SYSTEM

- **3 Level Sealing System** with EPDM gaskets and **continuous central** gaskets on Sash, Frame and Threshold
- **EPDM corners** for both central gaskets and the outer glazing gasket
- Innovative Mullion End Cap made of TPV material, sealing perfectly onto the profile, ensuring excellent water tightness

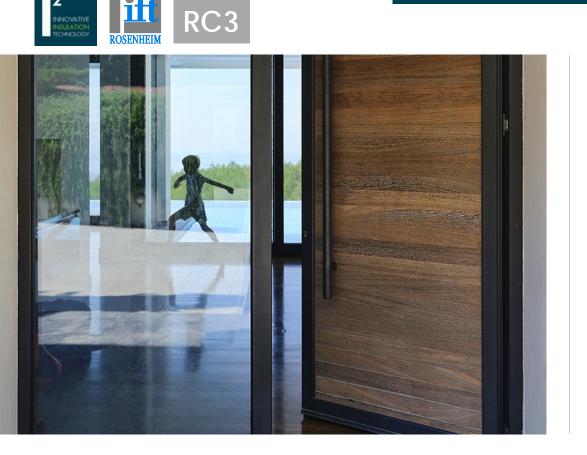
New Class of Main Entrance





- Anti-distortion glass fiber polyamides used on ALL sash profiles, in order to avoid the malfunctions caused by the profile expansion and contraction due to extreme temperature changes.
- **Easy-access** threshold of 20mm.
- Option of **automatic wind break**.
- Optional use of various hinges (hidden hinge, external heavy duty hinge).
- Locking System: Locks "U" type 24x6mm.
- Customized Dr.Hann Rollenband hinges available, in addition to external and concealed ones.

New Class of Main Entrance



EXTRA DESIGN FREEDOM

- The XCLUSIVE 88i² system offers EXTRA freedom in designing upgraded face-fitted door constructions that add value on the building's image
- Inward-opening and Outward-opening versions are available in ALL typologies:

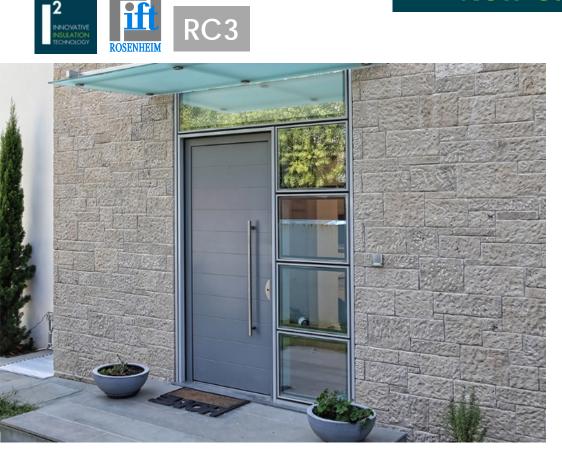
Single sash doors

Double sash doors

With fixed parts and/or with skylight

Leaf-enclosing infills are available on one side or both sides of the sash

New Class of Main Entrance



Modern and Linear design aligned to the contemporary Architectura trends

77.0 mm only
77.0 mm
141.2 mm
82.0 mm

The XCLUSIVE 88i² is compatible with Opening systems XCLUSIVE 85i²/86i²

CO DURABILITY FOR A LIFETIME

HH: | max | 2.55 m _ max 1.45m /sash A 150 kg /sash

Glazing up to 60mm Panel up to 77mm

ALUMINIUM IS OUR BUSINESS MAKING LIFE BETTER IS OUR PASSION



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