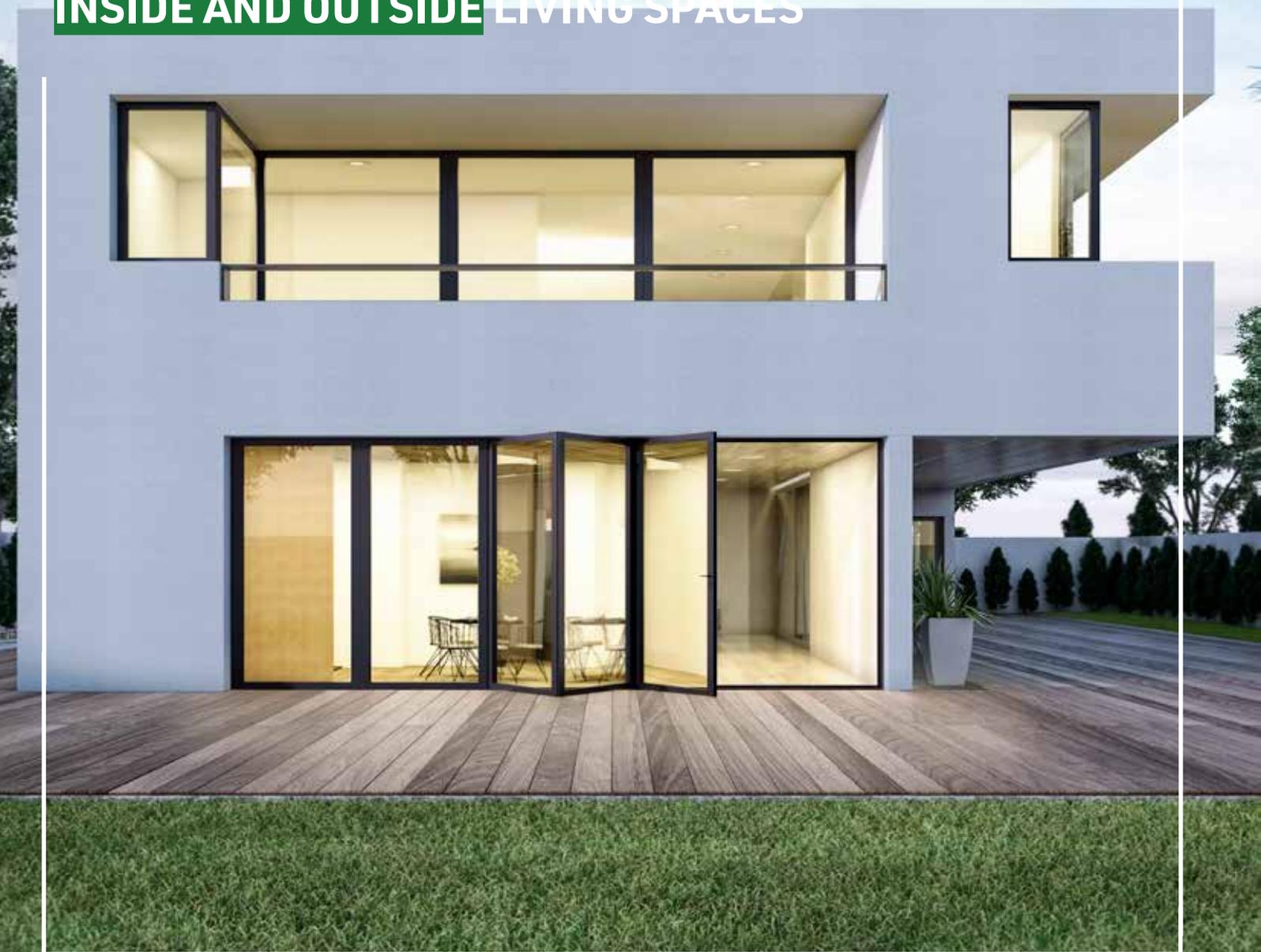


XXL HIGH-PERFORMANCE OPENINGS CONNECTING
INSIDE AND OUTSIDE LIVING SPACES



AMBIAL
THE VERSATILE FOLDING DOOR

↗ Doors ↗ Windows

sapa:

By  Hydro





AMBIAL

/ THE ORIGINAL HIGH-PERFORMANCE XXL OPENINGS

The AMBIAL folding door can be fully opened inwards or outwards, offering you a panoramic view, flooding rooms with natural light and blurring the boundaries between indoors and outdoors.

HIGH PERFORMANCES

Designed to be both durable and easy to use, the AMBIAL supported folding door can incorporate up to 10-leaf with a maximum height of 3 m for an opening of 12 m wide, in straight line or with open corner, without visible post.

With a 75 mm module and supported by SAPA's exclusive rollers, chosen for their resilience, each leaf can support a weight of up to 150 kg.

AMBIAL also guarantees thermal and acoustic performance, as well as high-level weather and water resistance.

SLEEK DESIGN

The finishes have been designed with the greatest attention to detail, to offer a harmonious appearance, both when open or closed.

The frames are flush-fitting, with slim, well-balanced profiles. The upper and lower rollers and fixings are covered, to give a uniform overall look, even when open. Drainage is concealed to ensure a flush design.

WIDE SELECTION OF CONFIGURATIONS

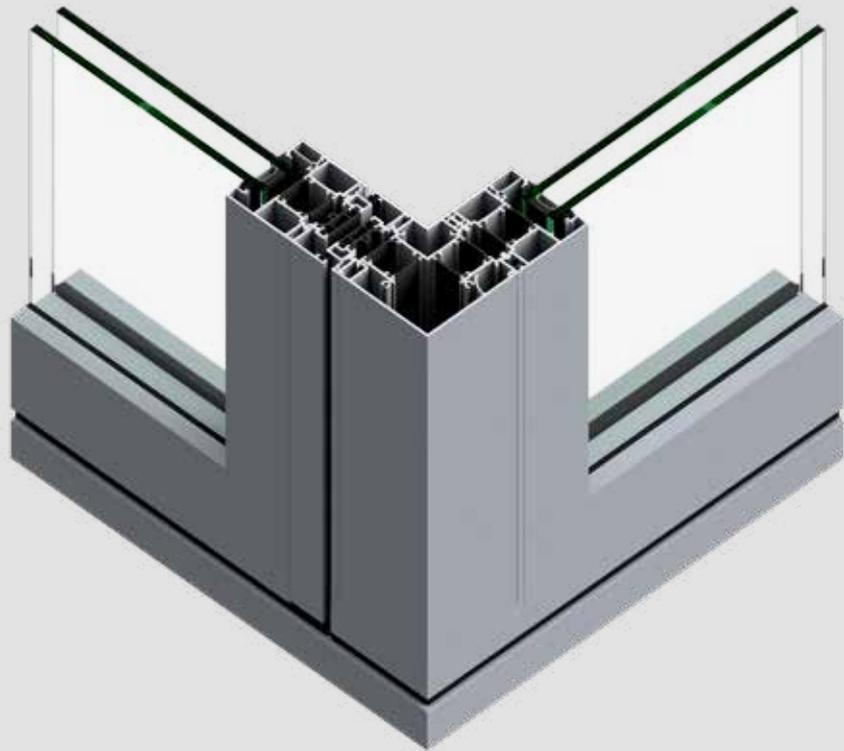
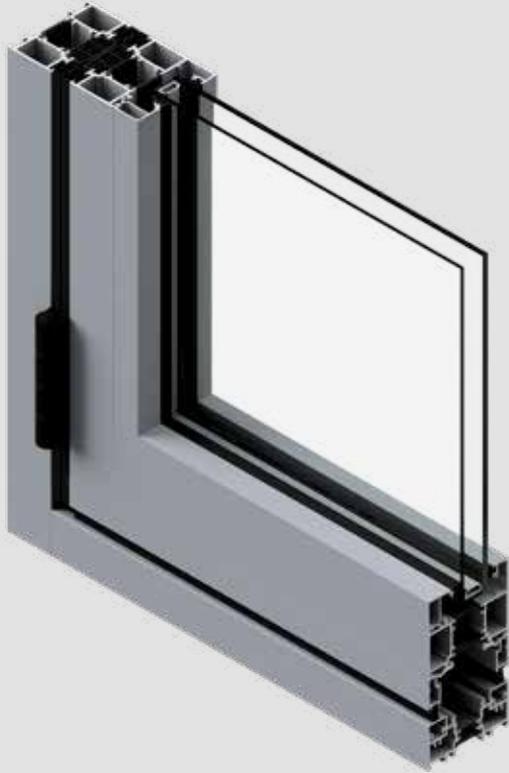
Whether in line or with open corner, inward or outward opening, from the centre or from one of the sides, AMBIAL is designed to suit all architectural wishes, whether a new-build or renovation: villas, architect-designed houses, extensions, hotel or restaurant terraces, balconies of apartment blocks, etc.



Certified Cradle to Cradle - Bronze Level

AMBIAL

/ THE MULTI-SPACE FOLDING DOOR



KEY FEATURES & INNOVATIONS

LARGE DIMENSIONS

- Large sizes available up to (W x H) 3000 x 1200 mm per leaf, with possible configurations from 1 to 10-leaf for the straight line version with an opening of up to 12 m wide and from 2 to 10-leaf for the corner version
- Weight: up to 150 kg per leaf
- Glazing thickness from 9 to 69 mm

RELIABILITY AND PROTECTION

- Secure design, to keep the door on the upper and lower tracks, thanks to the anti-derailment and anti-lift function
- Option to lock the intermediate leaves with ultra-flat handles so the profiles or keys don't risk to be damaged in the folded position
- Locks adapted depending on the function: 2 points with or without key, 3 points with key or 2 lever points for semi-fixed leaf
- Blocking magnets to protect the door from any shocks when in the open position, or if it is windy or if the door is incorrectly operated
- Security system to prevent the intermediate leaves being opened when the main door is closed
- Protective space between gaskets to avoid fingers being trapped
- Optional anti-slip threshold frame

AESTHETICS AND COMFORT

- Completely flush appearance in closed position, with clean lines
- Uniform appearance in open position
- Great freedom of creation thanks to the wide range of configurations
- Exclusive designed, ultra-flat handle and key
- Easy to operate, thanks to the upper and lower rollers, foldable pull handle and optional exterior handle on the service leaf

- The double brush option allows for a flush-fitting threshold
- Possibility to create a 1 or 2-leaf door to maintain the visual harmony nearby
- Registered design

PERFORMANCES

- Supported system for more stability
- Excellent thermal and sound insulation
- Extreme high endurance performance of 50.000 cycles ensuring a long lifetime of the AMBIAL folding door
- The leaves are as easy to open as a sliding door
- Maximum resistance to rust on all hardware
- Rebated frame for improved weather resistance
- 2 vent heights available:
 - 63 mm in standard version
 - 73 mm in reinforced version for large dimensions
- Burglar resistance features: Level RC2 and PAS24

SOFTWARE

- Applications available on TechDesign

SUSTAINABILITY

- Profiles in Hydro CIRCAL®: prime quality aluminium made with a minimum of 75% recycled end-of-life aluminium (post-consumer scrap). CO₂ footprint of 2.3 kg of CO₂ per kilo of aluminium. EPD on demand.

AMBIAL

/ THE FINE DETAILS

HIGH-END FINISHES

- Straight, black vertical line, in line with the edge of the leaves when viewed in the open position
- In the closed position, black hinges concealed in the vertical line of the seal
- Black hardware, seals and brush seals
- Screw heads covered with black caps, enhancing weather resistance
- Concealed drainage
- Two options for concealing vertical grooves:
 - Black synthetic profile
 - Black seal which improves thermal and acoustic performance



HIGHLY RESISTANT HARDWARE

- Rollers covered with black caps which help with cleaning the tracks (design exclusive to SAPA)
- Stainless steel tracks and wheels
- Simple adjustment on site:
 - Vertical +3 mm / -1 mm
 - Lateral +5 mm / -5 mm
- Anti-derailment load-bearing wheel
- Perfect security, thanks to a 3-point locking system with insulated key lock



EXCLUSIVE HANDLE DESIGN

- Square, ultra-flat handle and key design
- Handles and key covers can be lacquered to match all SAPA colours
- Pull handle mounted on hinges or on support for easy closure





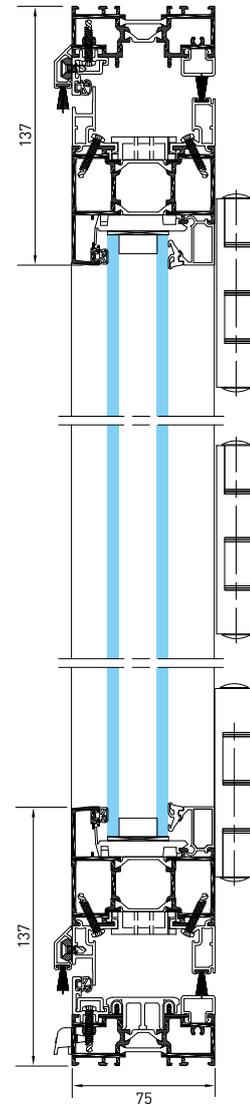
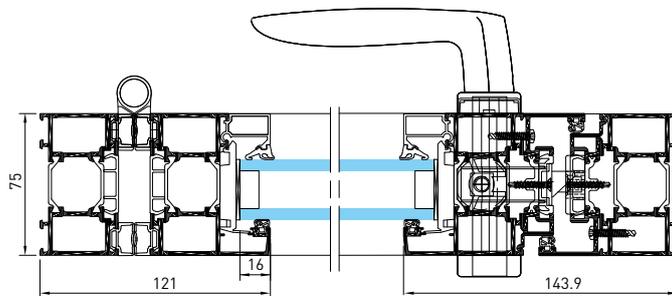
CROSS SECTIONS

/ STRAIGHT LINE

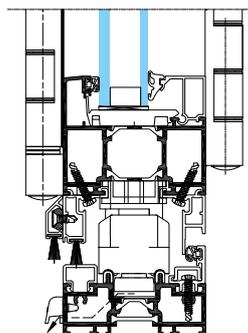
PERFORMANCES

- Optimised heat loss values: $U_w = 0.95 \text{ W/m}^2\cdot\text{K}$ with $U_g = 0.5 \text{ W/m}^2\cdot\text{K}$, $S_w = 0.37$ and $TL_w = 0.53^*$
*These values are obtained with double glazing of $1.0 \text{ W/m}^2\cdot\text{K}$ and insulating crossbar with 5 leaves measuring (W x H) 6000 x 3000 mm.
- Weather Resistance Performance:
 - Air: Class 4
 - Water: Class 8A
 - Wind: Class C3
- Acoustic attenuation: up to 42 dB (R_w)
- Operating force: Class 1 (less than 100 N)
- Mechanical strength: Class 3
- Corrosion resistant hardware: Grade 5 (420 h in saline mist)
- Hardware endurance test: grade 5 / 25,000 cycles (test conducted in accordance with EN13126-15)
- Optional cylinder lock tested to 400,000 opening and closing cycles

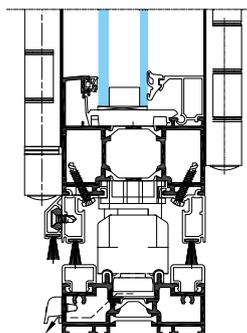
1-LEAF - INWARD OPENING



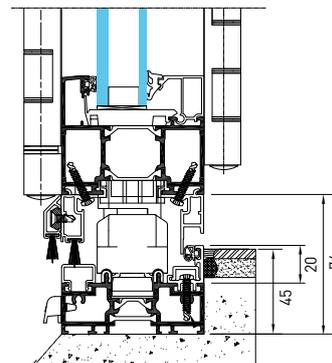
THRESHOLD



Outward opening: with rebate

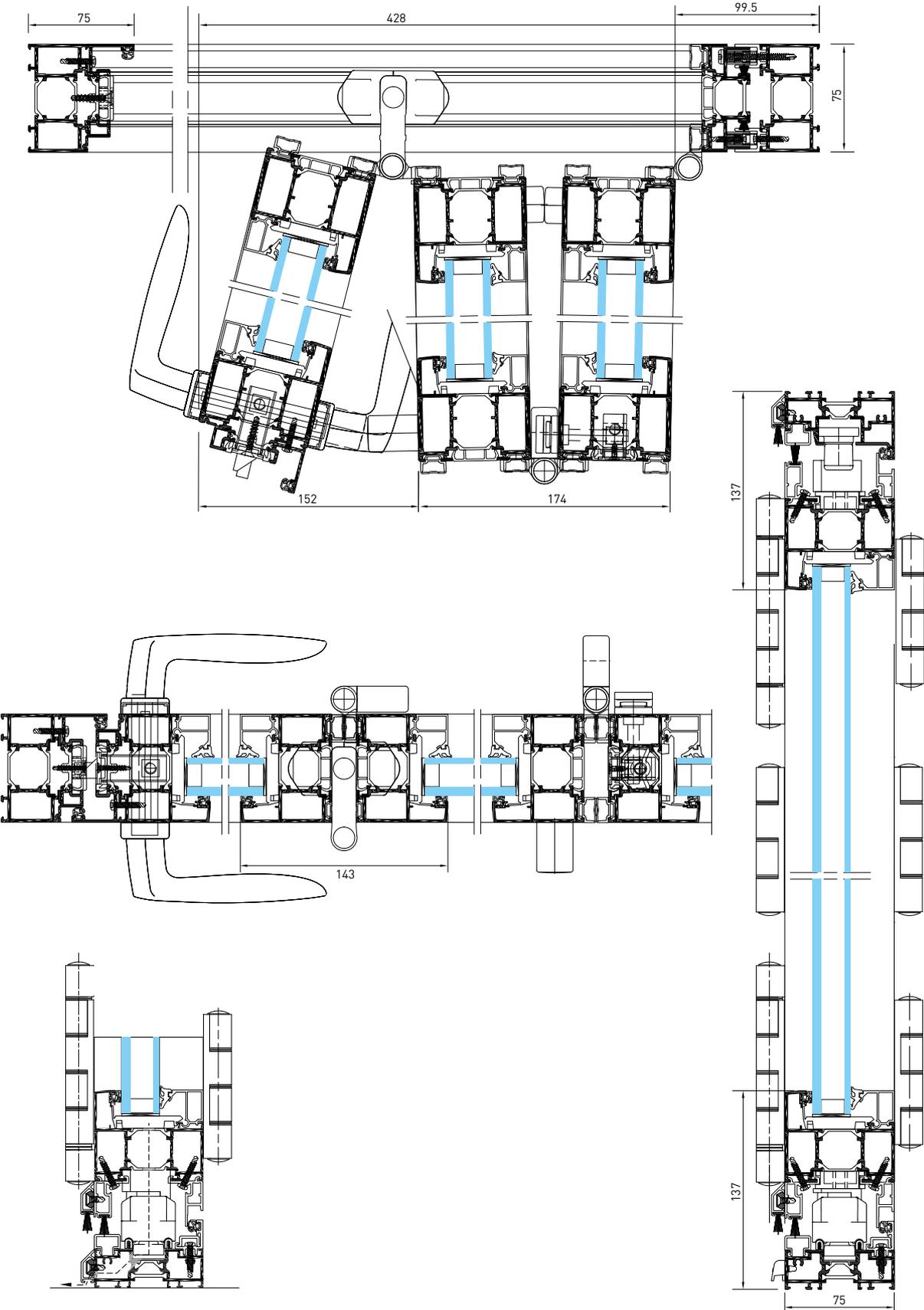


Outward or inward opening: with double brush



Outward opening: recessed disabled access threshold

3-LEAF - OUTWARD OPENING

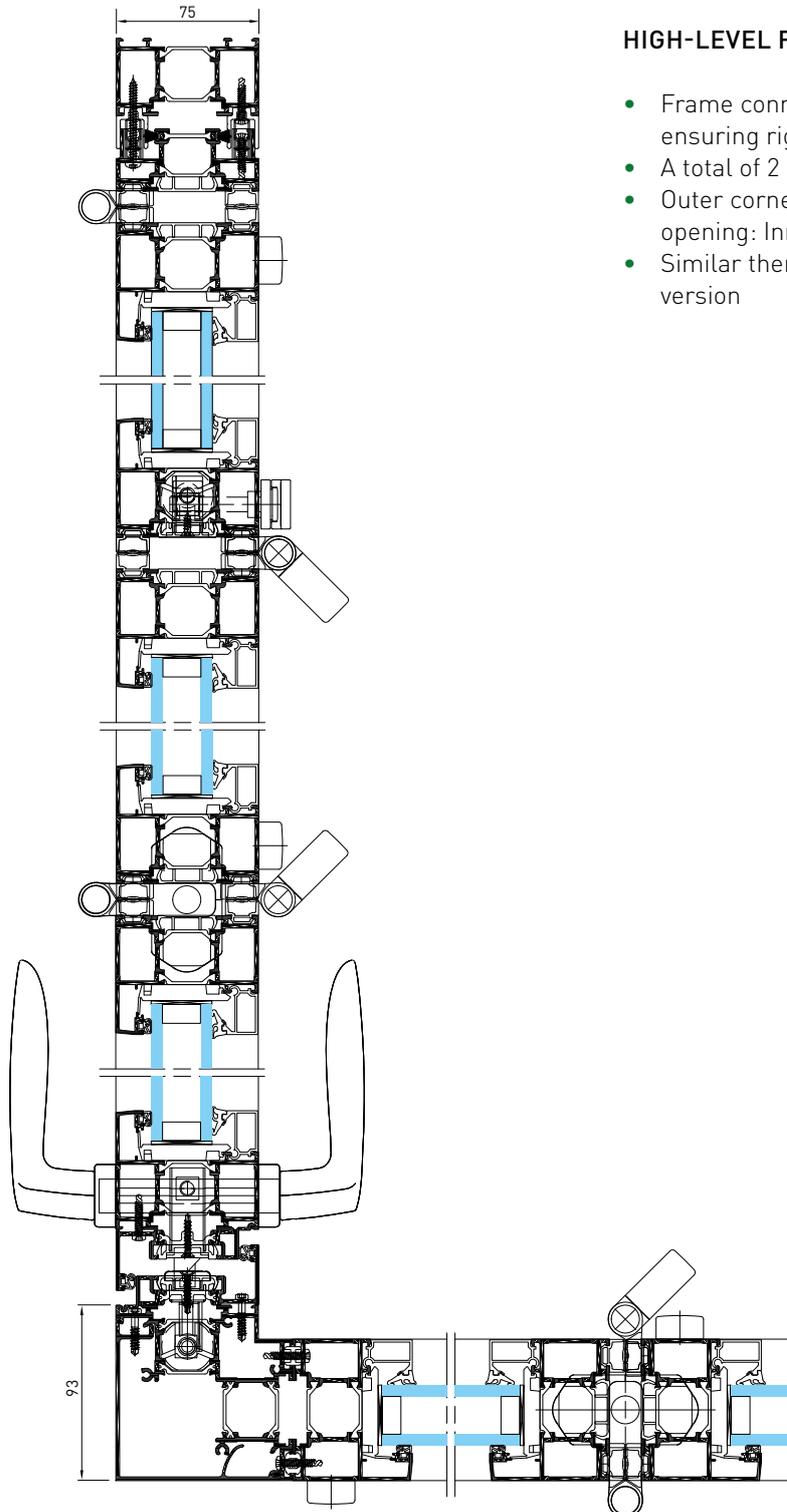


Concealed drainage in option for all configurations

Threshold option with rebate

CROSS-SECTIONS

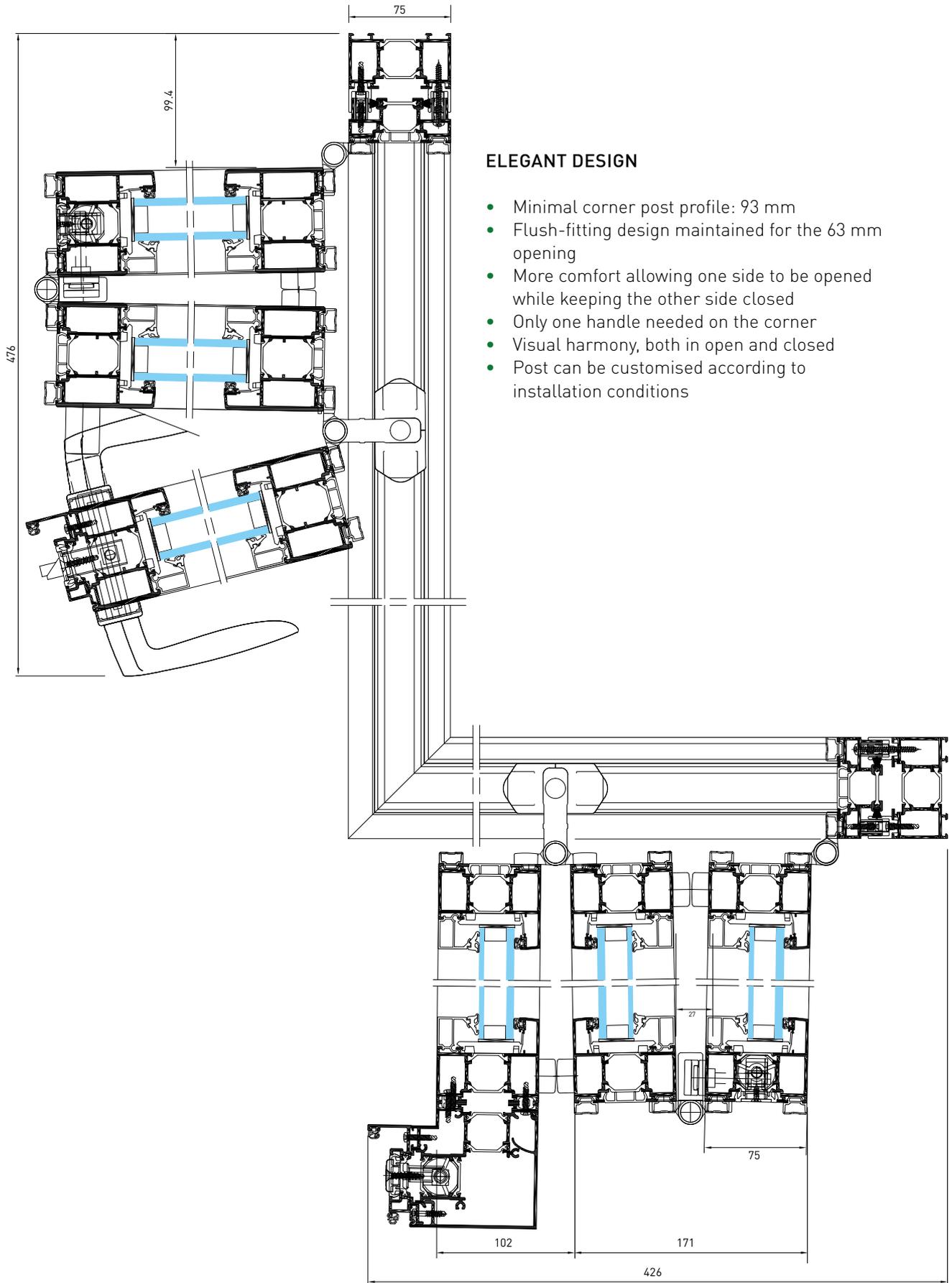
/ OPEN CORNER



HIGH-LEVEL FINISH

- Frame connected to the opening profile, ensuring rigidity and high performance
- A total of 2 to 10 opening leaves
- Outer corner solution with inward or outward opening: Inner corner available upon request
- Similar thermal performances to the in line version

**3 X 3-LEAF - OPEN OUT
OUTER ANGLE**

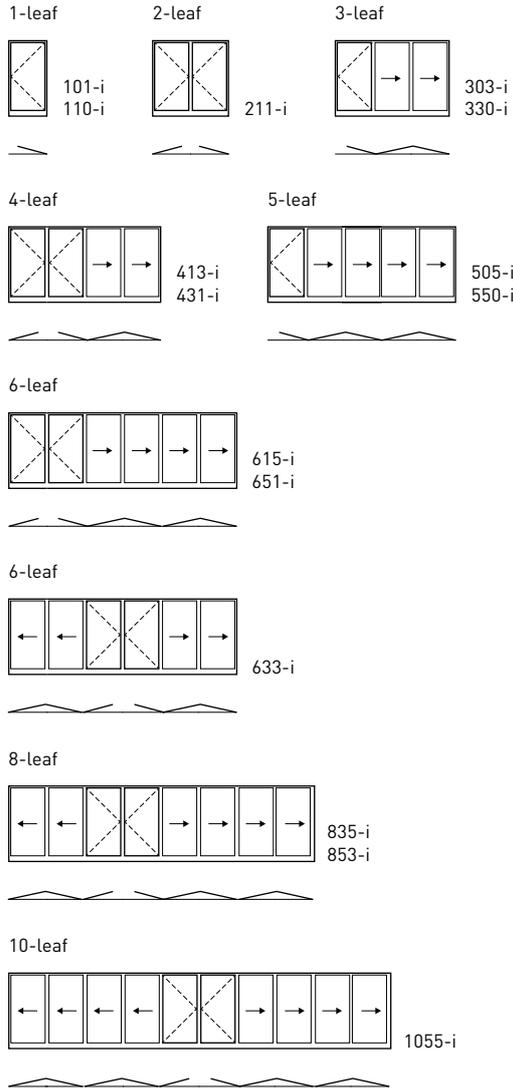


ELEGANT DESIGN

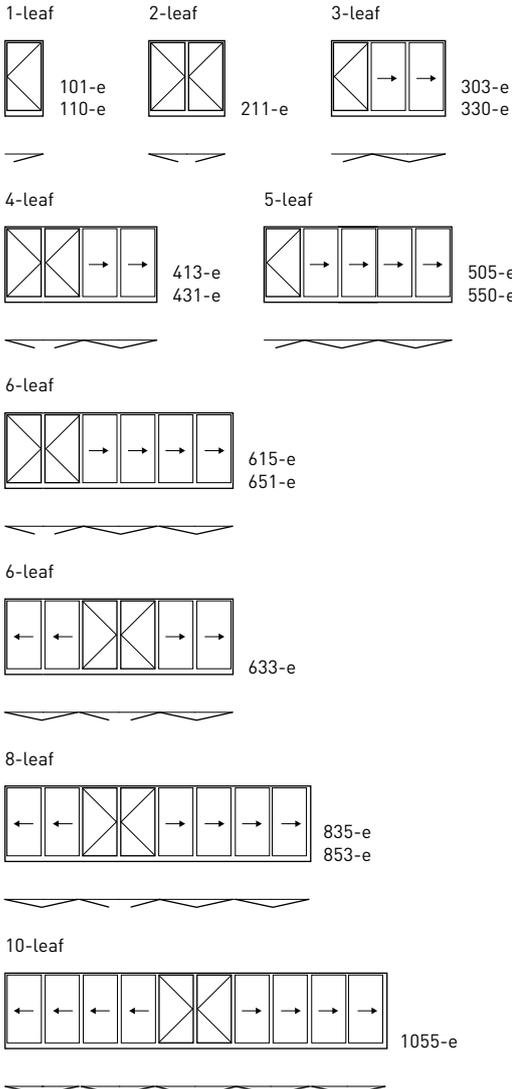
- Minimal corner post profile: 93 mm
- Flush-fitting design maintained for the 63 mm opening
- More comfort allowing one side to be opened while keeping the other side closed
- Only one handle needed on the corner
- Visual harmony, both in open and closed
- Post can be customised according to installation conditions

CONFIGURATIONS

INWARD OPENING



OUTWARD OPENING



Letters	1 st number	2 nd number	3 rd number	Opening
AS = outer angle	Total number of leaves	Number of leaves on the left	Number of leaves on the right	i = inward e = outward



INWARD OPENING

1-leaf in angle



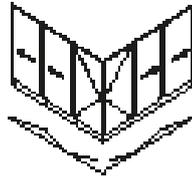
AS-217-I

2x2-leaf in angle



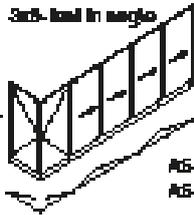
**AS-413-I
AS-421-I**

2x3-leaf in angle



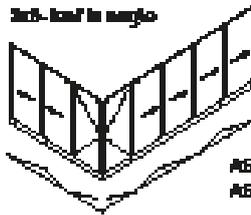
AS-433-I

3x3-leaf in angle



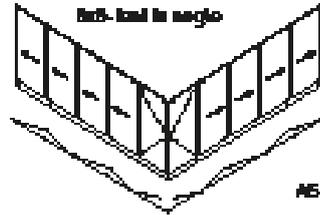
**AS-578-I
AS-581-I**

2x3-leaf in angle



**AS-578-I
AS-583-I**

3x3-leaf in angle



AS-788-I

1-leaf in angle



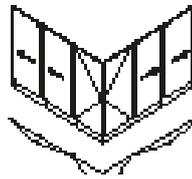
AS-217-O

2x2-leaf in angle



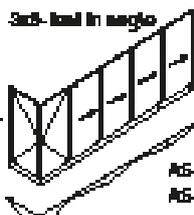
**AS-413-O
AS-421-O**

2x3-leaf in angle



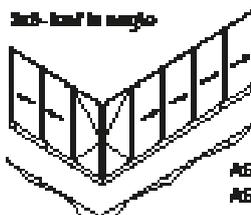
AS-433-O

3x3-leaf in angle



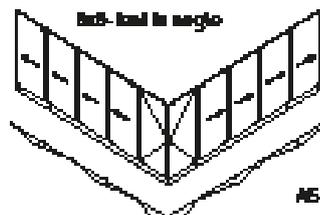
**AS-578-M
AS-581-M**

2x3-leaf in angle



**AS-578-M
AS-583-M**

3x3-leaf in angle



AS-788-O

PERFORMANCES

AEV PERFORMANCES (Air, Water, Wind)

AMBIAL	Air permeability	Water tightness	Resistance to wind pressure
3-leaf / 2250 x 2400 mm	Class 4	Class 8A	Class C3

ACOUSTIC PERFORMANCES

AMBIAL	Glazing	Thickness	Performances glazing		Performances AMBIAL	
			R_w	$R_{A,tr}$	R_w	$R_{A,tr}$
3 leaves open out 3650 x 2180 mm	4/16/4	24	30	26	32	28
	44.2Si-16-10	35	45	39	42	37

THERMAL PERFORMANCE - U_w

Configurations	Size (W x H)	U_w with $U_g = 0.6$ triple glazing	U_w with $U_g = 0.5$ warm edge triple glazing	U_w with $U_g = 1.0$ double glazing
3-leaf	3450 x 2180 mm	1.4 W/m ² .K	1.2 W/m ² .K	1.6 W/m ² .K
5-leaf	6000 x 3000 mm	1,3 W/m ² .K	0.95 W/m ² .K	1,6 W/m ² .K
6-leaf	6900 x 2180 mm	1.3 W/m ² .K	1.1 W/m ² .K	1.6 W/m ² .K
10-leaf	11500 x 2180 mm	1.3 W/m ² .K	1.1 W/m ² .K	1.6 W/m ² .K



PERFORMANCES

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 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.
- AMBIAL is also available in lacquered finishes with exclusive SAPA colours for a stylish and contemporary look.

PROFILES

- AMBIAL is made from Hydro CIRCAL[®], 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[®] has one of the smallest CO₂ footprint worldwide: 2.3 kg of CO₂ 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.



AMBIAL

/ 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.

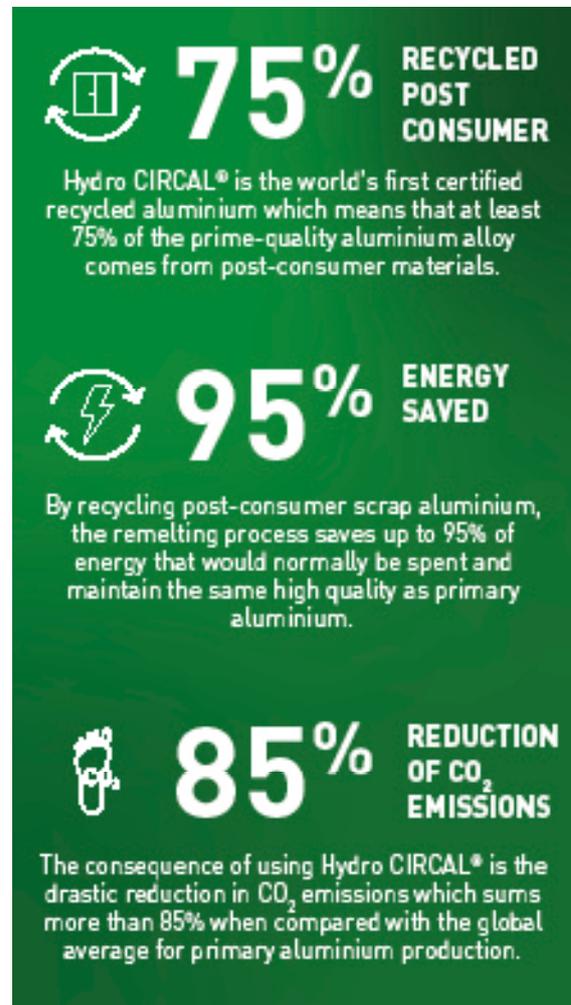
HYDRO CIRCAL®

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 CO₂ footprint worldwide: 1.9 kg CO₂ 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.



AMBIAL

75% RECYCLED

95% RECYCLABLE



AMBIAL

/ 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.

Our range is under certification.



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).

Thanks to our software TechDesign, it's possible to generate a dynamic EPD according specified dimensions, applications any type of glazing.



Architect: OECO Architectes
Photographer: Kevin Dolmaire



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