

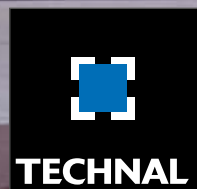
# SOLEAL

HIGH PERFORMANCE  
DOOR



Architect agency: A+ Architecture  
© Photo Marie-Caroline Lucat

IMAGINE WHAT'S NEXT





## SOLEAL

/ DOORS 55 AND 65 MM,  
A COMPLETE OFFER

### A CHOICE OF SOLUTIONS

Modules depth of 55 and 65-mm permit realisation of doors and door sets completely thermally broken, for any kind of project, building or private housing.

The SOLEAL doors allow designs with all Technal products. Installation detailing, trims and frames are in common with SOLEAL windows, balcony doors and sliders.

This thermally insulated door, with flat or disabled access thresholds, can be made with continuous frame opening leaf or with bottom rail (120-mm visible face in 55-mm version and 166-mm visible face in 65-mm version).

### NEAT DESIGN AND HIGH PERFORMANCE

SOLEAL doors are offering straight and sober lines for a sleek appearance with minimal views of aluminium and a nice global design.

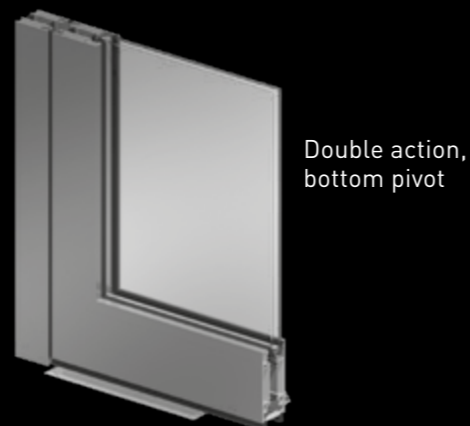
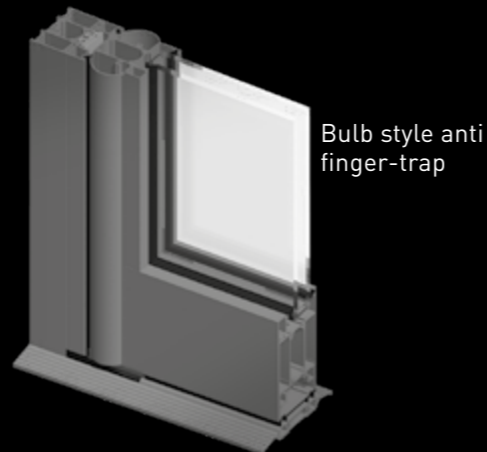
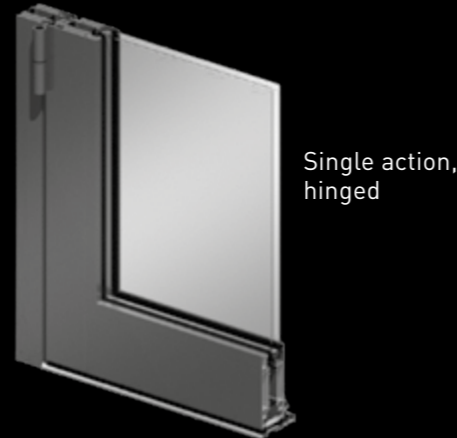
The 55-mm version offers three concepts for all your projects: single action hinged doors, double action pivot doors, and 'tube' doors with bulb stile.

The 65-mm version meets market expectations with big dimensions up to 3-m high and with heavy weight up to 250-Kg by leaf with concealed hinges.



Photographer: Xavier Boymand

# SOLEAL 55 / HIGH PERFORMANCE DOOR



## KEY FEATURES AND INNOVATIONS

### MULTIPLE APPLICATIONS

- Three opening options to meet your project needs:
  - Single action, hinged
  - Tube - bulb stile
  - Double action, pivot

### PERFORMANCES

- Thermal performance for single action door:
    - A leaf  $W \times H = 1,25 \text{ m} \times 2,18 \text{ m}$  :
    - $U_w = 1.6 \text{ W/m}^2 \cdot \text{K}$ ,  $TL_w = 0.49$ ,  $Sw = 0.37$
    - Double glazing  $U_g = 1.0 \text{ W/m}^2 \cdot \text{K}$  and insulating glazing insert
    - $U_w = 1.3 \text{ W/m}^2 \cdot \text{K}$ ,  $TL_w = 0.49$ ,  $Sw = 0.37$
    - Triple glazing  $U_g = 0.6 \text{ W/m}^2 \cdot \text{K}$  and insulating glazing insert
    - $U_w = 1.4 \text{ W/m}^2 \cdot \text{K}$
    - Opac panel  $U_p = 0.8 \text{ W/m}^2 \cdot \text{K}$
  - Glazing infill: 6 – 42 mm
  - Maximum weight per leaf: up to 150 kg
  - Heavy traffic door, Class 8\* (tested to 1 million cycles)
  - Big dimensions:
    - Hinged door with disabled access threshold,  $W \times H = 1.10 \text{ m} \times 3.00 \text{ m}$
    - Tube door with disabled access threshold,  $W \times H = 1.10 \text{ m} \times 3.00 \text{ m}$
  - Weather performance A.E.V. (Air, Water, Wind)
    - Door 55 mm, 1-leaf hinged door outward opening with disabled access threshold ( $H \times W = 2.4 \times 1.1 \text{ m}$ ):
    - Air permeability: Class 4
    - Water tightness: Class 6A
    - Resistance to wind pressure: Class C3
- \*Single action door and Tube door

### DESIGN

- Technal exclusive design push-pad handle
- Concealed drainage at threshold, bottom rail and mid rail
- Slim clamped hinges: 20-mm visible face for two- and three-part hinges

### ACCESSIBILITY AND EASE OF USE

- Fittings readily applied across the offer
- Integrated door closer: 90° hold-open
- Residential and commercial thresholds

### CLOSURES AND SECURITY

- Wide choice of locks
- Doors with 3-part hinge Class RC3: burglar resistance level 3 to EN-1627-30 (1-leaf door hinged)

### INNOVATION

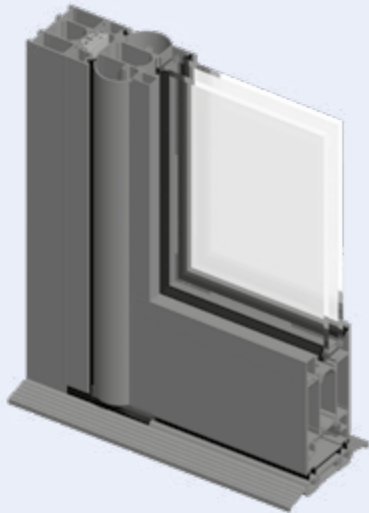
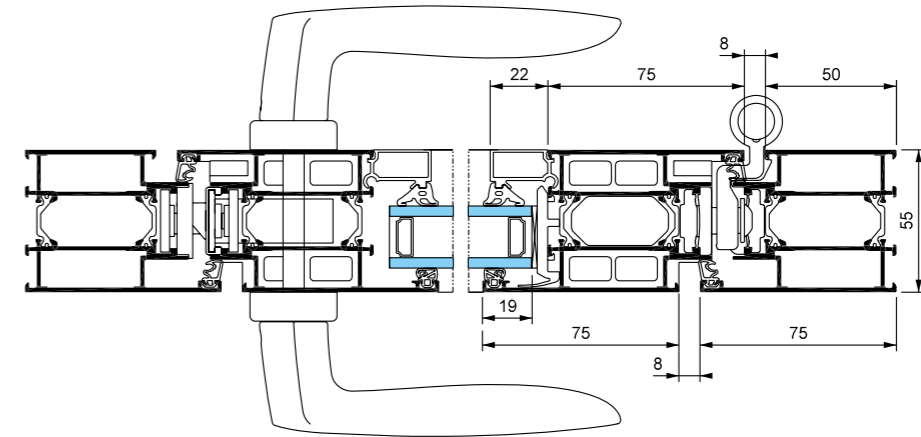
- Two patents for an innovative door
- One patent application for an aesthetic design



## SINGLE ACTION, HINGED

**Applications:**

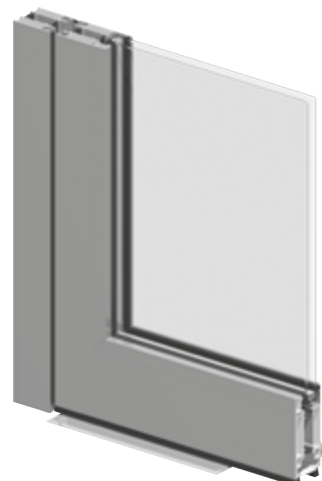
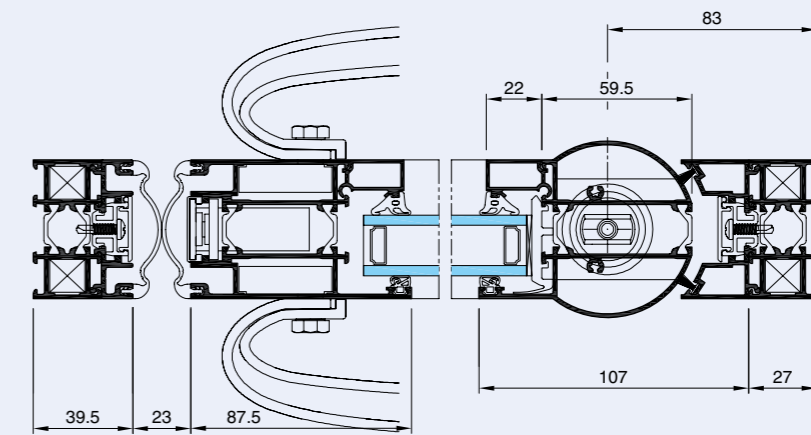
- Single action
- Single action reinforced



## TUBE

**Applications:**

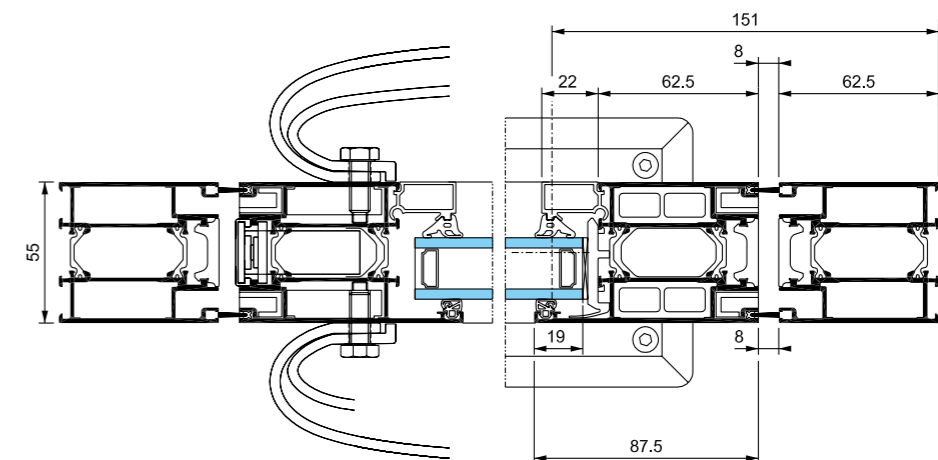
- Single action, bulb stile
- Double action, bulb stile
- Anti finger-trap



## DOUBLE ACTION, PIVOT

**Applications:**

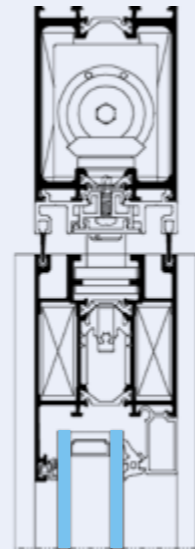
- Double action
- Anti finger-trap



# SOLEAL DOOR 55 / ACCESSIBILITY

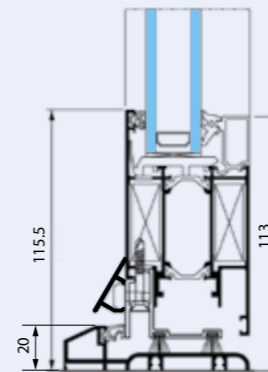
## CONCEALED CLOSER

Concealed overhead closer set into the header bar for discrete closing assistance of double action pivot, tube and single action doors (to current regulations).

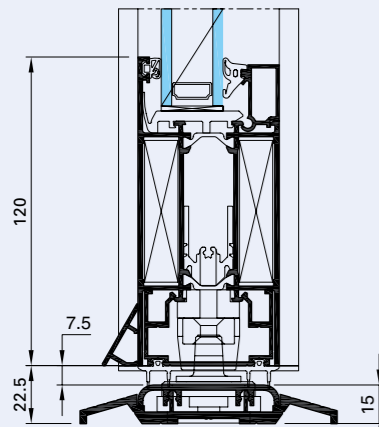


## DISABLED ACCESS THRESHOLDS

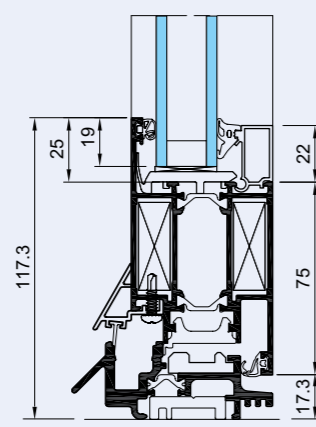
The disabled access threshold for the SOLEAL door achieves regulations for door and balcony door access, while maintaining weather performance and can meet different regulations with a height of 15mm and 20mm.



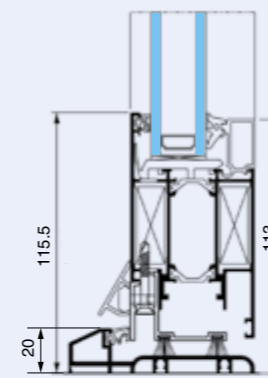
20 mm «commercial» disable access threshold removable for inward and outward opening



15 mm disable access threshold for double action door



20 mm "residential" disable access threshold removable for inward opening



20 mm "residential" disable access threshold, inward opening

# SECURITY / A COMPLETE OFFER

## STANDARD LOCKING MECHANISM

- 1/2 turn deadbolt
- Roller lock and deadbolt
- 2-point cylinder lock
- 2-point lock with square spindle

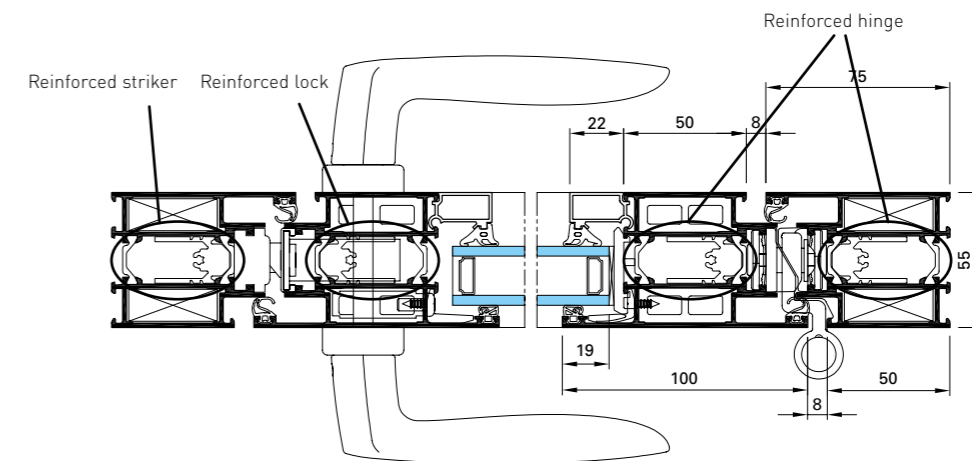
The continuity of the thermal break is ensured over the entire height of the door by a front plate lock insulated cover pre-assembled and a rigid insulating rod (patented system).

## BURGLARY RESISTANCE

Results obtained for the SOLEAL hinged door:  
 - Class 3 on the door leaf 1  
 - Class 2 on the door leaf 2  
 Through reinforcement of certain components such as hinges, latches, locks and hooks. The initial aesthetics are well preserved.

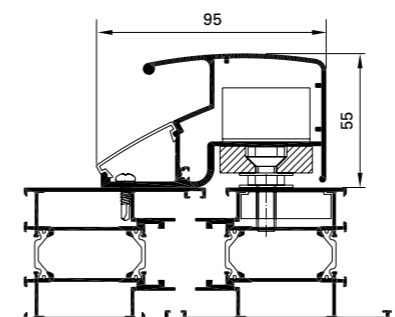
## MULTIPOINT LOCKING

The offer allows additional locking points to be added as required, hook lock or top and bottom shoot bolt for large doors (>2.25m height).

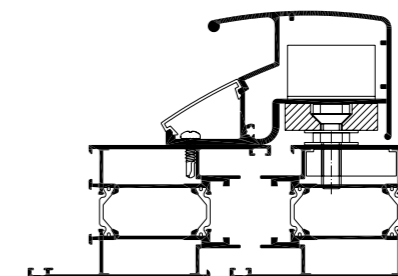


## ELECTROMAGNETIC LOCKING

With the single action version (1 or 2 leaf) connected to an access control, the electromagnetic pad holds the door in the lock position. The profile that houses the pad also serves as a pull handle up the height of the door.



Electromagnetic lock on the outer frame



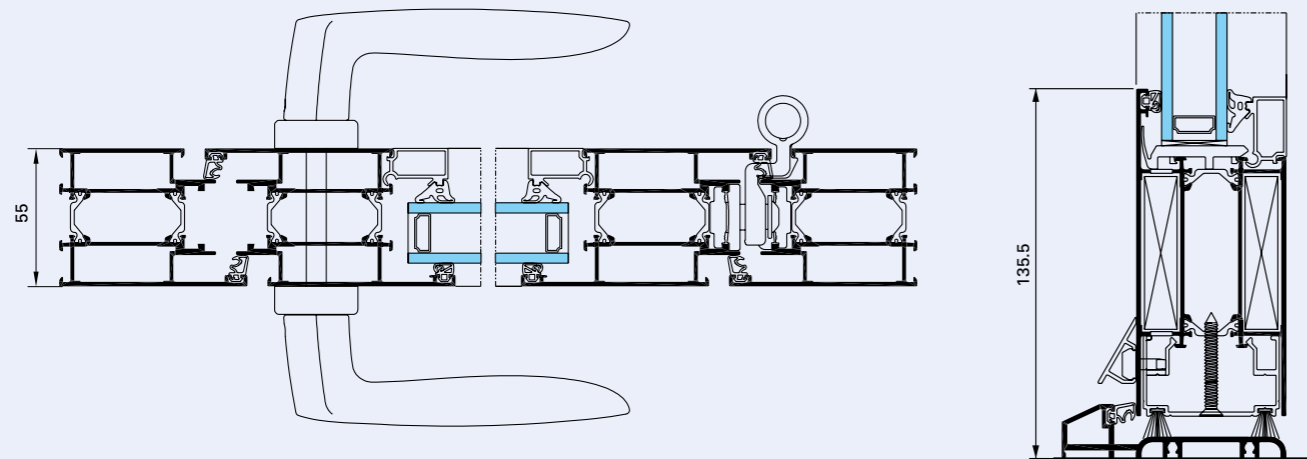
Electromagnetic lock on the opening frame



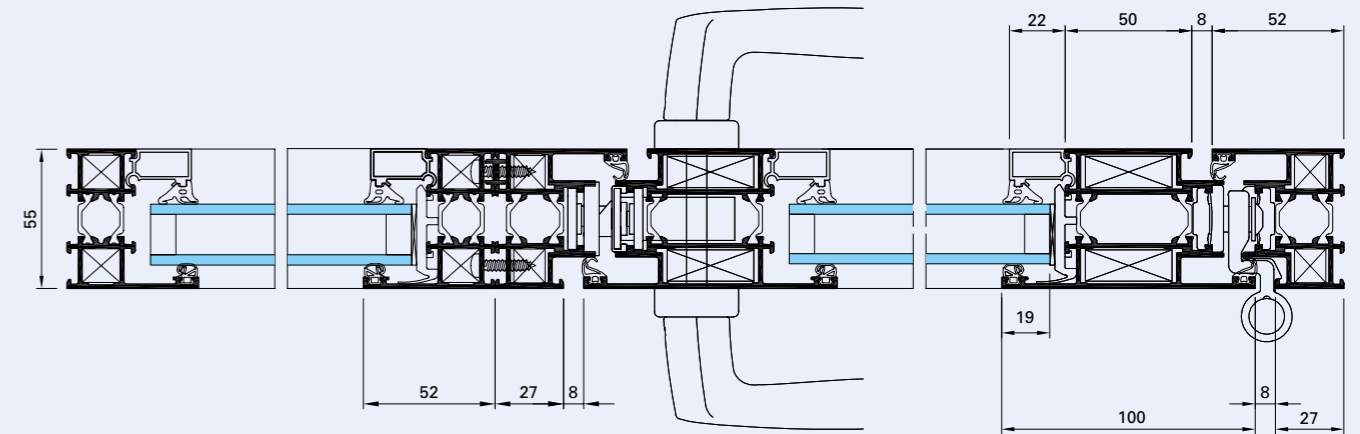
Concealed electromagnetic lock on the opening frame

# SOLEAL DOOR 55 / SINGLE ACTION, HINGED

## SINGLE ACTION DOOR WITH BOTTOM RAIL

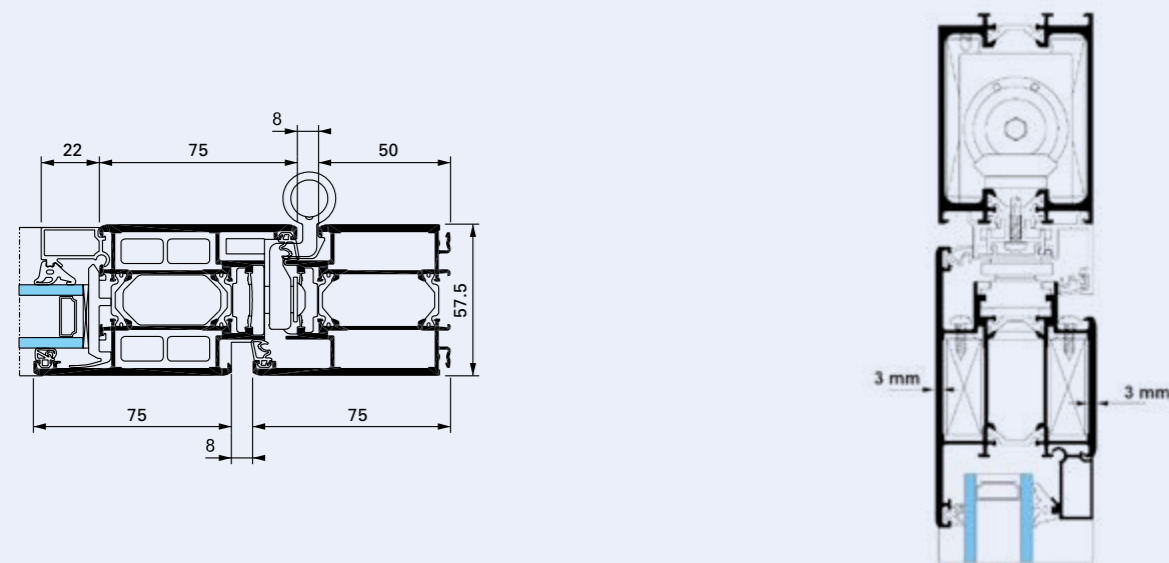


## COMPOSITE DOOR SETS

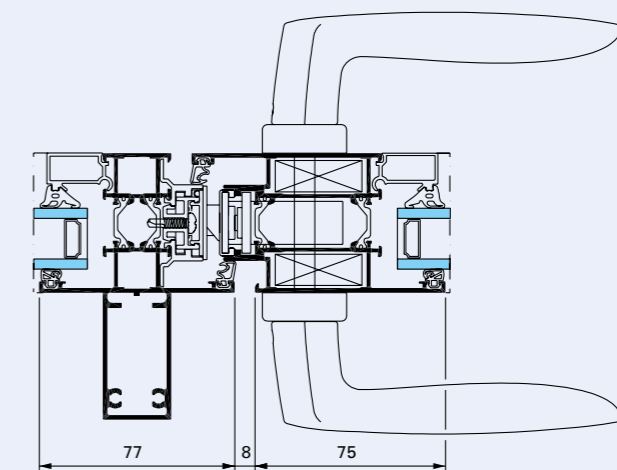


## SINGLE ACTION, REINFORCED

An increase in aluminium thicknesses by 3mm permits leaf sizes 2.60m high by 1.3m wide.



## INTEGRATION

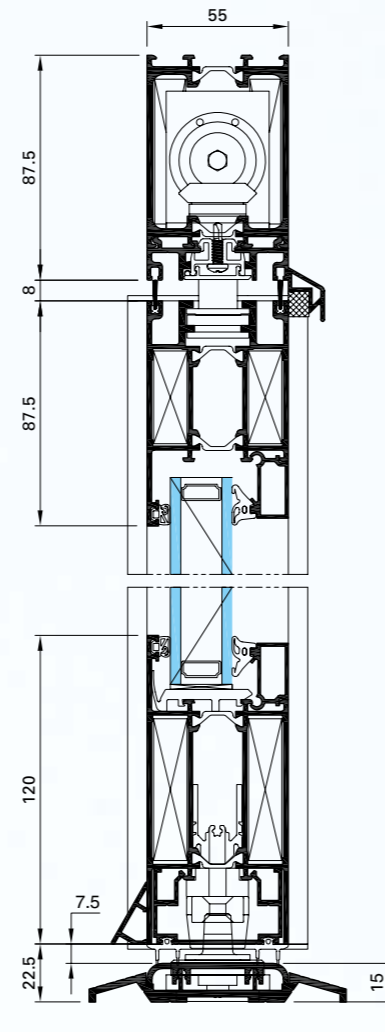


# SOLEAL DOOR 55 / TUBE

The Tube door is available in single or double action with anti finger-trap level 1 and level 2. The bulb stile version of SOLEAL Tube makes it ideal for specification in all public buildings such as schools, restaurants, theatres, where anti finger-trap protection is a priority. A dualhardness gasket on the locking edge maintains a 23-mm gap between the aluminium.

## TUBE SINGLE ACTION

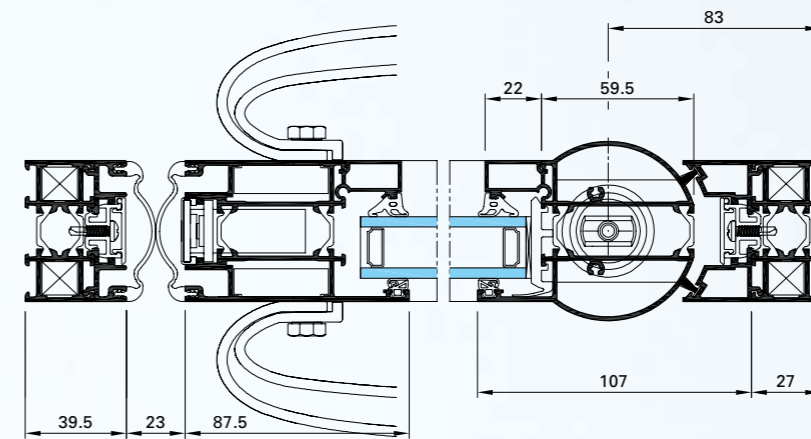
- An optional section on the reported beating top frame acts as the simple action of the door. This profile can be mounted either inside or outside the opening giving way.



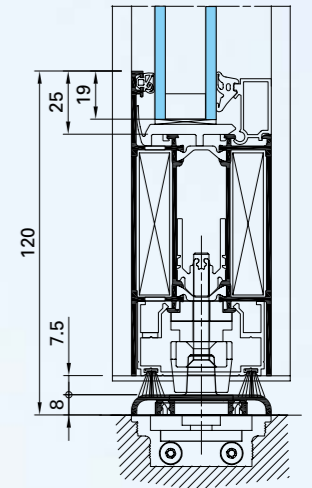
## TUBE ANTI-FINGER-TRAP

- Optionally, the concealed closer can be used with this anti finger-trap application, assisting doorclosing.

## TUBE DOUBLE ACTION



## FLAT THRESHOLD WITH BOTTOM RAIL

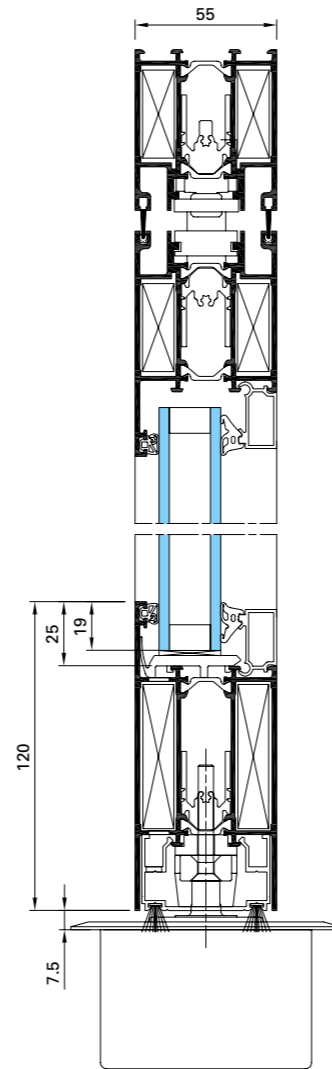
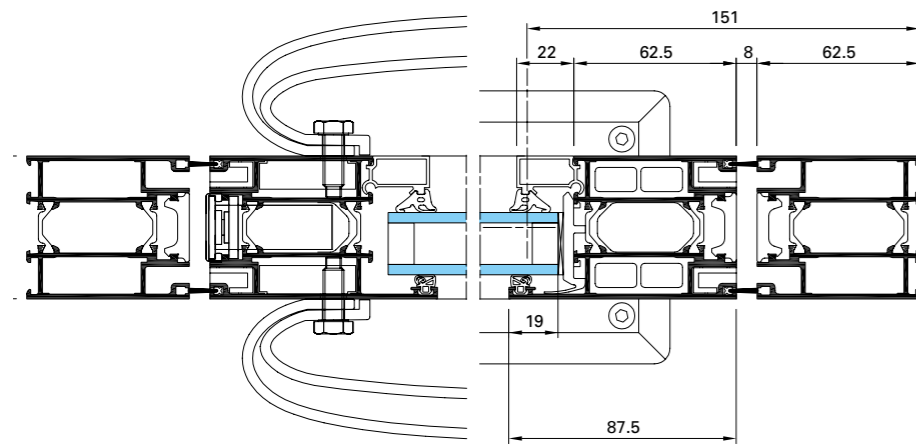


# SOLEAL DOOR 55 / DOUBLE ACTION PIVOT

The double action allows simultaneous or independent inward and outward opening of each leaf.

An 8-mm space between the opening leaf and fixed leaf is closed by a double barrier of brush seals.

- Optionally, this application may use a floor spring or concealed overhead closer in the top outer-frame transom.
- Adaptable to anti-finger-trap, level 2.





# SOLEAL 65 / HIGH PERFORMANCE DOOR



## CHARACTERISTICS AND KEY INNOVATIONS

### APPLICATIONS

- 1 an 2-leaf, inward opening
- 1 an 2-leaf, outward opening
- Possibility of composition (with lateral fixed post or top fixed light)
- Integration in GEODE and SPINAL façades

### PERFORMANCES

- Thermal performances for single action door, 1-leaf (W x H = 1.25 x 2.18 m) :
  - $U_w=1.4 \text{ W/m}^2.\text{K}$  with  $TL_w=0.51$  and  $Sw=0.38$  (Double glazing  $U_g=1.0 \text{ W/m}^2.\text{K}$ )
  - $U_w=1.0 \text{ W/m}^2.\text{K}$  with  $TL_w=0.52$  and  $Sw=0.40$  (Triple glazing  $U_g=0.5 \text{ W/m}^2.\text{K}$ )
- Glazing infill: up to 52-mm
- Maximum weight by leaf: up to 250-kg with concealed hinges
- Maximum dimensions of opening, door on hinges with disable access threshold (W x H = 1.4 x 3 m)
- High traffic door, class 8 (test in progress at 1 million cycles)
- Weather performances A.E.V. (Air, Water, Wind)  
Door 65-mm, 1-leaf inward opening door with hinges and disable access threshold (W x L = 2.5 x 1.2 m):
  - Air permeability: Class 4
  - Water tightness: Class 7 A
  - Resistance to wind pressure: Class C5
- Acoustic attenuation: up to 40 dB (RA,tr)

### DESIGN

- Straight and sober lines for a sleek appearance with minimal views of aluminium and a nice global finish
- Technal exclusive design push-pad handle
- Concealed drainage at threshold, bottom rail and mid rail
- 3 types of hinges to adapt to different use (slim clamped, faced-fixed, concealed hinges)
- Pull handle option on the full height of the opening frame (1 and 2-leaf)

### ACCESSIBILITY AND EASE OF USE

- Disable access threshold profiles are available in all applications
- Integrated door closer: 90° hold-open
- Residential and commercial thresholds

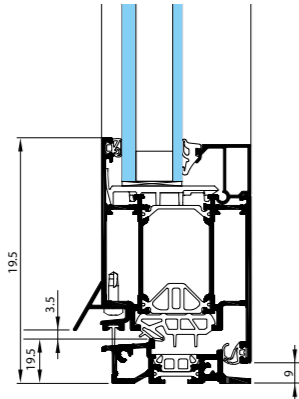
### CLOSING AND SECURITY

- 1 or 3-point locks with additional points and extension possible
- Adjustable strike to facilitate closure
- Adjustable strike for better efficiency in long term usage
- Burglary resistance (on going)
- Technical mullion
- Illuminated push button with buzzer and internal wiring for power cable

# SOLEAL DOOR 65 / ACCESSIBILITY

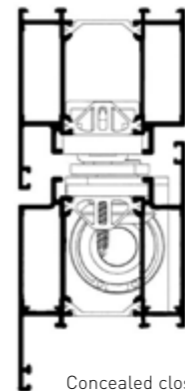
## DISABLED ACCESS THRESHOLDS

The disabled access threshold for the SOLEAL door achieves regulations for door and balcony door access, while maintaining weather performance and can meet different regulations with a height of 20mm.



## CONCEALED CLOSER

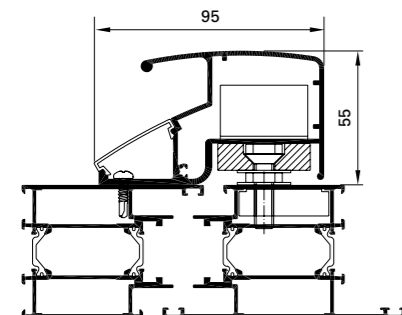
Concealed overhead closer set into the opening or fixed frame for discrete closing assistance for single action doors



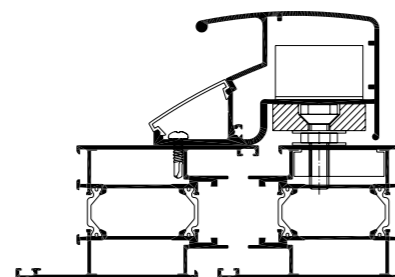
Concealed closer in opening frame

## ELECTROMAGNETIC LOCKING

With the single action version (1 or 2-leaf) connected to an access control, the electromagnetic pad holds the door in the lock position. The profile that houses the pad also serves as a pull handle up the height of the door.



Electromagnetic lock on the outer frame



Electromagnetic lock on the opening frame



Concealed electromagnetic lock on the opening frame

# SECURITY / REINFORCED OFFER

## BASIC LOCK OR MULTI-POINTS WITH CONTINUOUS STAINLESS STILL FACEPLATE

- 1-point lock, 1/2 turn bolt for the fixed frame
- 2 and 3-point locks with top and bottom locking
- 3-point lock with continuous stainless steel faceplate, lift-handle and key-lock versions
- Additional points and extensions possible, for 3-point lock, using a stainless steel faceplate



Additional points with stainless steel faceplate

## STRIKE

- Adjustable strike plates available in polyamide and stainless steel
- Spare adjustable stainless steel strike plate as a replacement for the cylinder lock
- Cover behind the strike plates: better finish
- Electric strike plates



Lateral adjustable strike



Central adjustable strike

## HINGES

- Slim clamped hinges with 2 or 3 parts up to 180 kg
- Face-fixed hinges with 2 or 3 parts up to 200 kg
- Concealed hinges up to 250 kg



Slim clamped hinge



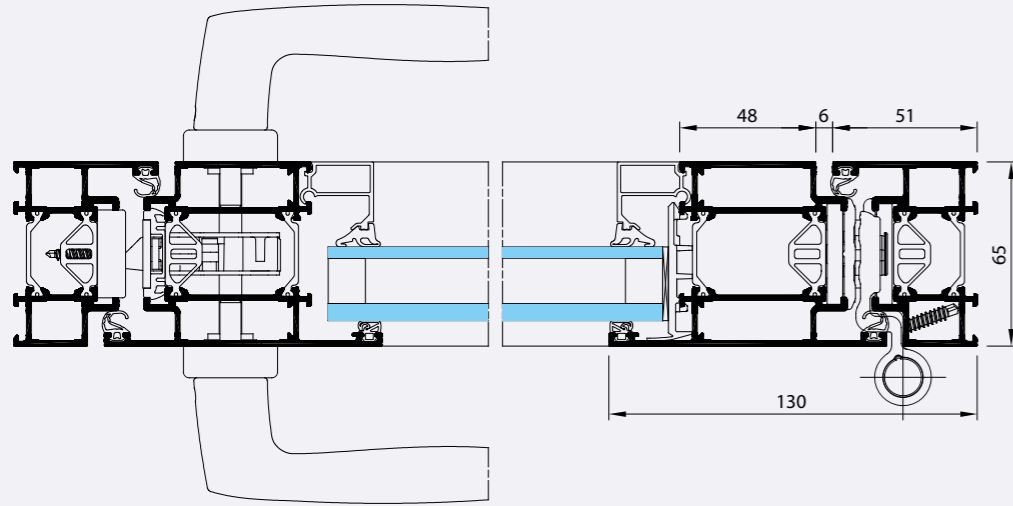
Face-fixed hinge



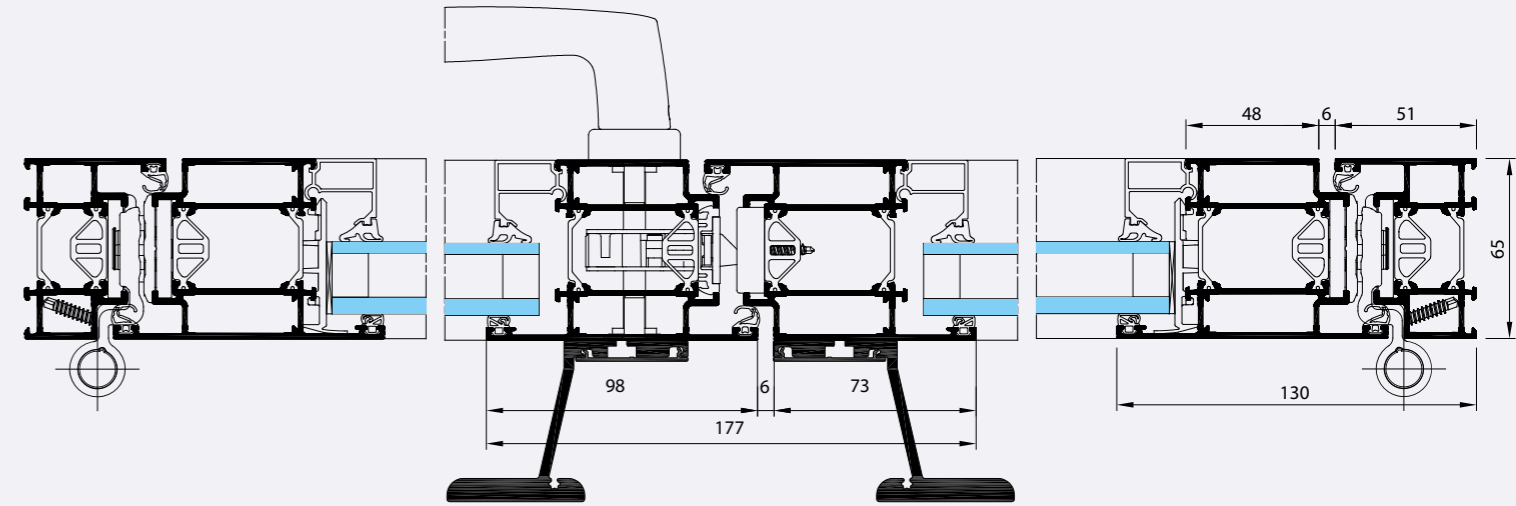
Concealed hinge

# SOLEAL DOOR 65 / SINGLE ACTION, HINGED

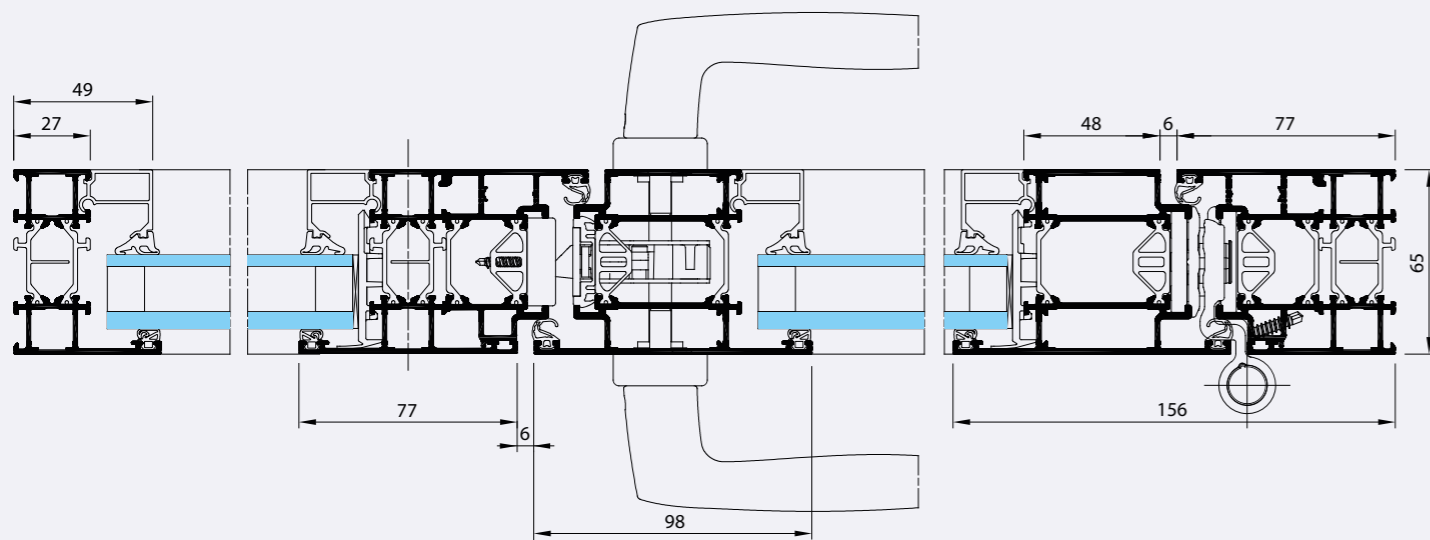
1 LEAF DOOR - OUTWARD OPENING



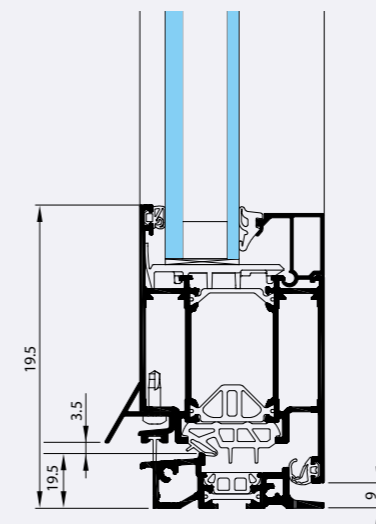
2 LEAF - OUTWARD OPENING WITH REINFORCER ON CENTRAL MULLION



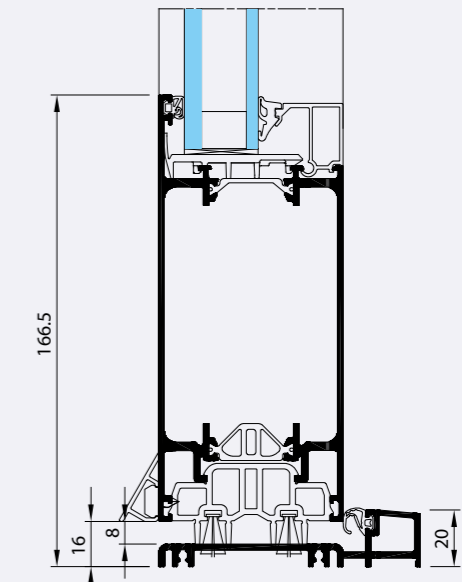
1 LEAF DOOR COMPOSITION WITH INTEGRATION - OUTWARD OPENING - WITH FIXED PART



INWARD OPENING, DISABLE ACCESS THRESHOLD RESIDENTIAL



OUTWARD OPENING, BOTTOM PLINTH





# SOLEAL DOOR 55 AND 65

/ A BESPOKE DESIGN

## A WIDE CHOICE OF CLOSING MECHANISMS



Technal exclusive-design handle with lock



Technal exclusive-design handle with lock



Push pad handle, Technal exclusive design\*



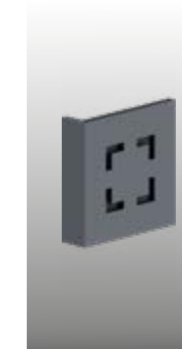
Triangular push bar



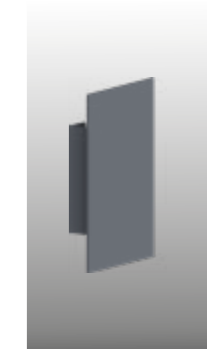
Extended triangular push bar



Stainless steel push bar



Push pad handle with Technal logo (exclusive)



Rectangular push pad

## DISCRETE FITTINGS



Connexion between threshold and mullion



Concealed closer

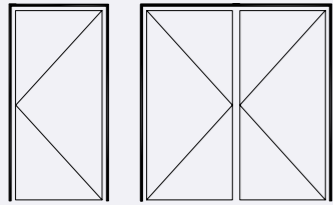


Electromagnetic lock

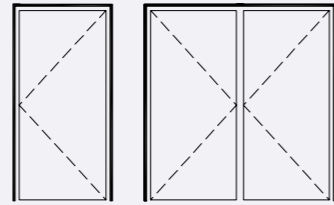
# CONFIGURATIONS 55 AND 65

Concealed drainage on the outer frame and transom.

## SINGLE ACTION INWARD-OUTWARD OPENING

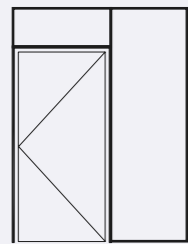


1 leaf - 2 leaf outward opening

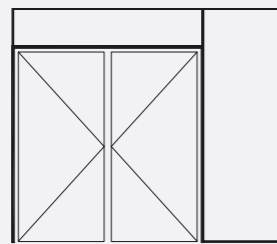


1 leaf - 2 leaf inward opening

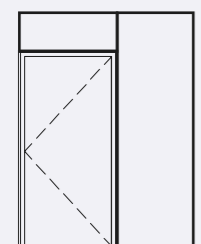
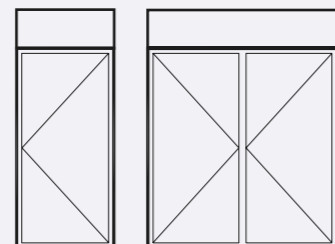
## COMPOSITION



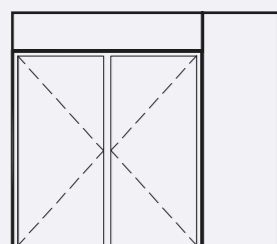
1 leaf - 2 leaf outward opening



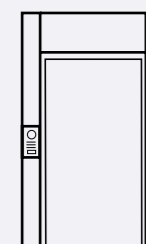
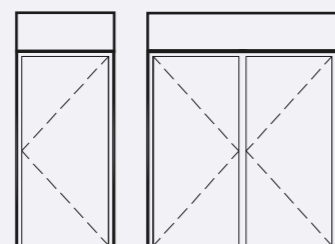
1 leaf - 2 leaf



1 leaf - 2 leaf inward opening



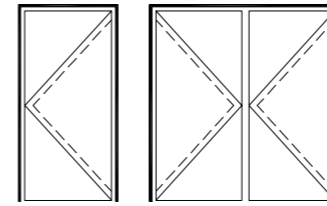
1 leaf - 2 leaf



Technical mullion integration

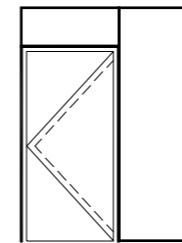
# CONFIGURATIONS 55

## DOUBLE ACTION

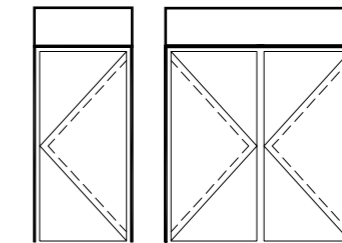
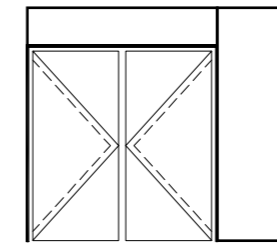


1 leaf - 2 leaf

## COMPOSITION



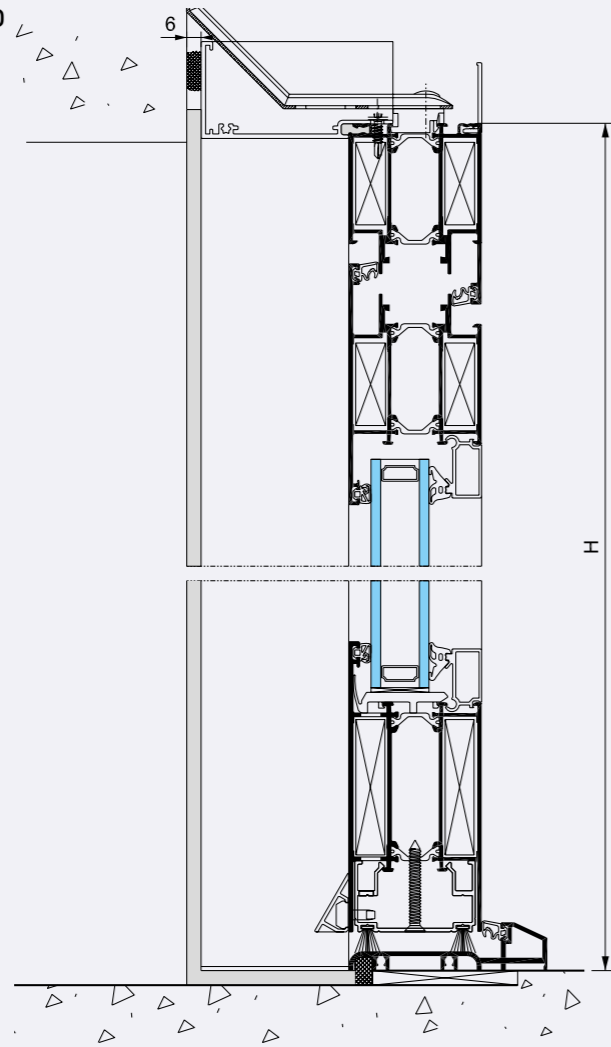
1 leaf - 2 leaf



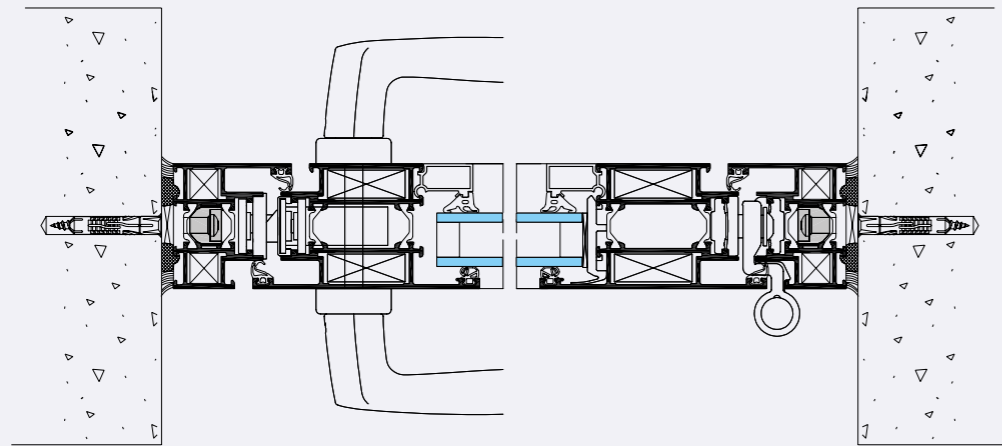
1 leaf - 2 leaf

# INSTALLATION 55 AND 65

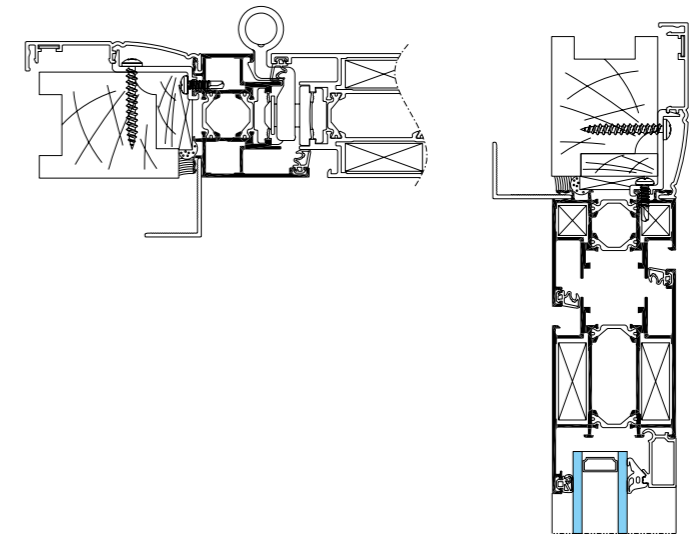
INTERNALLY RECESSED



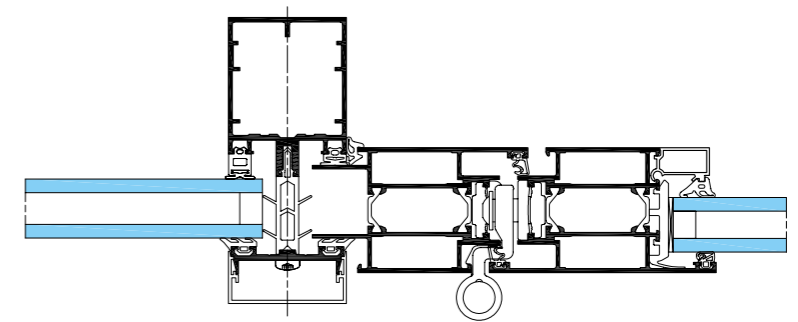
DIRECT FIXED



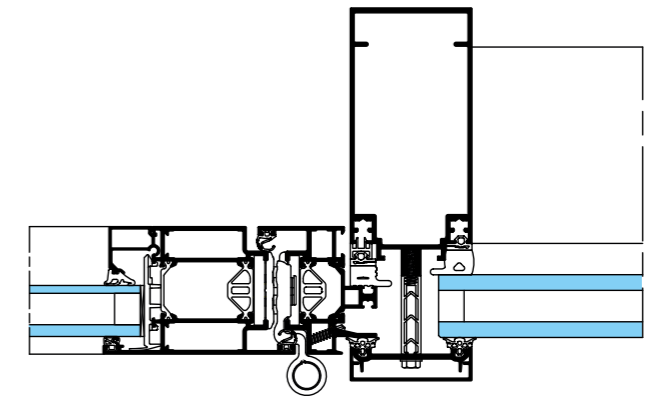
REFURBISHMENT



SOLEAL 55 DOOR INSERTED IN TO GEODE CURTAIN WALLING



SOLEAL 65 DOOR INSERTED IN TO SPINAL CURTAIN WALLING



# PERFORMANCES DOOR SOLEAL 55

THERMAL PERFORMANCE - Uw*						
Configuration	(L x H) m		With Ug = 1.1 + Warm edge** double glazing	With Ug = 1.0 + Warm edge** double glazing	With Ug = 0.8 + Warm edge** triple glazing	With Ug = 0.6 + Warm edge** triple glazing
1-leaf, glazed single action	1.25 x 2.18	Uw (W/m².K)	1.7	1.6	1.6	1.3
		TLw	0.55	0.49	0.49	0.49
		Sw	0.46	0.37	0.37	0.37
2-leaf, glazed single action	1.53 x 2.18	Uw (W/m².K)	1.8	1.7	1.7	1.5
		TLw	0.5	0.44	0.44	0.44
		Sw	0.42	0.34	0.34	0.34
1-leaf, infil panel single action with Up = 0.8	1.25 x 2.18	Uw (W/m².K)	1.4			

\*\*Thermal performance using thermal improvement foam in glazing rebate and disable access threshold  
 \*\* Stainless steel swisspacer or equal

AEV PERFORMANCE: (AIR, WATER, WIND)						
Configuration	Height x Width (mm)	Air permeability	Water tightness	Resistance to wind pressure	n° PV	Q100
1 leaf open out, hinged, rebated commercial threshold	2.4 x 1.1	Class 2	Class 2A	Class C3	BPI1.7.2012-1	-
1 leaf open out, hinged, disabled access threshold and gasket corners	2.4 x 1.1	Class 3	Class 7A	Class C3	404/12/202-1	2.17
1 leaf open out, hinged, disabled access threshold	2.4 x 1.1	Class 4	Class 6A	Class C3	404/12/202-2	2.12
1 leaf open in, hinged, disabled access threshold and gasket corners	2.2 x 1.0	Class 3	Class 4B	Class C3	404/12/202-3	2.98
1 leaf open in, hinged, disabled access threshold	2.2 x 1.0	Class 3	Class 3B	Class C3	404/12/202-4	3.01
2-leaf door, open out, hinged, disabled access threshold	2.5 x 2.0	Class 3	Class 3A	Class B2	404/12/324-1	-

# PERFORMANCES DOOR SOLEAL 65

## PERFORMANCES (AEV)

Configuration	Height x Width (m)	Air permeability	Water tightness	Resistance to wind pressure
1-leaf door, open in, hinged with disable access threshold	2.5 x 1.2	Classe 4	Classe 7A	Classe C5
1-leaf door, open out, hinged with disable access threshold	2.5 x 1.2	Classe 4	Classe 7A	Classe C5
1-leaf door, open out, hinged residential threshold	2.5 x 1.2	Classe 4	Classe 4A	Classe C5

## ACOUSTIC PERFORMANCES

Configuration	Glazing	thickness in mm	Acoustic attenuation glazing (dB)		Acoustic attenuation door SOLEAL 65 mm (dB)	
			Rw	RA,tr	Rw	RA,tr
1-leaf door	88.2 Acoustic / 20 (Ar) / 66.2 Phonilam	49	52	47	43	40
	6 / 16 (Ar) / 10	32	38	34	38	34
2-leaf door	88.2 Acoustic / 20 (Ar) / 66.2 Phonilam	49	52	47	42	40
	6 / 16 (Ar) / 10	32	38	34	37	33

## THERMAL PERFORMANCE - Uw\*

Configuration	Dimensions W x H in m		With Ug = 1.1 + Warm edge** double glazing	With Ug = 1.1 + Warm edge** double glazing	With Ug = 0.8 + Warm edge** triple glazing	With Ug = 0.6 + Warm edge** triple glazing	With Ug = 0.5 + Warm edge** triple glazing	
			Uw (W/m².K)	TLw	Sw	Uw (W/m².K)	TLw	Sw
1-leaf, glazed	1.25 x 2.18	Uw (W/m².K)	1.4	1.4	1.2	1.1	1.0	
		TLw	0.58	0.51	0.52	0.52	0.52	
		Sw	0.47	0.38	0.40	0.40	0.40	
2-leaf, glazed	1.53 x 2.18	Uw (W/m².K)	1.5	1.5	1.3	1.2	1.1	
		TLw	0.52	0.46	0.47	0.47	0.47	
		Sw	0.43	0.35	0.36	0.36	0.36	
1-leaf, infill panel single action with Up = 0.8	1.25 x 2.18	Uw	1.2					
		Up	0.8					

\*\*Thermal performance using thermal improvement foam in glazing rebate and disable access threshold

\*\* Stainless steel swisspacer or equal



## MATERIALS AND COMPONENTS

As with all Technal systems, only the best materials and parts are used to minimise maintenance and ensure long-term performance:

- The aluminium profiles are extruded from alloys 6060 Building compliant with EN 12020, EN 573-3, EN 515 and EN 775-1 to 9
- Fittings are cast from EN 12844 compliant Zamak 5
- All seals are EPDM or TPE (Thermoplastic elastomer)
- The polyamide thermal breaks are extruded from pA6-6 (0.25 FV)
- Screws are made from stainless steel

## FINISHES AND COLOURS

A wide range of finishes and colours is available to meet individual project requirements, enhancing existing buildings and offering architects and designers greater design freedom:

- Natural anodised in accordance with EN 123731: 2001
- Polyester coating finishes in a wide range of colours in accordance with "QUALICOAT" instructions
- SOLEAL door is also available in lacquered finishes with exclusive Technal colours for a stylish and contemporary look





IMAGINE WHAT'S NEXT

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By  **Hydro**