ES

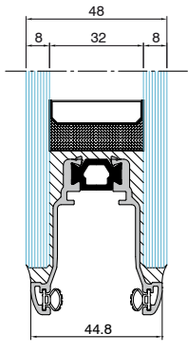
ESSENZA®

The full glazed window

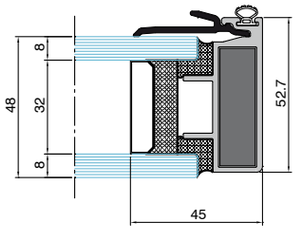
INDEX

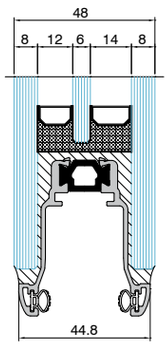
GENERAL DESCRIPTION OF SLIDING SYSTEM

ESSENZA is a range of doors that feature frameless/full glaze windows, both on the inside and outside.
The quality of the accessories and mechanisms and perfect assembly of the various components guarantee top performance ratings and optimal production standards.

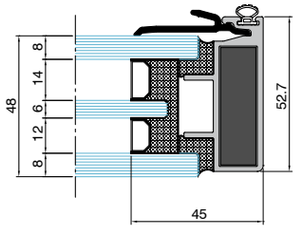


Sash section with double glazing





Sash section with triple glazing



System Composition

The sash features a completely glazed surface produced using technologies similar to those used for the structural sashes used in courtain walls.
The Essenza system comprises an internal glass pane of 8 mm, an air chamber of 32 mm and an external pane of 8 mm (see type ‘D’ in the glass table). The external pane can be a single 8 mm sheet (always tempered) or laminate (4 + 4 mm). The internal side comprises a tempered glass pane (8 mm).
To enhance the performance rating of the door, a double glazed version is available, which envisages a third glass pane inserted between the other 2 to obtain two air chambers (4+4/12/6/14/8T).

Between the two glass panes, there is a thermal cut aluminium profile, glued with special silicons, in which the door slides, and which raises and lowers the sash during the opening and closing phase.
The thickness of the Essenza full glazed version is mm (8-32-8), while that of the frame is 108 mm. When using the drip channel frame and T-REX profile cover, the frame width reaches 120 mm.

The sash and frame profiles are produced in ‘primary’ aluminium alloy EN AW 6060 with bars in polyamide containing glass fibre. The low thermal conductivity of the polyamide bars reduces heat exchange of from the interior to the exterior of the environment.
The thermal cut bars of the sash profile have a width of 17 mm and thickness of 1.8 mm, and are applied to the aluminium profiles with the mechanical rolling procedure on a specially grooved seat, to prevent sliding between parts.
The thermal cut bars of the sash profile have a width of 20 mm and thickness of 2 mm, and are applied on the profiles using the same mechanical procedure as for the sash profile.

T-REX joint

The hardware that enables the door to slide and close are installed inside a concealed aluminium profile, thanks to a screen-printed strip on the glass.
The Essenza system sash contains seals co-extruded in 'TPE', which during the sash rest phase restrict transit of air and water, enabling optimal system performance during the air-water-wind and acoustic testing. Note: on conventional 'lift and slide' systems, far less efficient seals are used to prevent the transit of air and water.
The Essenza frame is equipped with the T-REX joint, a device patented by GSG patent and which provides exceptional air and water tightness as well as thermal insulation. The T-REX joint is installed centrally on the frame's upper and lower cross beams at the middle profile.
In traditional sliding window and door systems, transverse heat losses through the surface combine
with significant longitudinal losses due to the fact that the thermal cut of the frame does not prevent
dispersion along its metal parts exposed to the interior and exterior.
On the Essenza system, transverse heat losses are minimised by the thermal cut of the profile, while the T-REX joint completely eliminates longitudinal losses.

Air-water-wind performance

The accessories, mechanisms, profiles and seals used in the Essenza system enable top rating performance levels, in line with optimal swing doors.

Essenza lift and slide is avalaible with two different sash load capacities: max weight of mobile sash up to 200 kg and up to 300 kg. The main different between these two typologies regards the hardware and a reinforce profile on the central groove for Essenza with load capacity of 300 kg.

Essenza sash load capacity 200 kg:

Resistence to wind load
Class C4
(on 2-sash door dimensions 2400 H x 2200 L)
Air tightness
Class 4
(on 2-sash door dimensions 2700 H x 3200 L)
Water-tightness
Class E900
(on 2-sash door dimensions 2700 H x 3200 L)

Essenza load capacity 300 kg

Resistence to wind load
Class C5*
(on 2-sash door dimensions 2370 H x 2200 L)
Air tightness:
Class 4
(on 2-sash door dimensions 3000 H x 4000 L)
Water-tightness
Class E900
(on 2-sash door dimensions 3000 H x 4000 L)

* on 2-sash door dimensions 3000 H x 4000 L Class B2

Essenza 200 kg
Max. sash surface area 4.3 m^2
Width / Height ratio > 1/3 (0.34)
Max weight of each sliding sash 200 Kg

Essenza 300 kg
Max. sash surface area 6 m^2
Width / Height ratio > 1/3 (0.34)
Max weight of each sliding sash 300 Kg

Thermal Transmittance

In order to calculate the Uw, the standards specify hot chamber physical testing, or calculations run with programs approved and certifi ed by notifi ed bodies or using tables. The calculation of the thermal transmittance must be performed by means of the specifi c algorithm developed in compliance with the standard UNI-EN-ISO 10077-Part 2.
In the case of Essenza thermal insulation is possible up to Uw = 1.4 W/m^2K with standard glazing and air.

Essenza Sound-proofing

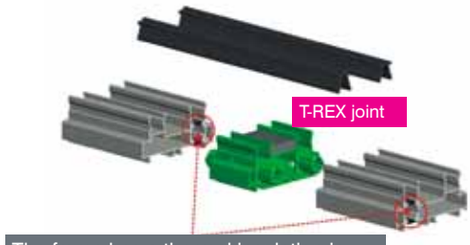
The sound-proofing value depends on the type of glass used (standard or sound-proofi ng) and can reach a reduction value of 40 dB.

TECHNICAL SPECIFICATIONS AND PERFORMANCE DATA OF SLIDING SYSTEM

THERMAL INSULATION

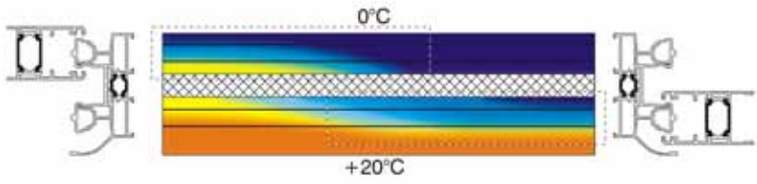
On conventional sliding systems, transverse heat losses through the surface combine with significant longitudinal losses due to the fact that the thermal cut of the frame does not prevent dispersion along its metal parts exposed to the interior and exterior.
The Essenza system eliminates transverse losses by increasing the thermal cut of the profiles.
Longitudinal losses can account for up to 25% of total losses.
The T-REX joint on the frame of Essenza systems is the only solution able to eliminate longitudinal losses.
T-REX is a GSG international patent.

The T-REX joint is installed centrally on the frame's upper and lower cross beams at the middle profile. The frame has a thermal cut in line with that of the sashes themselves.
The T-REX, applied centrally, combines the thermal insulation of the frame at various planes and shuts off longitudinal thermal losses. In practice, the thermal cut line is not normally straight, but split to form a 'Z' shape. This is how the T-REX shuts off longitudinal thermal losses.

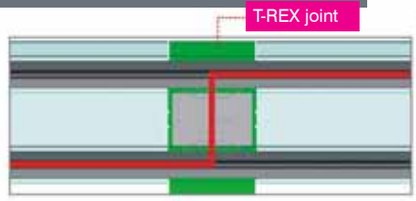


The frame has a thermal insulation in line with that of the sashes themselves

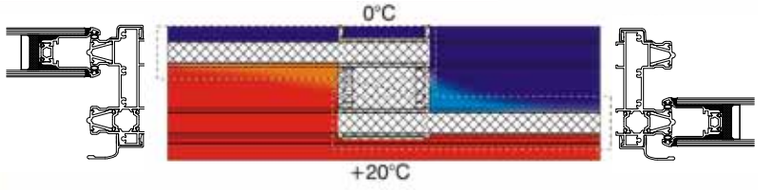
Thermography of a traditional sliding system



The "Z"-shaped thermal insulation of a Essenza frame mounting the T-REX system



Thermography of a Essenza T-REX sliding system



AIR / WATER TIGHTNESS AND SOUND PROOFING

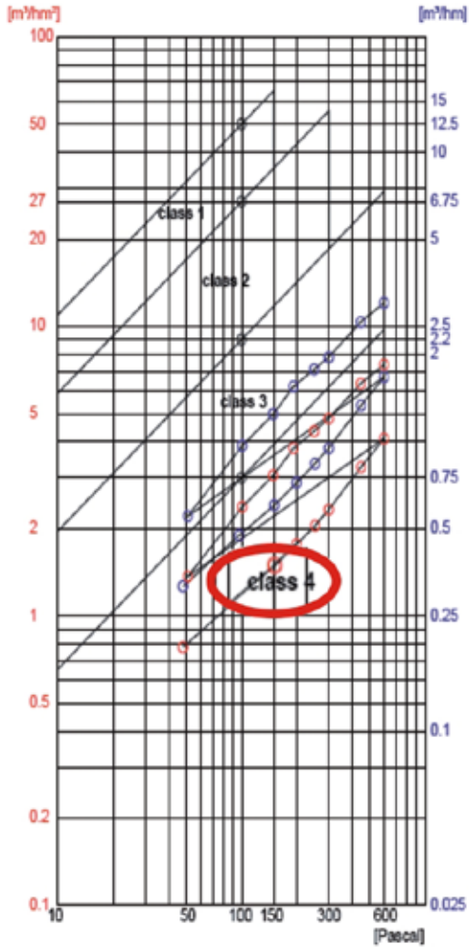
WATER-TIGHTNESS:
E900 ACCORDING TO EN12208
(on 2-sash door dimensions up to 2700 H x 3200 L)

AIR TIGHTNESS:
CLASS4 ACCORDING TO EN 12207
(on 2-sash door dimensions 2700 H x 3200 L)

SOUND-PROOFING:
40 dB ACCORDING TO UNI EN ISO 140/3 AND ISO 717/1

AIR AND WATER TIGHTNESS

Thanks to the solutions adopted, the Essenza system provides air and water proofing equivalent to that of an excellent swing door system.
Using perimeter gaskets, innovative seals on the central profile and high drainage capacity due to the T-REX device, the performance of the system is absolutely outstanding.
Air tightness is guaranteed by the same equipment which provides the waterproofing.



SOUND-PROOFING

In recent years, noise pollution has reached levels which has it made it necessary to issue standards and legislation governing building works to reduce the disturbance it causes.
Not only public buildings (schools, hospitals and so on) but also private residences are increasingly affected by this requirement, as the need for quality of living is particularly felt in such contexts.
The Essenza system uses extremely effective air tight components and special acoustic glass to satisfy the most stringent demands for soundproofing.

Intrusion Security

To feel safer and increase the security at home, it is advisable to choose a doors and windows with structurally resistant profiles, which by means of special accessories can meet these requirements for protection against break-ins.
In the standard configuration, Essenza already offers a high level of safety with locking points able to withstand up to 600 kg traction and with components protecting against lifting of the sash.
To increase safety further, specially developed accessories can be added, such as:
- Lock mechanism
- Anti-lift kit

Reliability

Reliability of Essenza doors and windows is ensured by the use of top quality materials and the rigorous testing applied to all system components.

The opening and closing mechanisms are tested in accordance with the reference standard EN 13126 16/2008 at the highest performance ratings (25,000 opening/closing cycles).

All Essenza fittings are corrosion proofed using a special GS Silver Plus treatment which classifies them as Class 4.

SUMMARY OF ESSENZA SYSTEM GENERAL AND PERFORMANCE DATA

	ESSENZA 200 KG	ESSENZA 300 KG
Max. surface area of mobile sash (with standard double glazing)	4,3 m^2	6 m^2
Max. surface area of fixed sash (with standard double glazing)	up to 7,2 m^2 *	up to 7,2 m^2 *
Min. sash dimensions	0,56 (L) x 0,65 (H) m	
Min. frame dimensions	1,16 (L) x 0,74 (H) m	
Max weight of 1 mobile sash	200 kg	300 Kg
Sash and Frame profiles	Thermal cut aluminium	Thermal cut aluminium
Sound-proofing**	Up to 40 dB (EN 140/3, EN 717/1)	Up to 40 dB (EN 140/3, EN 717/1)
Thermal insulation **	Up to 0,8 W/ m^2 K	Up to 0,8 W/ m^2 K
Air tightness **	Class 4 (EN 12207)	Class 4 (EN 12207)
Water-tightness **	E 900 (EN12208)	E 900 (EN12208)
Wind resistance **	Class C4, 1600 Pa (EN 12210)	Classe C5, 2000 Pa (EN12210)***
Standard double glazing	4+4/32/8T or 8T/32/8T T=tempered	4+4/32/8T or 8T/32/8T T=tempered
Double chamber glazing	4+4/12/6/14/8T or 8T/12/6/14/8T T=tempered	4+4/12/6/14/8T or 8T/12/6/14/8T T=tempered

* Subject to technical check of door/window characteristics.

** Performance referred to specific test configurations.

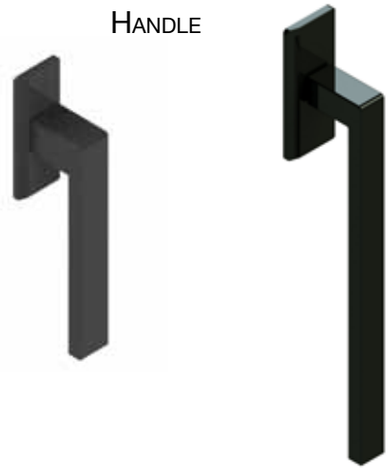
*** On 2-sash door dimensions 3000 H x 4000 L Class B2

ACCESSORIES

Handle

The handle features a unique and ergonomic design to facilitate opening and closing of standard and heavy door sashes. Essenza brass handles undergo a PVD treatment to increase scratch-proof properties and abrasion resistance, thus guaranteeing durability and original aesthetics over time.

Handle



Kit L&S Door carriage (patented)*

Essenza carriages, in 100% die-cast Zamak, guarantee smooth sliding of the sash, even on heavy duty models. The kit comprises a pair of 2-wheel carriages for use on sashes with an overall weight of up to 200 kg (tested to 25,000 cycles according to standard EN 13126) and a corner mechanism with clip-on fixture, for quick installation.
The connection between the two carriages is provided by a polyamide rod. The rear carriage is equipped with a micrometer vertical sash adjuster (+/- 2 mm).

Kit L&S Door carriage

Locking point

A locking point for the Essenza system comprises a nib holder, nib and counterplate.
3 locking points are envisaged for each Essenza sash, which can be increased according to specific client requirements.
The nib holder fits into the 15/20 channel of the sash and is actuated by the polyamide rod.
The counterplate applies to the frame without the need for any profile machining.
The locking point has been tested under traction with loads in excess of 500 Kg (as per the anti-intrusion standard ENV 1630:2000).

Locking point

Anti-lift and damper plugs (Patented)

These mount to the sash to prevent potentially damaging collisions with the frame when closing the sash. They also provide the anti-lift function. An innovative solution enables the plugs to be mounted near to the middle profile and not only at the lateral extremities of the sashes.

Anti-lift and damper plugs

* For Essenza with load capacity of 300 kg /sash is used an hardware system purchased by a supplier.

OPTIONALS

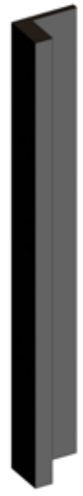
Extra Locking points
On request the standard number of locking points can be increased (3 per door).

External pull handle
On request, the frame exterior can be fitted with a pull handle. This article is recommended for all door/window configurations that envisage opening onto a terrace or garden.

Cylinder lock
On request, a lock can be added to block door handle rotation. The Europeo profile key cylinder can only be fitted on the internal side or as a through inside/outside mechanism.

Anti-lift system
On request, an anti-lift system can be fitted on the interior of the sash, to increase safety and resistance to sash lifting.

Pull handle



Locks

Anti-lift system

STANDARD FINISH ESSENZA LIFT&SLIDE:

FRAME PROFILE	BLACK OXIDATED
SASH PROFILE	BLACK OXIDATED
THRESHOLD	BLACK OXIDATED
SERIGRAPHY	BLACK
HANDLE	PVD BLACK

FRAME PROFILE	PAINTED WHITE RAL9010
SASH PROFILE	PAINTED WHITE RAL9010
THRESHOLD	SILVER OXIDATED
SERIGRAPHY	WHITE
HANDLE	SATIN-FINISHED CHROME

FRAME PROFILE	PAINTED GRAY RAL7042
SASH PROFILE	PAINTED GRAY RAL7042
THRESHOLD	SILVER OXIDATED
SERIGRAPHY	GRAY
HANDLE	SATIN-FINISHED CHROME

PERSONALIZATION OPTIONS:

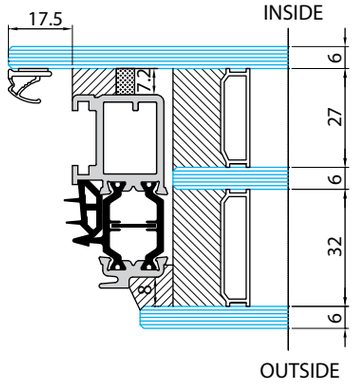
Possible by request, after verifiability technique and sample approved by the customer.

* The profile with lowered threshold is available in the oxidised finish only.

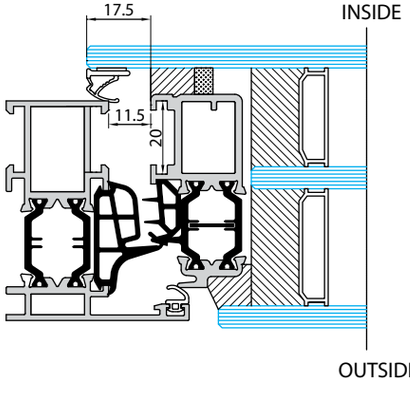
GENERAL DESCRIPTION OF ESSENZA SIDE-HUNG SYSTEM

Along with the maximum size of the glazing surface and the minimalist aesthetics of a completely hidden profile, it also features the flush surface typical of a swing opening door or window.

Casement sash section

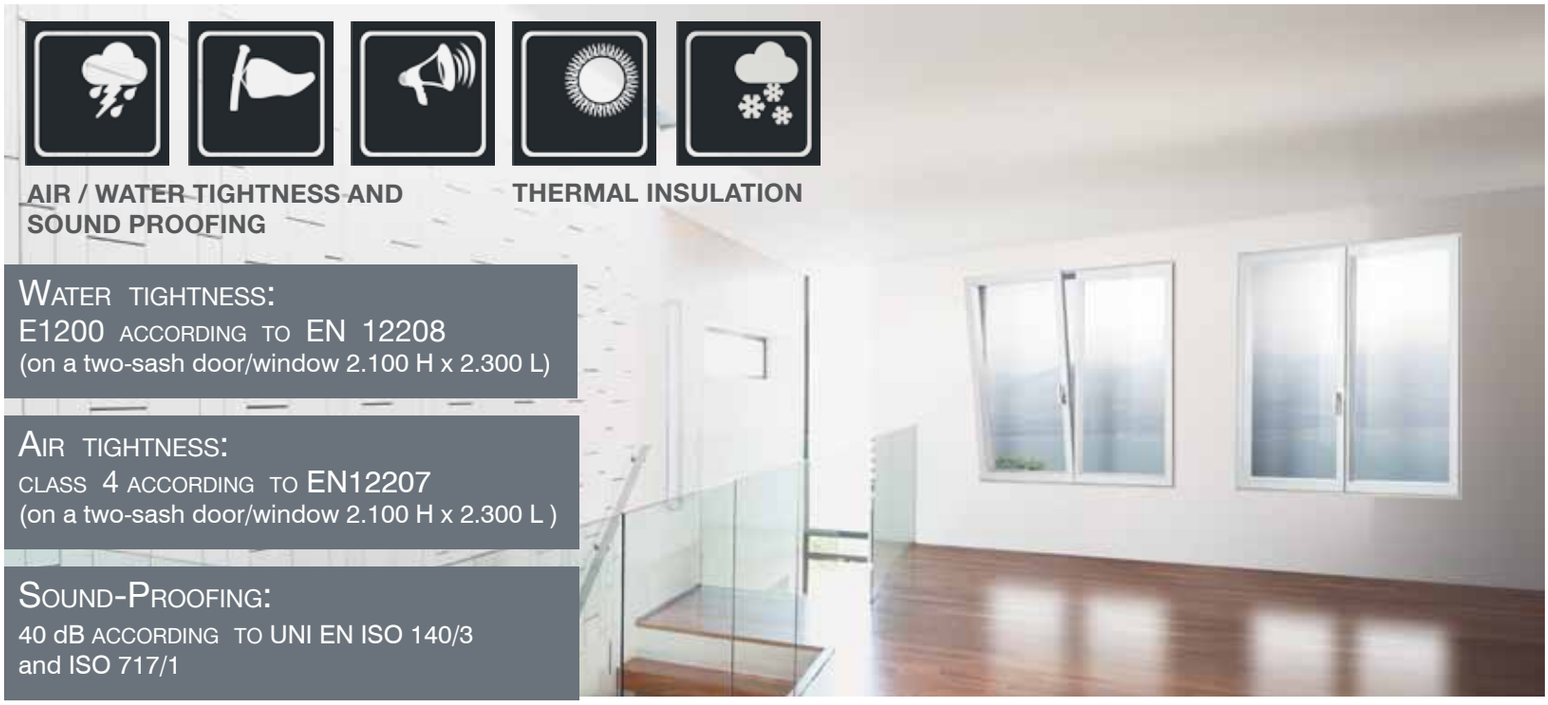


Euro groove section



SYSTEM COMPOSITION

The sash has a completely glazed surface based on similar technologies to the structural sashes used on continuous facades. The Essenza system comprises a 6 mm internal glass pane, a 27 mm air chamber, a 6 mm intermediate pane, another 32 mm air chamber and a 6 mm external pane. The external pane can be either a single 6 mm tempered sheet or laminate.
The internal side always consists of a single 6 mm glass pane.
The profiles, all featuring a thermal break with 24 mm bars, are Euro groove type and house the Futura 3D Invisible concealed fittings with a sash load capacity of up to 140 kg.
The full-glazed effect is also ensured by an important innovation consisting of the SMART CORNER joint patented by GSG, which gives side-hung Essenza a central profile of minimal dimensions. The smart corner is applied to the profile of the second sash and serves to unite the two sash profile geometries. This enables the profiles to close perfectly without the need for an additional rabbet reversal profile, an element normally adopted in all side-hung systems.
Between the two closed sashes there is only a joint of a few millimetres: the rest is transparent.
As in the case of the Essenza sliding door or window, here too the profiles embedded in the glass are completely concealed by a screen-printed strip.



AIR / WATER TIGHTNESS AND SOUND PROOFING

THERMAL INSULATION

WATER TIGHTNESS:
E1200 ACCORDING TO EN 12208
(on a two-sash door/window 2.100 H x 2.300 L)

AIR TIGHTNESS:
CLASS 4 ACCORDING TO EN12207
(on a two-sash door/window 2.100 H x 2.300 L)

SOUND-PROOFING:
40 dB ACCORDING TO UNI EN ISO 140/3
and ISO 717/1

AIR-WATER-WIND PERFORMANCE

The air, water and wind tightness system uses open joint technology so achieve excellent performance standards.

Resistance to wind load: up to Class C5 (2.000 Pa)
(on a single-sash door/window)
Air tightness: Class 4
(on a two-sash door/window 2.100 H x 2.300 L)
Water tightness: E1200 (1.200 Pa)
(on a two-sash door/window 2.100 H x 2.300 L)

THERMAL TRANSMITTANCE

In order to calculate the Uw, the standards specify hot chamber physical testing, or calculations run with programs approved and certified by notified bodies or using tables. The calculation of the thermal transmittance must be performed by means of the specific algorithm developed in compliance with the standard UNI-EN-ISO 10077-Part 2.

SOUND-PROOFING

The sound-proofing value depends on the type of glass used (standard or sound-proofing) and can reach a reduction value of 40 dB.

WATERPROOFING

Side-hung Essenza achieves the excellent value of 1,200 Pa as a result of the hardware used.
The quality of GSG fittings guarantees superior performance to most side-hung systems on the market.

SECURITY AND RELIABILITY

The number of lock points can be increased to achieve maximum possible security.
The pawls are made of stainless steel and the zamak strikers are corrosion proofed using a special GS Silver Plus treatment that enables them to be classified as Class 4.

SUMMARY OF ESSENZA SYSTEM GENERAL AND PERFORMANCE DATA

	ESSENZA CASEMENT
Max. surface area of sash (with standard double glazing)	2,5 m^2
Min. sash dimensions	0,50 (L) x 0,70 (H) m
Max. weight of 1 sash	140 Kg
Sash and Frame profiles	Thermal cut aluminium
Sound-proofing*	Up to 40 dB (EN140/3, EN717/1)
Thermal insulation *	Up to 0,8 W/m^2K
Air tightness *	Class 4 (EN12207)
Water-tightness*	E 1200 (EN12208)
Wind resistance*	Class C5 - Up to 2.000 Pa (EN12210)
Double chamber glazing	6T/32/5/27/6T T=tempered

* Performance reffered to specific test configurations.

ACCESSORIES

Handle

The design of Essenza casement handle is the same as used for lift and slide range.
Essenza brass handles undergo a PVD treatment to increase scratch-proof properties and abrasion resistance, this guaranteeing durability and original aesthetics over time. Essenza handles are also available in aluminium.

Concealed hinges

Tilt and turn configuration for standard Essenza casement .
It is used the concealed hinges to guarantee total transparency.

STANDARD FINISH ESSENZA CASEMENT

FRAME PROFILE	BLACK OXIDATED
SASH PROFILE	BLACK OXIDATED
THRESHOLD	BLACK OXIDATED
SERIGRAPHY	BLACK
HANDLE	PVD BLACK

FRAME PROFILE	PAINTED WHITE RAL9010
SASH PROFILE	SILVER OXIDATED
SERIGRAPHY	WHITE
HANDLE	SATIN-FINISHED CHROME

FRAME PROFILE	PAINTED GRAY RAL7042
SASH PROFILE	SILVER OXIDATED
SERIGRAPHY	GRAY
HANDLE	SATIN-FINISHED CHROME

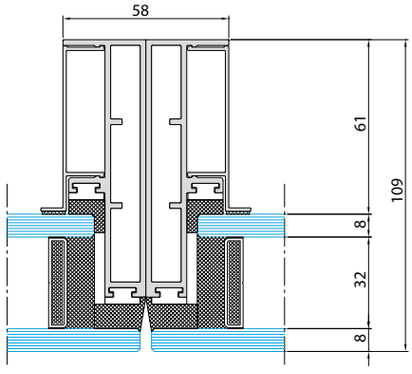
PERSONALIZATION OPTIONS:

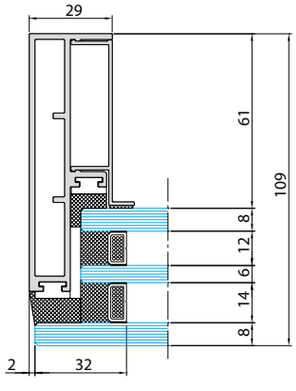
Possible by request, after verifiability technique and sample approved by the customer.

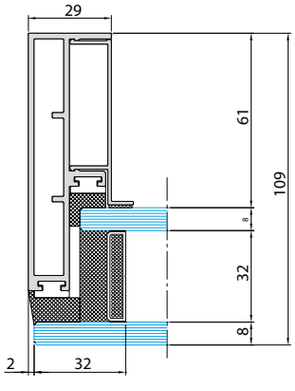
GENERAL DESCRIPTION OF ESSENZA FIXED SYSTEM

The ESSENZA range is complemented by the fixed system which can be built in a single-panel version or integrated with the ESSENZA sliding door/window and ESSENZA side-hung door/window.

Fixed element section







Essenza Fixed structural system

The Essenza system is characterized by an over-lap glass structurally glued to an alluminium frame painted or oxidized.All fastenings are hidden by a cover.
The possible configurations are:
- One or more fixed panels
- Sliding door/window with transom or fixed element alongside
- Casement door/window with transom or fixed element alongside

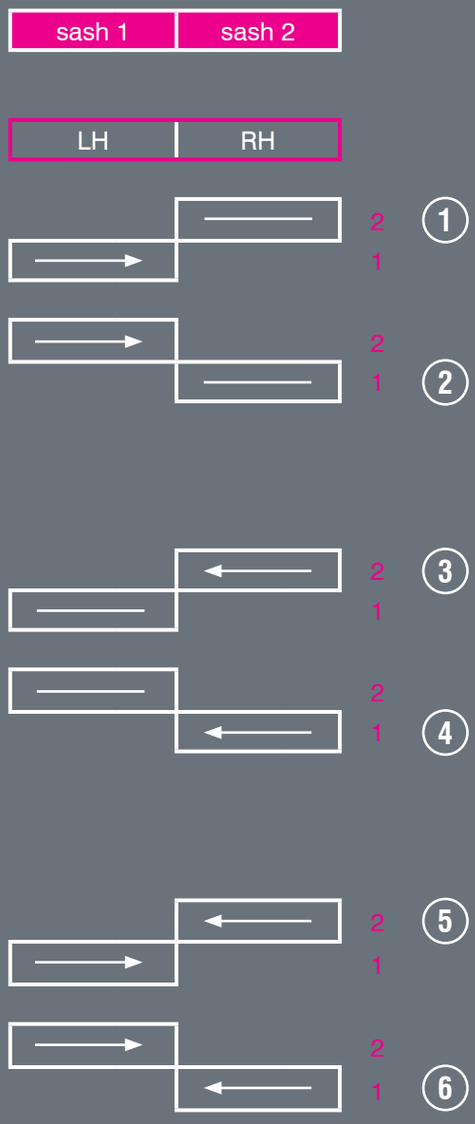
Given the existence of multiple configurations, the panel dimensions must be evaluated by the designer on a case-by-case basis according to the relevant parameters.

The glass of Essenza fixed, double and triple, is the same of Essenza lift and slide.

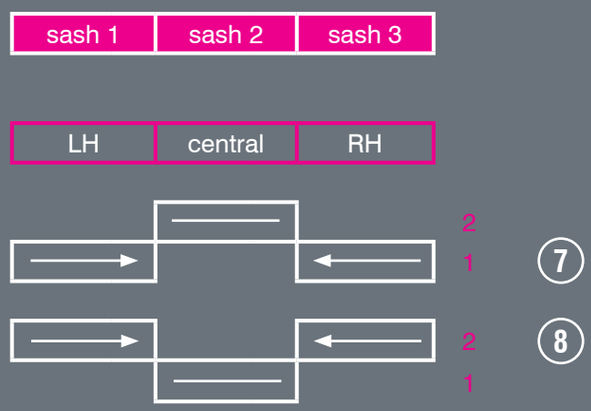
TYPES POSSIBLE: ESSENZA SLIDING DOOR

Internal track = 1
External track = 2

2 SASH WINDOW/DOOR



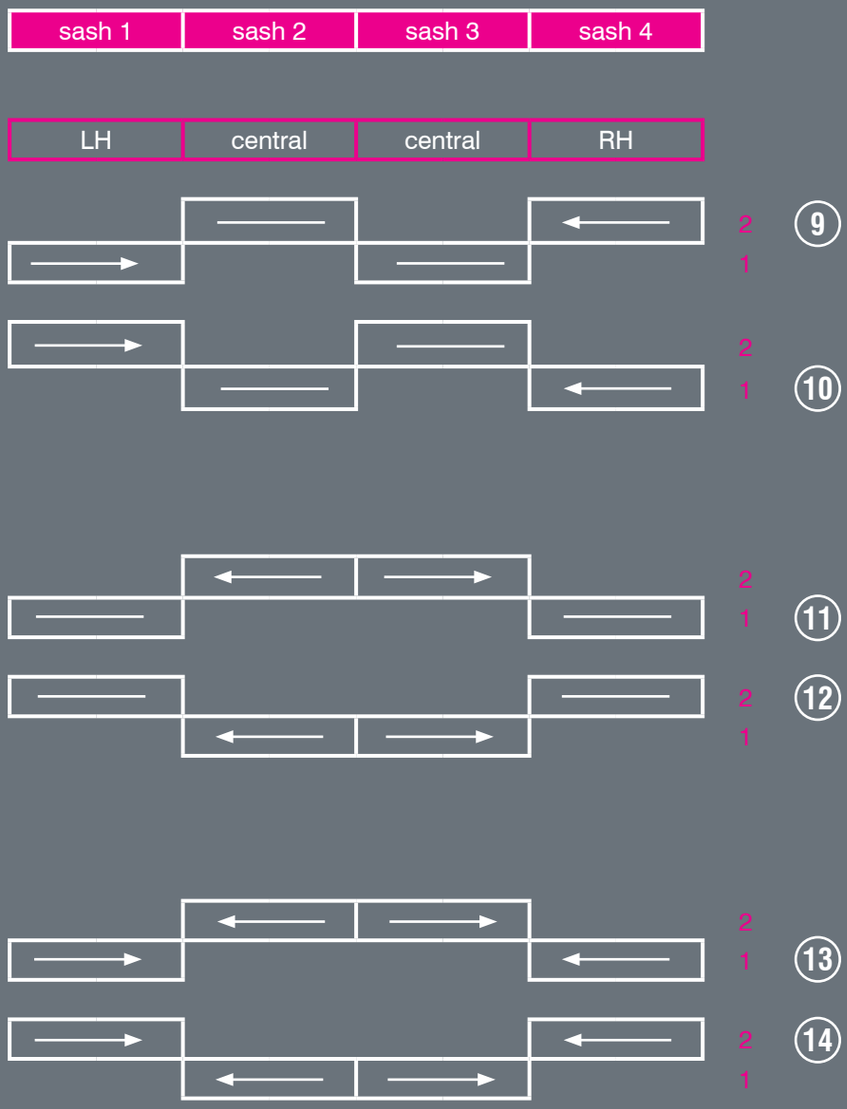
3 SASH WINDOW/DOOR



TYPES POSSIBLE: ESSENZA SLIDING DOOR

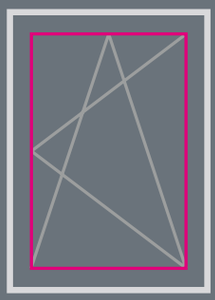
Internal track = 1
External track = 2

4 SASH WINDOW/DOOR



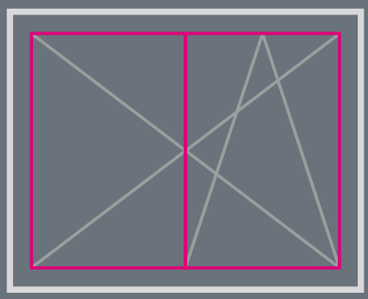
TYPES POSSIBLE: ESSENZA CASEMENT

1 SASH WINDOW/DOOR

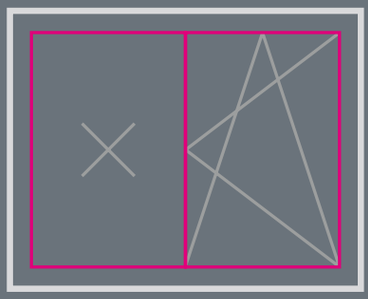


1 tilt-and-turn sash

2 SASH WINDOW/DOOR



2 sashes: tilt-and-turn + side hung

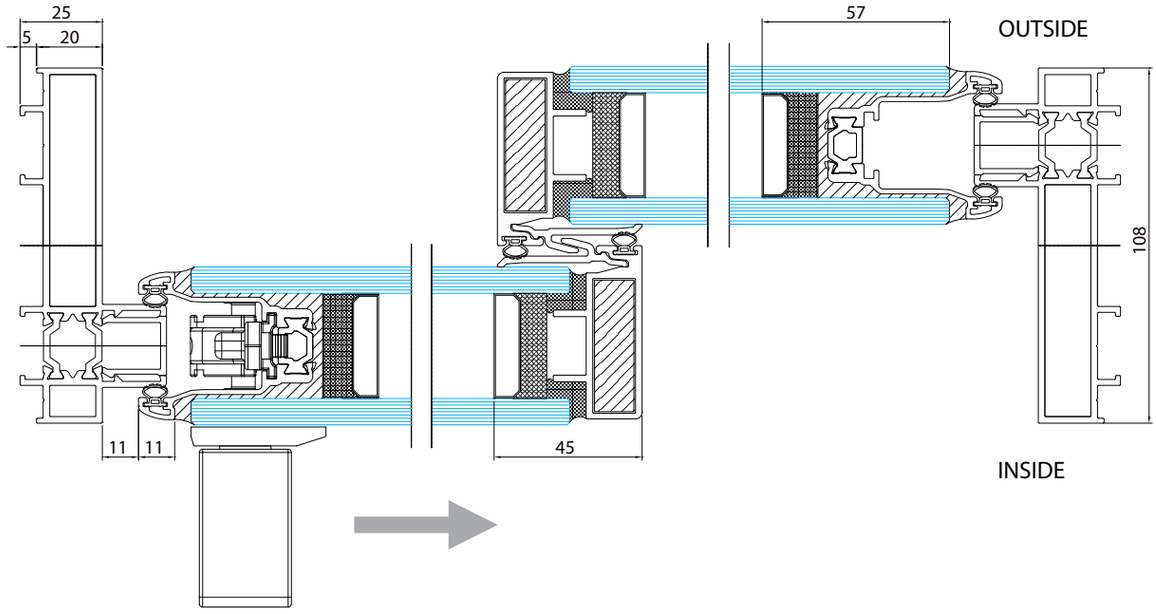


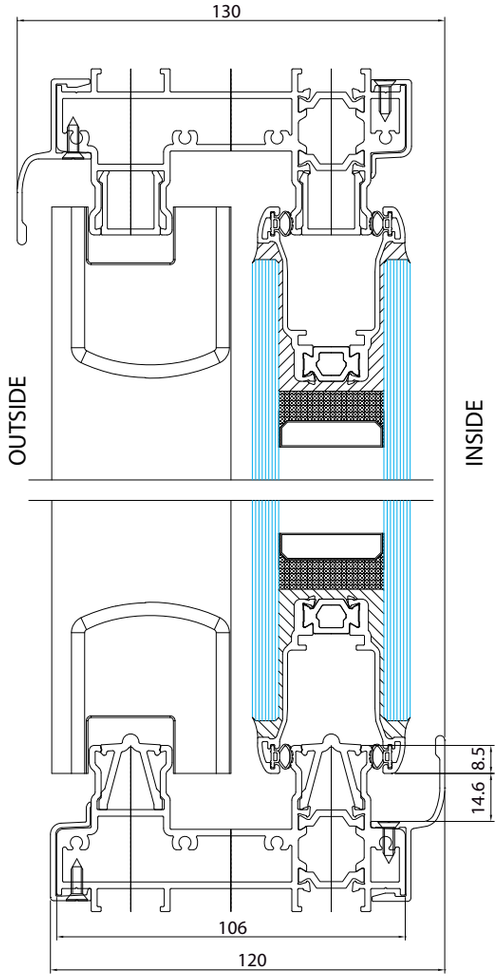
2 sashes: tilt and turn + fixed sash

TECHNICAL DRAWINGS

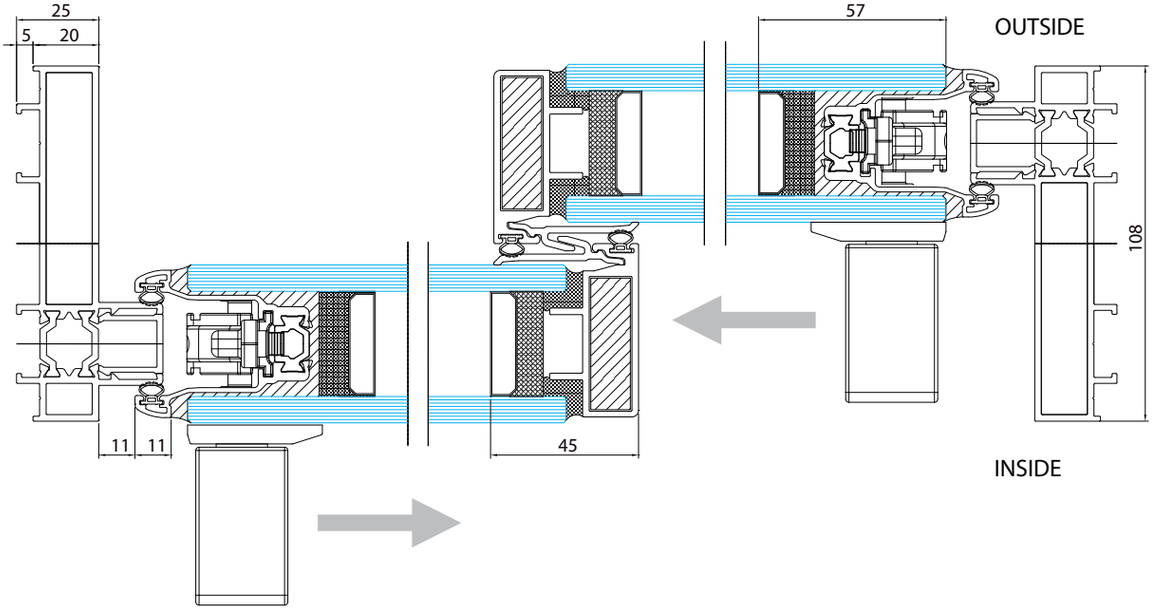
ESSENZA 200 KG

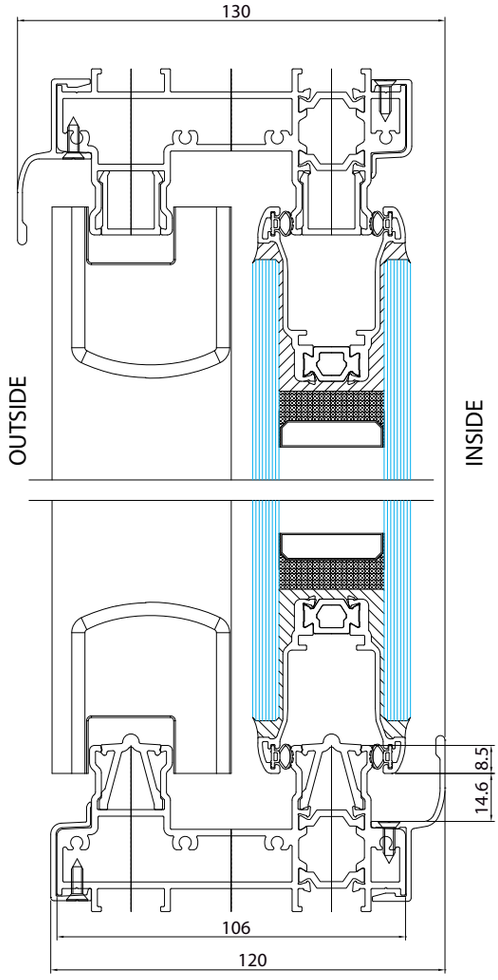
2-SASH ESSENZA SLIDING DOOR: 1 MOBILE + 1 FIXED



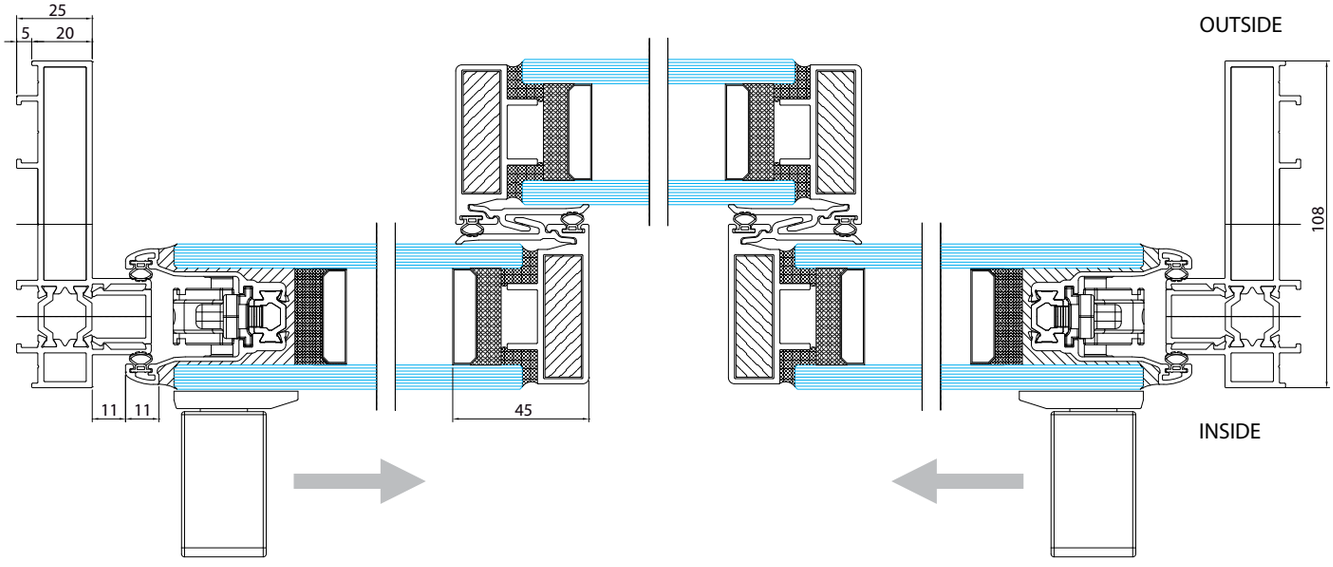


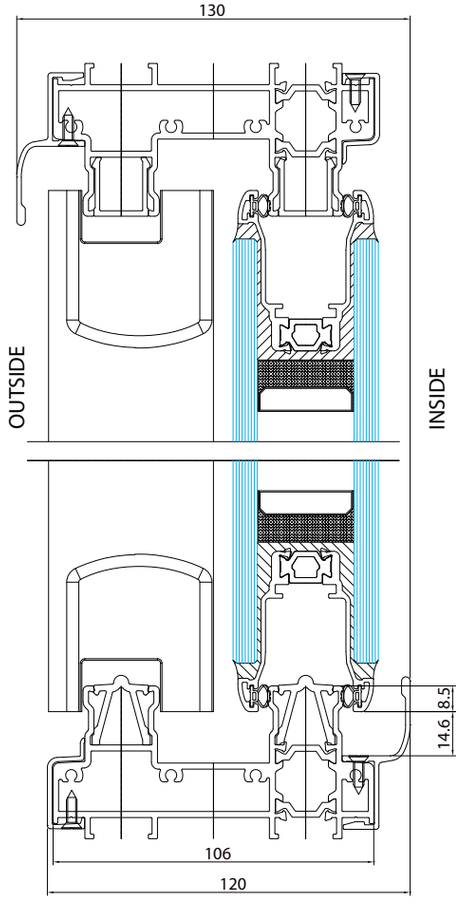
2-SASH ESSENZA SLIDING DOOR: 1 MOBILE + 1 MOBILE



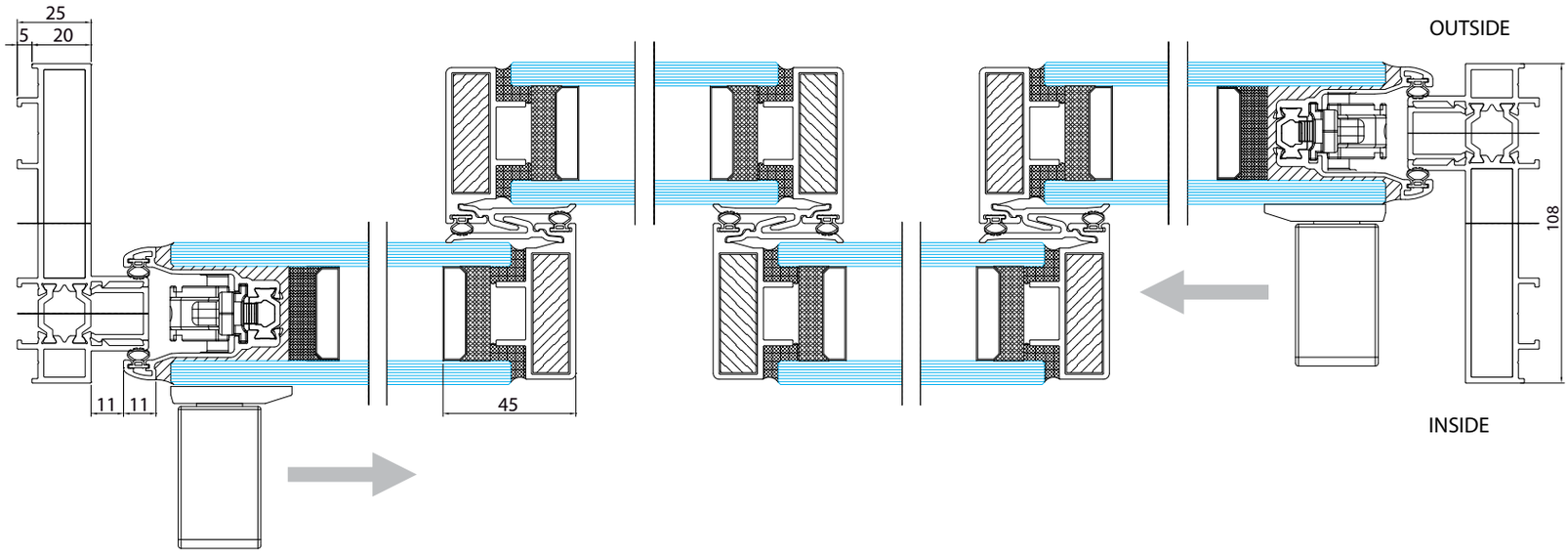


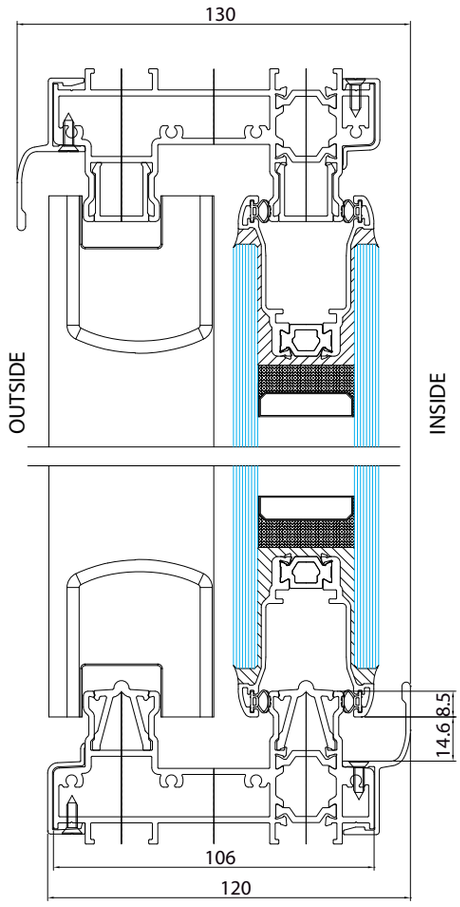
3-SASH ESSENZA SLIDING DOOR: 1 CENTRAL FIXED AND 2 SIDE MOVABLE



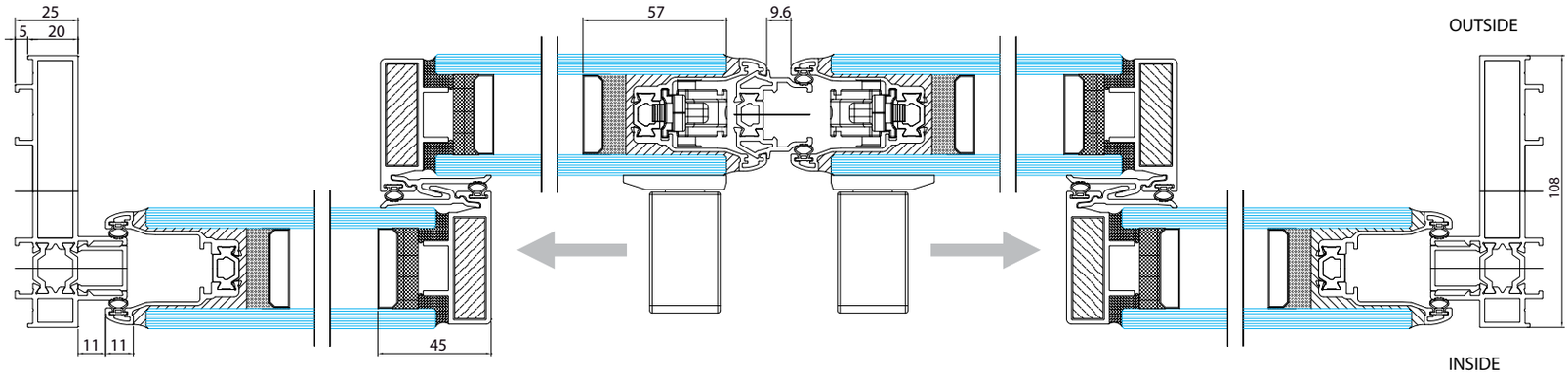


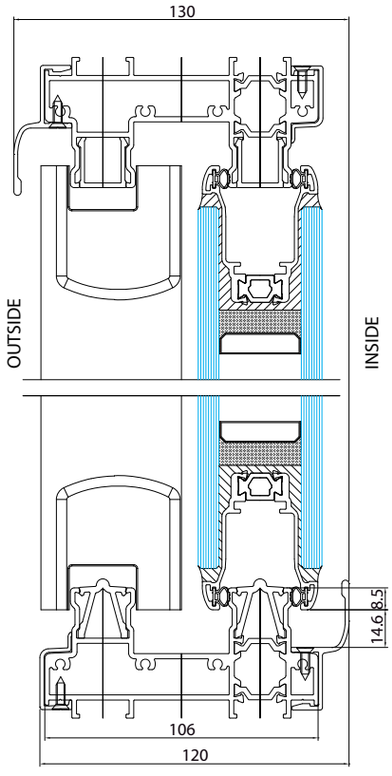
4-SASH ESSENZA SLIDING DOOR: 2 MOVABLE SIDES AND 2 FIXED CENTRAL



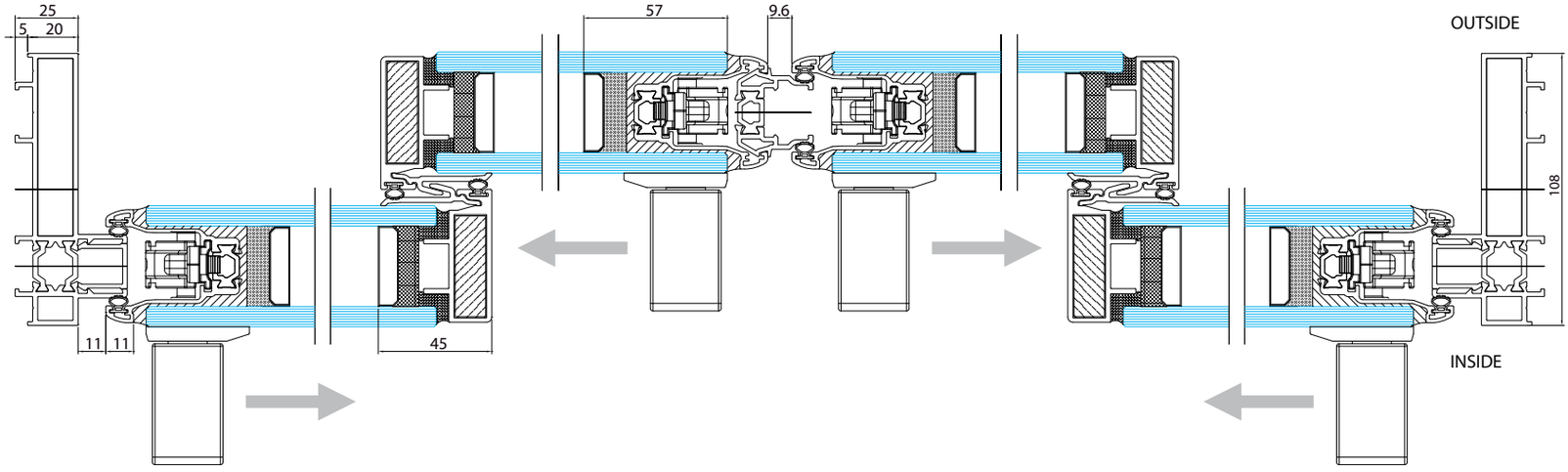


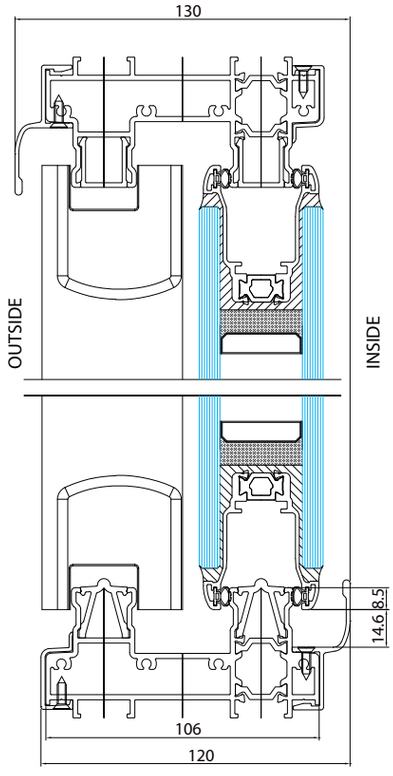
4-SASH ESSENZA SLIDING DOOR:
2 FIXED SIDES
2 MOBILE COUNTERPOSED CENTRAL





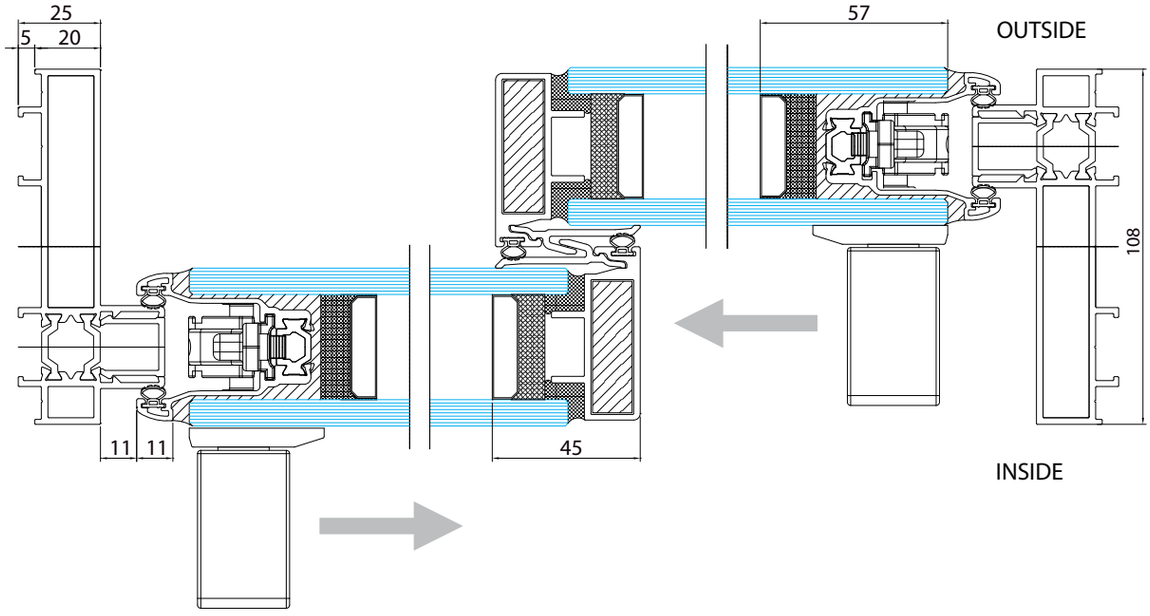
4-SASH ESSENZA SLIDING DOOR:
2 MOVABLE SIDES
2 MOBILE COUNTERPOSED CENTRAL

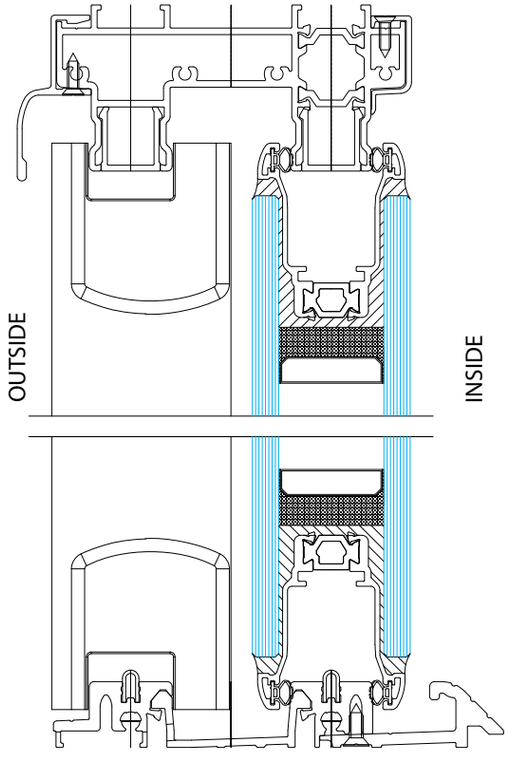




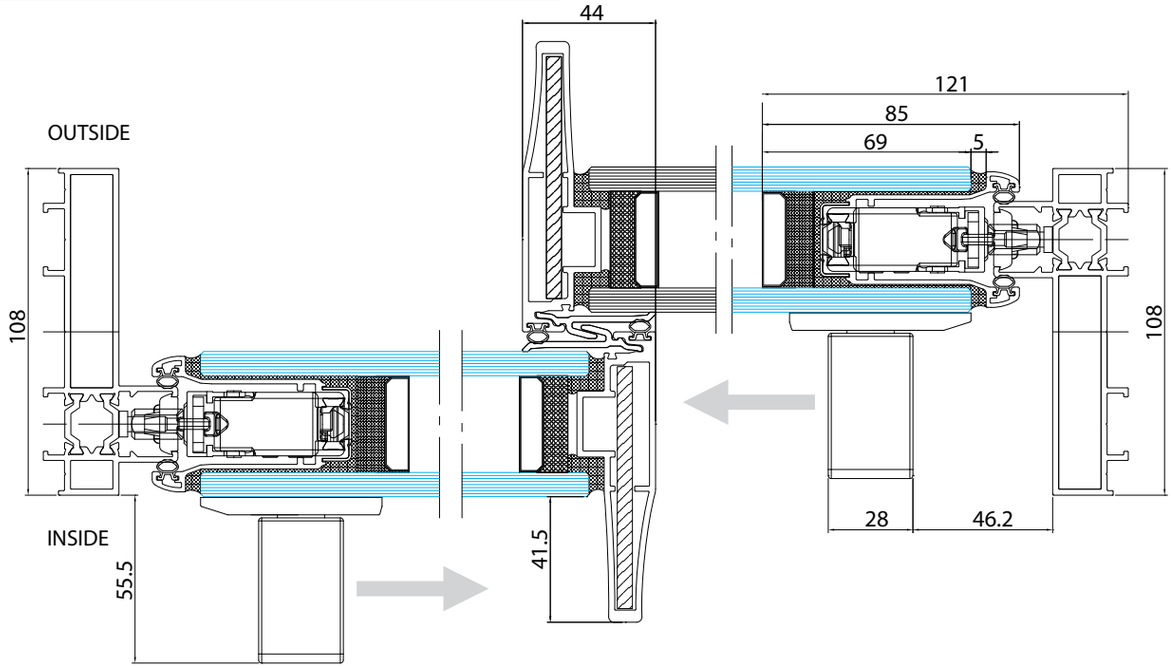
VERSION WITH LOWERED THRESHOLD

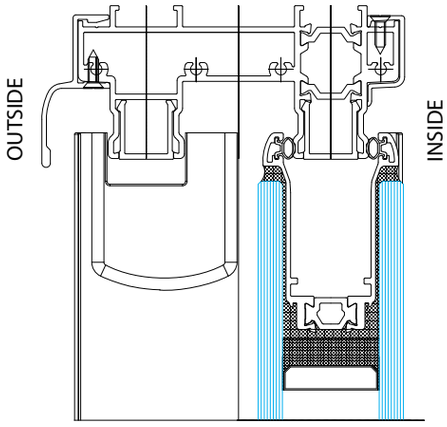
The frame profile is available in the version with lowered threshold.
This solution is particularly suitable when the user cannot or does not wish to flush-mount the frame in the floor.

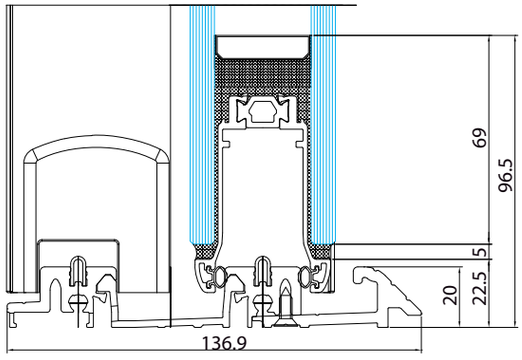




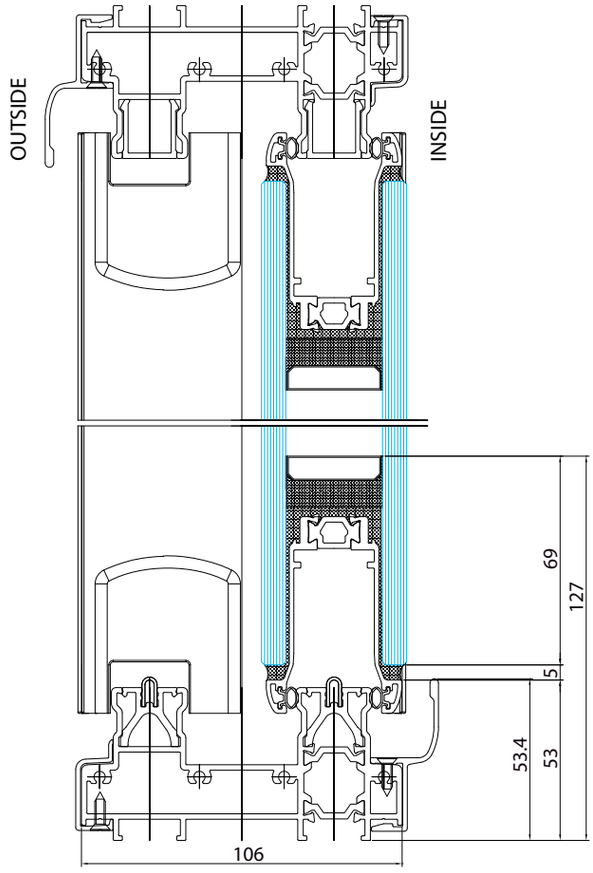
ESSENZA 300 KG







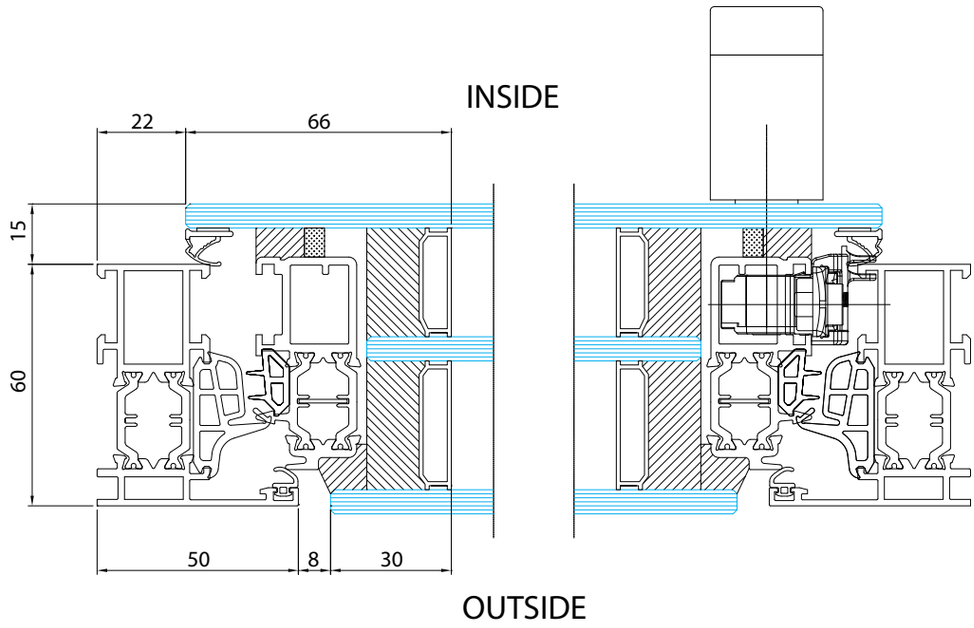
LOWER THRESHOLD



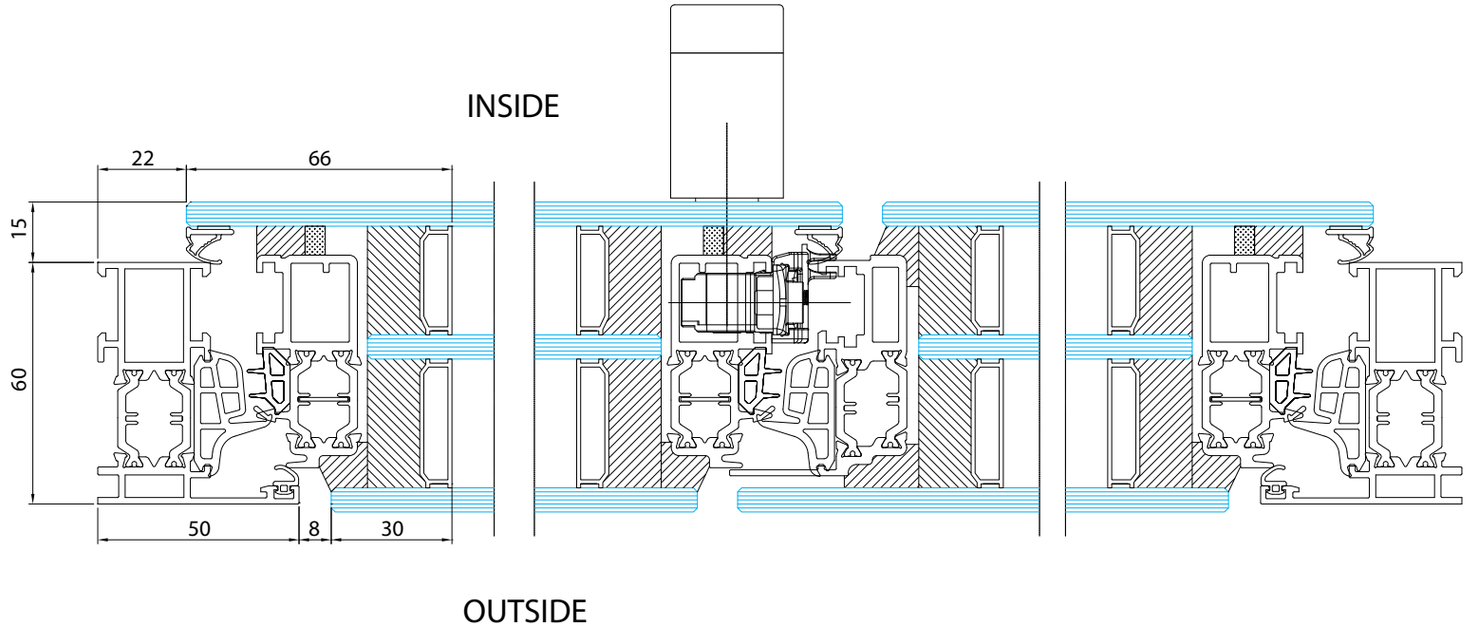
STANDARD THRESHOLD

ESSENZA CASEMENT

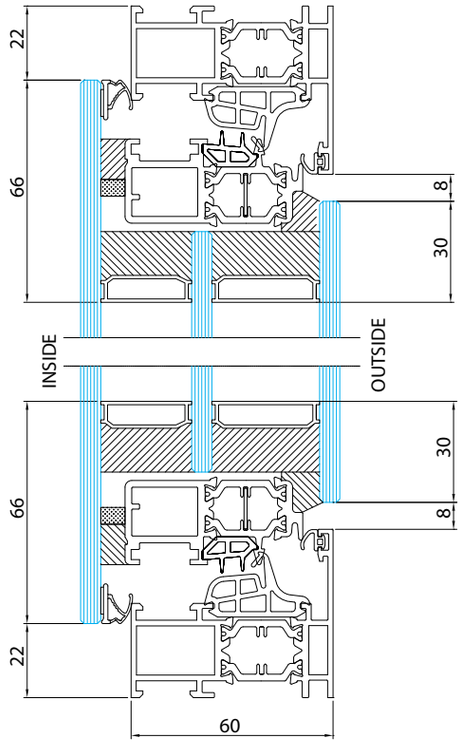
ESSENZA CASEMENT
1 SASH



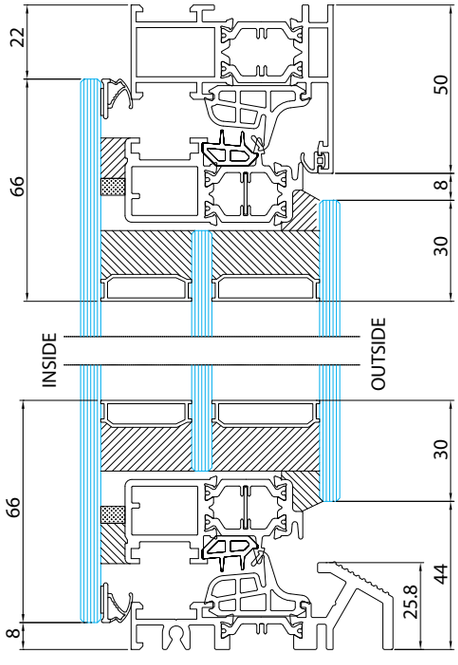
ESSENZA CASEMENT
2 SASH



ESSENZA CASEMENT
VERTICAL SECTION
WITH STANDARD FRAME

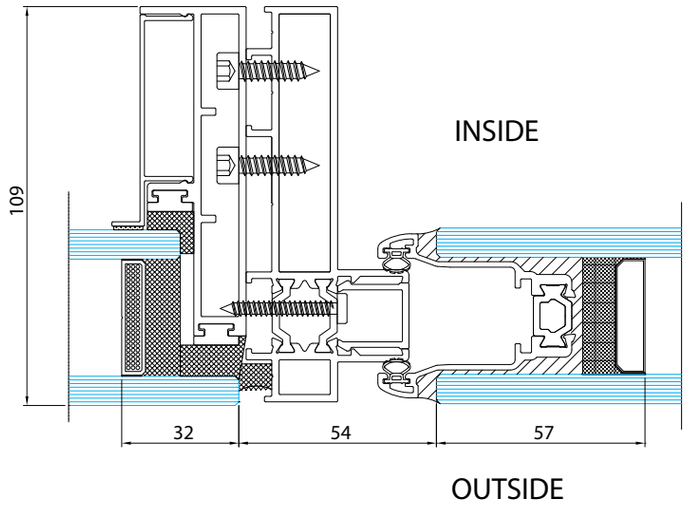


ESSENZA CASEMENT
VERTICAL SECTION
WITH LOWERED THRESHOLD

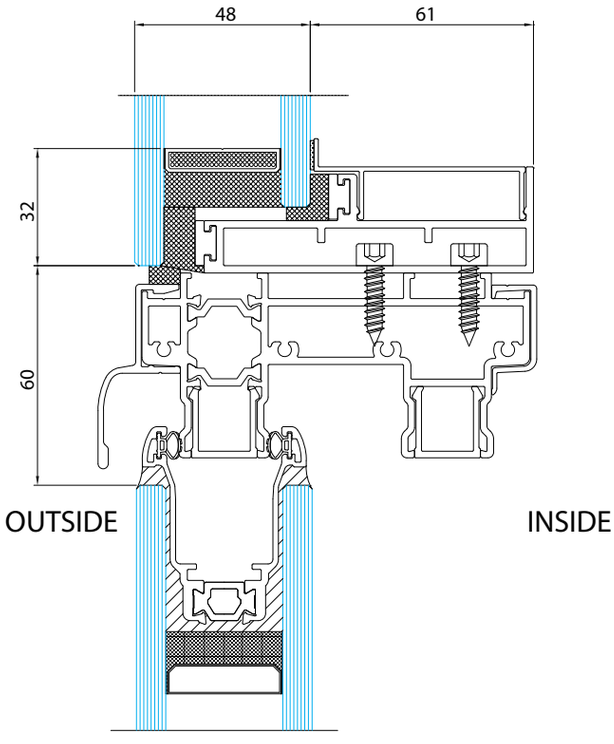


ESSENZA FIXED ELEMENT

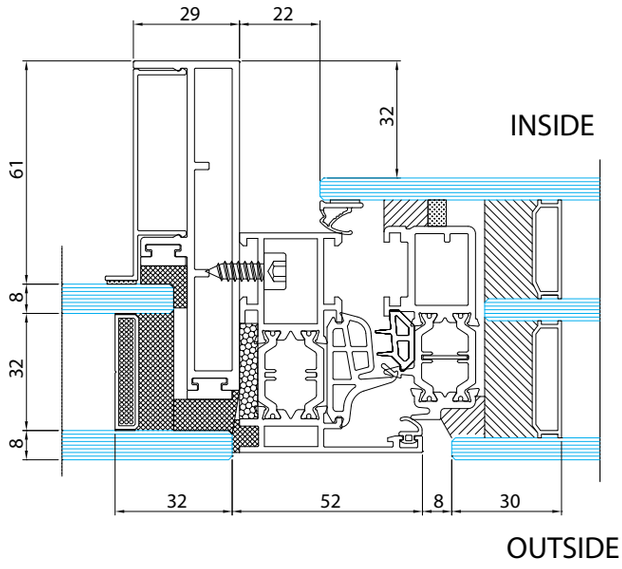
ESSENZA FIXED ELEMENT + LATERAL SLIDING



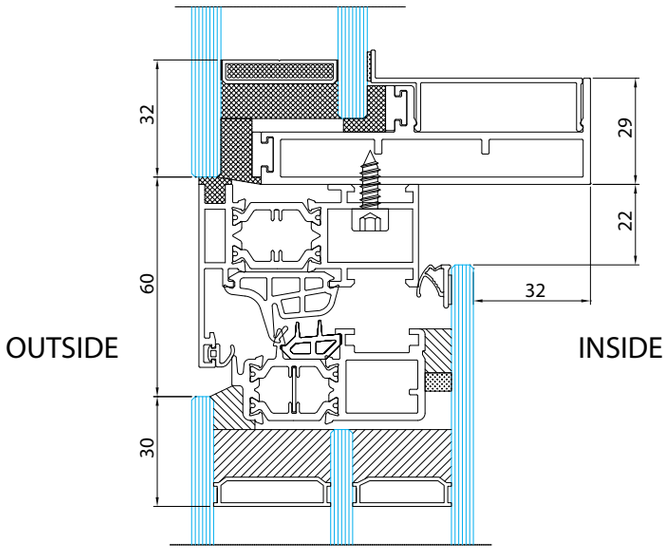
ESSENZA UPPER FIXED ELEMENT + SLIDING



ESSENZA FIXED ELEMENT + LATERAL CASEMENT

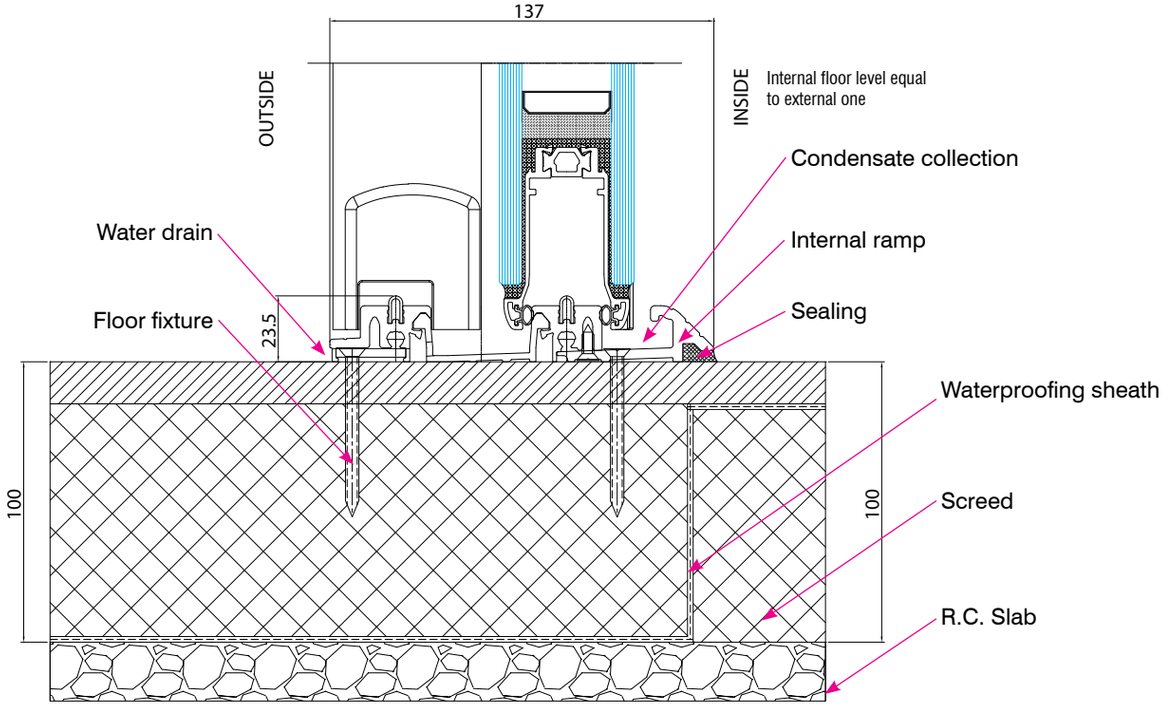


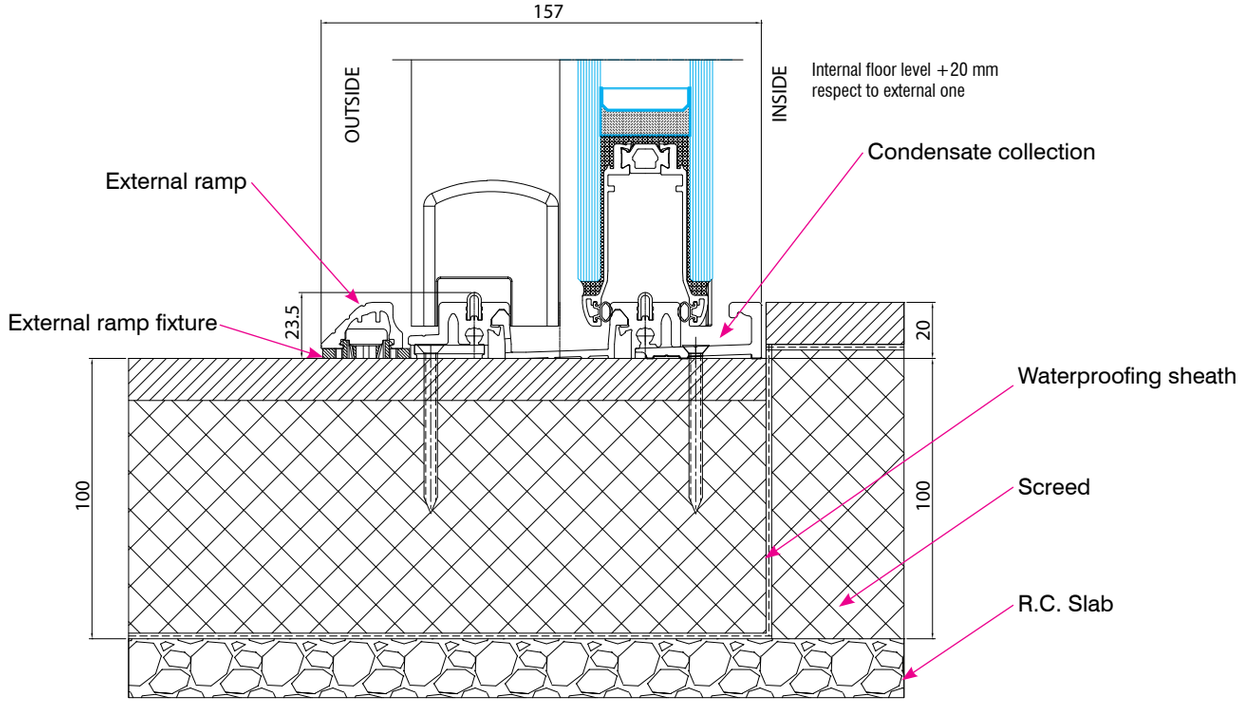
ESSENZA UPPER FIXED ELEMENT+ CASEMENT



EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ESSENZA SLIDING DOOR

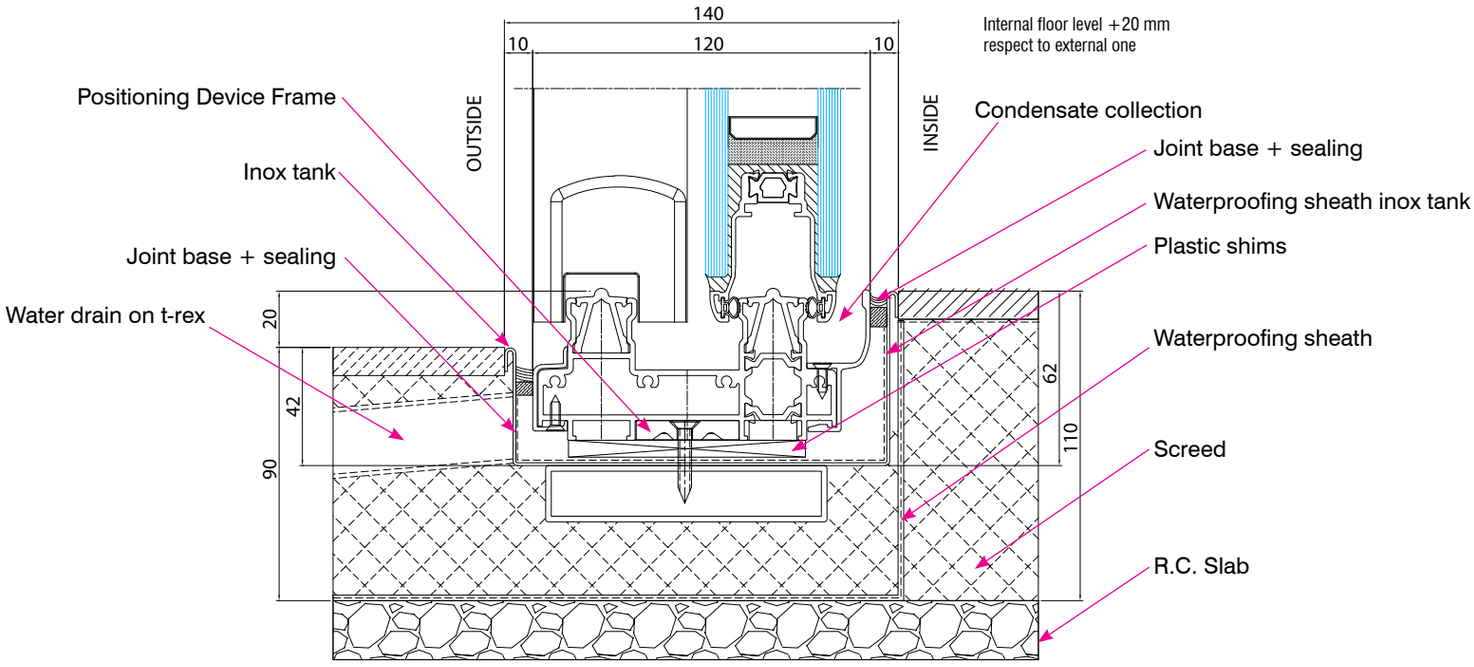
Floor-mounted sections With Lowered Threshold



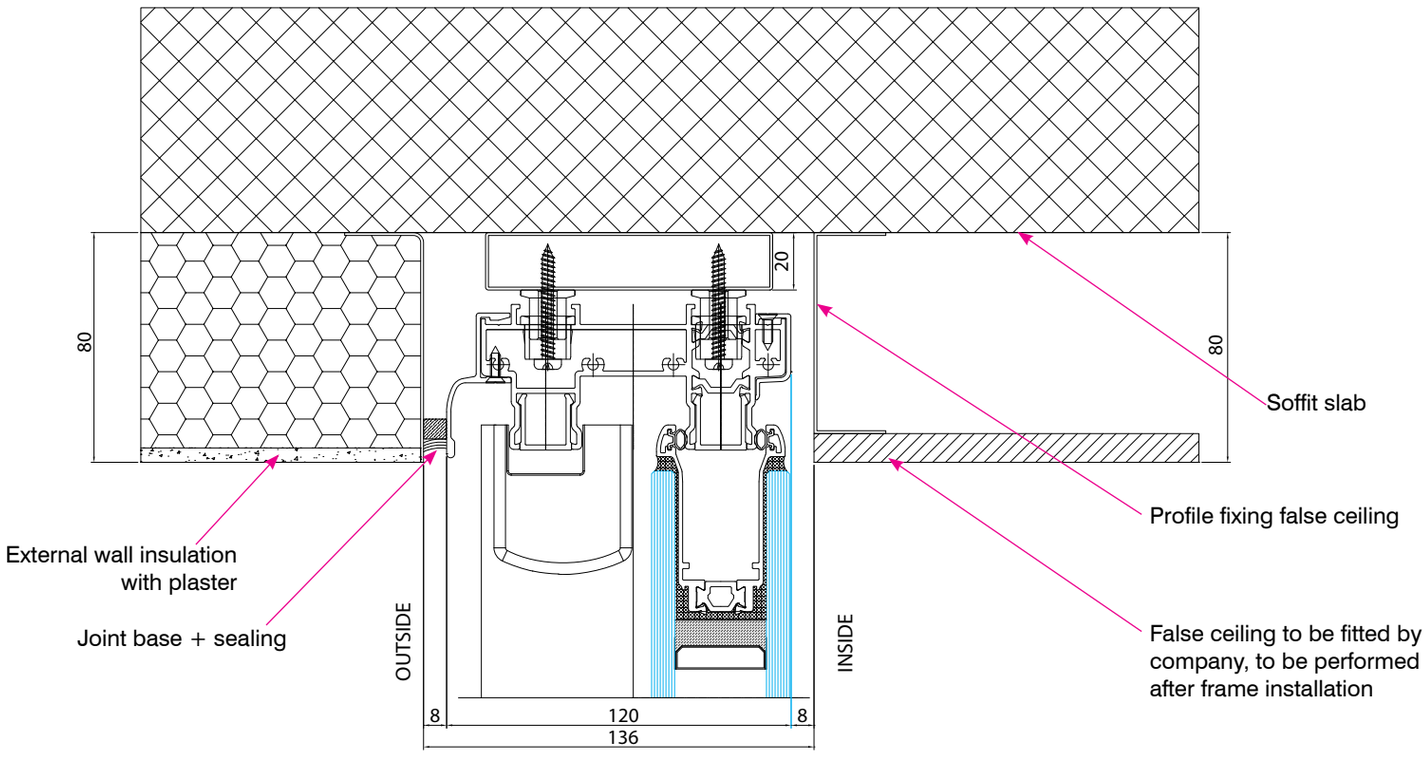


EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ESSENZA SLIDING DOOR

Floor-mounted sections With Recessed Threshold

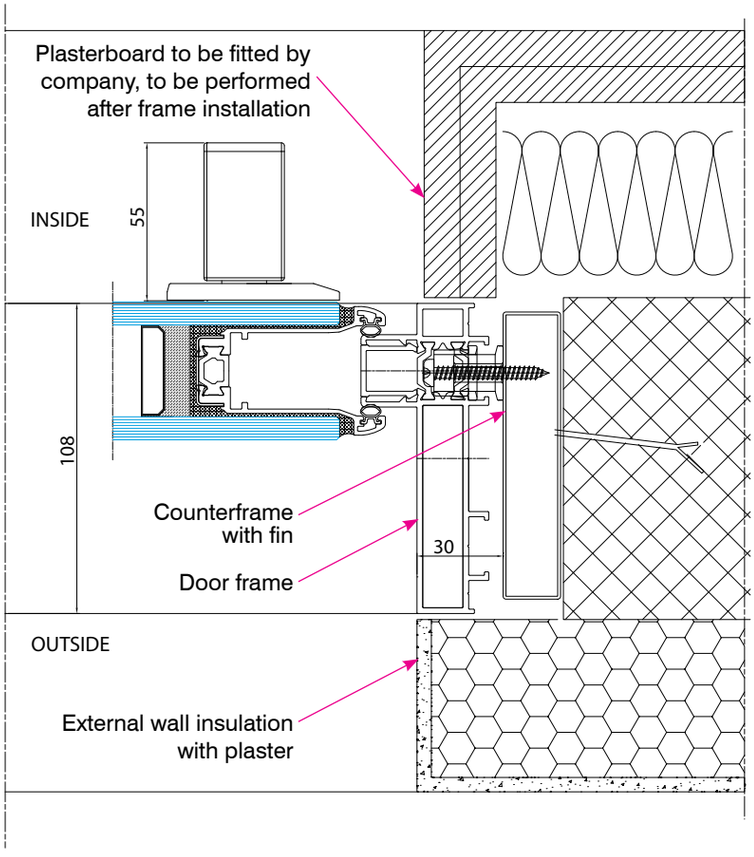


Upper Section

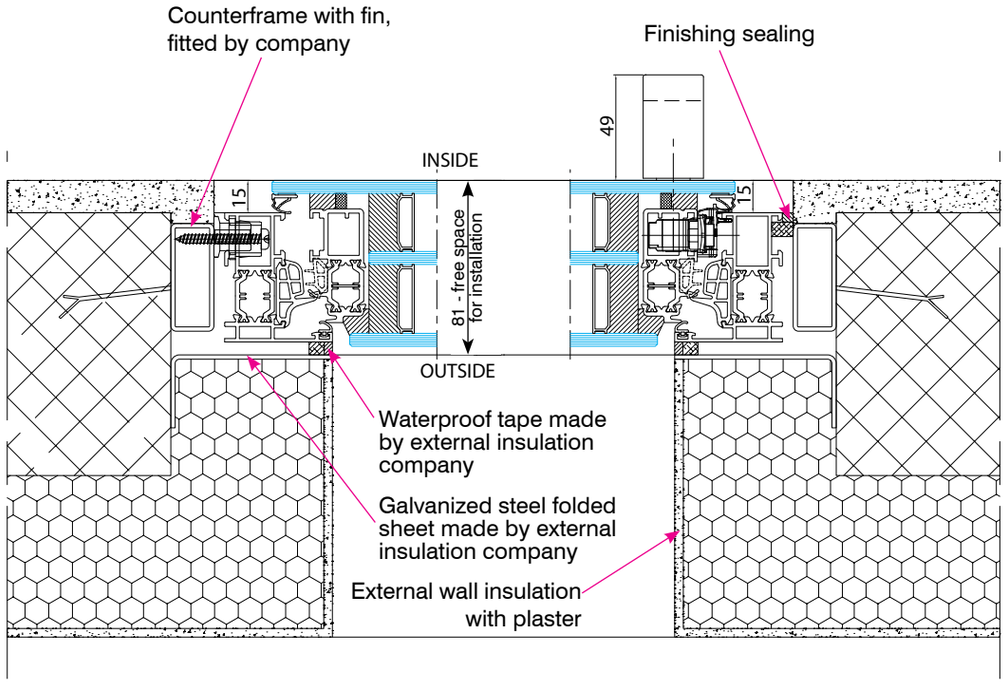


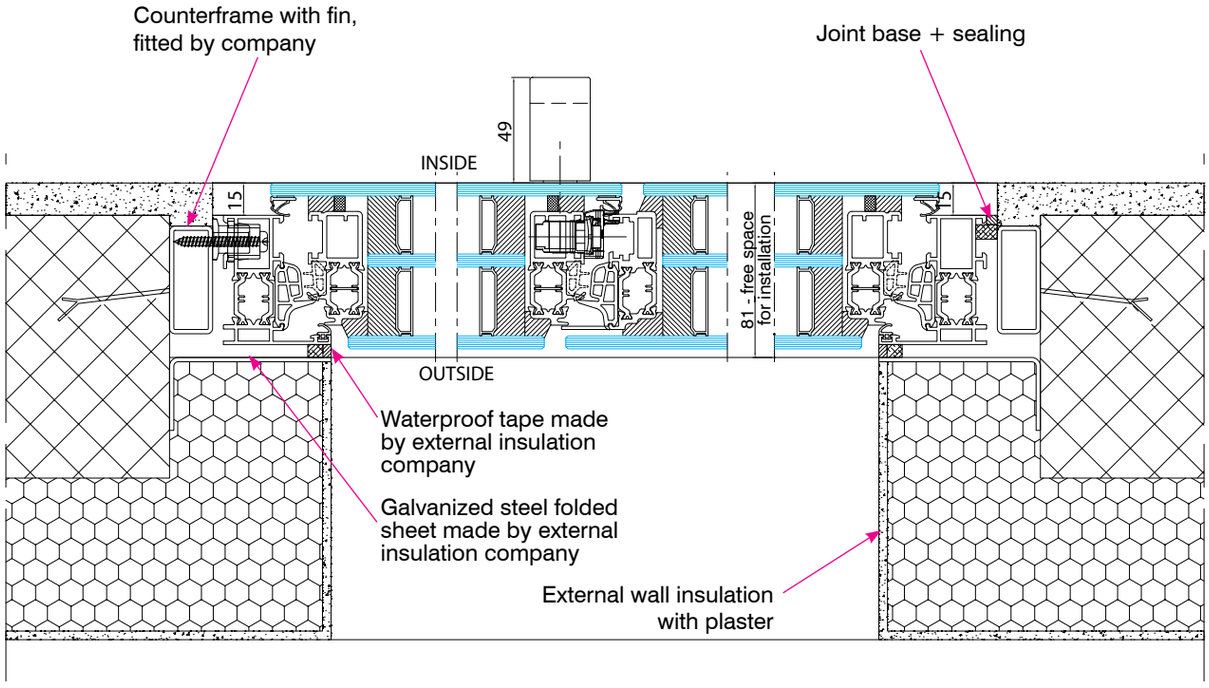
EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ESSENZA SLIDING DOOR

Lateral Section



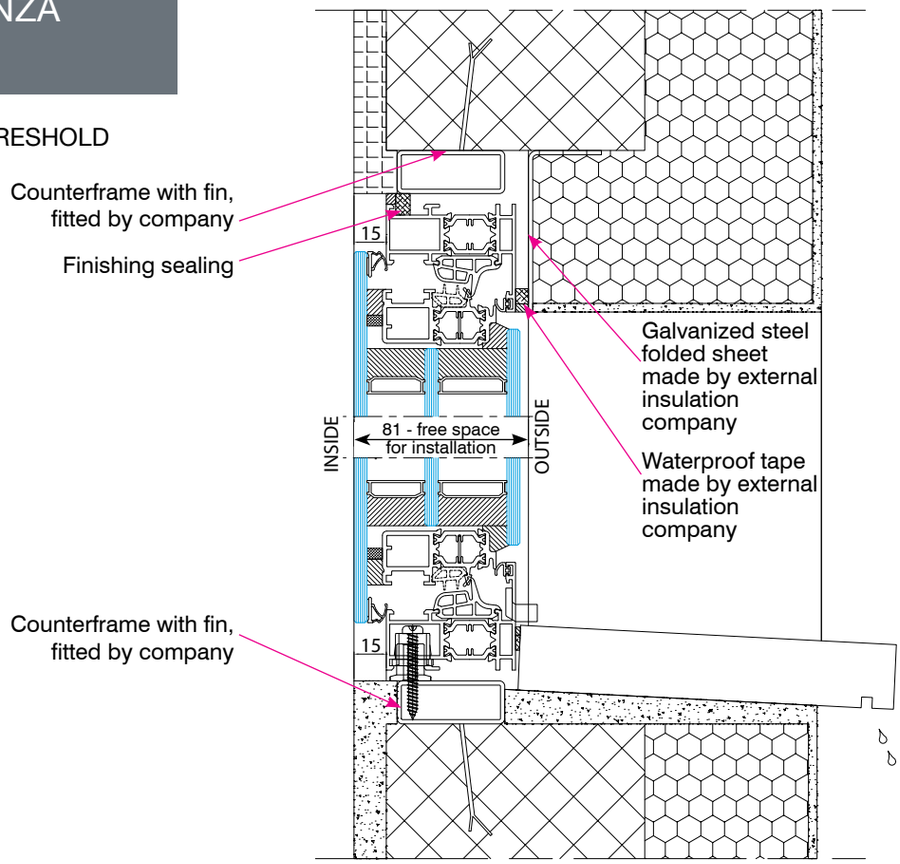
EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ESSENZA SLIDING DOOR



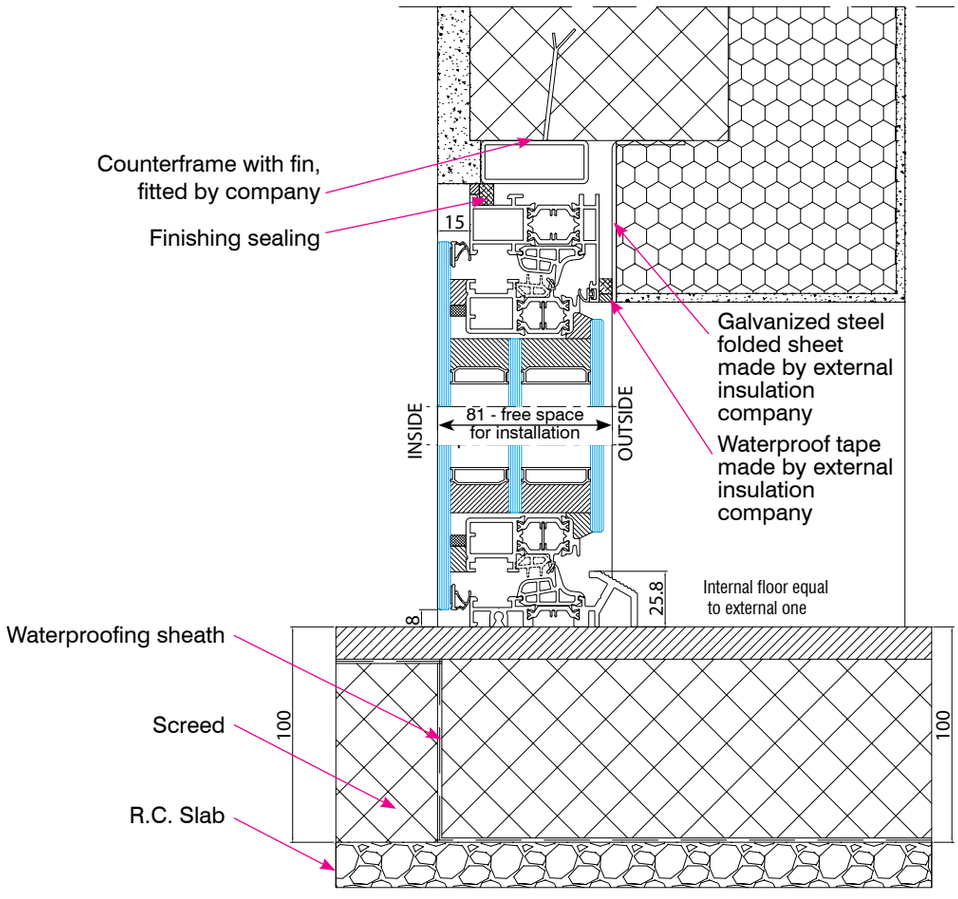


EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ESSENZA CASEMENT

Vertical Section Standard Threshold

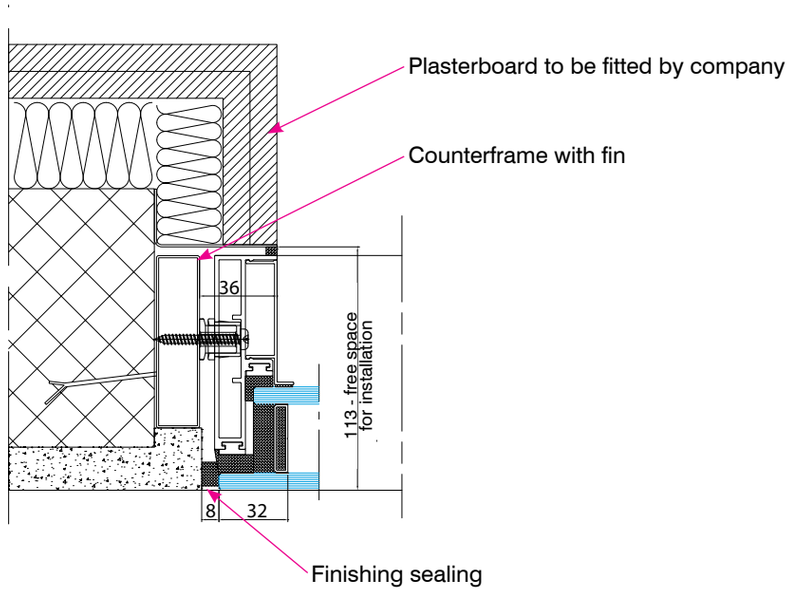


Vertical Section Lower Threshold

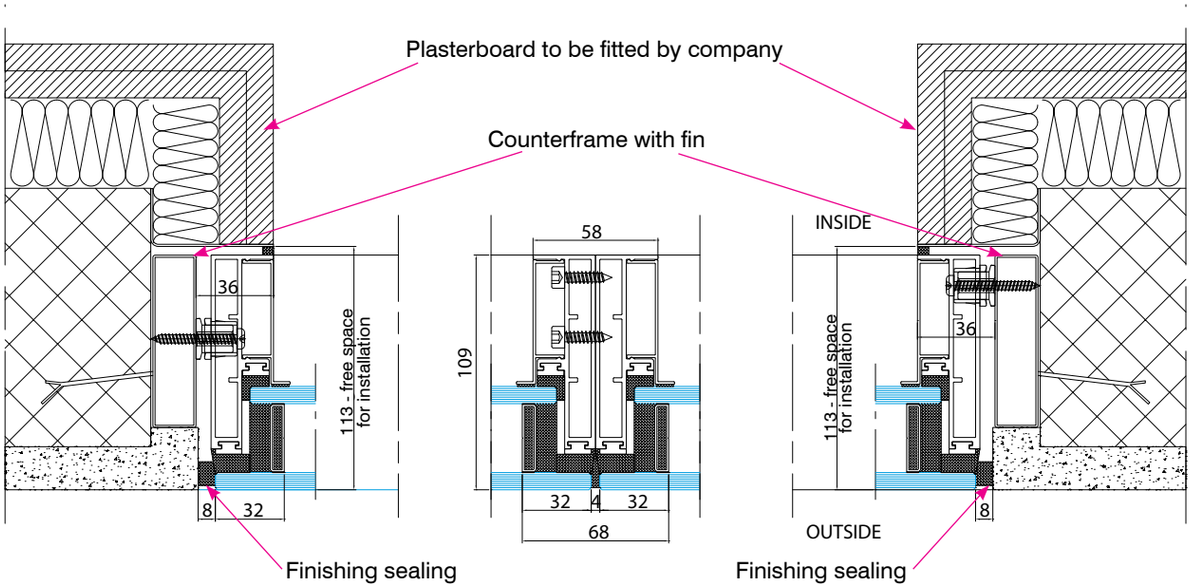


EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ESSENZA FIXED ELEMENT

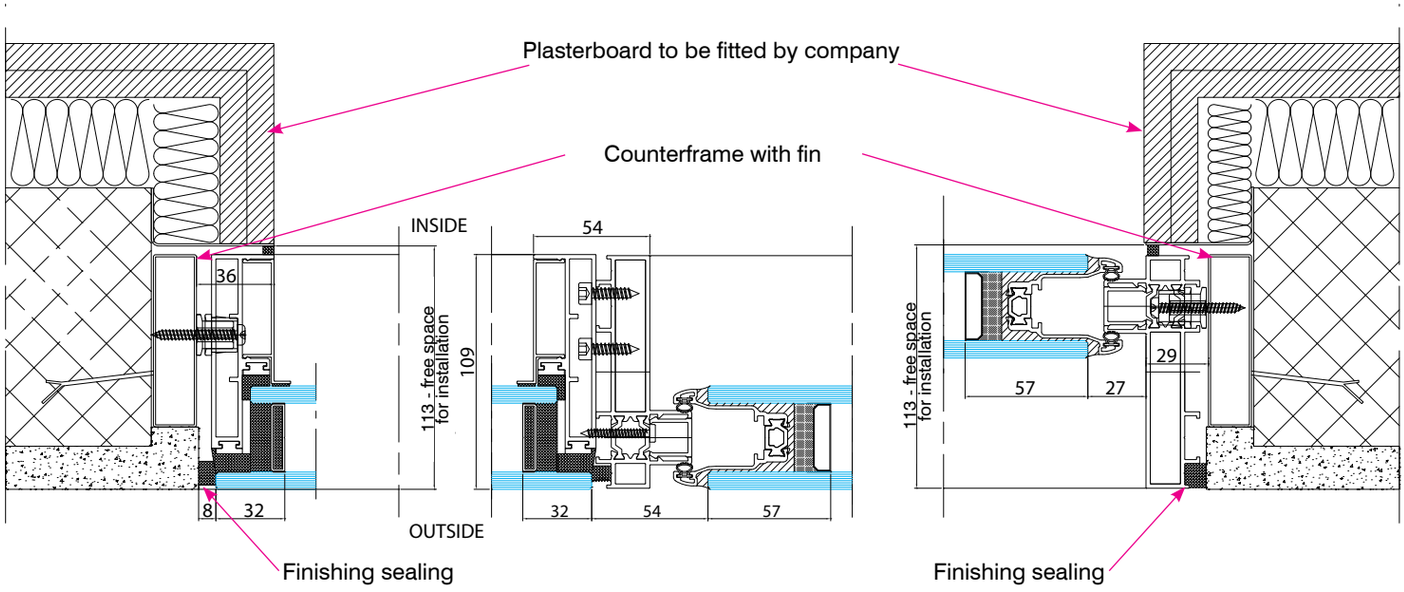
Horizontal Section
Lateral Fixed Element



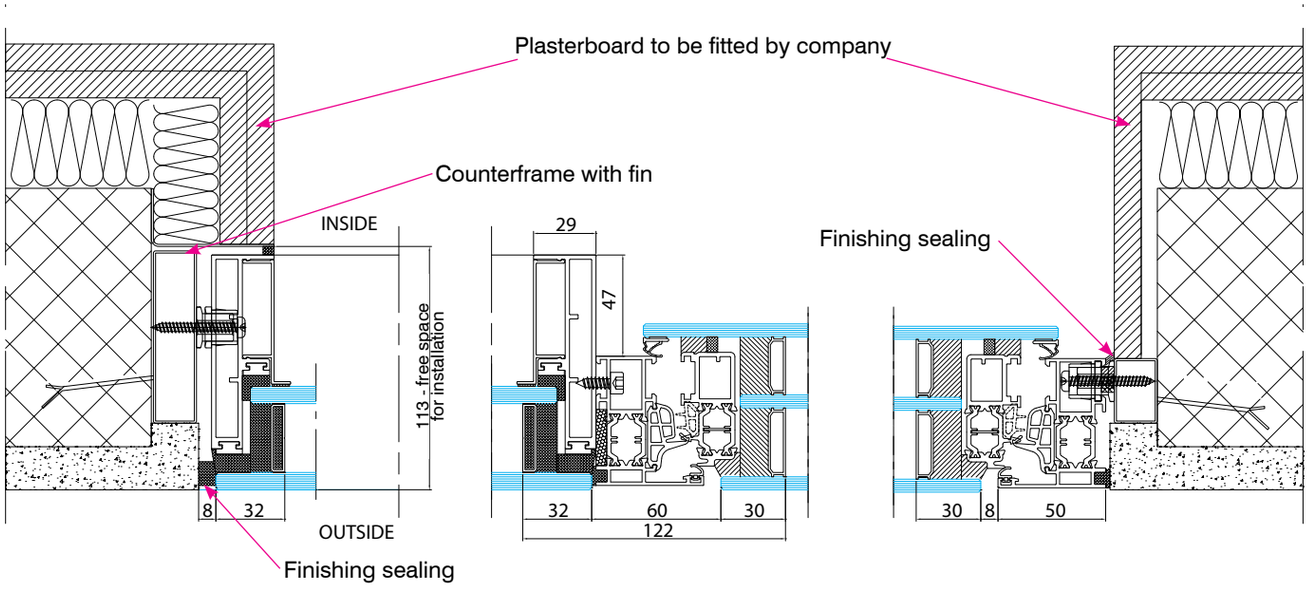
Horizontal Section
Fixed + Lateral Fixed Element



Horizontal Section
Sliding + Lateral Fixed element

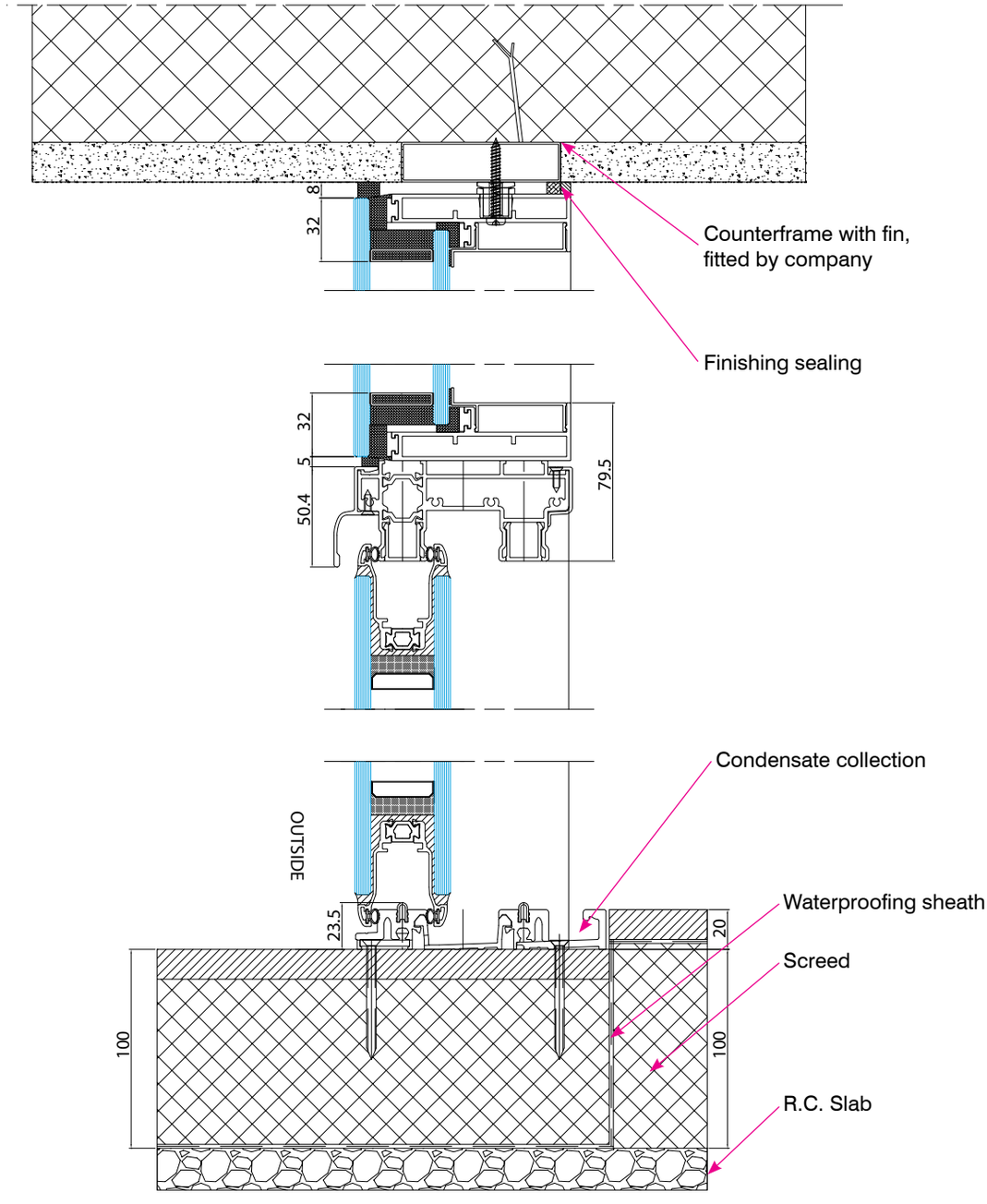


Horizontal Section
Casement + Lateral Fixed Element



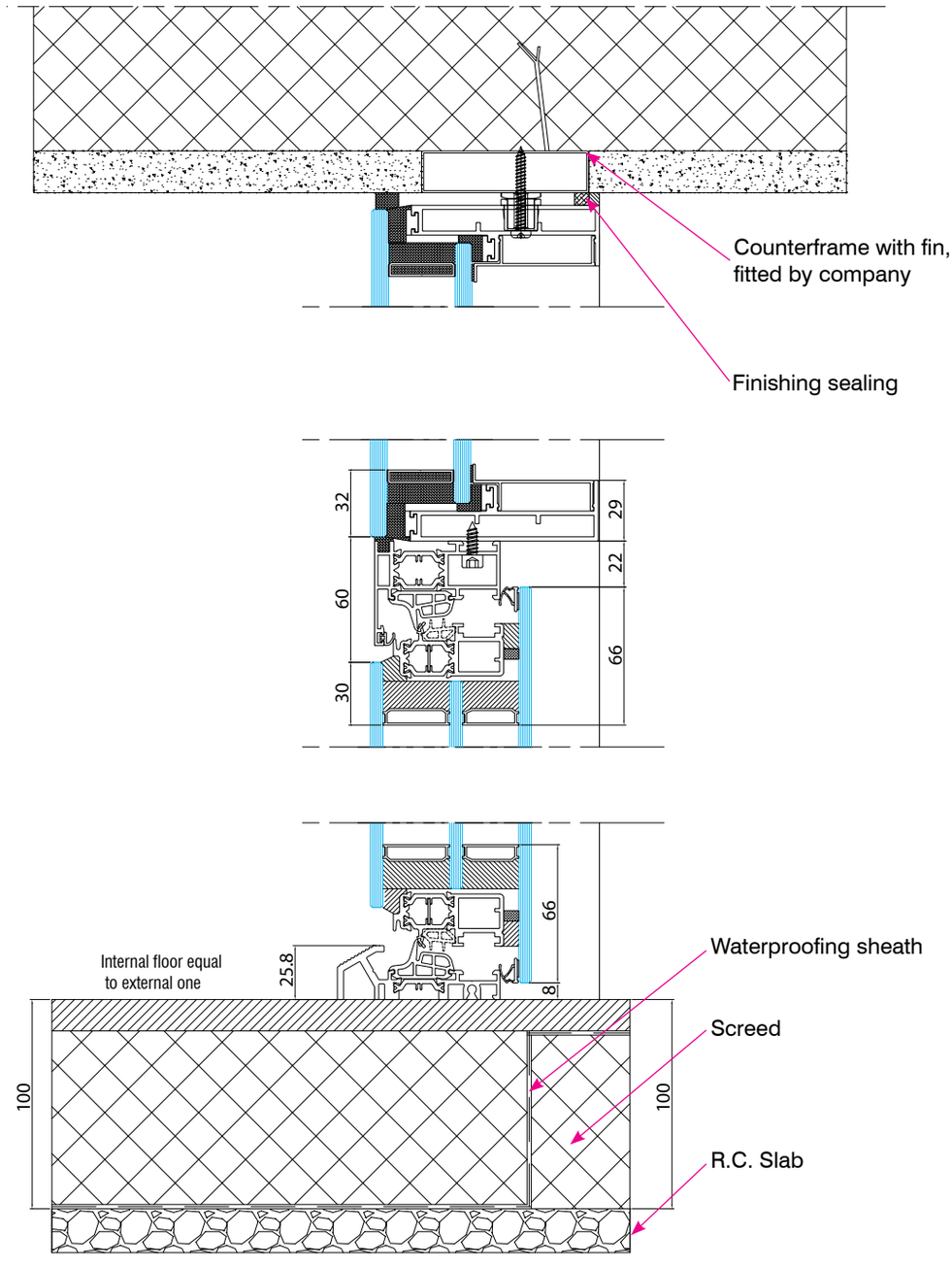
EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ESSENZA FIXED ELEMENT

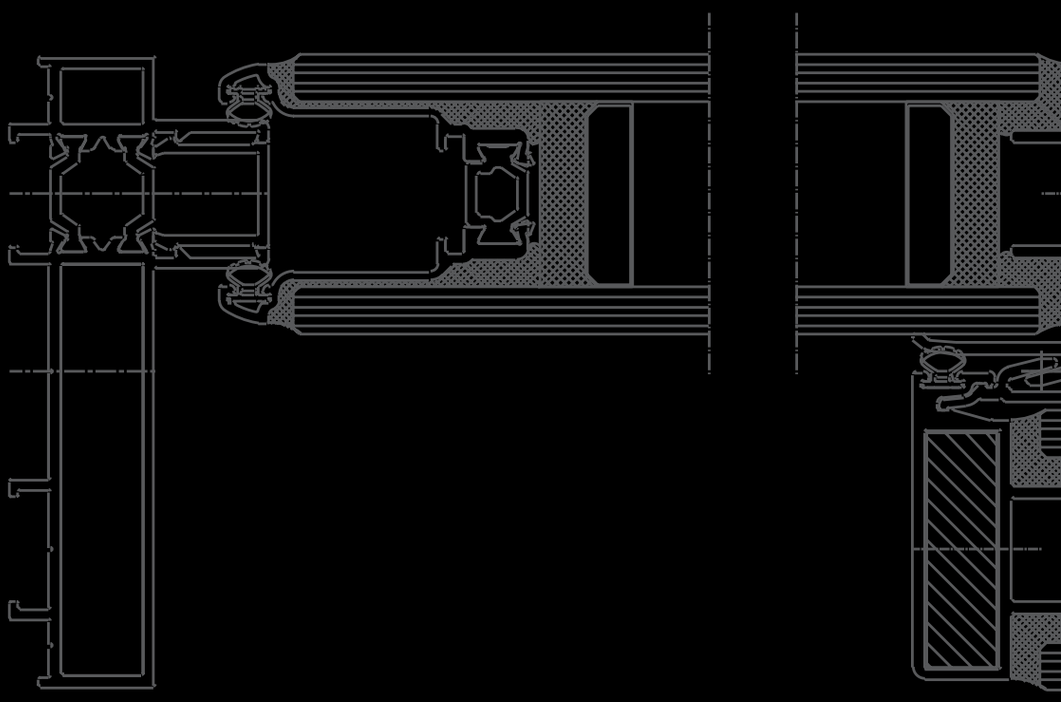
Vertical Section
Sliding + Upper Fixed Element



EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ESSENZA FIXED ELEMENT

Vertical Section
Casement + Upper Fixed Element





U0349201/01-2014

GSG International spa Via Leonardo Da Vinci, 320/414 - Z.I. Fossatone - 40059 Villa Fontana di Medicina (BO)
Tel. +39 051 8850500 Fax +39 051 8850383 - info@essenzafinestra.it

www.essenzafinestra.it