SOLEAL
without thermal break
THE UNIVERSAL WINDOW
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.
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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.

![Diagram of design features]
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.
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

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

Vertical section
All of these applications are available with concealed drainage. All patio door applications may be supplied with a disabled access threshold.
## AIR, WATER, WIND SEALING PERFORMANCE (Air, Water, Wind)

<table>
<thead>
<tr>
<th>Application</th>
<th>Test no. according to European standard</th>
<th>Air permeability</th>
<th>Watertightness</th>
<th>Wind resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-leaf tilt/turn window</td>
<td>FCBA No. 404/15/193-3</td>
<td>Class 4</td>
<td>Class E1200</td>
<td>Class C5</td>
</tr>
<tr>
<td>H 1,600 x W 1,200 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-leaf patio door</td>
<td>FCBA No. 404/15/220-2</td>
<td>Class 4</td>
<td>Class E1650</td>
<td>Class B5</td>
</tr>
<tr>
<td>H 2,250 x W 1,595 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top-hung, Italian-style window</td>
<td>FCBA No. 404/15/438-1</td>
<td>Class 4</td>
<td>Class E1500</td>
<td>Class C5</td>
</tr>
<tr>
<td>H 1,500 x W 1,500 mm</td>
<td></td>
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</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Application (Height x Width)</th>
<th>Test no. according to ASTM standard</th>
<th>Air permeability</th>
<th>Watertightness</th>
<th>Wind resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-leaf tilt/turn window H 1,600 x W 1,200 mm</td>
<td>SOCOTEC R15-05-04</td>
<td>0.043 L/sm at 75 Pa 0.118 L/sm at 300 Pa 0.186 L/sm at 600 Pa</td>
<td>0.121 L/sm² at 75 Pa 0.334 L/sm² at 300 Pa 0.527 L/sm² at 600 Pa</td>
<td>1,200 Pa without water penetration 3,600 Pa: f &lt; 1/400</td>
</tr>
<tr>
<td>2-leaf patio door H 2,250 x W 1,595 mm</td>
<td>SOCOTEC R17-07-02</td>
<td>0.034 L/sm at 75 Pa 0.106 L/sm at 300 Pa 0.187 L/sm at 600 Pa</td>
<td>0.091 L/sm² at 75 Pa 0.286 L/sm² at 300 Pa 0.507 L/sm² at 600 Pa</td>
<td>1,500 Pa without water penetration 1,600 Pa: f &lt; 1/300 2,400 Pa: f &lt; 1/200 2,800 Pa: f &lt; 1/175 3,200 Pa: f &lt; 1/150</td>
</tr>
<tr>
<td>1-leaf, top-hung, Italian-style window H 1,500 mm x W 1,500 mm</td>
<td>SOCOTEC R15-10-04</td>
<td>0.055 L/sm at -75 Pa 0.111 L/sm at -300 Pa 0.163 L/sm at -600 Pa</td>
<td>0.142 L/sm² at 75 Pa 0.288 L/sm² at 300 Pa 0.421 L/sm² at 600 Pa</td>
<td>1,500 Pa without water penetration 4,000 Pa: f &lt; 1/1000</td>
</tr>
</tbody>
</table>

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:

- 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.