

# Saphir sliders

A range of sliders  
combining sturdiness,  
comfort and elegance.

BREAK-IN DELAYED BY OVER THREE MINUTES

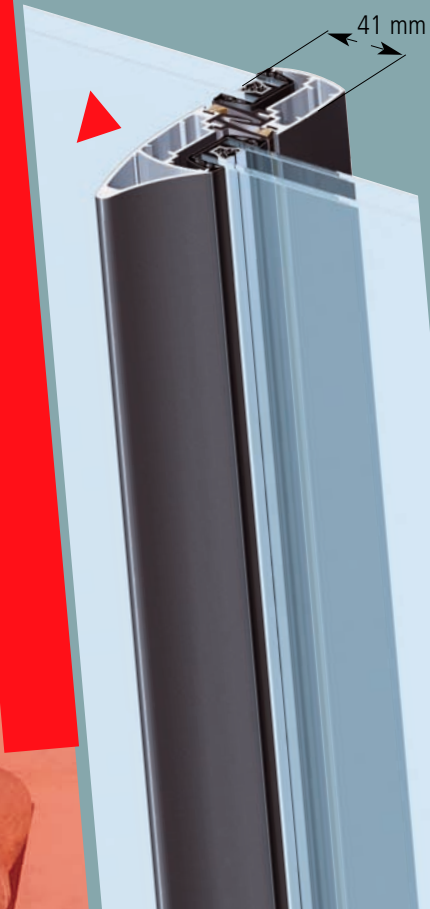
The combination of laminated glass and a 4-point lock with steel strike plate makes for a reinforced security frame, approved by CNPP (French National Centre for Prevention and Protection).

Architect: Mousiac - Photo ISO Studio

## Sturdy and elegant

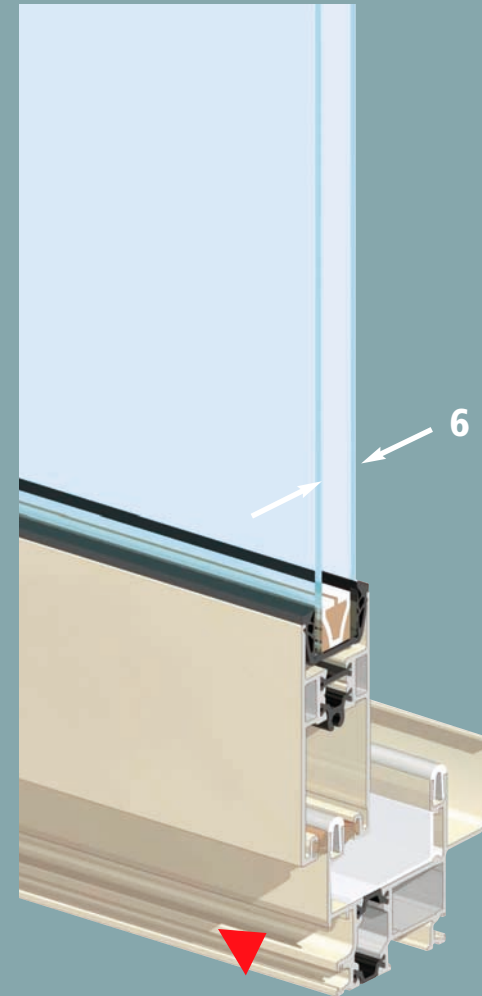
- Up to 200 kg per leaf.
- Added roller track (polyamide, stainless steel or aluminium) for smooth, durable operation.
- Robustness : opening and closing test up to 20,000 cycles.
- 3 combinations of vertical mullions to optimise the dimensions, with or without roller shutters (to be determined according to wind exposure).

Simple and reinforced interlocking stiles



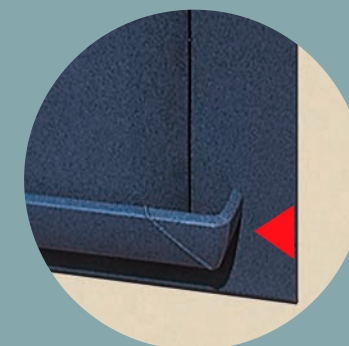
## Compliance with standards

- Thermal break version approved by French building regulations authority (CSTB).
- Thermally improved products (with or without roller shutters) meet RT2000 thermal insulation. Rating calculated in accordance with Th-Building 2001 regulations, as approved by CSTB.
- Air, Water and windproof in accordance with European standards.
- Acoustic comfort : soundproof up to 34 dB (A).



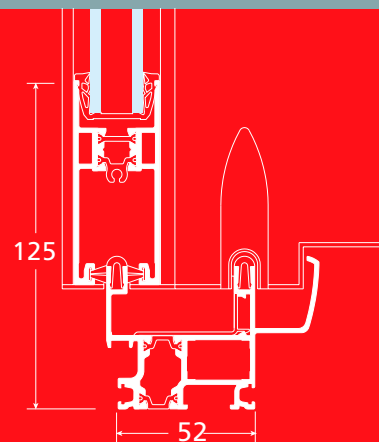
## Locks and handles ergonomics and security

- Half-moon lock with built-in, semi-automatic handle, ergonomic shape for the moving leaf (Technal patent).
- Simple or double thumb pull with key, automatic closing (possibility of adding a pull handle).
- 2- or 4-point lock with handle and key, or with lever thumb pull.

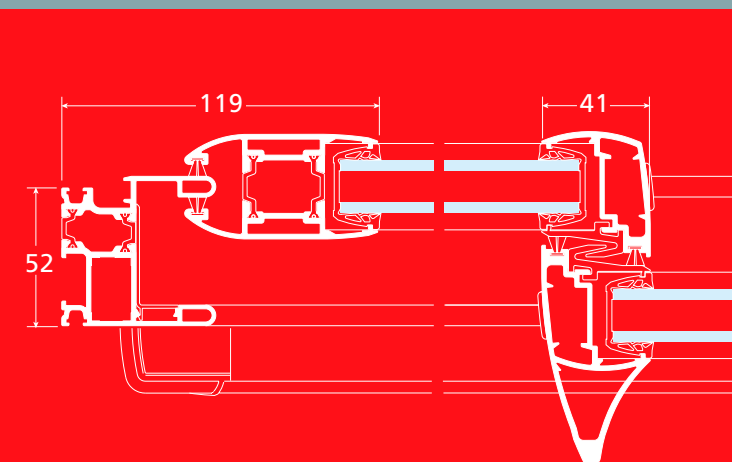


## Attention to details

- Rounded section design.
- Finishing plugs of the same colour as the frames, no visible mounting points.
- Concealed drainage in bottom rail and invisible deflector.
- Dual-colour section, painted outside and white inside.



GXi vertical cross-section



GXi horizontal cross-section

## Integration of roller shutters

- Traditional shutter in tunnel-type casing.
- Single-block shutter with aluminium or PVC casing.
- Manual or motor-driven operated.
- Casing, side tracks and bottom louver in the same finish as the window.

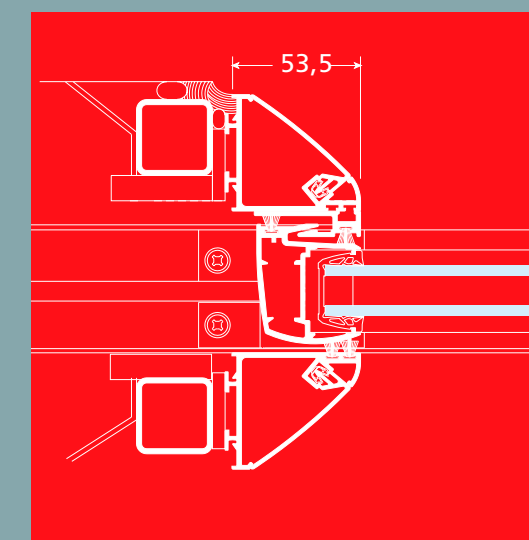


## Composites frames

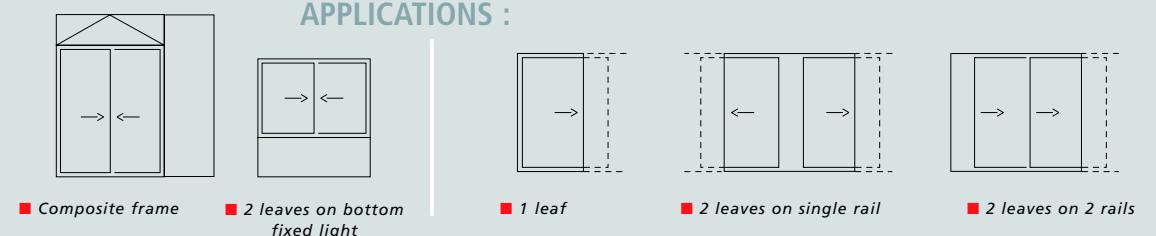
- Compatibility between the Saphir casement and sliders (identical module : 52 mm).
- All types of composite frames using sliding and casement frames.
- Common cladding for sills, flashings and trims.

## Full-access sliding windows

- 1- or 2-leaves, single rail.
- 2- or 4-leaves with two rails (back position of the two leaves on the same side).
- Performance : exceptional air, water and windproofing in accordance with European standards.



## APPLICATIONS :

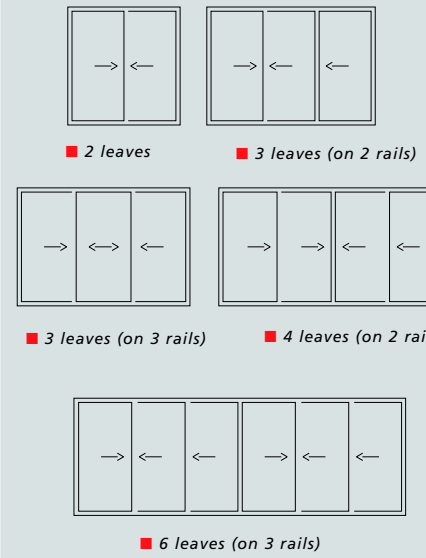


With or without thermal break

Full-access, traditional only sections

## APPLICATIONS :

with or without thermal break



Architect: Deamons - photo: Serge Demilly



Architecte: B. Piquetal d'Arumont - photo: Xavier Boymond





Photo ISO Studio



Architect : M. Gathary - Photo ISO Studio



Architect : Nina Hagelauer - photo : Jean-Christophe Bailot



Architect : cabinet ACTA - Photo ISO Studio



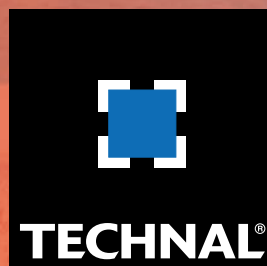
Architect : P. Barfouye - Photo ISO Studio



# Saphir sliders

Sliding windows and patio-doors,  
52 mm module

découvertes



TECHNAL, a Hydro Building Systems brandname

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# Saphir

52mm - module  
standard

# GX

and thermally-improved

# GXi

sliders

decorated

# TECHNICAL

F E A T U R E S

## Description of GX, GXi frames

### ■ Fixed frame

- Peripheral hollow rails with or without built-in water collector: 2 rails: 52mm module, 3 rails: 101mm module and full-access 1 rail.
- Mitre-cut assembled using self-locating, pin or crimp corner cleats.
- Concealed drainage system via holes in bottom rail with valve deflector.
- Options: grooveless fixed frame, fixed frame with built-in trim, fixed/sub-frame, design fixed frame.

### ■ Sash

- 33mm transoms and 39mm stiles.
- 41mm reinforced stiles for patio-doors.
- Square-cut assembled using stainless steel screws.
- Double brush gasket with central spline.
- Drainage via holes in bottom rails.
- Options: intermediate transom, separate drip mould and water collectors, sound-proofing gasket.

### ■ Infill

- Marine quality, EPDM, wrap-around gaskets.
- GX: 6 to 24mm glazing.
- GXi: 14 to 24mm glazing.

### ■ Rollers

- Rollers with polyamide shell and tyres on needle bearings
- 4 versions: single, double, standard, adjustable.
- Maximum weight per leaf:
  - single rollers: 100kgs
  - double rollers: 200kgs
  - 60kgs and 120kgs on polyamide rails.

### ■ Locks and handles

- 1-point half-moon lock with built-in, semi-automatic handle.
- Thumb pulls (single, double, with key lock, automatic) with separate pull handle option.
- 2- or 3-point locks with handle and key lock or thumb pull with lever lock.

### ■ Thermal break

- Provided by double, fibre-glass reinforced, polyamide strips crimped onto sections (9mm air gap).
- Central polyamide baffle on interlocking stile provides thermal barrier.

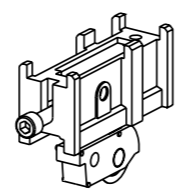
## Rollers

### ■ Single roller

Maximum leaf weight: 100kgs  
(60kgs on polyamide track)



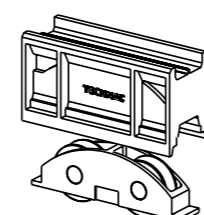
Single roller



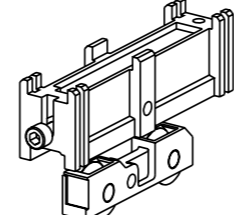
Single adjustable roller

### ■ Double roller

Maximum leaf weight: 200kgs  
(120kgs on polyamide rail)



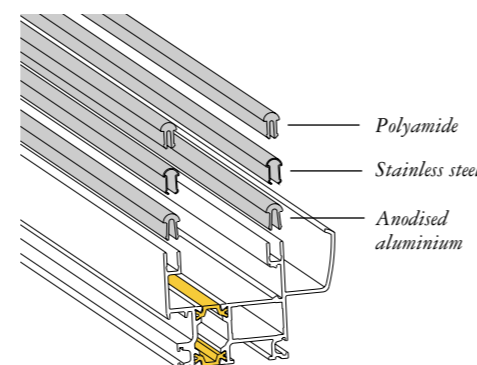
Double roller



Double adjustable roller

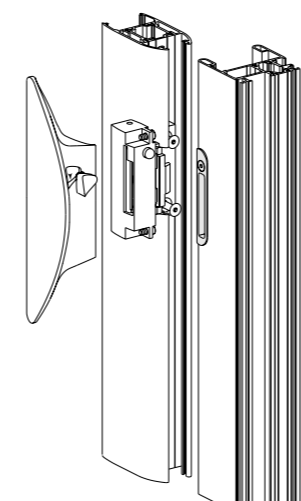
## Clip-on roller tracks

These aluminium, stainless steel or polyamide roller tracks ensure sashes slide perfectly smoothly on even painted rails. They can be easily removed and guarantee the durability of the slider.

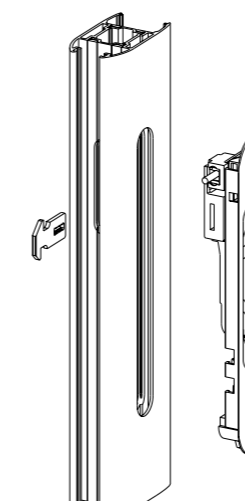


## Locks and handles

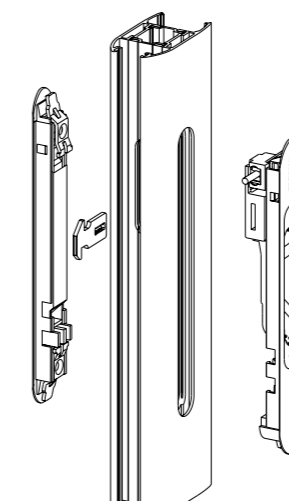
### ■ 1-point locks



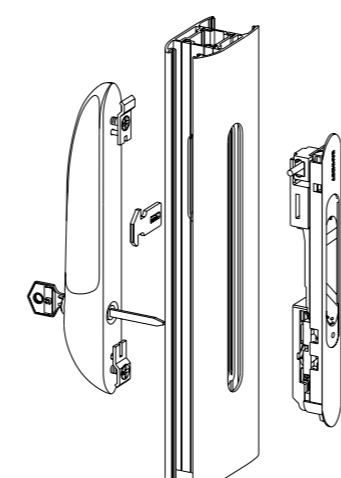
Half-moon semi-automatic lock and handle



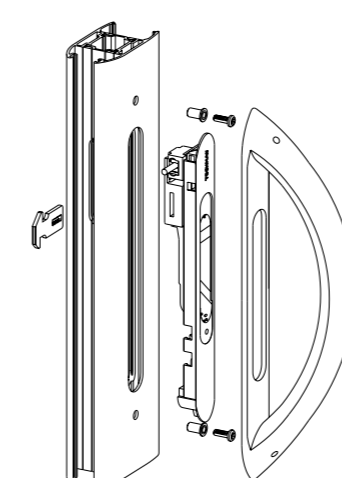
Single thumb pull



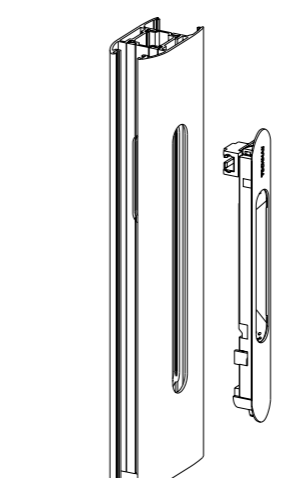
Double thumb pull



Thumb pull with key lock and handle

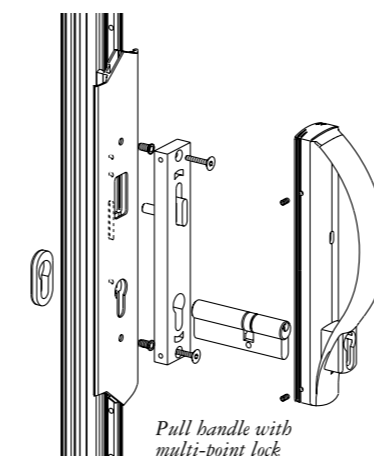


Single thumb pull with pull handle

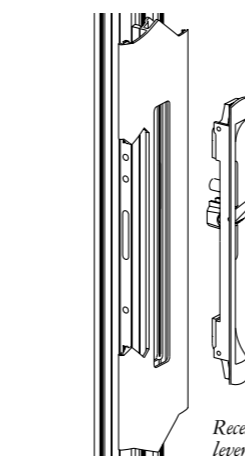


Thumb pull

### ■ 2- and 3-point locks



Pull handle with multi-point lock



Recess plate with multi-point lever lock

# PERFORMANCE RATINGS

## GX

### ■ Air, water and wind performance (A E V)

Application	H x W (mm)	Classification
2-leaf window	1420 x 1410	A3 EE VE
2-leaf patio-door	2250 x 2800	A3 E3 VE
1-leaf full-access patio-door with baffle	2200 x 1200	A3 EE VE

### ■ Acoustic performance (2-leaf window, 1480 x 1470)

Fixed frame	Glazing	R (pink)	R (road)	R (w)
Standard	4.12.4	31 dB (A)	29 dB (A)	31 dB
Design	35-20	34 dB (A)	33 dB (A)	34 dB

## GXi

### ■ Air, water and wind performance (A E V)

Application	H x W (mm)	Classification
2-leaf window	1420 x 1410	A3 EE VE
2-leaf patio-door	2250 x 2800	A3 EE VE

### ■ Acoustic performance (2-leaf window, 1480 x 1470)

Fixed frame	Glazing	R (pink)	R (road)	R (w)
Standard	4.12.4	30 dB (A)	29 dB (A)	31 dB
Design	35-20	34 dB (A)	33 dB (A)	34 dB

### ■ Thermal performance

Values from Technical Appraisal 6/98-1223 calculated using Th-K 97 rules

Application	Emissivity	Air gap	K central pane	Kn window	Average day/night U-value (K)				Solar factor S (window on inside wall)
					No shutter	Very high permeability shutter	Average permeability shutter	Low permeability shutter	
2-leaf window 1400 x 1800	Std	12	2.85	<b>3.45</b>	3.03	2.91	2.61	2.42	0.45
	0.20	12	2.03	<b>2.91</b>	2.59	2.49	2.25	2.11	0.42
	0.04	12+Arg	1.30	<b>2.37</b>	2.15	2.08	1.89	1.80	0.34
2-leaf patio-door 2150 x 2100	Std	12	2.85	<b>3.35</b>	2.95	2.83	2.54	2.36	0.50
	0.20	12	2.03	<b>2.75</b>	2.45	2.37	2.14	2.02	0.46
	0.04	12+Arg	1.30	<b>2.16</b>	1.98	1.92	1.75	1.68	0.38

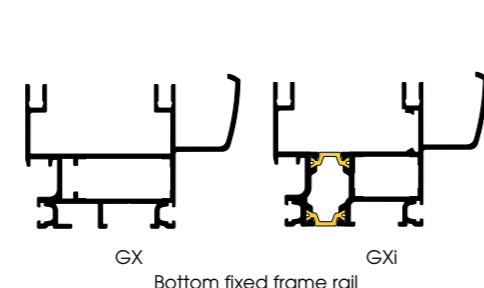
Glazing should be in compliance with the addendum dated May 1998 of DTU 39.

## T O O L S ... DOCUMENTATION

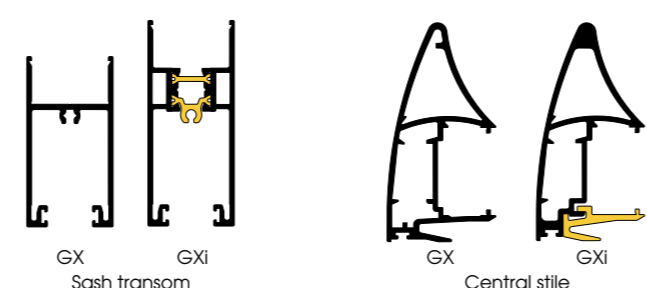
All machining operations on GX and GXi can be carried out using a set of multi-purpose PerfoPack® tools.

A series of drill jigs and copy plates are also available for small series.

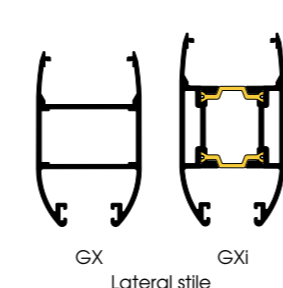
A technical catalogue and complete set of fabricating drawings are available from your local Technal distributor.



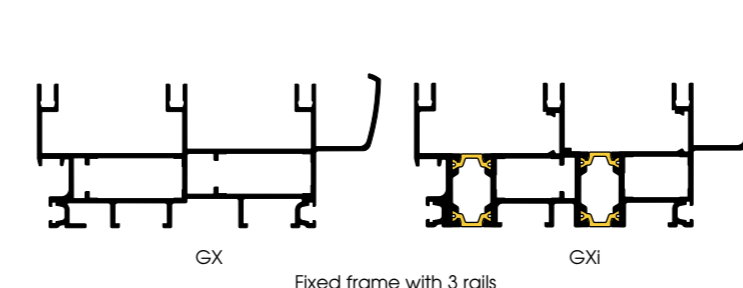
GX GXi  
Bottom fixed frame rail



GX GXi GX GXi  
Sash transom Central stile



GX GXi  
Lateral stile



GX GXi  
Fixed frame with 3 rails



# GX, GXi sliding windows and patio-doors

Saphir is Technal's latest robust, easy-to-slide, elegant range of casement windows and patio-doors. The standard (GX) and thermally-improved (GXi) versions share the same 52mm module, 41mm slim-line central stile, locks, handles and hardware. Saphir suits all installation situations and can be installed quite seamlessly side by side or in the same structure as FX, FXi casement windows.

## Glazing

- Wrap-around gaskets accommodating 6 to 24mm glazing for GX and 14 to 24mm glazing for GXi.
- Gaskets comprise a slippery area to facilitate glazing procedures whilst ensuring a firm hold once in position.
- Gaskets are the same on both versions.

## Locks and handles

- A comprehensive range including:
  - half-moon lock with built-in, semi-automatic ergonomic handle;
  - thumb pull range (single, double, with key lock, automatic) with separate pull handle option;
  - 2- or 3-point locks with pull handle and key lock or with thumb pull lever lock.
- Concealed mountings.
- Same locks and handles for both versions.



Thumb pull lock      Semi-automatic half-moon handle

## Tests and performance ratings

- 2-leaf GXi window
- A3 EE VE rating.
- 33dB(A) attenuation of road noise using 35/20 glazing.
- With low emissivity (0.20) 4/12/4 glass and an average permeability shutter, average day/night U-value (K) is 2.25 W/m<sup>2</sup> °C.

## Durability

- All four roller models, half-moon and thumb pull locks have been successfully tested to 20,000 cycles.



Central stiles (GX)



End seals on water collecting section



Bottom rail and fixed frame transom (GXi)

## Attractive appearance

- Deep, slim sections (with 41mm sight lines) provide maximum daylighting.
- Attention to detail:
  - finish plugs on central and lateral stiles;
  - water collector on bottom section only with matching finish on end seals.
- Concealed drainage system on bottom rail with invisible deflector.

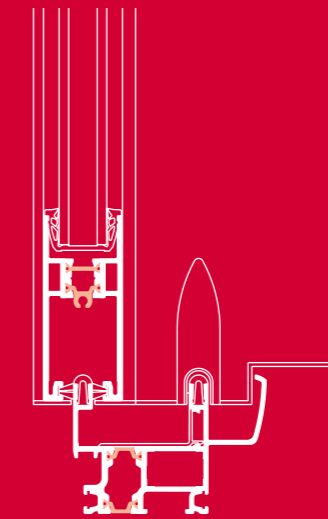
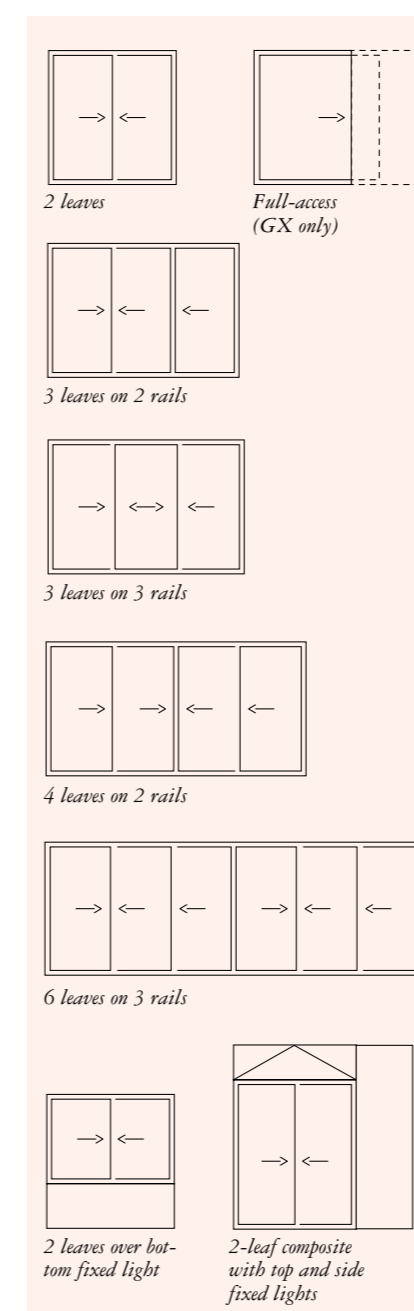
## Smooth sliding system

- Choice of separate slider track on bottom rail in:
  - anodised aluminium
  - stainless steel
  - polyamide.
- Choice of easy-to-remove, standard or adjustable, single or double rollers.
- Durable track and roller system ensure leaves slide smoothly.

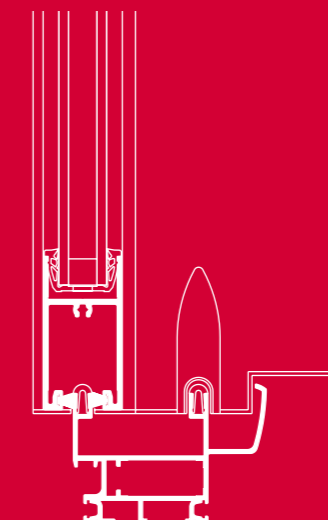


Horizontal cross-section of GXi

## Applications



Vertical cross-section of GXi



Vertical cross-section of GX

## INNOVATIONS

- Half-moon semi-automatic lock with built-in handle designed by Technal.
- Durability: GX and GXi tested to 20,000 open/close cycles.
- Concealed drainage on fixed frame rail.
- Shared accessories and tools for both versions.
- Wholly compatible with FX, FXi casements.

## compositions with FX and FXi

### Saphir is a range of consistently designed sliders and casements

- GX and GXi sliders have been designed to integrate seamlessly with FX and FXi casements (by juxtaposing fixed frame sections or using single composite mullions and transom) as they have the same 52mm module sections.
- Sliders and casements share the same trims, sills and flashings.

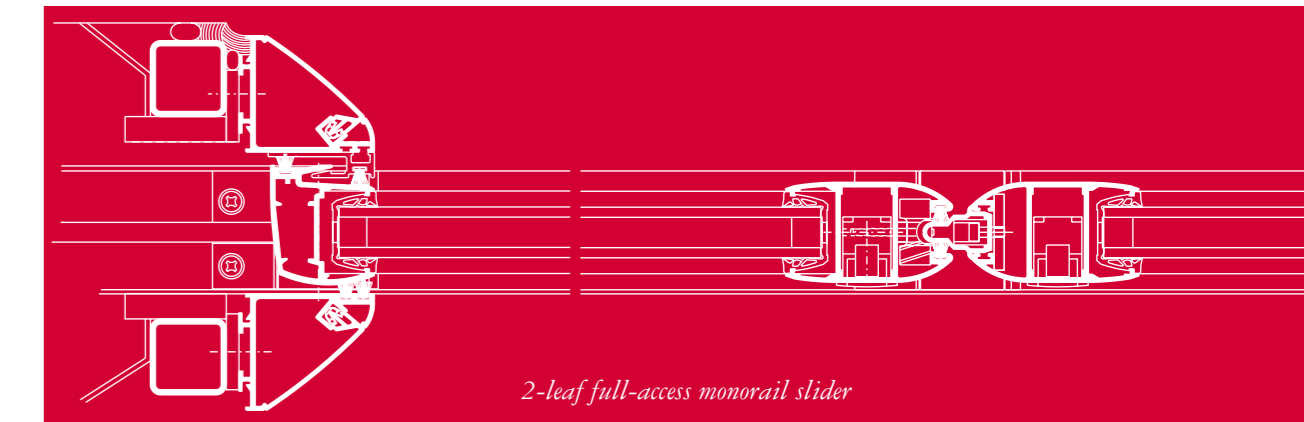
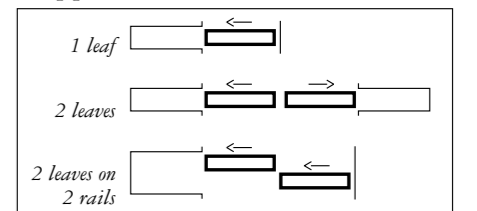


GXi slider with FXi fixed and opening lights

## GX full-access frames



- The full access version has the same advantages and appearance as the basic application.
- These easy-to-manoeuvre frames retract as far as possible into partition walls.
- There are several fixed frame designs and roller tracks in polyamide, stainless steel or aluminium.
- Exceptional performances: A3 EE VE (for 1-leaf patio-door).
- Applications:



2-leaf GXi slider over fixed light

A P A R T M E N T    B L O C K S    -    H O U S E S    -    C O N S E R V A T O R I E S    -    O F F I C E S



N E W B U I L D    -    R E F U R B I S H M E N T

