

# TIGAL

## PULL AND SLIDE

The performance  
of a window with  
the benefits of a  
slider







# TIGAL

## / BRAVING THE ELEMENTS

### **DESIGNED FOR THE FUTURE**

The global population is becoming more urbanised...in 2050, it is estimated that 70% of people will live in towns and cities. This phenomenon will lead to an increase in land costs and in noise pollution. It will result in the verticalisation of buildings combining accommodation, sports halls, offices, etc. As they get higher and higher, towers will need to offer new, enhanced places to live that are calm and bright.

By offering large sliding doorways, TIGAL thus maintains all the living space and enables it to extend onto the terrace. Its superior acoustic performance and its large glazed area maximise the quality of life indoors.

### **INNOVATIVE SYSTEM**

In parallel with this urbanisation, the planet is being subjected to numerous climatic changes, and buildings are becoming increasingly exposed to adverse weather.

TIGAL is a hybrid solution, combining the advantages of a sliding door with the performance of a window. Its patented central sealing system guarantees exceptional water-tightness performance – up to 4 times better than a traditional sliding door.

With its high thermal performance and water-tightness, TIGAL has everything it needs to resist these increased risks and brave the elements on any exposed site.

### **METICULOUS DESIGN**

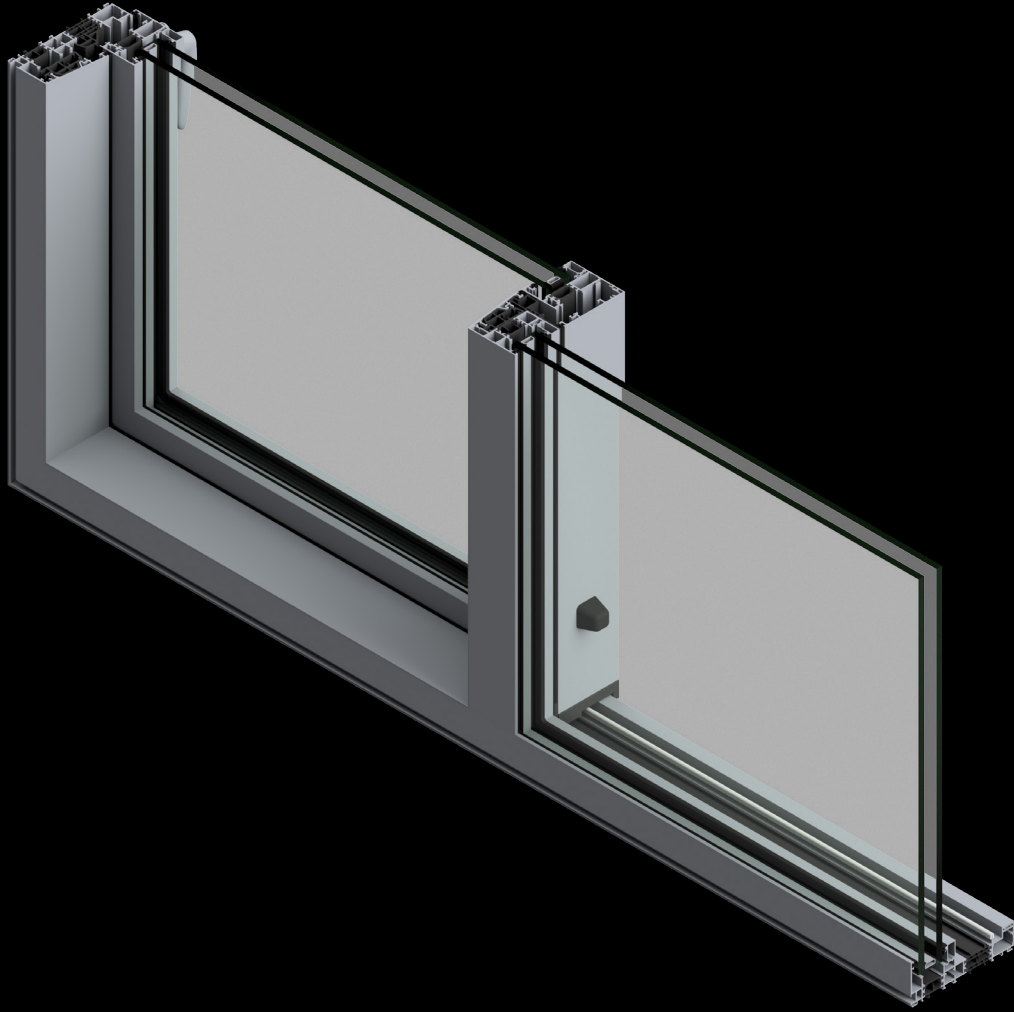
In keeping with its DNA, SAPA has paid particular attention to TIGAL's design, by combining sleek lines and concealed hardware for a balanced overall aesthetic.

Purposefully designed for great ease of use, TIGAL is also innovative in its secure micro-ventilation system and provides smooth, silent operation.

Its responsible design and development have allowed them to select 70% recycled materials and durable components. The profiles have been extruded from Hydro CIRCAL®, recycled low carbon aluminium with one of the smallest CO<sub>2</sub> footprint worldwide.

# TIGAL

/ BRAVING THE ELEMENTS



# KEY FEATURES AND INNOVATIONS

## INNOVATIONS

- Operation of the window: opens by internal dislodgement of 6 mm and then the opening part slides in parallel with the fixed part
- Hybrid system with multi-point locking system around the perimeter and patented water-tightness system.

## LARGE DIMENSIONS

- Floor-to-ceiling heights possible up to (W x H) 4000 x 2700 mm (1 leaf + 1 fixed)
- Weight: up to 300 kg per leaf
- Glazing thickness up to 52 mm

## DESIGN

- Visible or concealed opening
- Concealed hardware
- Concealed drainage

## EASE OF USE AND ACCESSIBILITY

- Micro-ventilation:
  - Offset of 6 mm from the opening
  - Locking in security position
- Recessed threshold
  - Disabled access threshold of 15 mm high
  - Maintained performances
- Minimal manoeuvring effort: Class 1

## IDEAL ACOUSTIC PERFORMANCES FOR URBAN ENVIRONMENT

- Excellent sound-proof isolation up to:  
 $R_w [C;C_{tr}] = 45$  dB of acoustic isolation  
Double glazing 50 mm: 88.2 Si / 20 / 66.2 Si

## PERFORMANCES

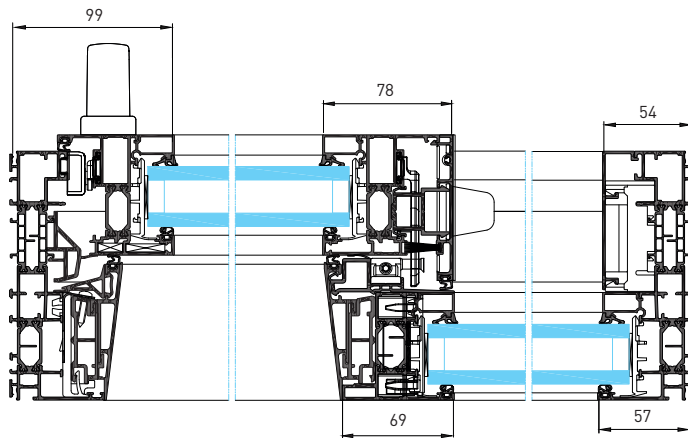
Available with or without thermal break

- Thermal:
  - $U_w$  0.85 W/m<sup>2</sup>K ( $U_g = 0.5$  W/m<sup>2</sup>K),  
triple glazing,  $TL_w = 0.63$ ;  $S_w = 0.51$   
1 leaf + fixed, (W x H) 2300 x 2180 mm
- Tightness:
  - Air permeability: Class A4  
Micro-ventilation: Class A1
  - Water-tightness: up to E1200
  - Wind pressure resistance: Class 5
- Burglar resistance features: Level RC2 and PAS24

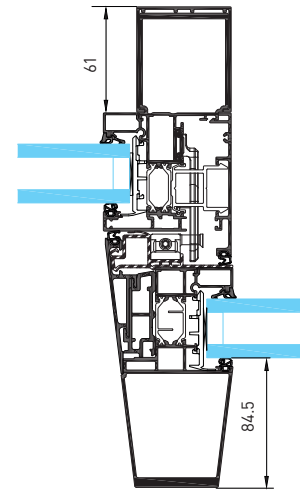
## SUSTAINABILITY

- Profiles in Hydro CIRCAL®: prime quality aluminium made with a minimum of 75% recycled end-of-life aluminium (post-consumer scrap).  
CO<sub>2</sub> footprint of 2.3 kg of CO<sub>2</sub> per kilo of aluminium.
- Thanks to our software TechDesign, it's possible to generate a dynamic EPD according specified dimensions.

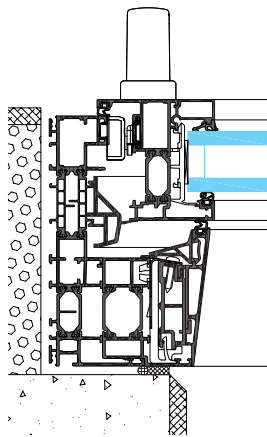
# CROSS SECTIONS



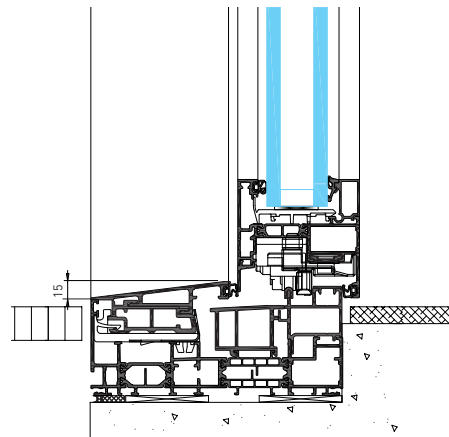
Horizontal cross-section - 1 leaf + fixed



Central mullion - reinforced version



Horizontal cross-section - concealed sash

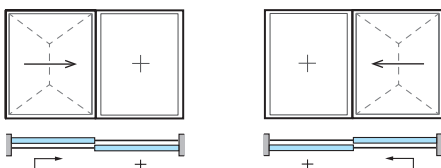


Vertical cross-section - opening sash, build-in threshold

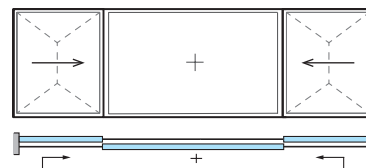
# CONFIGURATIONS

## 1 RAIL - OPEN-IN

1 leaf + fixed



2-leaf + fixed



# PERFORMANCES

TIGHTNESS PERFORMANCES (air, water, wind)				
Configurations	Dimensions in mm (W x H)	Air permeability	Water tightness	Wind pressure resistance
1 leaf + 1 fixed handle length: 260 mm	3600 x 2500	Class A4 micro ventil. Class A1	Class E1200	Class 3 service pres. 1200 Pa security pres. 1800 Pa
1 leaf + 1 fixed handle length: 160 mm	3600 x 2500	Class A4 micro ventil. Class A1	Class E900	Class 3 service pres. 1200 Pa security pres. 1800 Pa

ACOUSTIC PERFORMANCES							
Configuration	Dimensions (W x H)	Glazing	Thickness in mm	Glass attenuation (dB)		Window attenuation (dB)	
				R <sub>w</sub>	R <sub>A,Tr</sub>	R <sub>w</sub> (C;C <sub>tr</sub> )	R <sub>A,Tr</sub>
1 leaf + 1 fixed	3650 x 2180	88.2Ph - 20Ar - 66.2Ph	50 (double)	52	47	45 [-2;-5]	40
1 leaf + 1 fixed	3650 x 2180	44.2Ph - 12Ar - 4 - 12Ar - 44.2Ph	46 (triple)	43	36	41 [-2;-6]	35
1 leaf + 1 fixed	3650 x 2180	44.2Ph - 20Ar - 10	39 (double)	45	40	40 [-1;-5]	35

THERMAL PERFORMANCES - U <sub>w</sub>					
Configuration	Dimensions (W x H)		U <sub>w</sub> with U <sub>g</sub> 1.1 ep = 24 mm	U <sub>w</sub> with U <sub>g</sub> 1.0 ep = 24 mm	U <sub>w</sub> with U <sub>g</sub> 0.5 ep = 36 mm
1 leaf + fixed visible sash	2300 x 2180 mm	U <sub>w</sub>	1.42 W/m <sup>2</sup> .K	1.32 W/m <sup>2</sup> .K	0.88 W/m <sup>2</sup> .K
		TL <sub>w</sub>	0.69 W/m <sup>2</sup> .K	0.67 W/m <sup>2</sup> .K	0.64 W/m <sup>2</sup> .K
		S <sub>w</sub>	0.61 W/m <sup>2</sup> .K	0.52 W/m <sup>2</sup> .K	0.52 W/m <sup>2</sup> .K
1 leaf + fixed concealed sash	2300 x 2180 mm	U <sub>w</sub>	1.38 W/m <sup>2</sup> .K	1.29 W/m <sup>2</sup> .K	0.85 W/m <sup>2</sup> .K
		TL <sub>w</sub>	0.68 W/m <sup>2</sup> .K	0.65 W/m <sup>2</sup> .K	0.63 W/m <sup>2</sup> .K
		S <sub>w</sub>	0.60 W/m <sup>2</sup> .K	0.51 W/m <sup>2</sup> .K	0.51 W/m <sup>2</sup> .K

## MATERIALS AND PARTS

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

- Fittings are cast from EN 12844 compliant Zamak 5.
- All gaskets are EPDM or TPE (Thermoplastic elastomer).
- The thermal breaks are made with PA6-6 (0.25 FV) and ABS.
- Screws are made from stainless steel.

## FINISHES AND COLOURS

A wide range of finishes and colours are 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.

- Powder coating finishes in a wide range of colours in accordance with "QUALICOAT" instructions.
- TIGAL is also available in powder coated finishes in SAPA exclusive colours for a stylish and modern appearance.

## PROFILES

- TIGAL is made from Hydro CIRCAL<sup>®</sup>, recycled low carbon aluminium. That means it's prime quality aluminium made with a minimum of 75% recycled end-of-life aluminium (post-consumer scrap). Hydro CIRCAL<sup>®</sup> has one of the smallest CO<sub>2</sub> footprint worldwide: 2.3 kg of CO<sub>2</sub> per kilo of aluminium.
- The aluminium profiles are extruded from alloys 6060 Building compliant with EN 12020, EN 573-3, EN 515 and EN 775-1 to 9.

# TIGAL

## / COMMITMENT AND SUSTAINABILITY

SAPA demonstrates its strong commitment to the environment in all areas: by using recycled and low-carbon materials, with a product design that is adapted to a circular economy, and produced within a responsible supply chain. In addition, these statements are certified by external organisations to ensure maximum transparency.

### HYDRO CIRCAL®

We are demonstrating our focus on sustainability by using Hydro CIRCAL® for our system solutions, one of the most sustainable aluminium alloys in our sector. Hydro CIRCAL® is a range of prime quality aluminium made with a minimum of 75% recycled end-of-life aluminium (post-consumer scrap). The production process is verified by an independent third party (DNV-GL), and confirmed by an EPD (Environmental Product Declaration). Hydro CIRCAL® also has one of the smallest CO<sub>2</sub> footprint worldwide: 2.3 kg CO<sub>2</sub> per kilo of aluminium – 4.5 times less than the world global primary average.

### RECYCLED & RECYCLABLE

Following our path to the certified circular economy, all of our systems are composed with a majority of materials and components that can be infinitely recyclable, that can come from recycled raw materials, that can be recycled to have a second life or components that can also be reused.

In rough figures, we're talking about 75% recycled content and 95% recyclable content. It's an efficient way to drastically reduce the impact of materials on the life cycle of a building. Finally, our greener approach goes a step further thanks to recycled thermal strips for 75 mm modules.

**75% RECYCLED POST CONSUMER**

Hydro CIRCAL® is the world's first certified recycled aluminium which means that at least 75% of the prime-quality aluminium alloy comes from post-consumer materials.

**95% ENERGY SAVED**

By recycling post-consumer scrap aluminium, the remelting process saves up to 95% of energy that would normally be spent and maintain the same high quality as primary aluminium.

**85% REDUCTION OF CO<sub>2</sub> EMISSIONS**

The consequence of using Hydro CIRCAL® is the drastic reduction in CO<sub>2</sub> emissions which sums more than 85% when compared with the global average for primary aluminium production.



**TIGAL**

75% RECYCLED  
95% RECYCLABLE



# TIGAL

## / CERTIFICATIONS



### CRADLE TO CRADLE (C2C) CERTIFICATION

From its design to the selection of materials and how it is manufactured, the product must offer the level of performance required by the market by reducing, to the greatest extent possible, environmental impacts such as energy consumption or greenhouse gas emissions.

We classify our range under the criteria of the Cradle to Cradle seal, an independent institute that certifies products and processes from a circular economy perspective. We have numerous Cradle to Cradle certified series, including the manufacturing in our plants. In this way, we are able to ensure that the carbon footprint of transporting our products is as low as possible.



### ALUMINIUM STEWARD INITIATIVE (ASI)

ASI is a multi-stakeholder, non-profit, standards-setting and certification organisation. It is the most internationally recognised standard, which addresses the environmental, social and governance (ESG) aspects of the entire aluminium value chain. The assessment is based around the sustainable production of aluminium, from bauxite or mining to the production of semi-fabricated products, taking into account the recycling of pre- and post-consumer scrap. Hydro was one of the first companies, that received this recognition, in accordance with its commitment to a more sustainable future.

**100% of our extrusion plants are ASI Performance Standard Certified.**



### ENVIRONMENTAL PRODUCT DECLARATION

An Environmental Product Declaration (EPD) is an independently third party-verified document that communicates precise, transparent and comparable information about the life-cycle environmental impacts of a product. But it is not only limited to products, such as a window, but can also be applied to materials (an aluminium billet), assembly parts of products or even for services (like maintenance). This document is used for many different applications, e.g. public procurement or green building rating schemes (i.e. BREEAM, LEED, DGNB).

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**sapa:**

**IMAGINE WHAT'S NEXT**

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