

ESTM

FINESTRA



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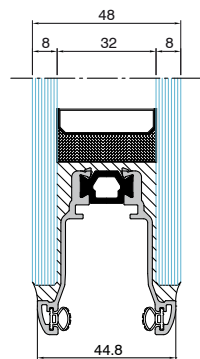
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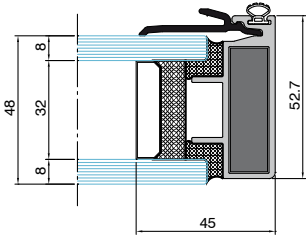
GENERAL DESCRIPTION OF SLIDING SYSTEM

ES ZERO 1 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

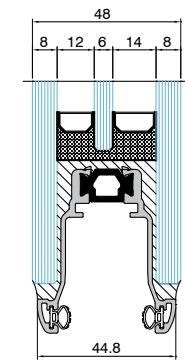


Between the two glass panes, there is a thermal cut aluminium profile, glued with special silicons, in which the door slides, and which raises and lowers the sash during the opening and closing phase.

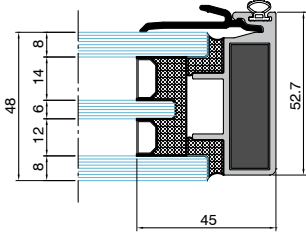
The thickness of the full glazed version is mm (8-32-8), while that of the frame is 108 mm. When using the drip channel frame and T-REX profile cover, the frame width reaches 120 mm.

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.



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 in curtain walls.

The ES ZERO 1 system comprises an internal glass pane of 8 mm, a chamber of 32 mm and an external pane of 8 mm. 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 chambers (4+4/12/6/14/8T).



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 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 frame is equipped with the T-REX joint, a device which provides exceptional air and water tightness as well as thermal insulation. The T-REX joint is installed on the frame's upper and lower cross beams in the middle profile.

In traditional sliding window and door systems, transverse heat losses through the surface combine with significant longitudinal losses; this happens because the thermal cut of the frame does not present dispersion along its internal and external metal parts.

On the 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 system enable top rating performance levels, in line with optimal swing doors.

ES ZERO 1 lift and slide is available 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 ES ZERO 1 with load capacity of 300 kg.

ES ZERO 1 sliding door sash load capacity 200 kg:

Resistance 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)

ES ZERO 1 sliding door load capacity 300 kg

Resistance 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

ES ZERO 1 sliding door 200 kg
Max. sash surface sliding area 4.3 m²
Width / Height ratio > 1/3 (0.34)
Max weight of each sliding sash 200 Kg

ES ZERO 1 300 kg
Max. sash surface sliding area 6 m²
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 certified by notified bodies or using tables. The calculation of the thermal transmittance must be performed through the specific algorithm developed in compliance with the standard UNI-EN-ISO 10077-Part 2.

SOUND-PROOFING

The ES ZERO 1 sound-proofing value depends on the type of glass used (standard or sound-proofing) and can reach a reduction value of 40 dB.

TECHNICAL SPECIFICATIONS AND PERFORMANCE DATA OF SLIDING SYSTEM



THERMAL INSULATION

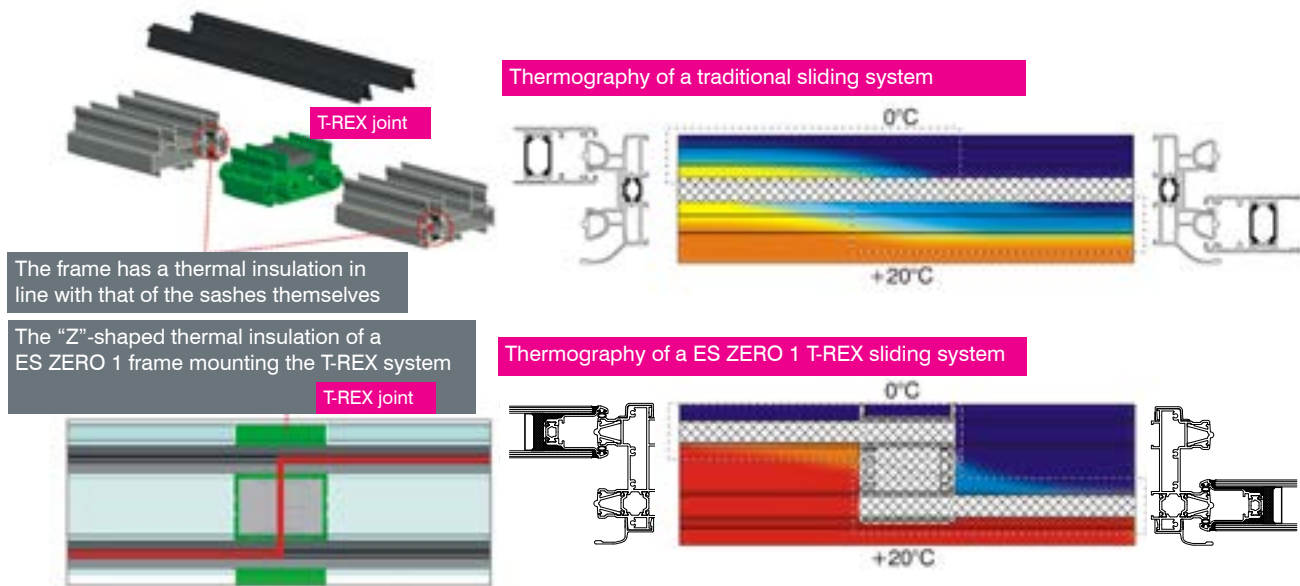
On conventional sliding systems, transverse heat losses through the surface combine with significant longitudinal losses due to the fact that the thermal cut of the frame does not prevent dispersion along its metal parts exposed to the interior and exterior.

The ES ZERO 1 system eliminates transverse losses by increasing the thermal cut of the profiles.

Longitudinal losses can account up to 25% of total losses. With the T-REX joint on the frame our systems is the only solution able to eliminate longitudinal losses.

The T-REX joint is installed centrally on the frame's upper and lower cross beams in 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.



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)

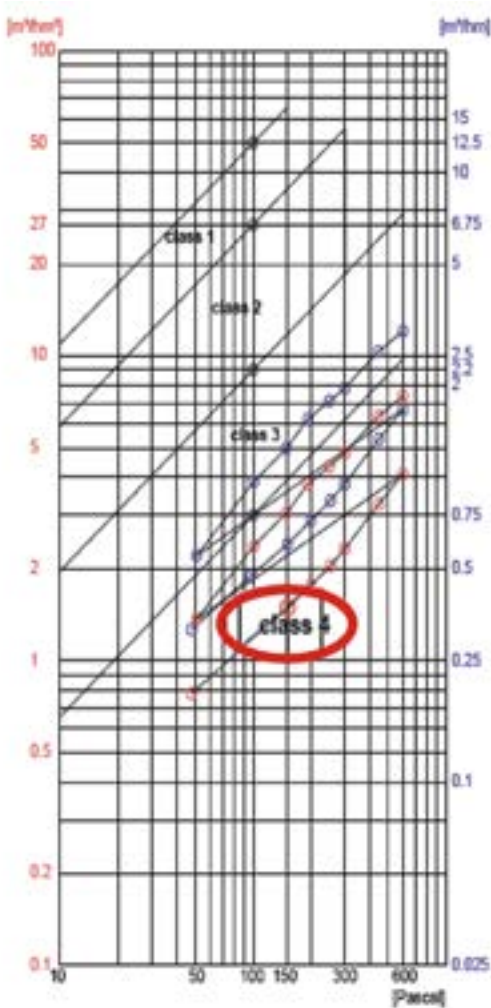
SOUND-PROOFING:
40 dB ACCORDING TO UNI EN ISO 140/3 AND ISO 717/1

AIR AND WATER TIGHTNESS

Thanks to the solutions adopted, the 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 system uses extremely effective air tight components and special acoustic glass to satisfy the most stringent demands for soundproofing.





INTRUSION SECURITY AND
RELIABILITY

25.000 OPENING AND CLOSING CYCLES
under EN 13126

CORROSION STRENGTH
CLASS 4
under EN 1670

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 means only special accessories can meet these requirements for protection against break-ins.

In the standard configuration, ES ZERO 1 sliding door already offers a high level of safety with locking points able to withstand up to 600 kg traction and components preventing sash lifting. To increase safety further, specially developed accessories can be added, such as:

- Lock mechanism
- Anti-lift kit

RELIABILITY

Reliability of our 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 fittings are corrosion proofed using a special treatment which classifies them as Class 4.



SUMMARY OF ES ZERO 1 SLIDING DOOR SYSTEM GENERAL AND
PERFORMANCE DATA

	ES ZERO 1 SLIDING DOOR 200 KG	ES ZERO 1 SLIDING DOOR 300 KGS
Max. surface area of mobile sash (with standard double glazing)	4,3 m²	6 m²
Max. surface area of fixed sash (with standard double glazing)	up to 7,2 m² *	up to 7,2 m² *
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/ m² K	Up to 0,8 W/ m² 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 mm 3000 H x 4000 L Class B2

ACCESSORIES

HANDLE

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

Kit L&S Door Carriage

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).

LOCKING POINT

A locking point for the system comprises a nib holder, a nib and a counterplate. 3 locking points are envisaged for each 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).

ANTI-LIFT AND DAMPER PLUGS

The Anti-lift and damper plugs are installed on 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.



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.

STANDARD FINISH ES ZERO 1 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

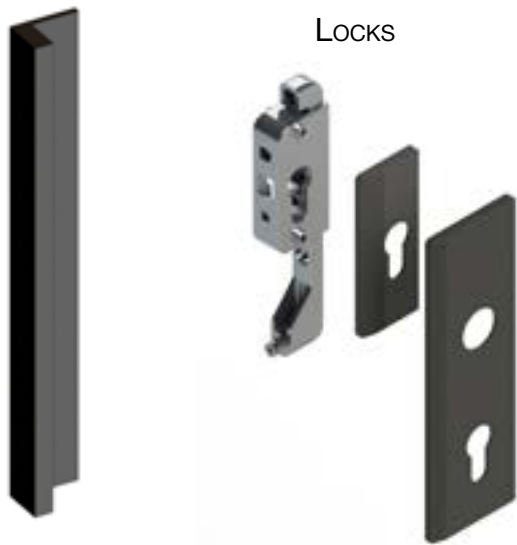
PERSONALIZATION OPTIONS:

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

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

PULL HANDLE

LOCKS

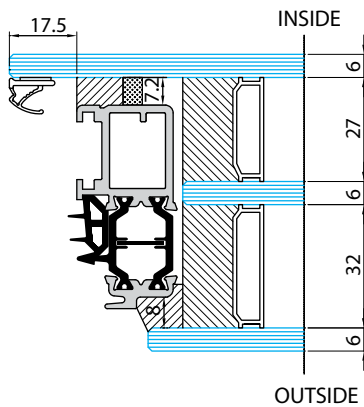


ANTI-LIFT SYSTEM

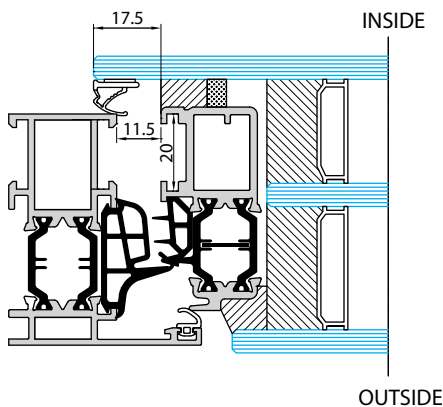




Casement sash section



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 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, which gives to the window 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 rabbit 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 ES ZERO 1 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

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

THERMAL INSULATION

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 mm 2.100 H x 2.300 L)
Water tightness: E1200 (1.200 Pa)
(on a two-sash door/window mm 2.100 H x 2.300 L)

THERMAL TRANSMITTANCE

In order to calculate the U_w , 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 ES ZERO 1 achieves the excellent value of 1200 Pa as

a result of the hardware used. The quality of the 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 treatment that enables them to be classified as Class 4.



SUMMARY OF ES ZERO 1 CASEMENT SYSTEM GENERAL AND PERFORMANCE DATA

	ES ZERO 1 CASEMENT
Max. surface area of sash (with standard double glazing)	2,5 m²
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/m² K
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 referred to specific test configurations.

ACCESSORIES

HANDLE

The design of ES ZERO 1 casement handle is the same used for lift and slide range.
ES ZERO 1 brass handles undergo a PVD treatment to increase scratch-proof properties and abrasion resistance, this guarantees durability and original aesthetics over time.

CONCEALED HINGES

Tilt and turn configuration for standard ES ZERO 1 casement .
The concealed hinges guarantee total transparency.



STANDARD FINISH ES ZERO 1 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.

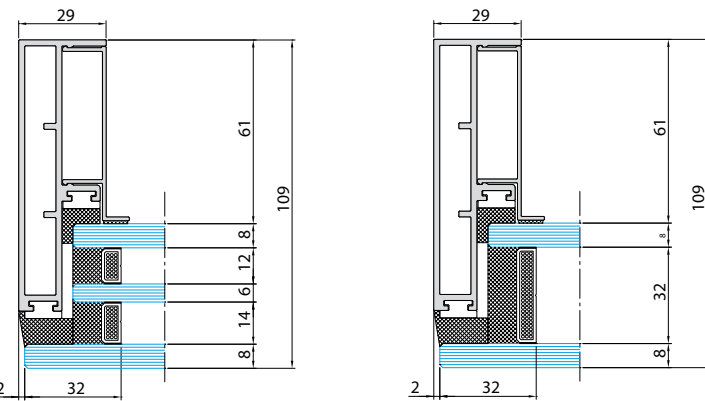
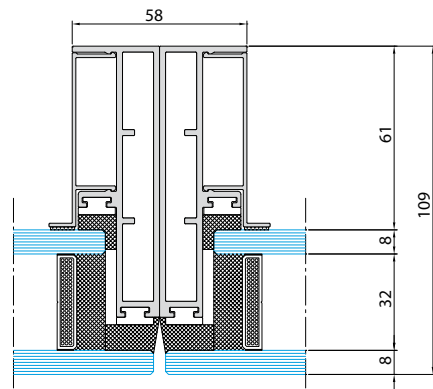


GENERAL DESCRIPTION OF ES ZERO 1 FIXED SYSTEM

The ES ZERO 1 range is complemented by the fixed system which can be built in a single-panel version or integrated with the sliding door/window type and side-hung door/window type.



Fixed element section



ES ZERO 1 Fixed structural system

The ES ZERO 1 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 ES ZERO 1 fixed, double and triple, is the same of ES ZERO 1 lift and slide.

The water tightness is guaranteed by an accurate sealing of the external frame.

STANDARD FINISH ES ZERO 1 FIXED

Same finishes available for sliding and casement.

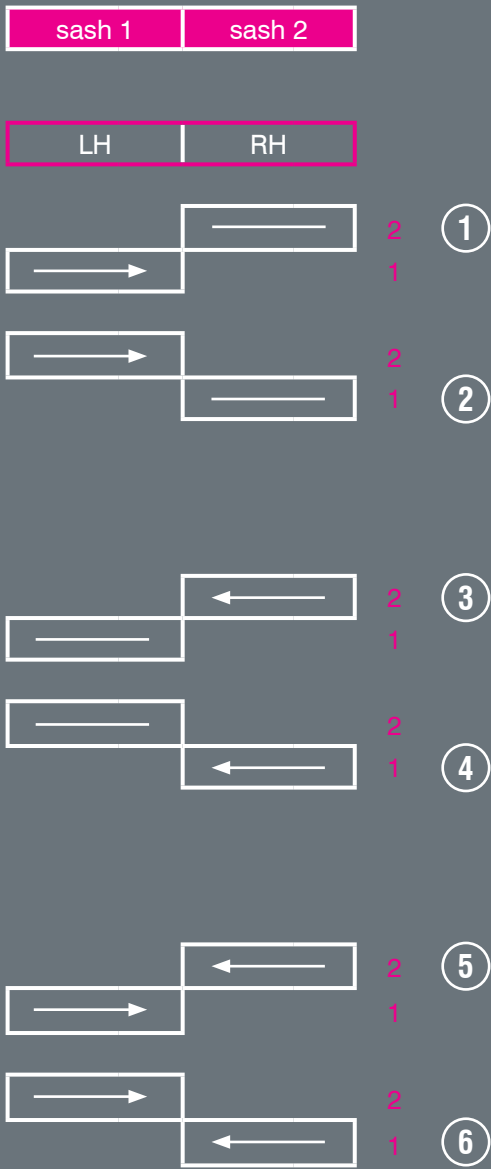
Customized on request.



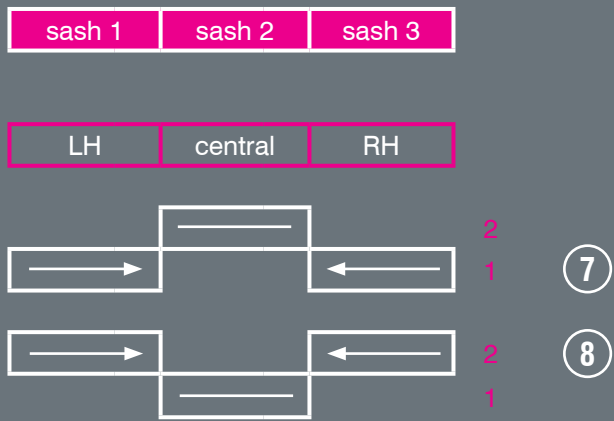
TYPES POSSIBLE: ES ZERO 1
SLIDING DOOR

Internal track = 1
External track = 2

2 SASH WINDOW/DOOR



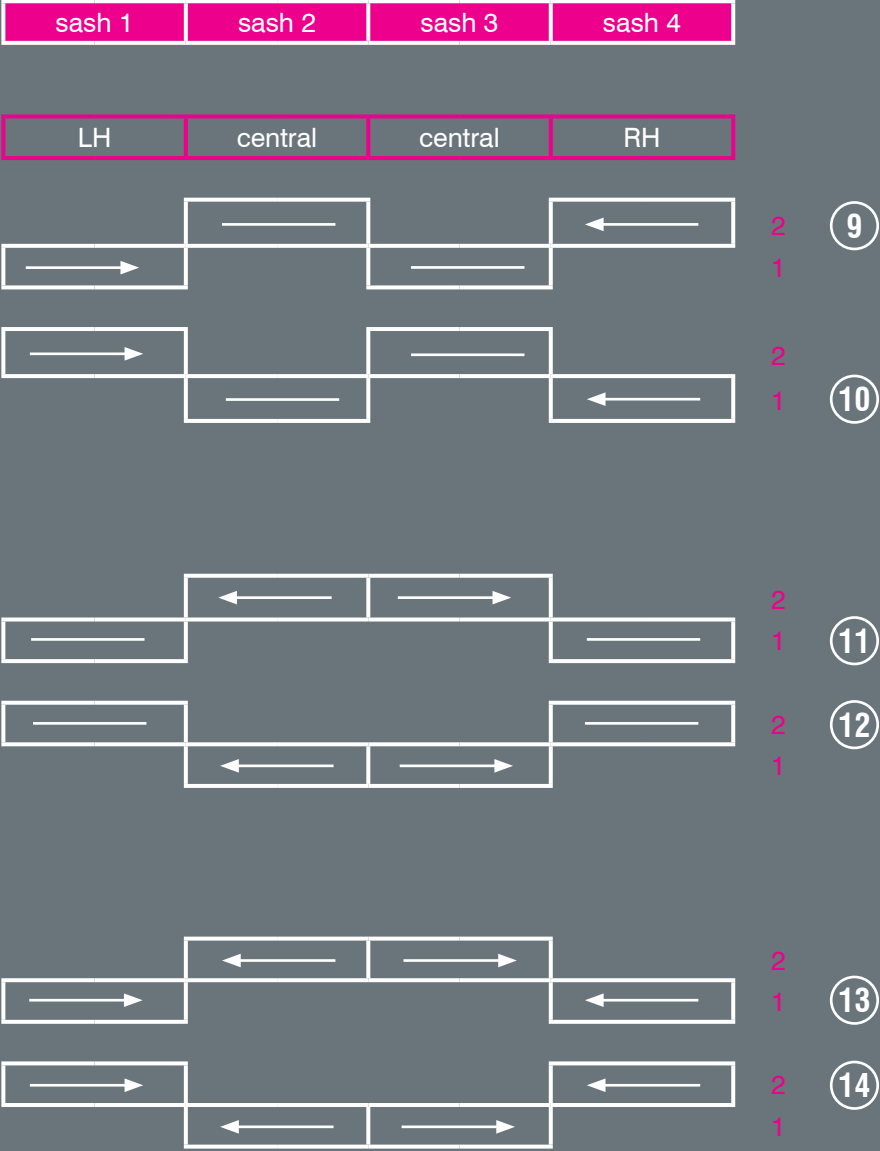
3 SASH WINDOW/DOOR



TYPES POSSIBLE: ES ZERO 1
SLIDING DOOR

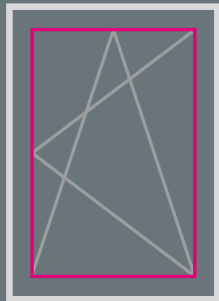
Internal track = 1
External track = 2

4 SASH WINDOW/DOOR



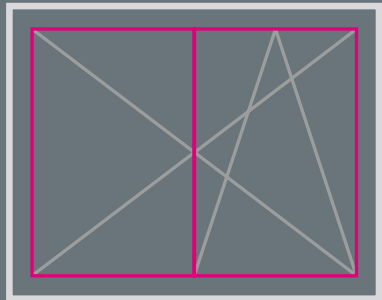
TYPES POSSIBLE: ES ZERO 1
CASEMENT

1 SASH WINDOW/DOOR

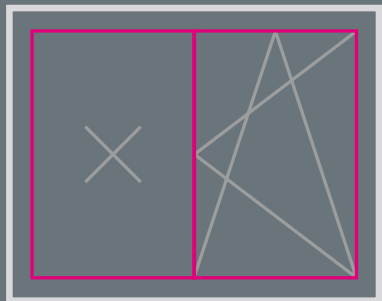


1 tilt-and-turn sash

2 SASH WINDOW/DOOR



2 sashes: tilt-and-turn +
side hung



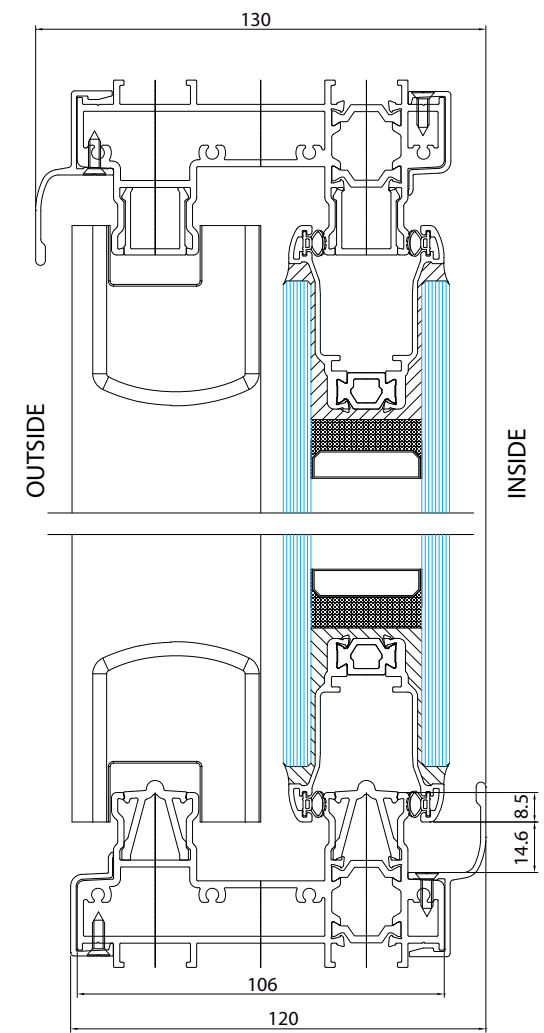
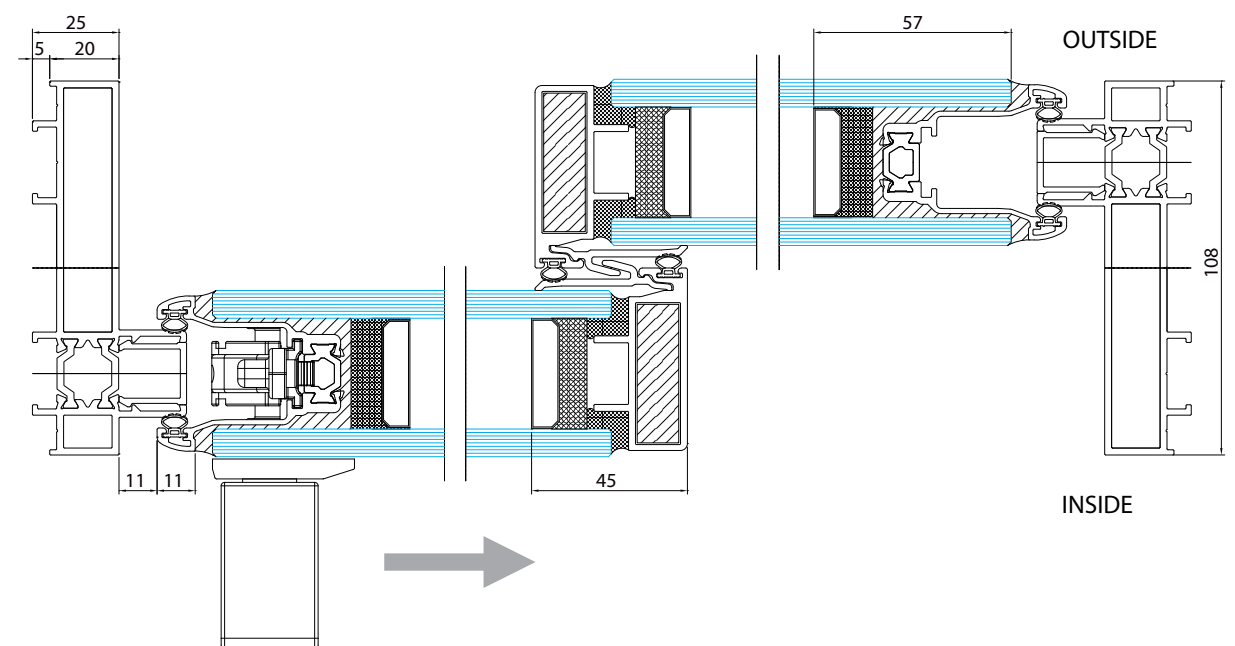
2 sashes: tilt and turn +
fixed sash

TECHNICAL DRAWINGS

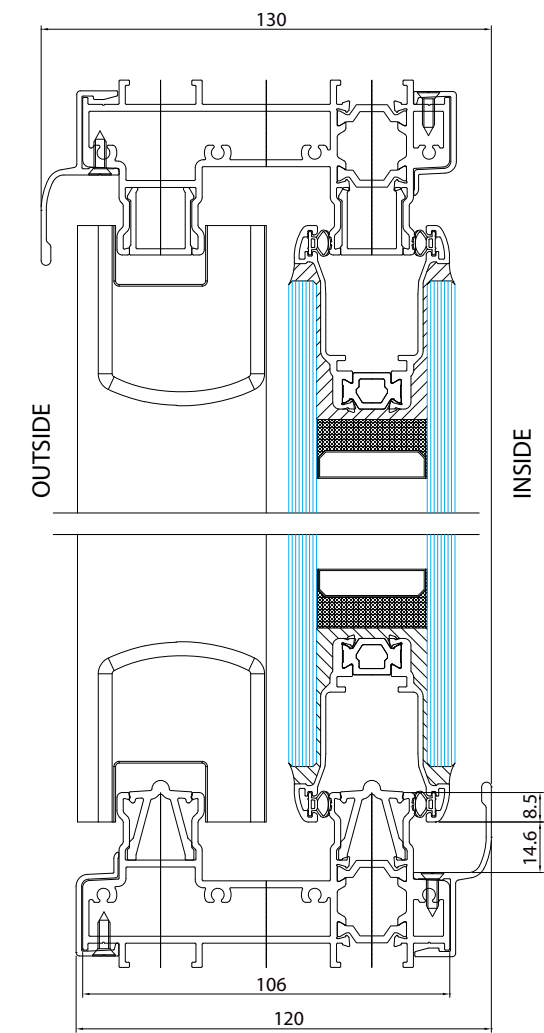
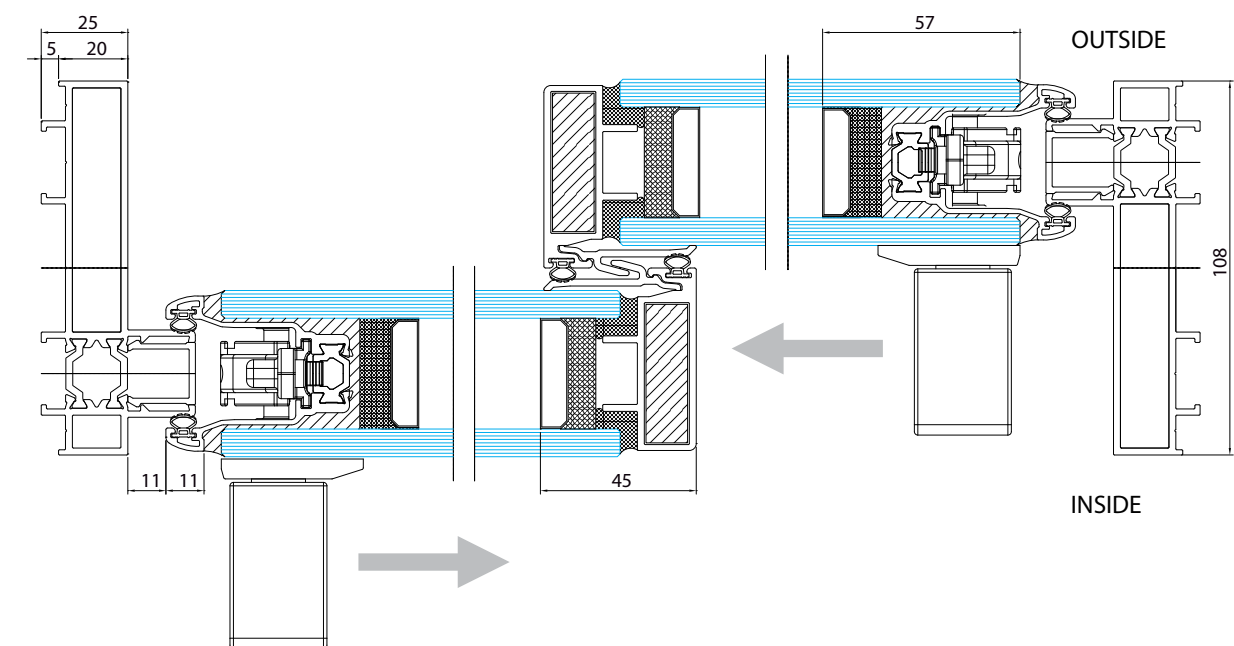


ES ZERO 1 200 KG

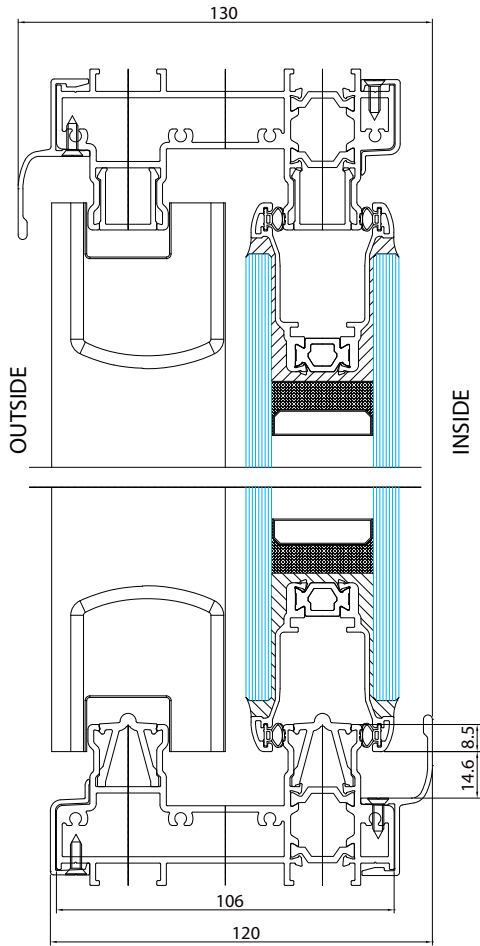
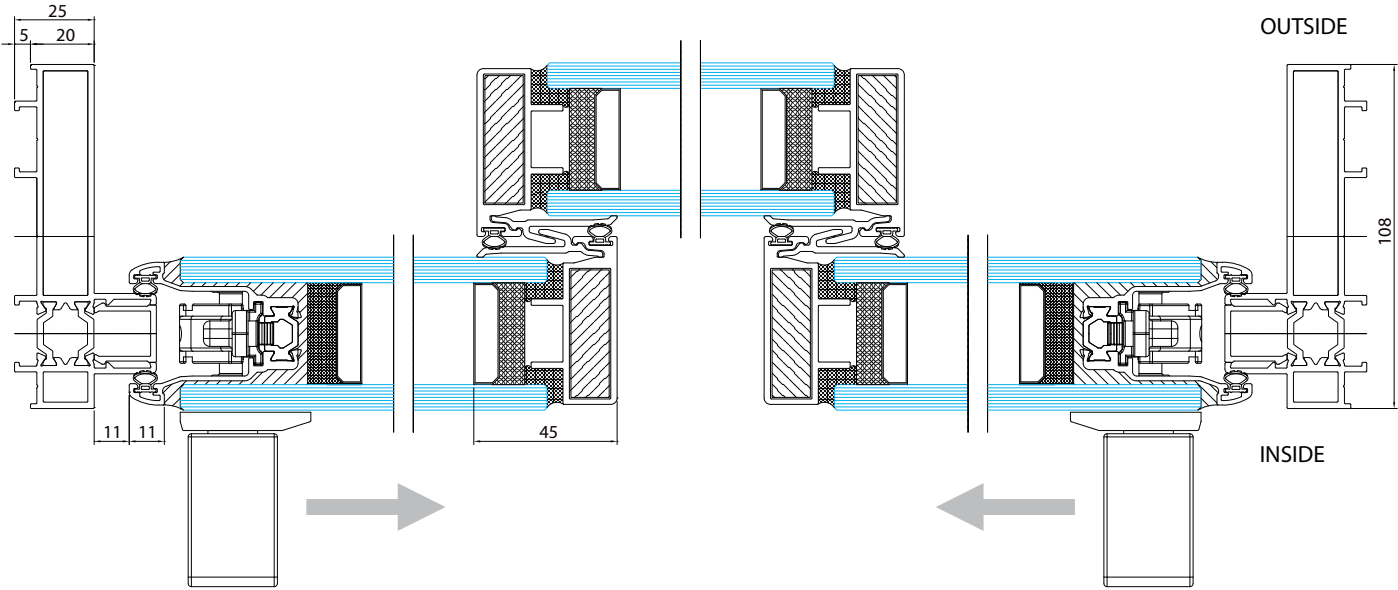
2-SASH ES ZERO 1 SLIDING
DOOR: 1 MOBILE + 1 FIXED



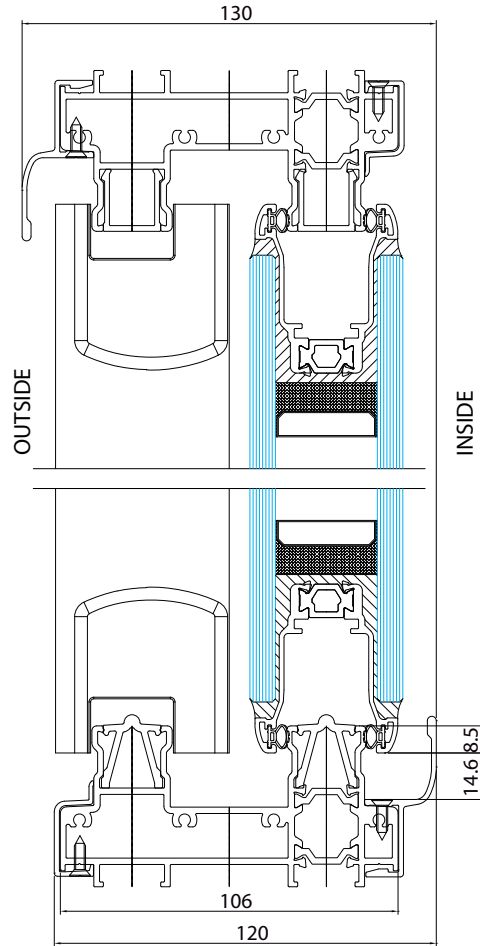
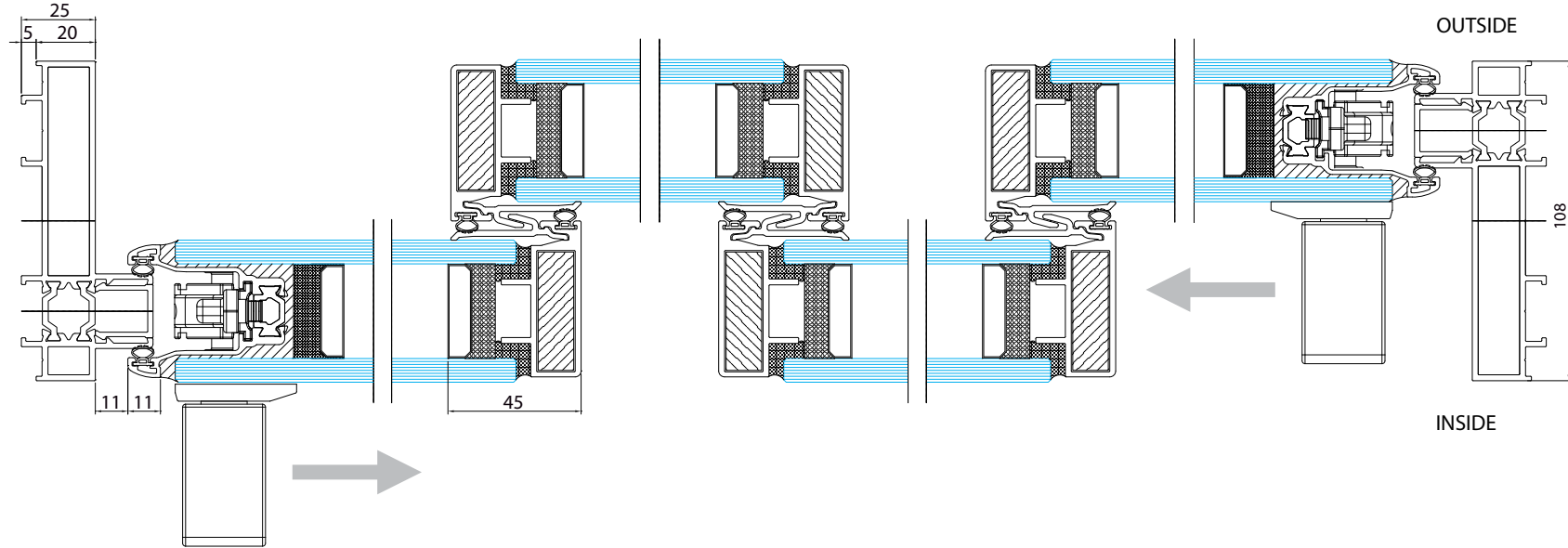
2-SASH ES ZERO 1 SLIDING
DOOR: 1 MOBILE + 1 MOBILE



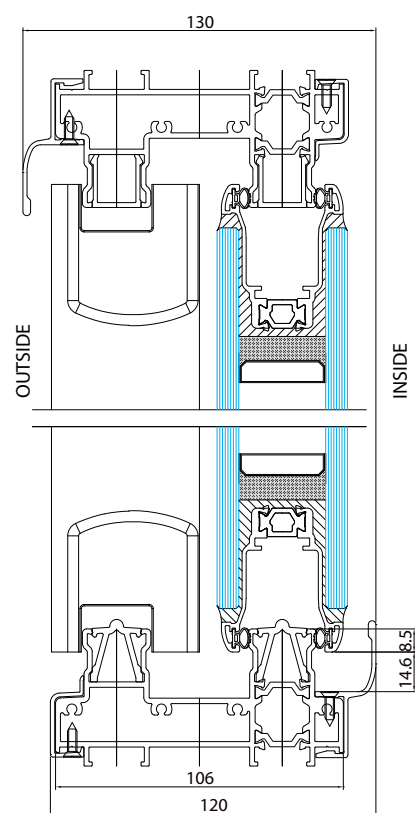
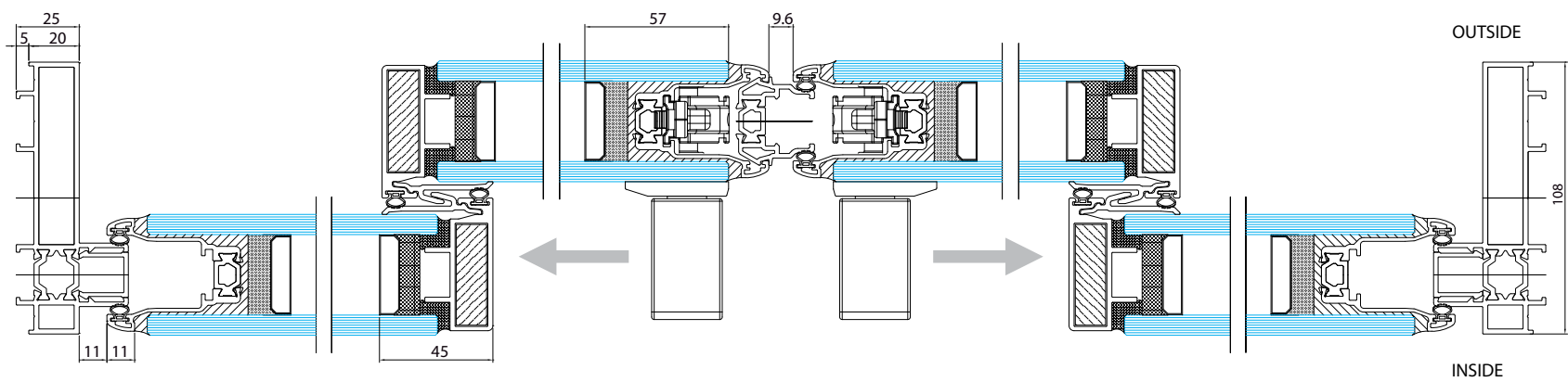
3-SASH ES ZERO 1 SLIDING
DOOR: 1 CENTRAL FIXED
AND 2 SIDE MOVABLE



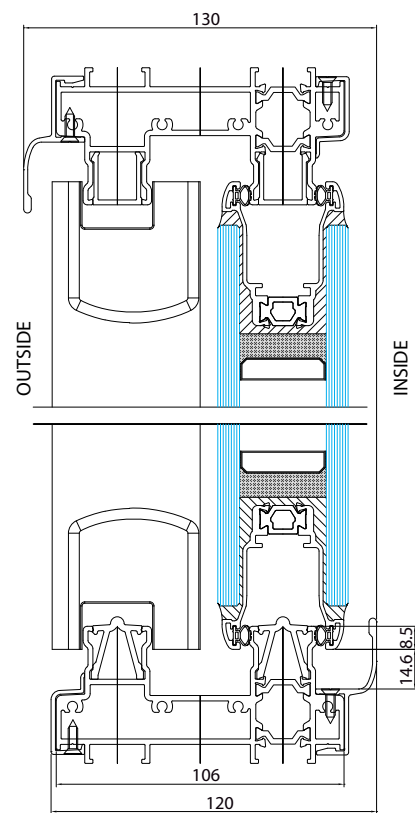
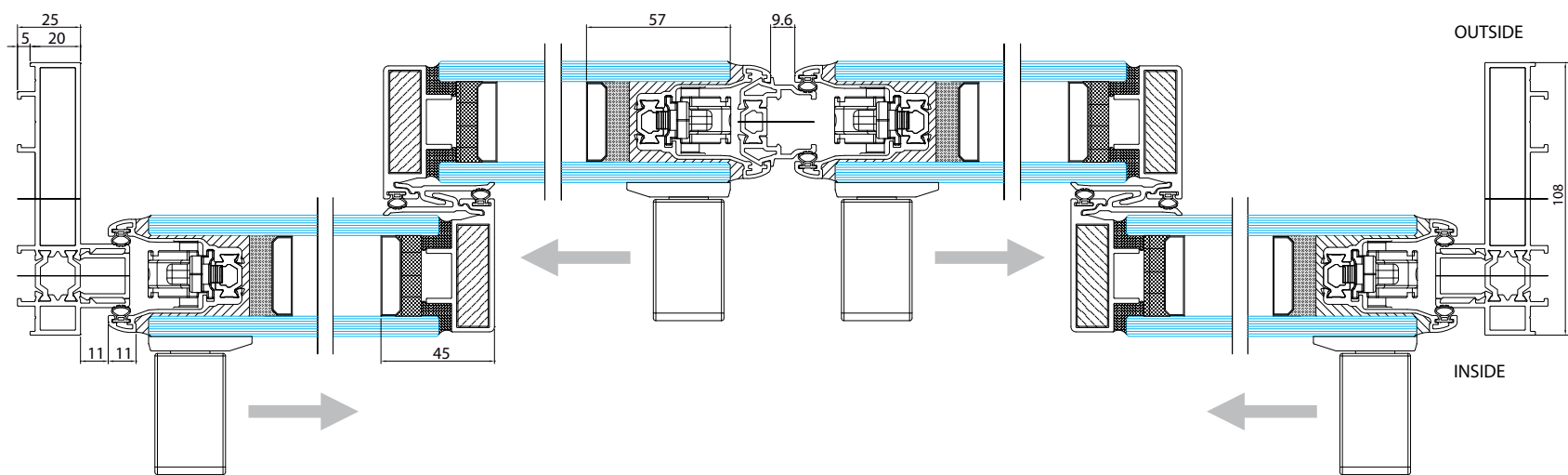
4-SASH ES ZERO 1 SLIDING
DOOR: 2 MOVABLE SIDES
AND 2 FIXED CENTRAL



4-SASH ES ZERO 1 SLIDING DOOR:
2 FIXED SIDES
2 MOBILE COUNTERPOSED CENTRAL

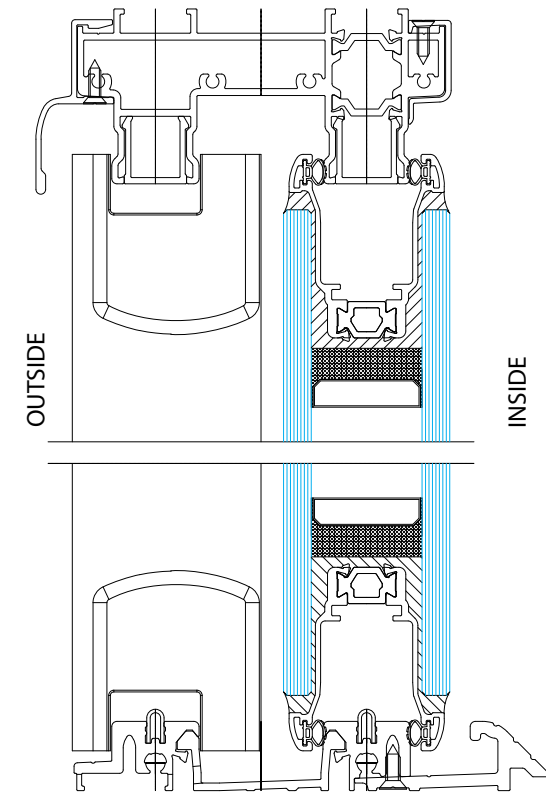
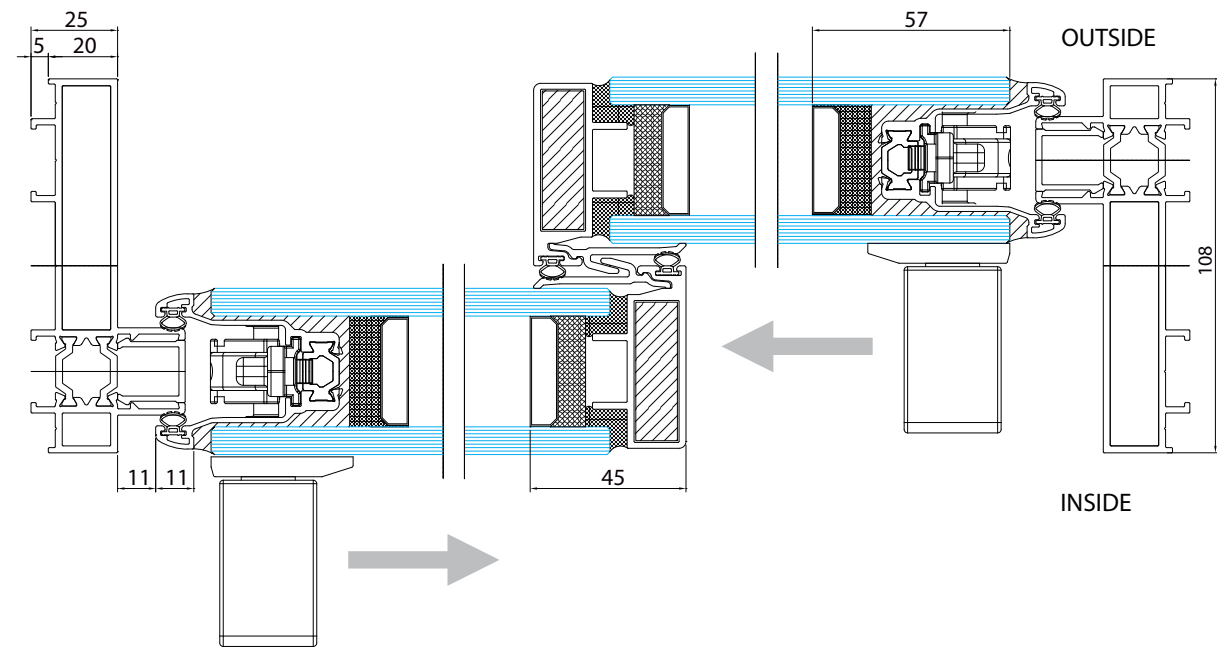


4-SASH ES ZERO 1 SLIDING DOOR:
2 MOVABLE SIDES
2 MOBILE COUNTERPOSED CENTRAL

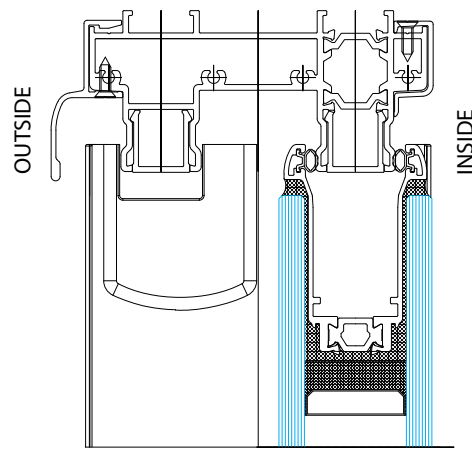
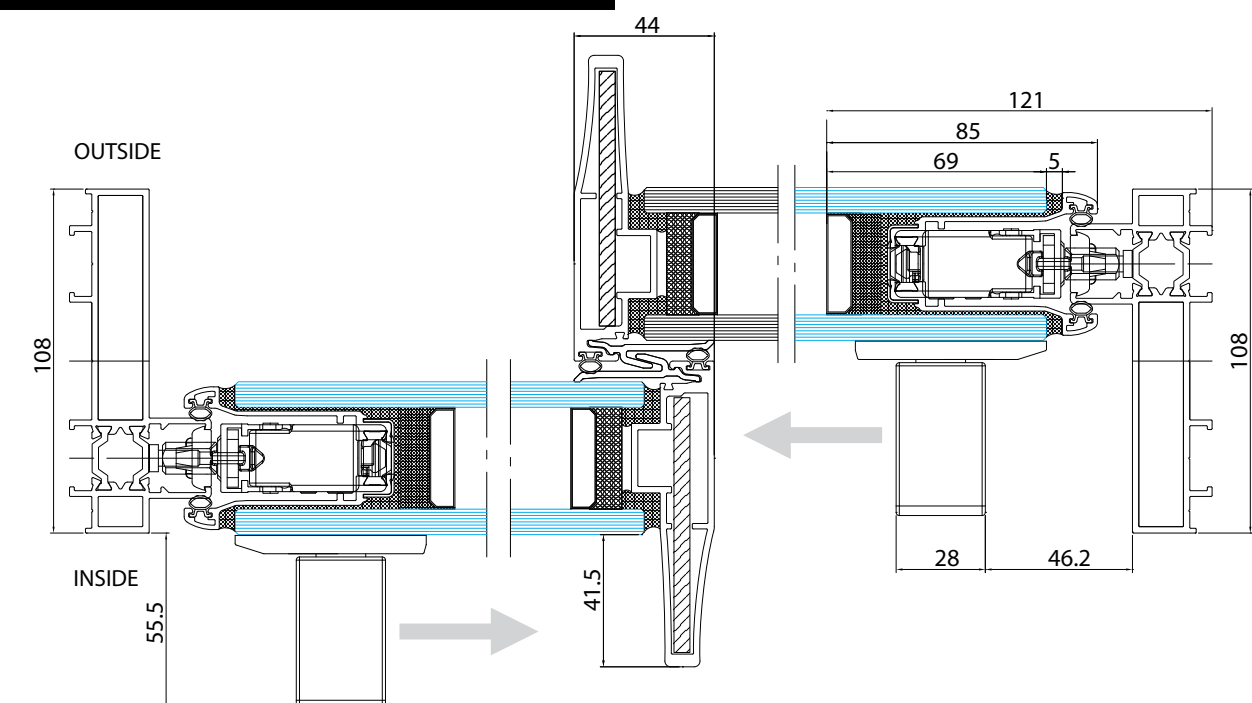


VERSION WITH LOWERED THRESHOLD

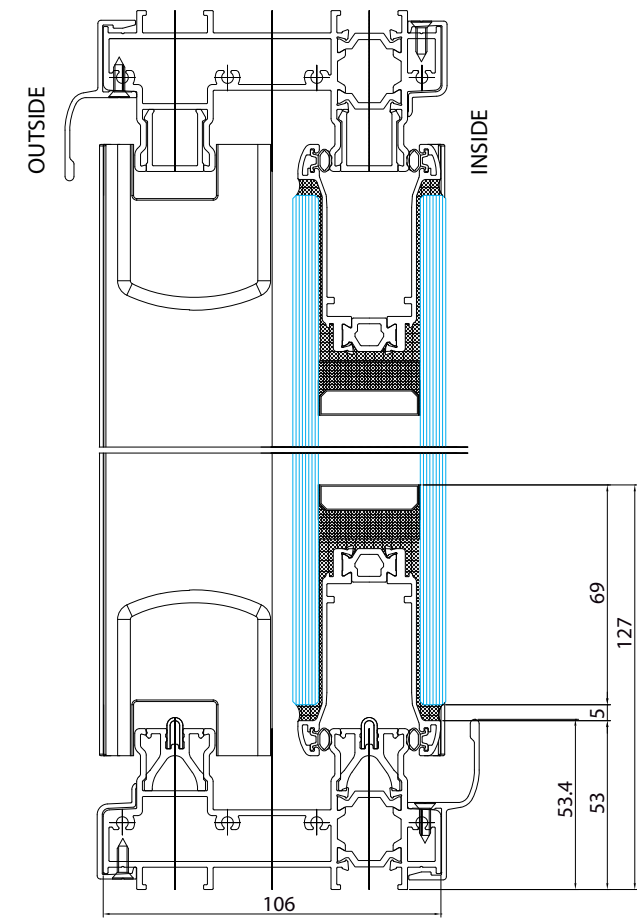
The frame profile is available in the version with lowered threshold. This solution is particularly suitable when the user cannot or does not wish to flush-mount the frame in the floor.



ES ZERO 1 SLIDING DOOR 300 KG



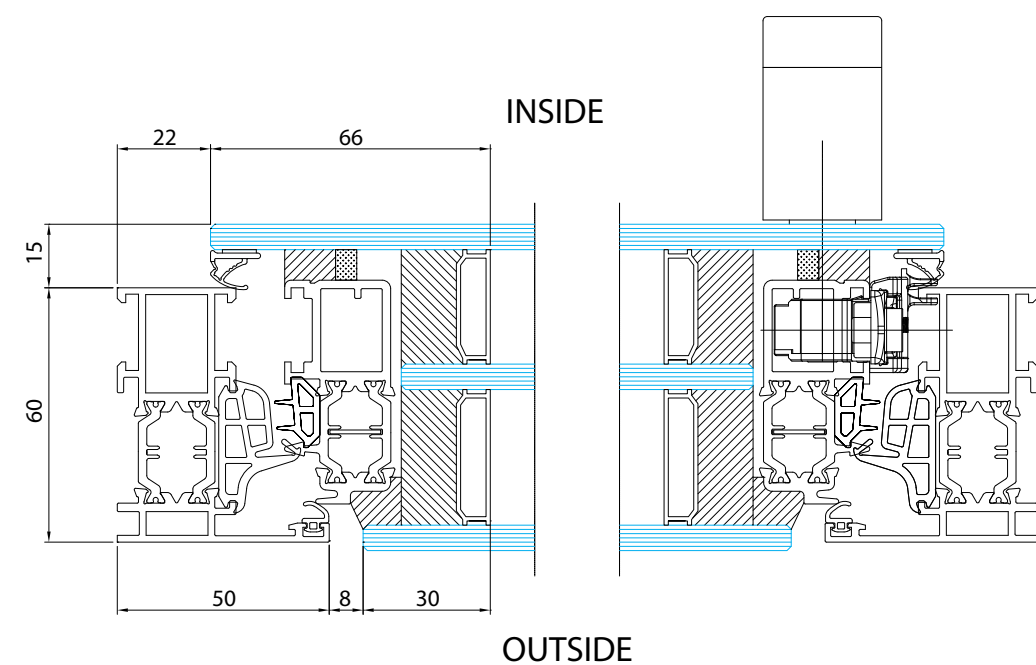
LOWER THRESHOLD



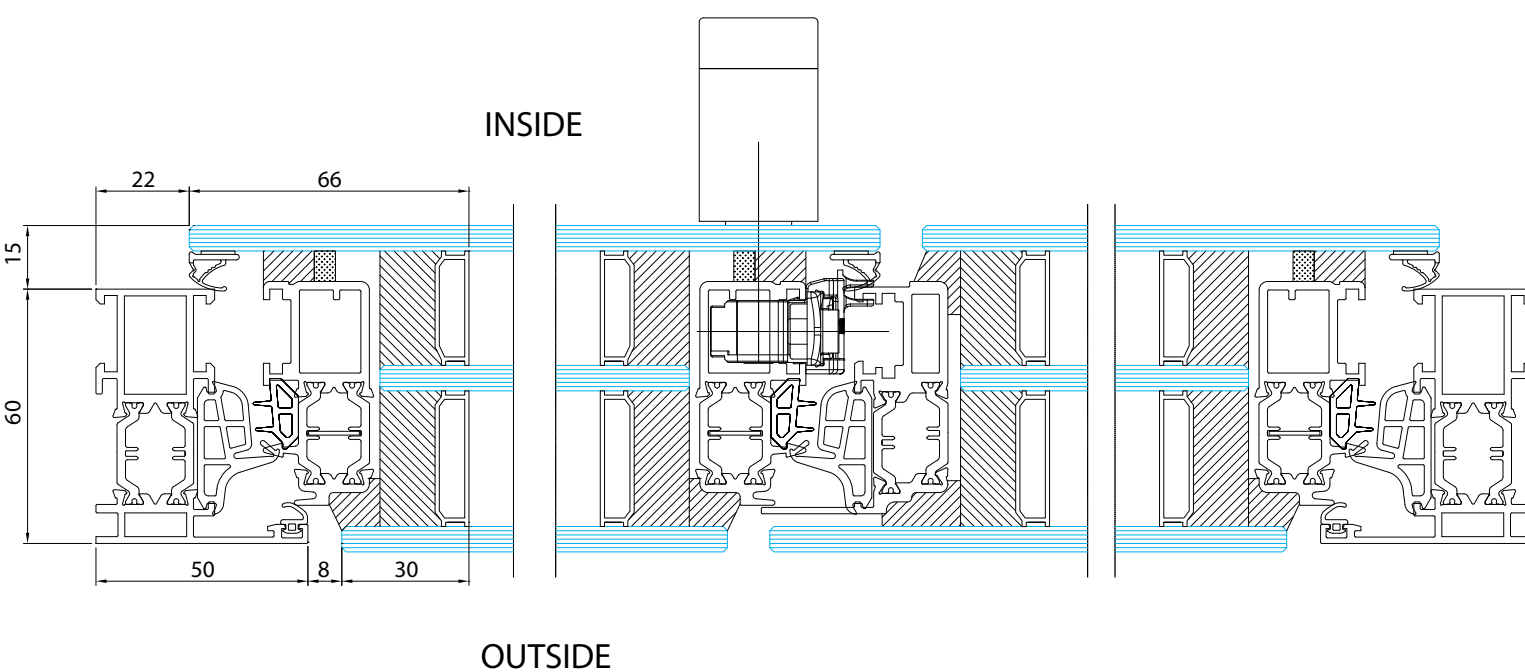
STANDARD THRESHOLD

ES ZERO 1 CASEMENT

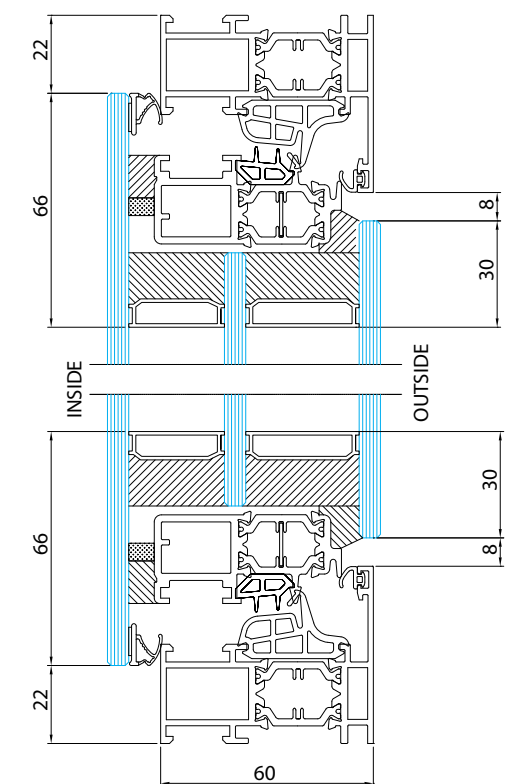
ES ZERO 1 CASEMENT
1 SASH



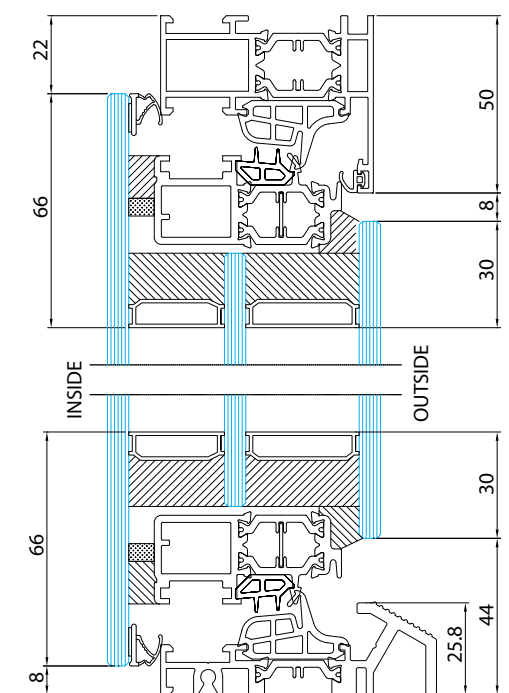
ES ZERO 1 CASEMENT
2 SASH



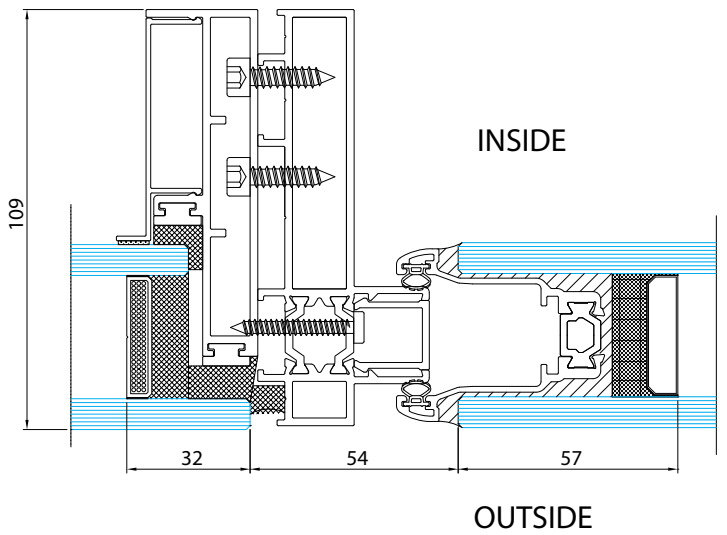
ES ZERO 1 CASEMENT
VERTICAL SECTION
WITH STANDARD FRAME



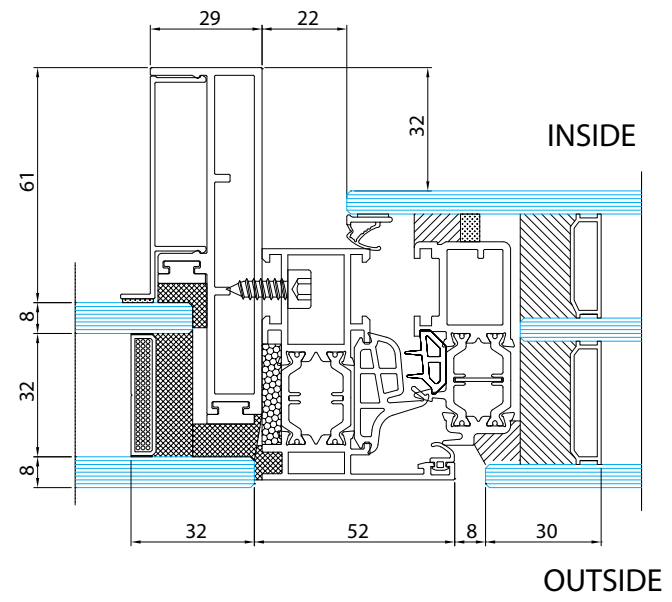
ES ZERO 1 CASEMENT
VERTICAL SECTION
WITH LOWERED THRESHOLD



ES ZERO 1 FIXED ELEMENT

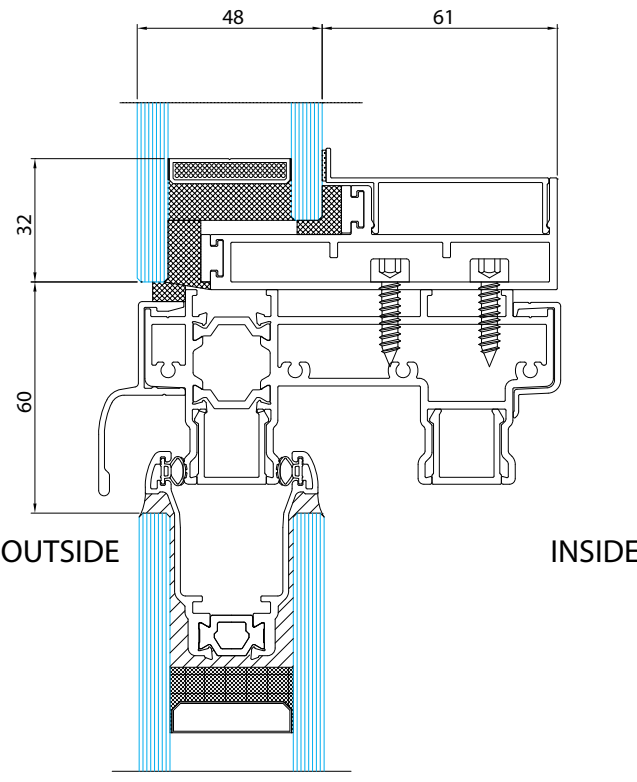


ES ZERO 1 FIXED ELEMENT
+ LATERAL SLIDING

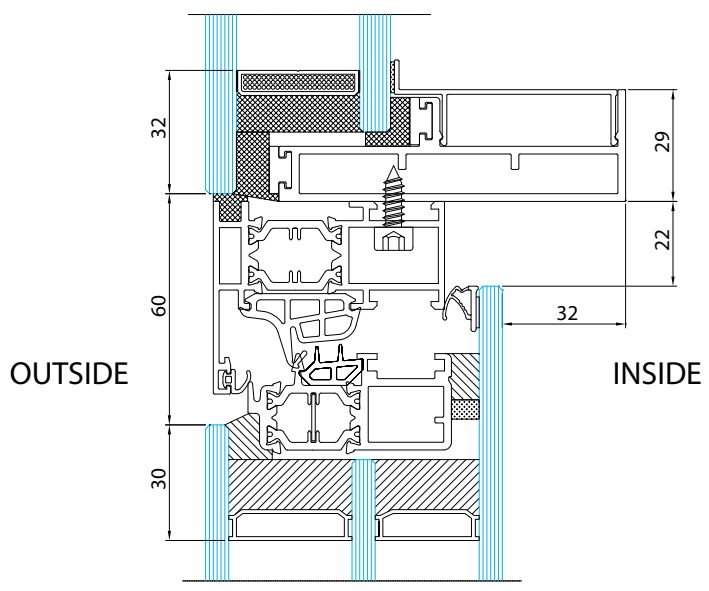


ES ZERO 1 FIXED ELEMENT
+ LATERAL CASEMENT

ES ZERO 1 UPPER FIXED
ELEMENT + SLIDING

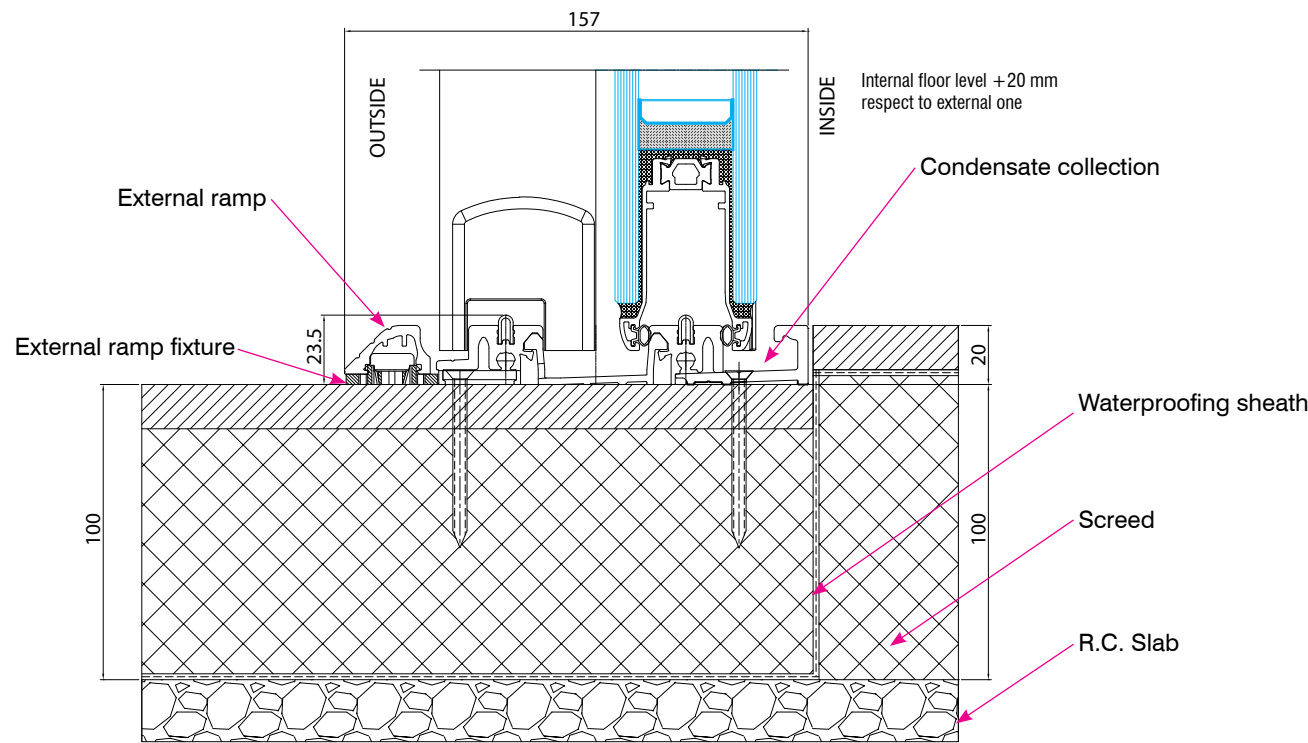
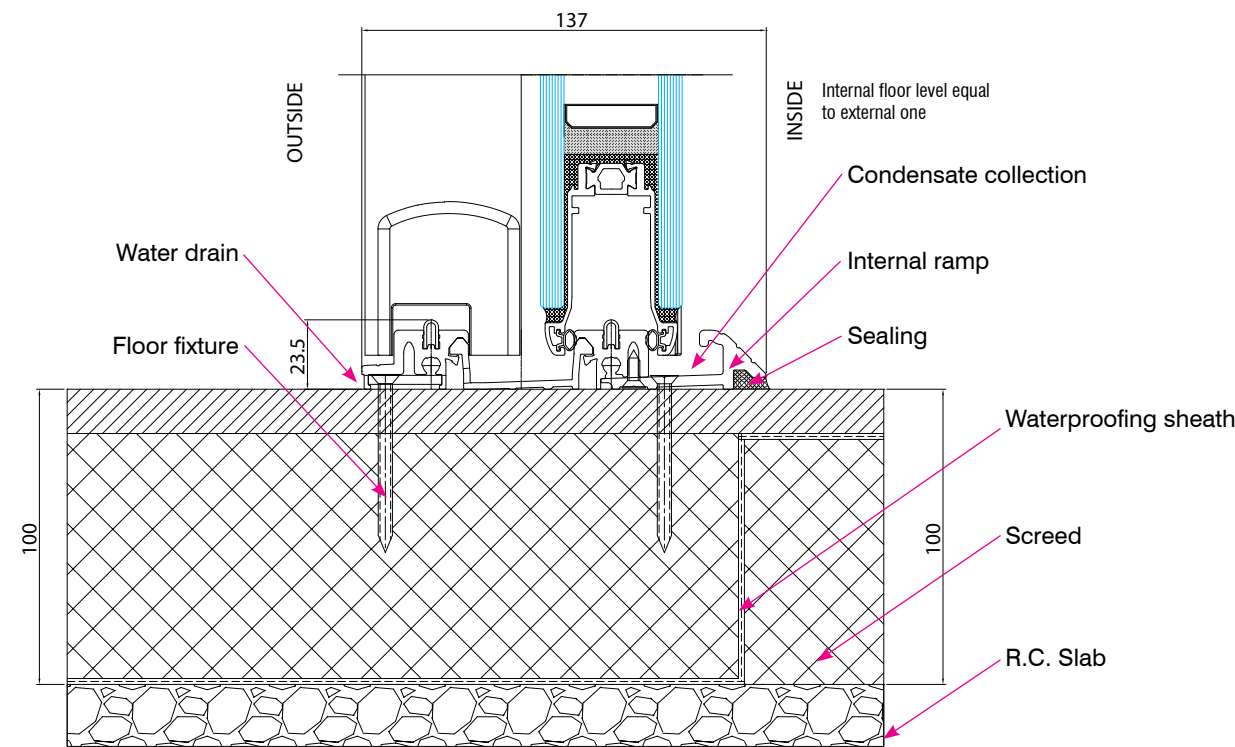


ES ZERO 1 UPPER FIXED
ELEMENT+ CASEMENT



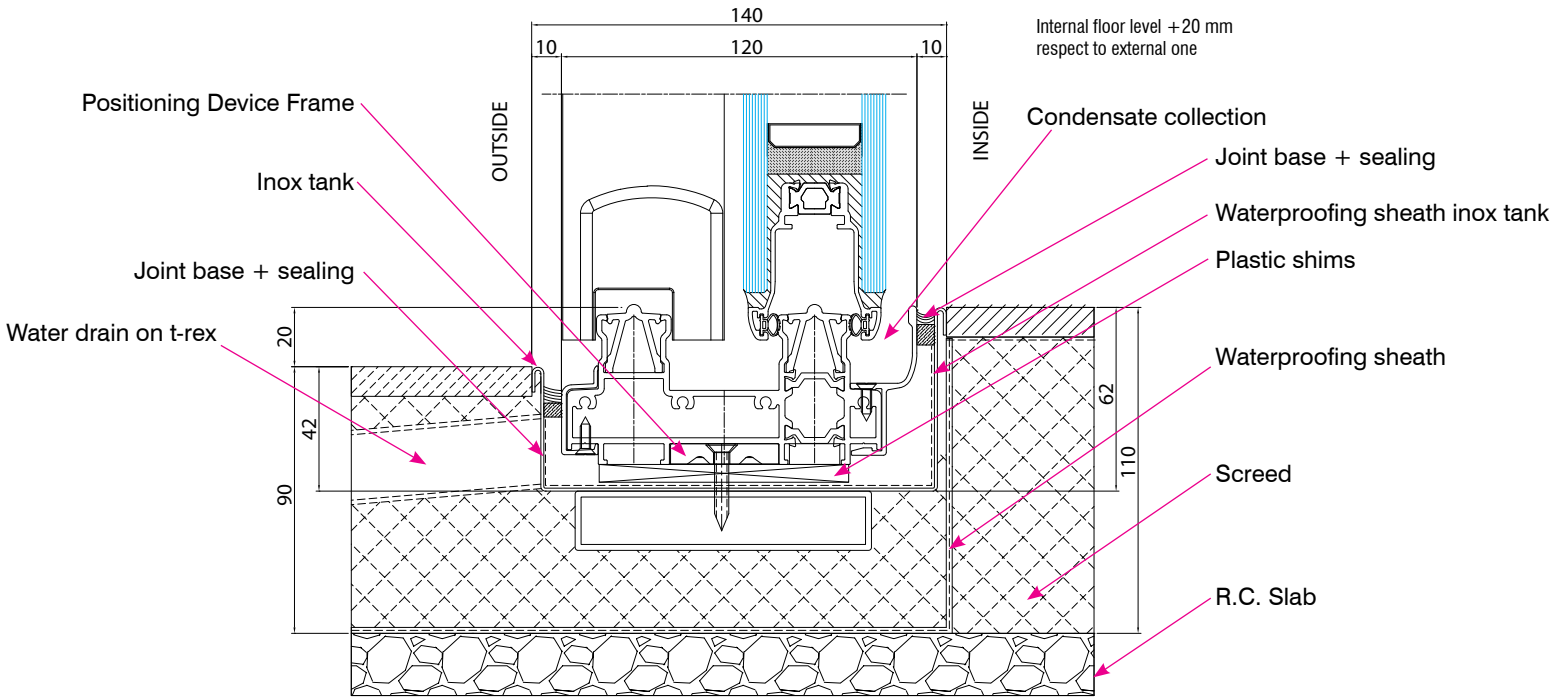
EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ES ZERO 1 SLIDING DOOR

FLOOR-MOUNTED SECTIONS
WITH LOWERED THRESHOLD

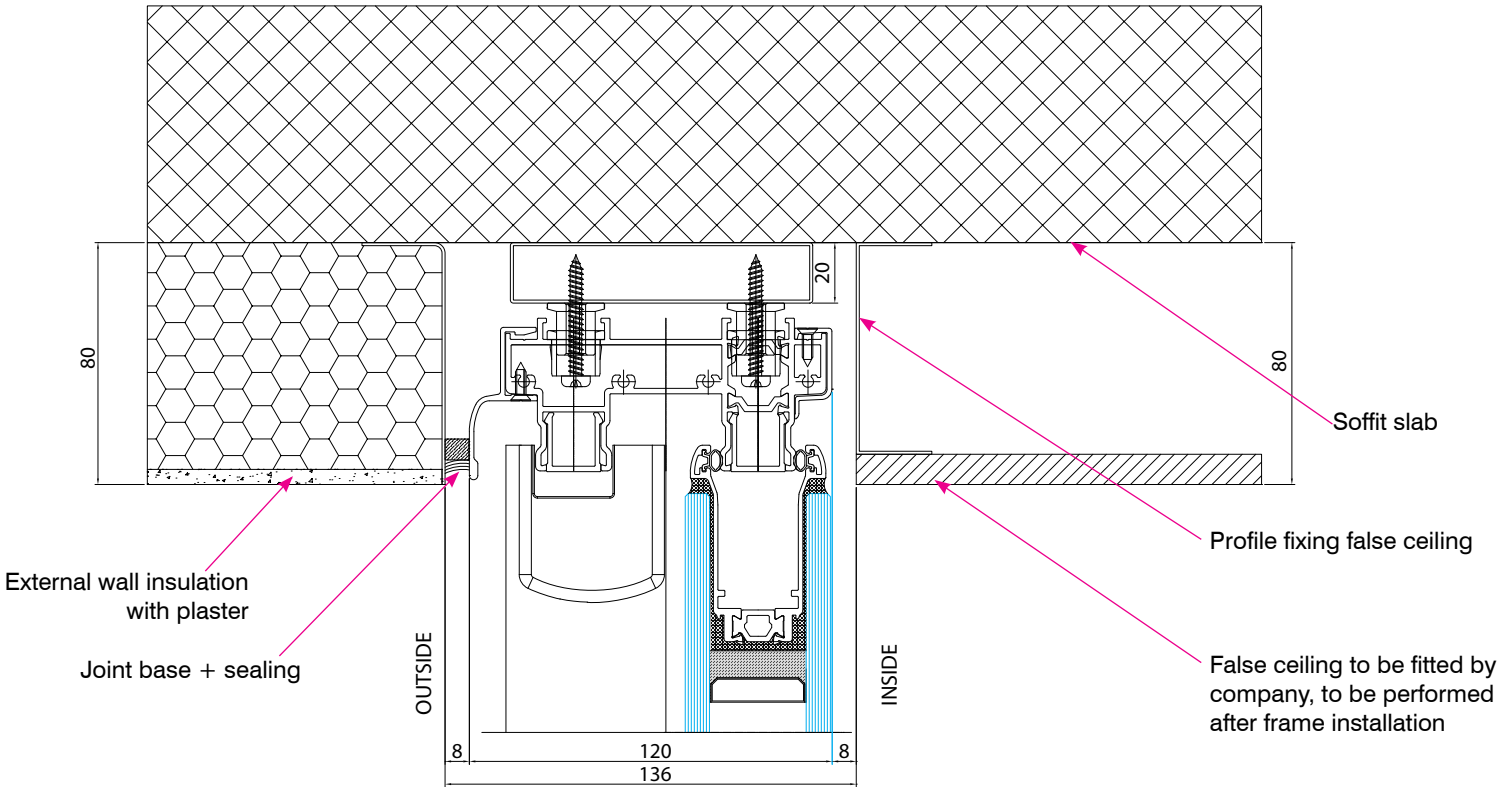


EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ES ZERO 1 SLIDING DOOR

FLOOR-MOUNTED SECTIONS
WITH RECESSED THRESHOLD

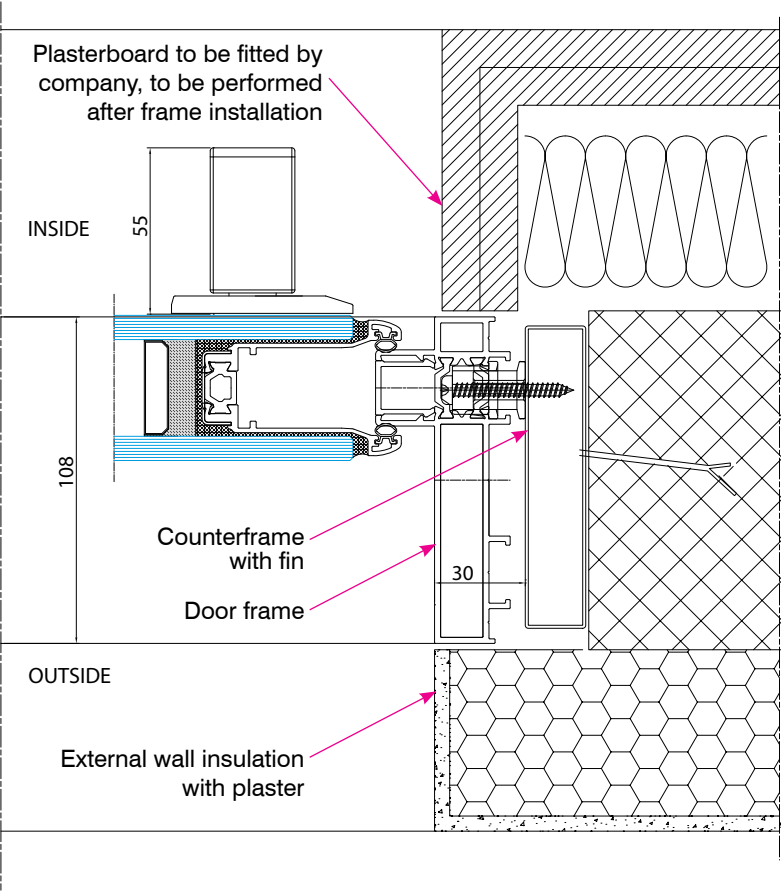


UPPER SECTION

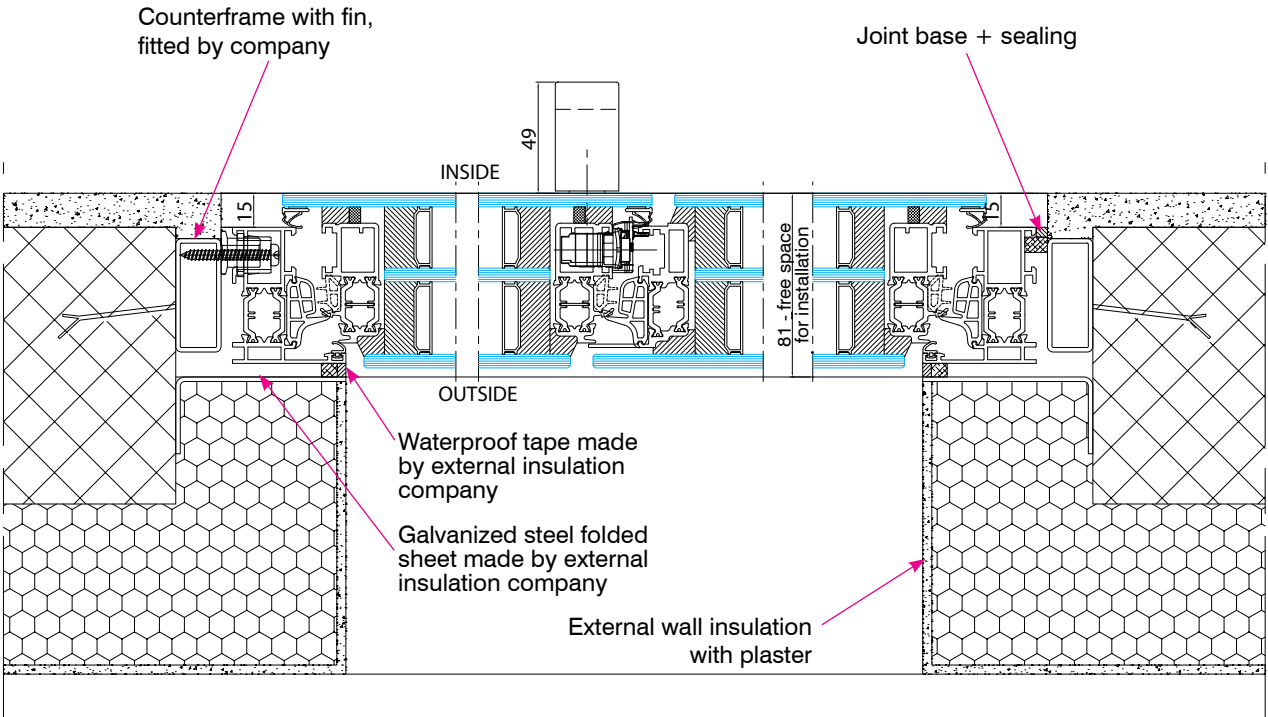
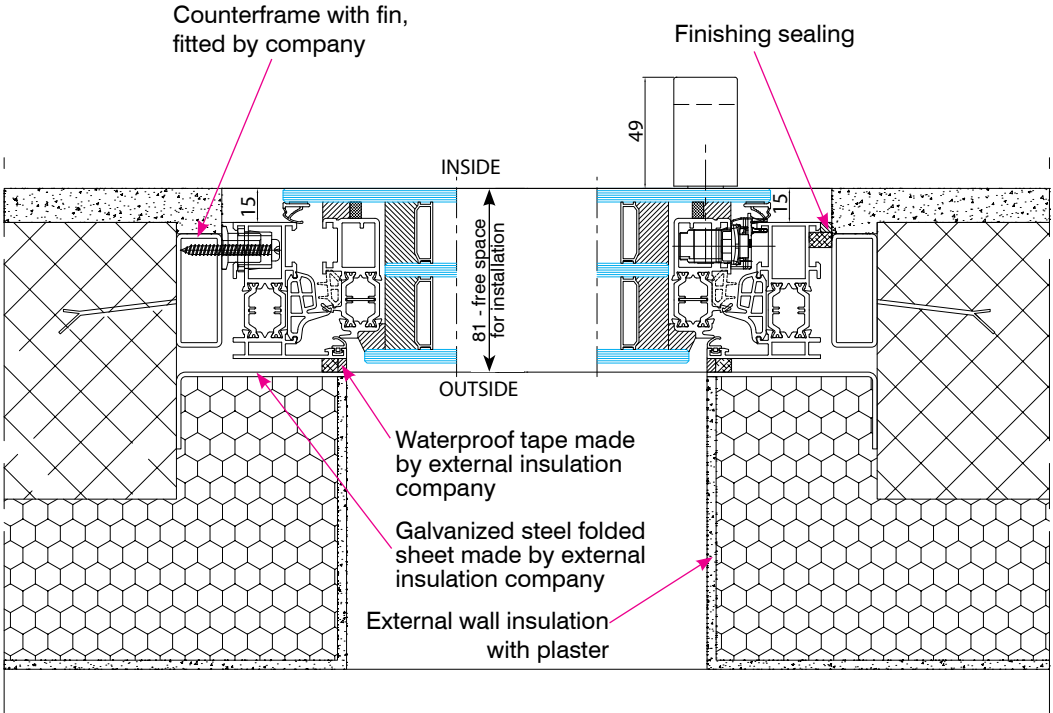


EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ES ZERO 1 SLIDING DOOR

LATERAL SECTION

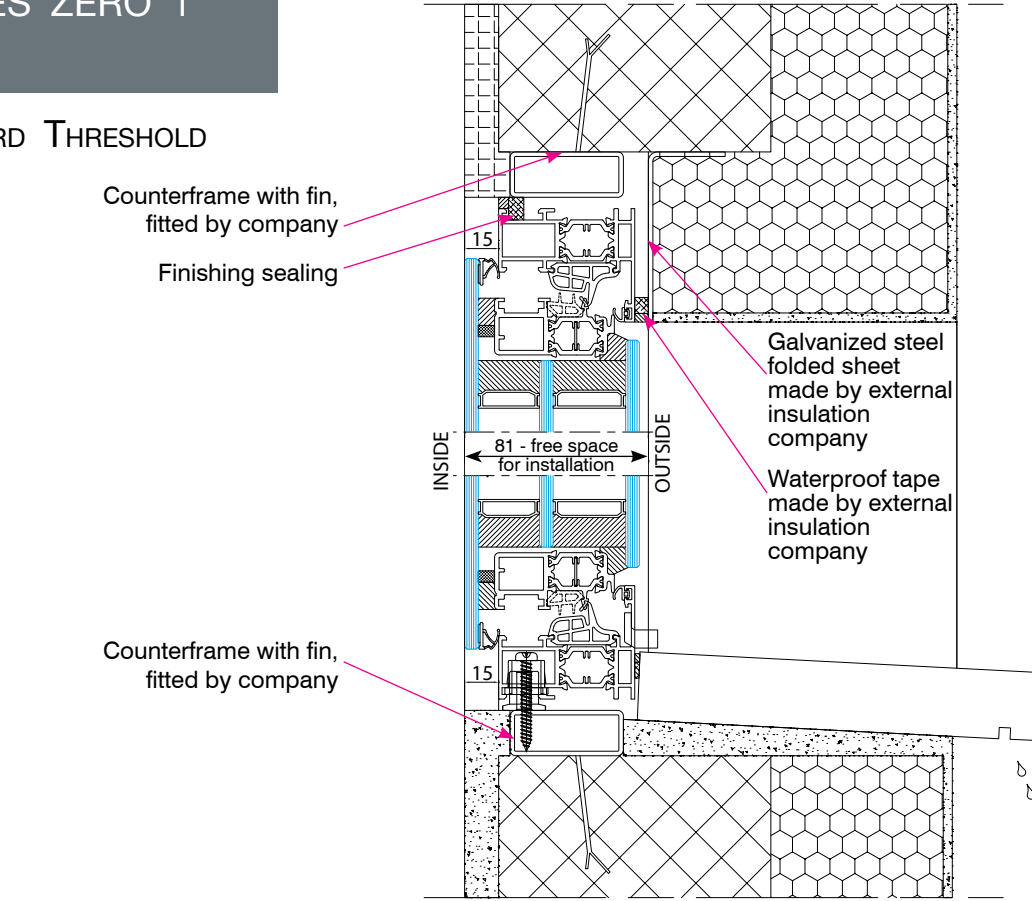


EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ES ZERO 1 SLIDING DOOR

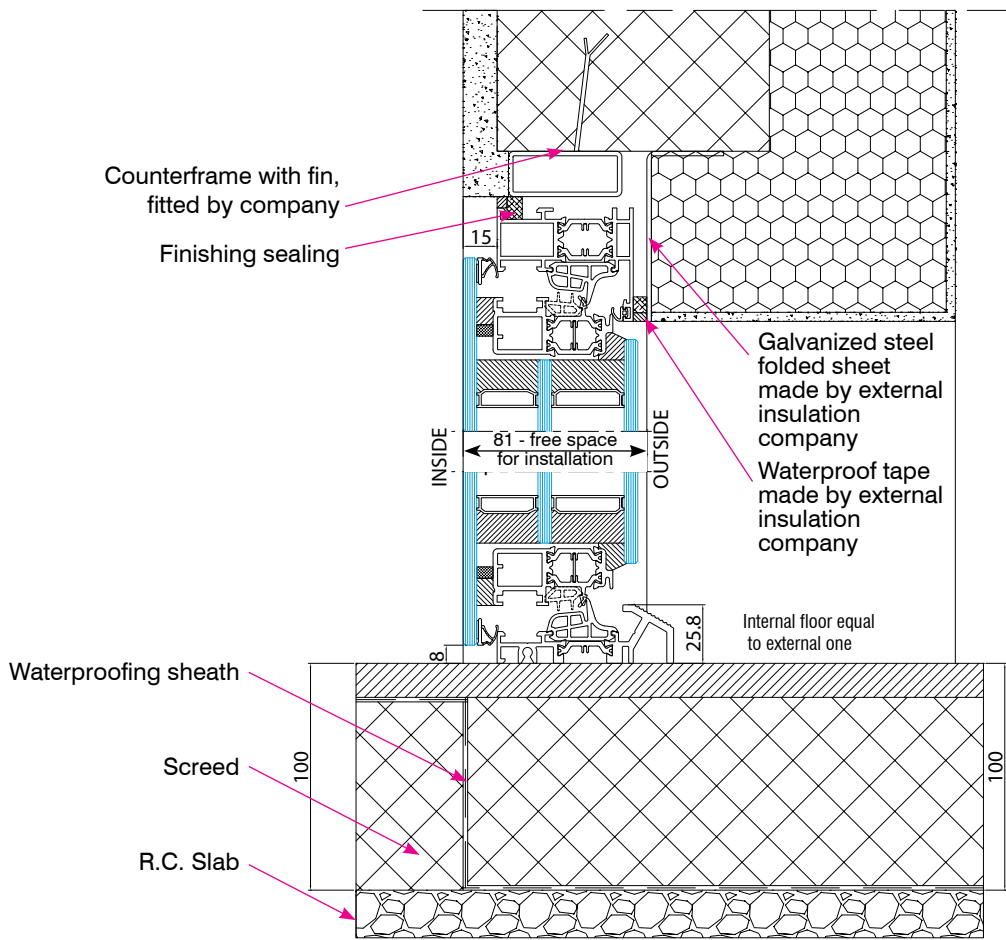


EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ES ZERO 1 CASEMENT

VERTICAL SECTION STANDARD THRESHOLD

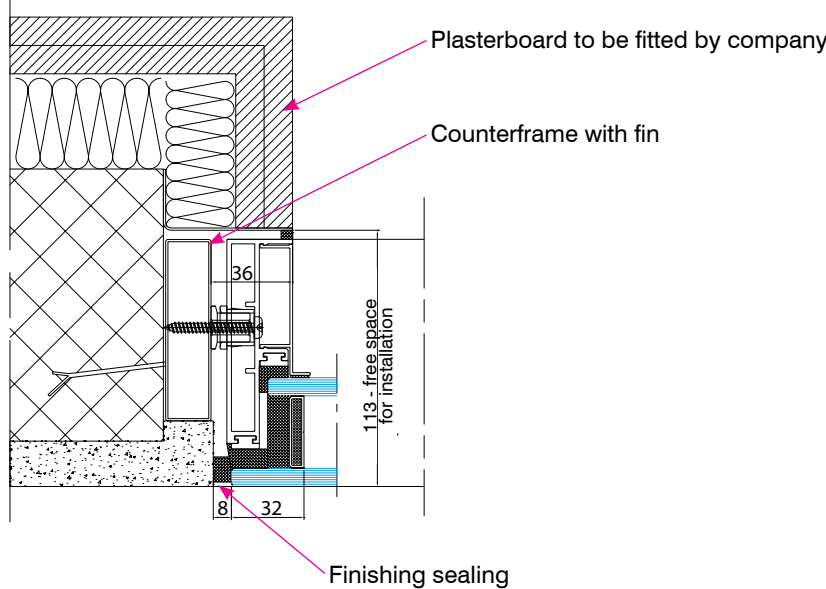


VERTICAL SECTION LOWER THRESHOLD

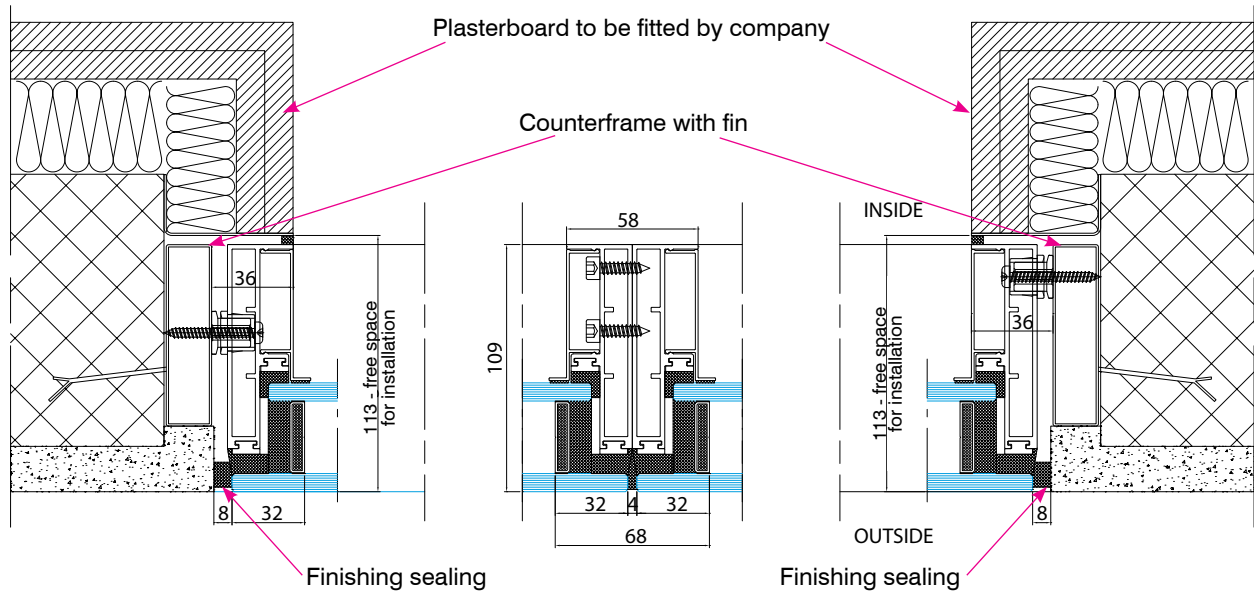


EXAMPLES OF ARCHITECTURAL APPLICATIONS OF ES ZERO 1 FIXED ELEMENT

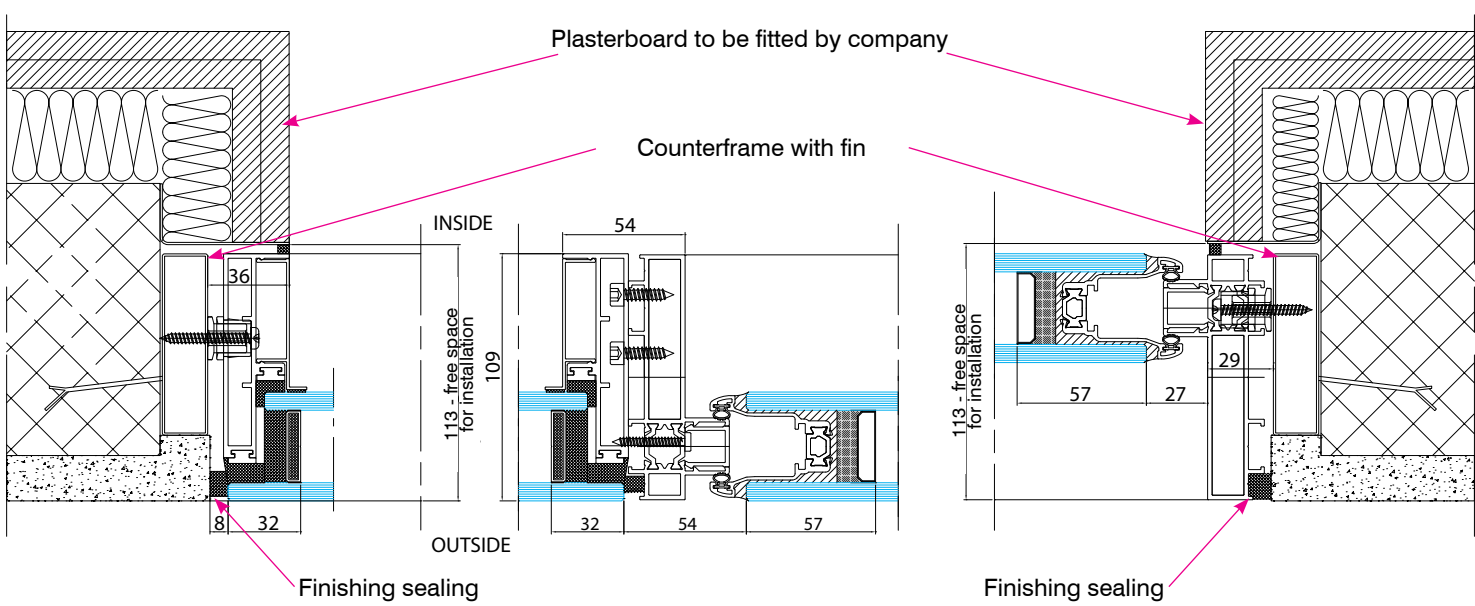
HORIZONTAL SECTION LATERAL FIXED ELEMENT



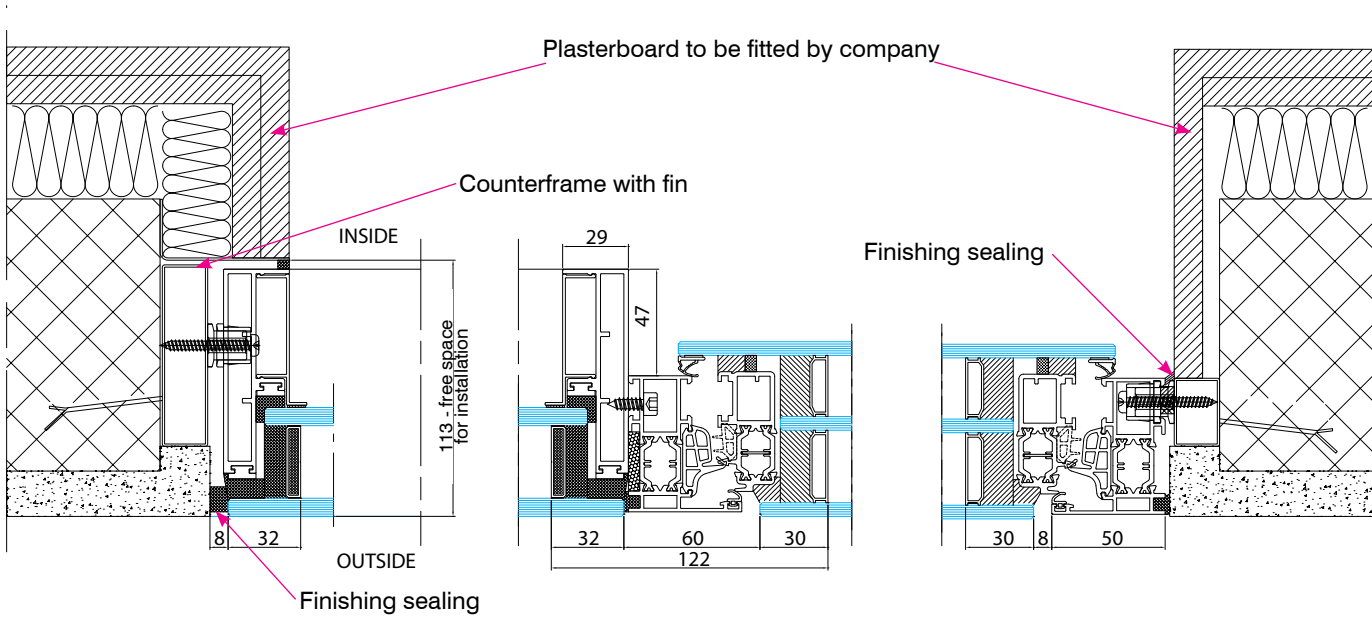
HORIZONTAL SECTION FIXED + LATERAL FIXED ELEMENT



HORIZONTAL SECTION
SLIDING + LATERAL FIXED ELEMENT

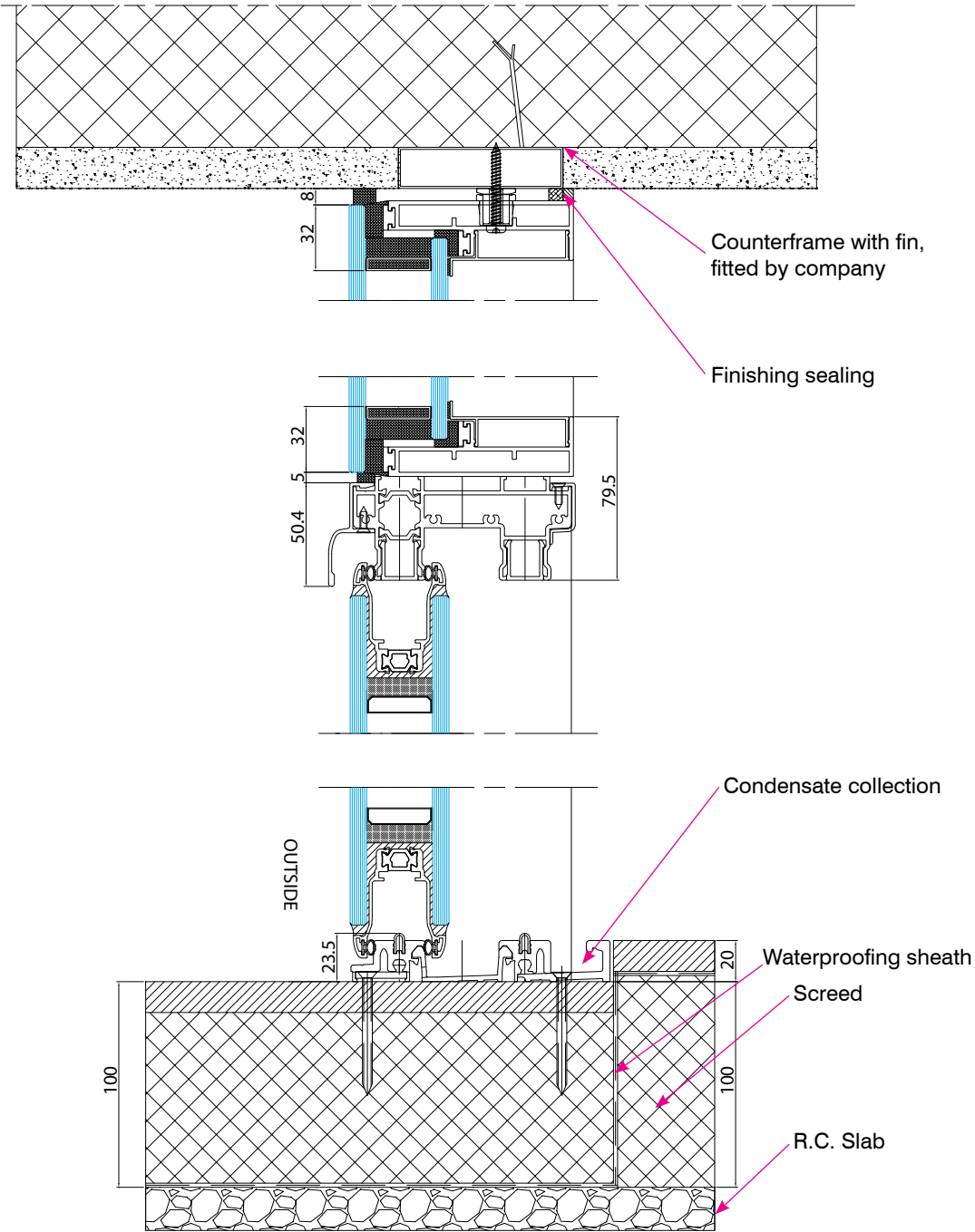


HORIZONTAL SECTION
CASEMENT + LATERAL FIXED ELEMENT



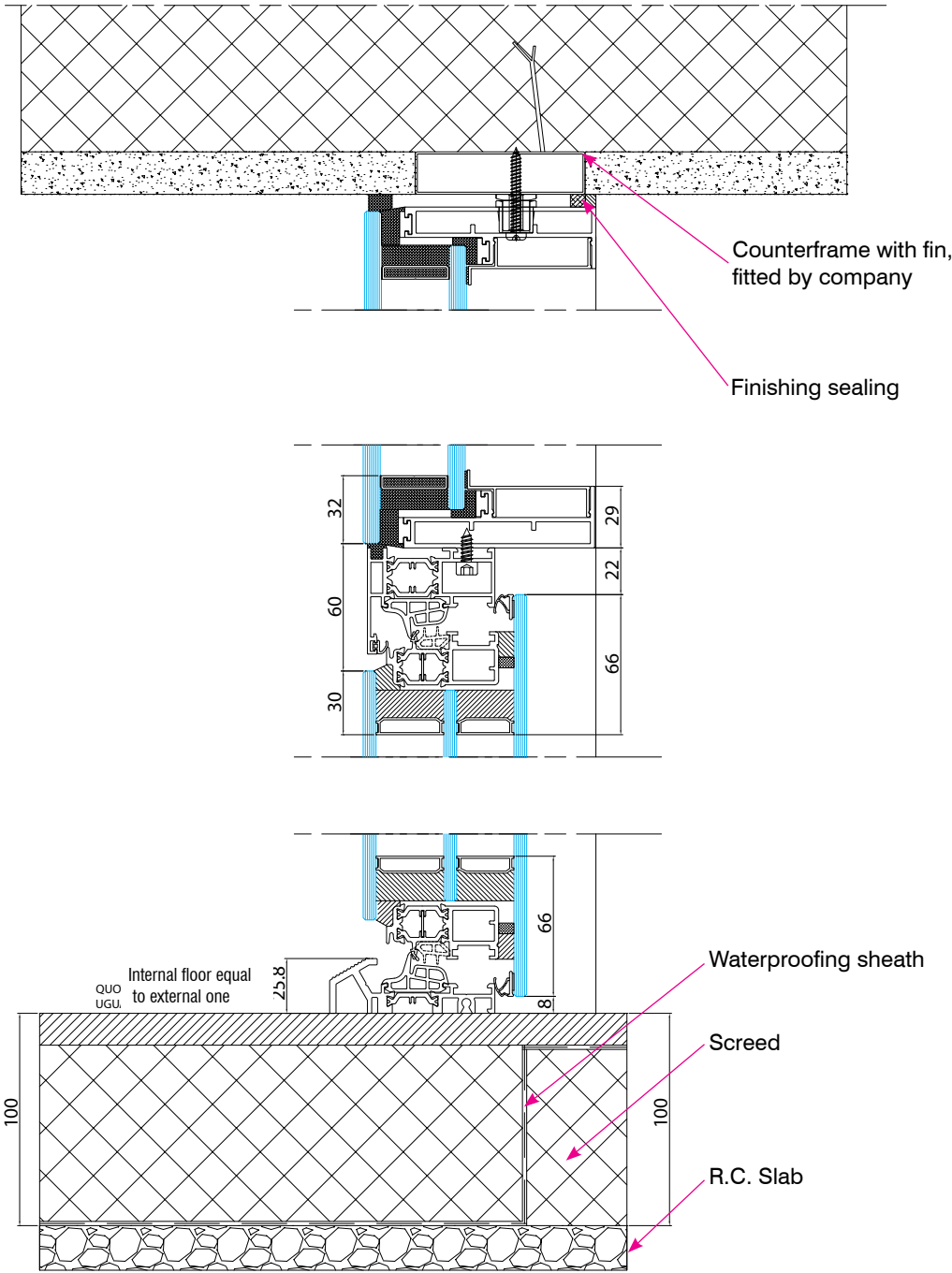
EXAMPLES OF ARCHITECTURAL
APPLICATIONS OF ES ZERO 1
FIXED ELEMENT

VERTICAL SECTION
SLIDING + UPPER FIXED ELEMENT



EXAMPLES OF ARCHITECTURAL
APPLICATIONS OF ES ZERO 1
FIXED ELEMENT

VERTICAL SECTION
CASEMENT + UPPER FIXED ELEMENT



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