

SOLEAL
without thermal
break

THE UNIVERSAL
WINDOW



IMAGINE WHAT'S NEXT

TECHNAL



Architect: Hii Puong Ching – Akimedia Agency
Photographs: DR Technal

SOLEAL Casement

WITHOUT THERMAL BREAK

/ UNIVERSAL WINDOW

ELEGANT AND SLEEK

The SOLEAL without thermal break offer provides tailored solutions for external joinery in temperate or tropical climates, or even indoor joinery for partitioning spaces.

Its refined and high quality design makes it the perfect solution for a variety of architectural requirements in the residential, office sectors or in buildings open to the public.

This offer has many applications:

- Open-in and open-out windows and patio doors, integrated or stacking assemblies, fixed-light frames, with overpanel or side fixed lights, Italian-style and top-hung frames.
- The patio doors come with or without disabled access threshold.

The SOLEAL range combines sealing and wind resistance performances as well as a design that brings elegance and modernity to new and renovation projects alike.

A PERFECTLY COHERENT SYSTEM

Designed using a 55 mm module in complete harmony with the SOLEAL casement concept, this without thermal break offer rounds off the existing one.

Compatible with the other products of the SOLEAL range (with or without thermal break), this window features installation and cladding environments common to the doors and sliding windows. This casement offer features the same hardware as that of the SOLEAL thermal break version.

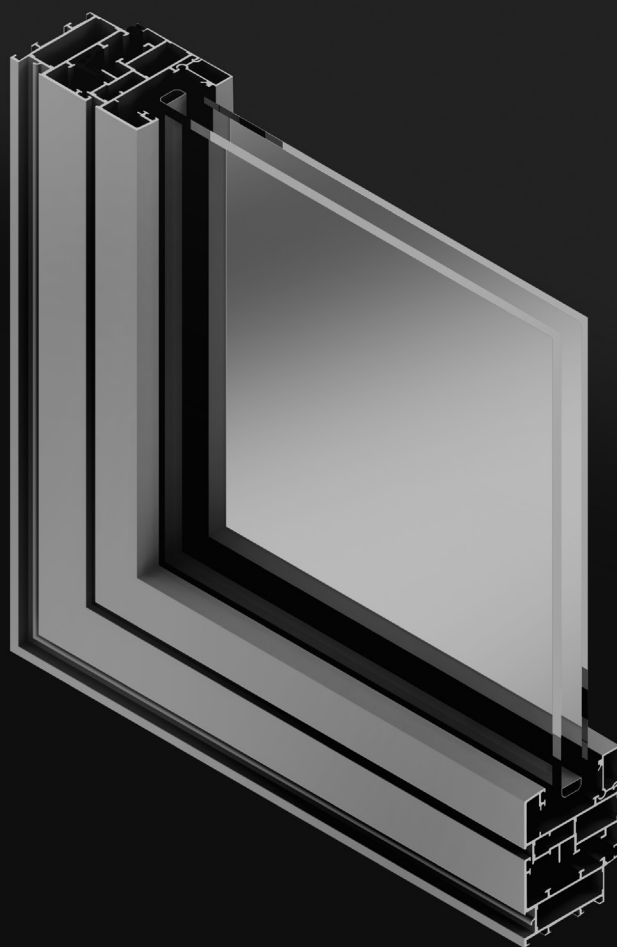


Architect: Goudchaux A&A
Photographs: DR Technal

SOLEAL

WITHOUT THERMAL BREAK

/ UNIVERSAL WINDOW



KEY FEATURES

DESIGN

- Apparent opening sash with a visible structure balanced between fixed frame and opening sash (87.5 mm) for a confirmed high quality look.
- Concealed or visible drainage on fixed frames and transoms.
- Wide selection of architrave shapes.

MULTIPLE APPLICATIONS

- Fixed frame.
- Open-in: 1 and 2-leaf open-in, bottom-hung, tilt/turn, composite assemblies.
- Open-out: Projected top-hung frame, 1 leaf on friction stay and hinges.
- Adapted fly-screen solution.

LARGE DIMENSIONS

- Possible height up to H. 2.25 m x L. 1.40 m (open-in on 3-leaf hinges)
- Max. load per leaf:
 - Open-in up to 100 kg.
 - Tilt-turn opening up to 130 kg.
 - Projected top-hung opening up to 140 kg.
- Glass thickness capacity of 4 to 42 mm.

LOCKING AND SECURITY

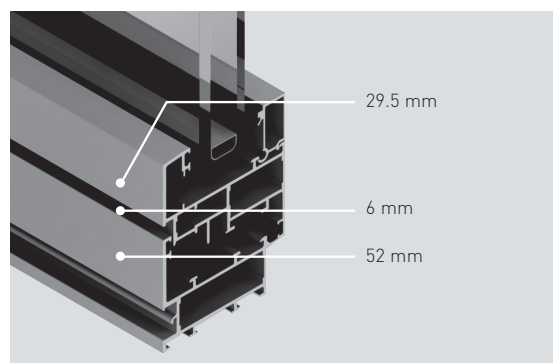
- Multiple combinations offered, up to 6 locking points with or without key locking.
- TECHNAL design handles available for all applications for a coherent style whatever the type of opening.

PRODUCTION AND INSTALLATION

- Embedded mechanism handle.
- Simplified production: one cleat per fixed frame corner.
- End-pieces enable face mounting.
- Optional installation with or without sill, flashing and architrave cladding.
- Same installation and hardware environment as the SOLEAL thermal break range.

ACCESSIBILITY

- Disabled access threshold for patio door.



SOLEAL

/ A MODERN LOOK

UNDERSTATED, HIGH-QUALITY



Concealed drainage



Straight design



Apparent opening sash

A WIDE CHOICE OF LOCKING SYSTEMS



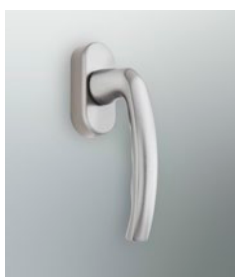
Stainless steel handle



Exclusive TECHNAL
design handle



Exclusive TECHNAL
design handle with lock



Classic handle



Locking systems
operated by bidirectional
espagnolette mechanism





SOLEAL / FOR REDUCED MOBILITY ACCESS

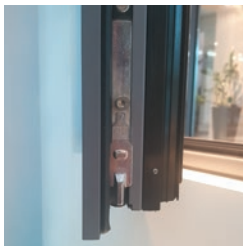
- The SOLEAL low threshold* meets the French Decree regulating door and patio door access while ensuring watertightness.
- Handle height adaptable to the accessibility needs.
- Easy opening/closing.

* Provided that the threshold is partially embedded



SECURITY

- Windows with a variety of locking options with 2 to 6 locking points according to the required reinforcement.



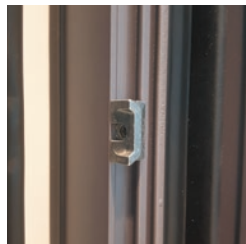
Opening bottom point



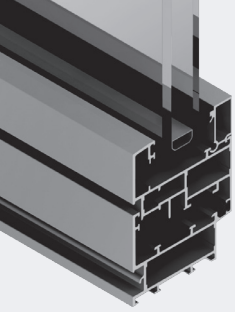
Fixed bottom point



Top point

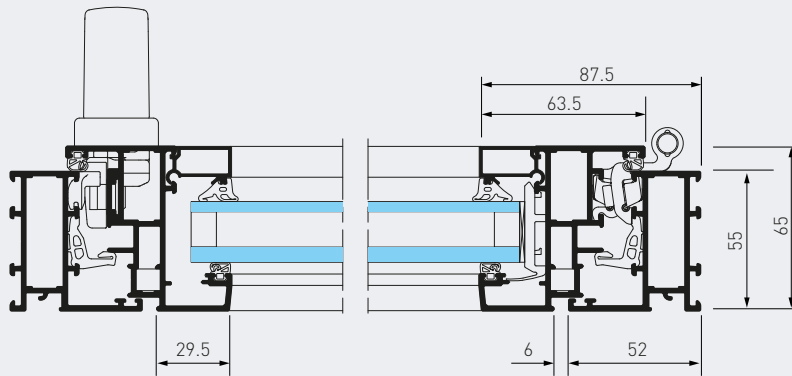


Intermediate point on handle side and pivot

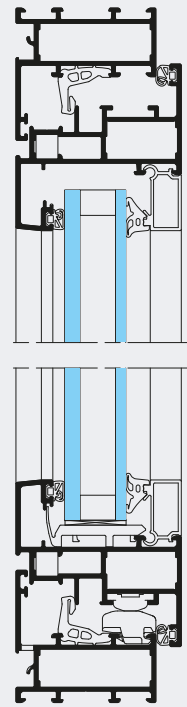


SECTIONS

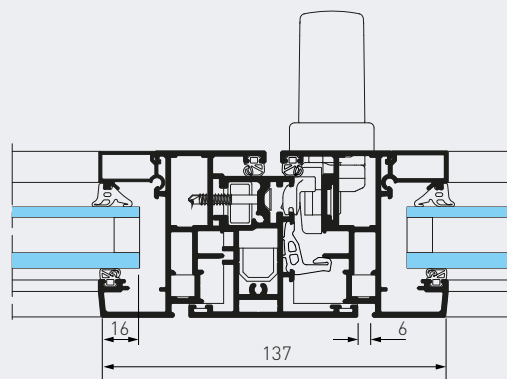
OPEN-IN 1- AND 2-LEAF WINDOW



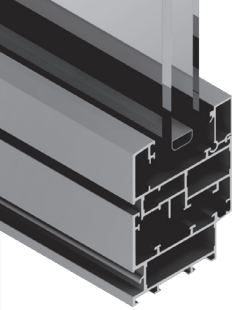
Horizontal section



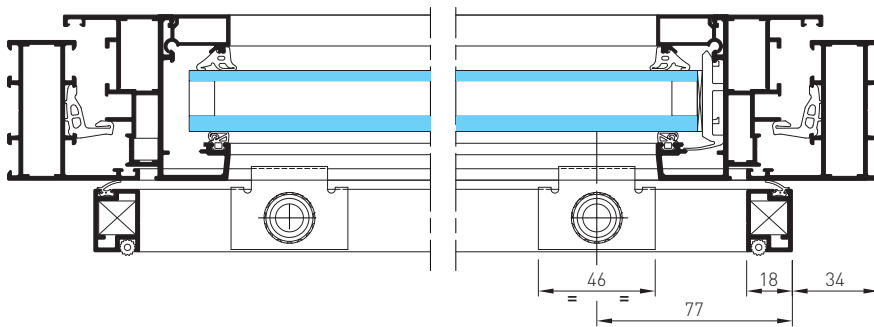
Vertical section



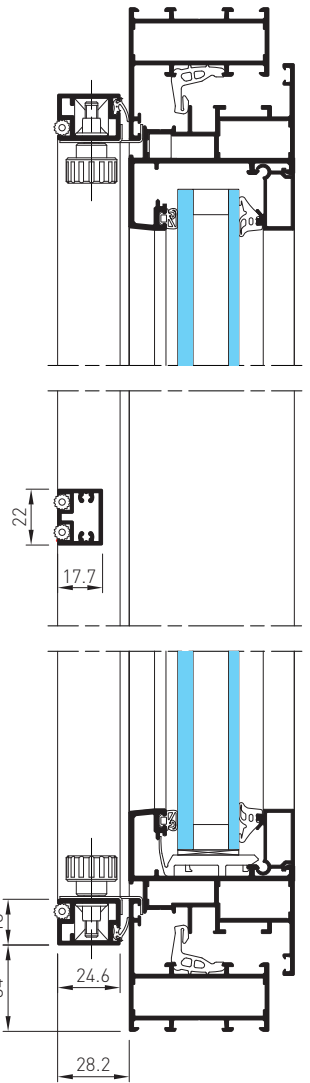
Horizontal section



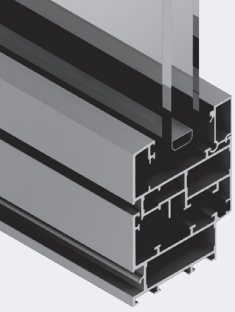
OPEN-IN
FLY-SCREEN



Horizontal section

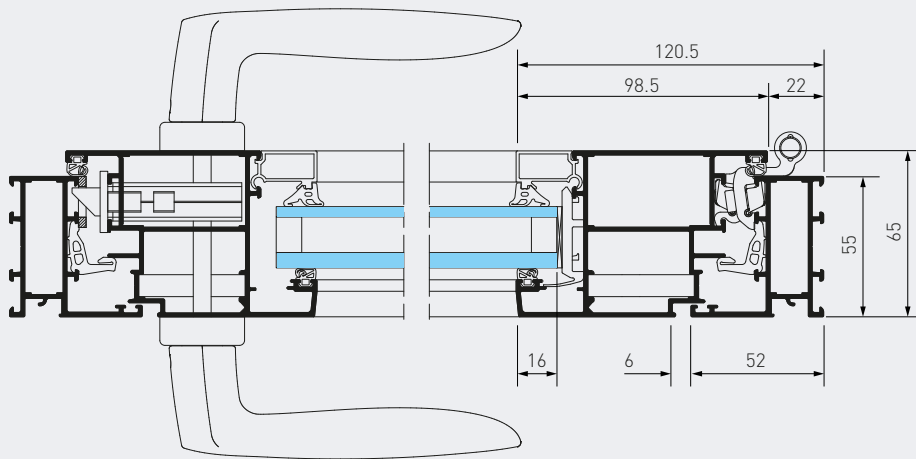


Vertical section

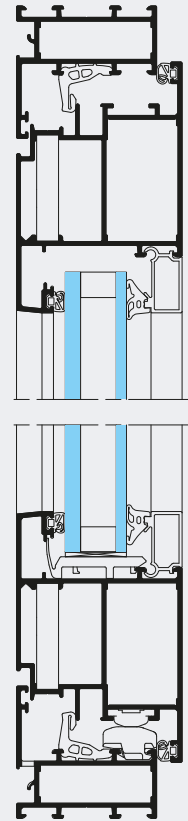


SECTIONS

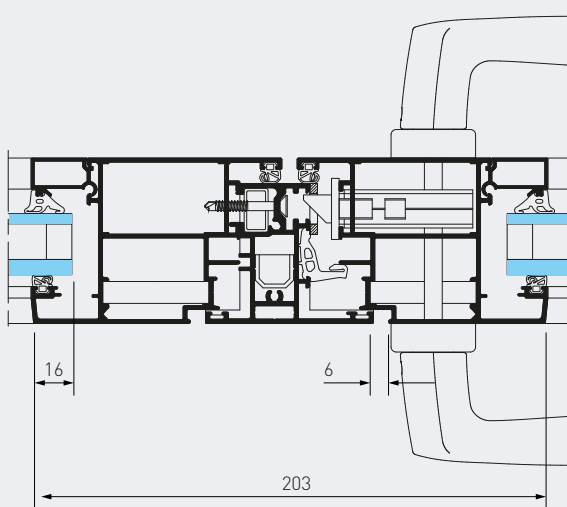
OPEN-IN
1 AND 2-LEAF PATIO DOOR WITH LOCK



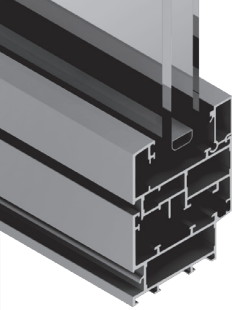
Horizontal section



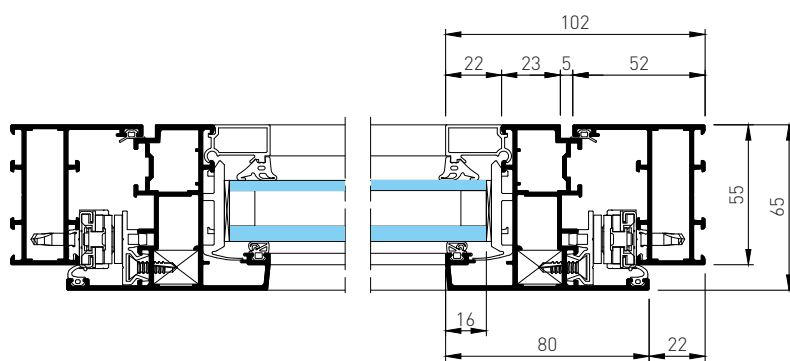
Vertical section



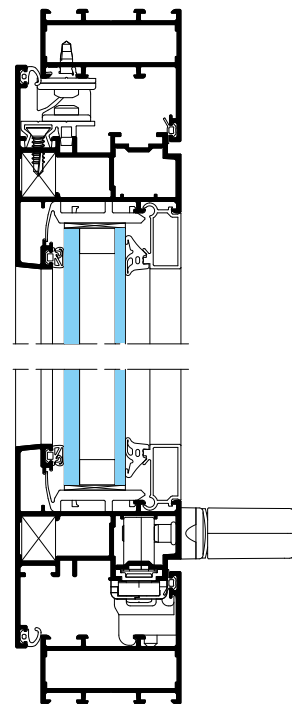
Horizontal section



**OPEN-OUT
1-LEAF, TOP-HUNG WINDOW**

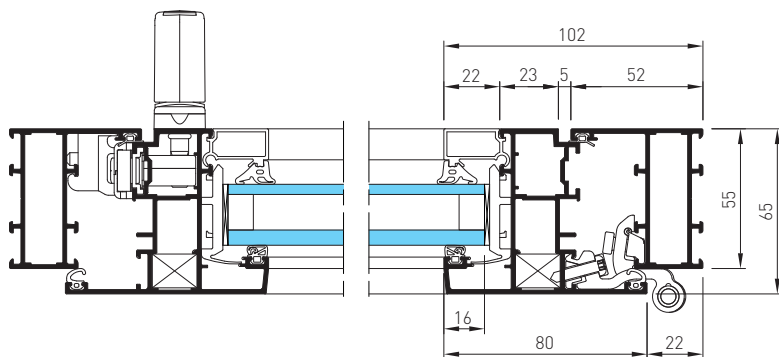


Horizontal section

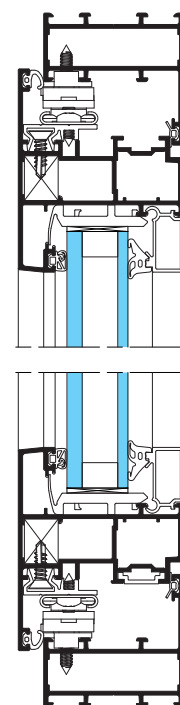


Vertical section

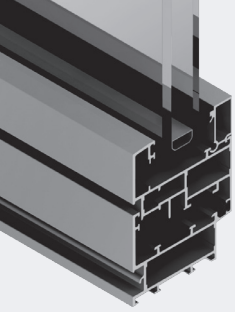
**OPEN-OUT
1-LEAF SIDE-HUNG WINDOW ON HINGES**



Horizontal section

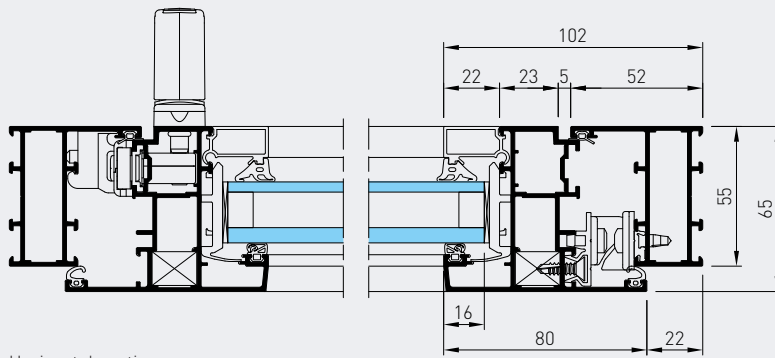


Vertical section

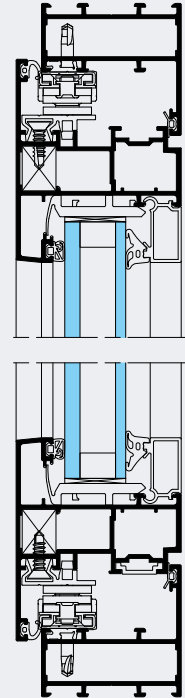


SECTIONS

OPEN-OUT
1-LEAF SIDE-HUNG WINDOW ON FRICTION STAYS

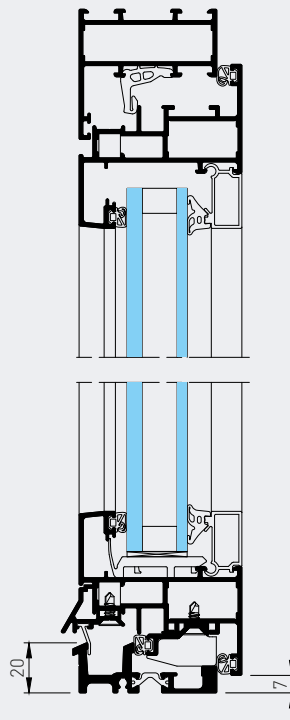


Horizontal section



Vertical section

OPEN-IN
1-LEAF PATIO DOOR WITH DISABLED ACCESS THRESHOLD



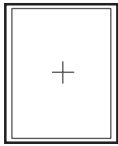
Vertical section

APPLICATIONS

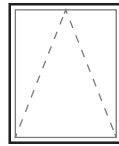
All of these applications are available with concealed drainage.
All patio door applications may be supplied with a disabled access threshold.

REPRESENTATIONS VIEWED FROM THE EXTERIOR

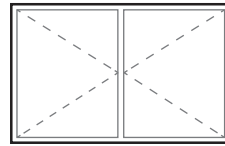
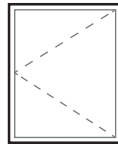
OPEN-IN



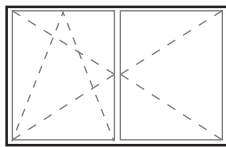
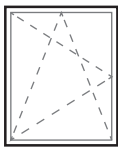
Fixed frame



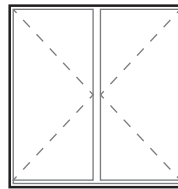
Tilt window



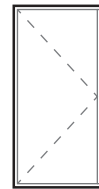
1 and 2-leaf side-hung open-in window and patio doors



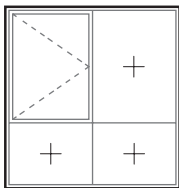
1 and 2-leaf tilt/turn or turn/tilt window and patio door



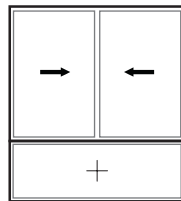
1 and 2-leaf patio door with threshold



1-leaf patio door with threshold and lockable mullion

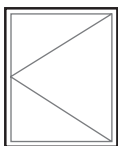


Composite frame side-hung open-in

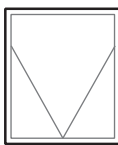


Composite frame slider

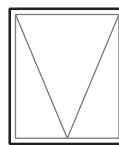
OPEN-OUT



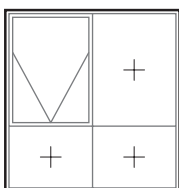
Window and English patio door
1 leaf on friction stay and hinges



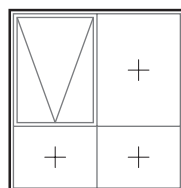
Top-hung, Italian-style window



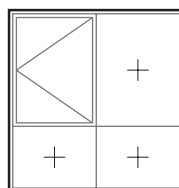
Top-hung window



Composite frame top-hung, Italian-style window



Composite frame top-hung window



Joinery assembly window on friction stay and hinges

SOLEAL

/ PERFORMANCES

ACCORDING TO EUROPEAN STANDARDS - FCBA

AIR, WATER, WIND SEALING PERFORMANCE (Air, Water, Wind)				
Application (Height x Width)	Test no. according to European standard	Air permeability	Watertightness	Wind resistance
1-leaf tilt/turn window H 1,600 x W 1,200 mm	FCBA No. 404/15/193-3	Class 4	Class E1200	Class C5
2-leaf patio door H 2,250 x W 1,595 mm	FCBA No. 404/15/220-2	Class 4	Class E1650	Class B5
Top-hung, Italian-style window H 1,500 x W 1,500 mm	FCBA No. 404/15/438-1	Class 4	Class E1500	Class C5

Result of tests conducted according to the European standard
 - Air permeability test as per standard EN-1026, classification as per standard EN-12207.
 - Watertightness test as per standard EN-1027, classification as per standard EN-12208.
 - Wind resistance test as per standard EN-12210, classification as per standard EN-12211.



ACCORDING TO THE ASTM - SOCOTEC ORGANIZATION

AIR, WATER, WIND SEALING PERFORMANCE (Air, Water, Wind)					
Application (Height x Width)	Test no. according to ASTM standard	Air permeability		Watertightness	Wind resistance
1-leaf tilt/turn window H 1,600 x W 1,200 mm	SOCOTEC R15-05-04	0.043 L/sm at 75 Pa 0.118 L/sm at 300 Pa 0.186 L/sm at 600 Pa	0.121 L/sm ² at 75 Pa 0.334 L/sm ² at 300 Pa 0.527 L/sm ² at 600 Pa	1,200 Pa without water penetration	3,600 Pa: f < 1/400
2-leaf patio door H 2,250 x W 1,595 mm	SOCOTEC R17-07-02	0.034 L/sm at 75 Pa 0.106 L/sm at 300 Pa 0.187 L/sm at 600 Pa	0.091 L/sm ² at 75 Pa 0.286 L/sm ² at 300 Pa 0.507 L/sm ² at 600 Pa	1,500 Pa without water penetration	1,600 Pa: f < 1/300 2,400 Pa: f < 1/200 2,800 Pa: f < 1/175 3,200 Pa: f < 1/150
1-leaf, top-hung, Italian-style window H 1,500 mm x W 1,500 mm	SOCOTEC R15-10-04	0.055 L/sm at -75 Pa 0.111 L/sm at -300 Pa 0.163 L/sm at -600 Pa	0.142 L/sm ² at 75 Pa 0.288 L/sm ² at 300 Pa 0.421 L/sm ² at 600 Pa	1,500 Pa without water penetration	4,000 Pa: f < 1/1000

Result of tests conducted according to the ASTM organization:

- Air permeability test as per standard ASTM E283-04(2012).
- Watertightness test as per standards ASTM E331-00(2009) and ASTM E547-00(2009).
- Wind resistance test as per standard ASTM E330/E330M-14.





MATERIALS AND COMPONENTS

As with all Technal systems, only high-quality materials and components are used to reduce maintenance and guarantee long-term performance.

- Aluminum sections are extruded using 6060 building alloys EN 12020, EN 573-3, EN 515 and EN 775-1 to 9.
- Accessories are cast using Zamak 5 to EN 12844.
- All gaskets are EPDM or TPE (ThermoPlastic Elastomer).
- Screws are made of stainless steel.

FINISHES AND COLOURS

A wide range of finishes is available to meet the requirements of individual projects, existing buildings and to offer increased design choice to architects and designers:

- Natural anodised in compliance with EN 123731: 2001.
- Polyester coated finishes in an extensive range of colours, in compliance with QUALICOAT instructions.
- SOLEAL is also available in painted finishes in colors exclusive to Technal for a stylish and modern appearance.



Photographs: © Farizun Amrod



IMAGINE WHAT'S NEXT

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