MORE POSSIBILITIES
LESS IMPACT

TENTAL
The Circular Facade

TECHNAL®

By Hydro

↗ **Windows** ↗ **Doors** ↗ **Facades** ↗ **Sliders**

Architect: Stephen George + Partners LLP
Photographer: John Kees Photography

TENTAL

↗ THE CIRCULAR FACADE

WITH TENTAL, ARCHITECTS CAN NOT ONLY IMAGINE THE WORLD WE ALL WANT, THEY CAN ALSO BUILD IT.

MORE POSSIBILITIES

The TENTAL curtain wall was created with a view to offering architects and consultants an extensive range of solutions, giving them as much creative freedom as possible when designing a facade.

TENTAL is a platform, with 50 mm and 60 mm wide aluminium profiles, that allows designing modular curtain walls with large-sized glazing units; seeking the maximum sensation of transparency along with a minimum sightline. Each module can integrate panels weighing up to 850 kg with a surface area up to 12.25 m^2, depending on the type of glass used.
With a complete collection of caps, TENTAL offers a wide range of aesthetic solutions creating a smooth look.

Users can choose from an extensive range of windows, doors and sliding doors compatible with this curtain wall system.
Complying to international standards, TENTAL reaches excellent weather and thermal performances but also high burglar resistance.

LESS IMPACT

Using Hydro CIRCAL®, an alloy made with a minimum of 75% recycled end-of-life aluminium (post-consumer scrap), allows tons of scrap that would otherwise become solid waste to be reintroduced into the system. TENTAL's thermal break elements are made from partially recycled xPET, a material that gives a second life to drink bottles.

Four new patents allow for optimizing materials, simplifying manufacture, and facilitating installation, which is carried out dry, with no glue or sealants used on-site, no packaging and no waste. TENTAL has also been developed with an eco-design mindset to facilitate disassembly and circularity. TENTAL 60 is certified Cradle to Cradle Silver. The specific characteristics contributes to constructing sustainable buildings that are eligible to be awarded to the main environmental certifications.

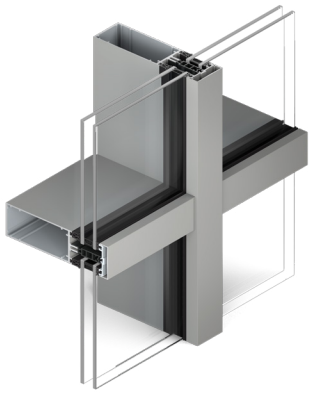
The TENTAL curtain wall is the perfect solution for current needs in terms of design and sustainability in the building industry.

THE WIDEST POSSIBLE RANGE OF FACADE SOLUTIONS

↗ THE WIDEST POSSIBLE RANGE OF FACADE SOLUTIONS

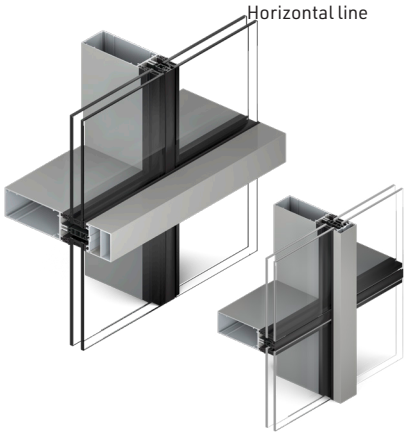
FEATURE CAPS

- Sightline: 50 or 60 mm
- Infill: 6 to 62 mm
- Standard or high insulation level
- Pane drainage or mullion drainage
- Facet solution up to +/- 10°
- 90° corner solution
- Anti-burglary: RC2, RC3



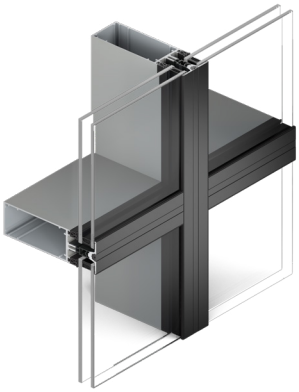
HORIZONTAL OR VERTICAL LINE

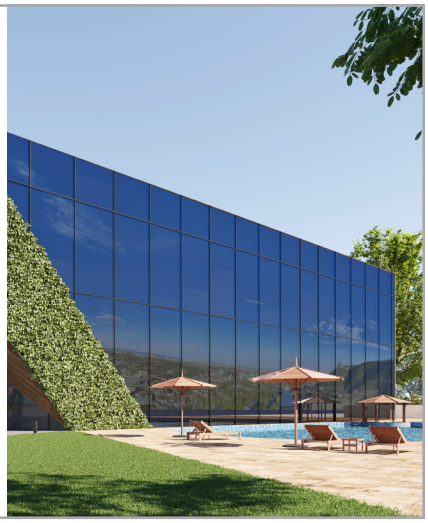
- Sightline: 50 or 60 mm
- Infill: 6 to 62 mm
- Standard insulation level
- Pane drainage or mullion drainage
- Facet solution up to +/- 10° for vertical line



FLAT CAP

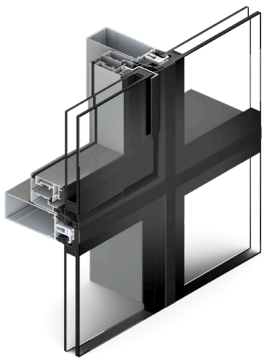
- Sightline: 50 or 60 mm
- Infill: from 6 to 62 mm
- Standard or high insulation level
- Pane drainage or mullion drainage





STRUCTURAL GLAZING

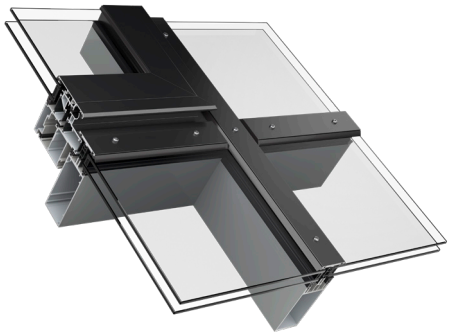
- Sightline: 50 or 60 mm
- Infill: from 28 to 44 mm
- Standard insulation level
- Mullion drainage

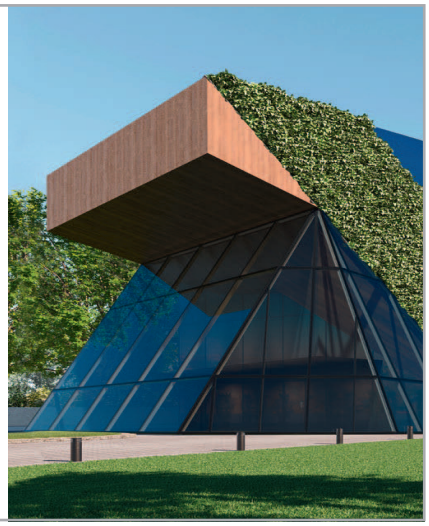


Structural glazing

SLOPED GLAZING

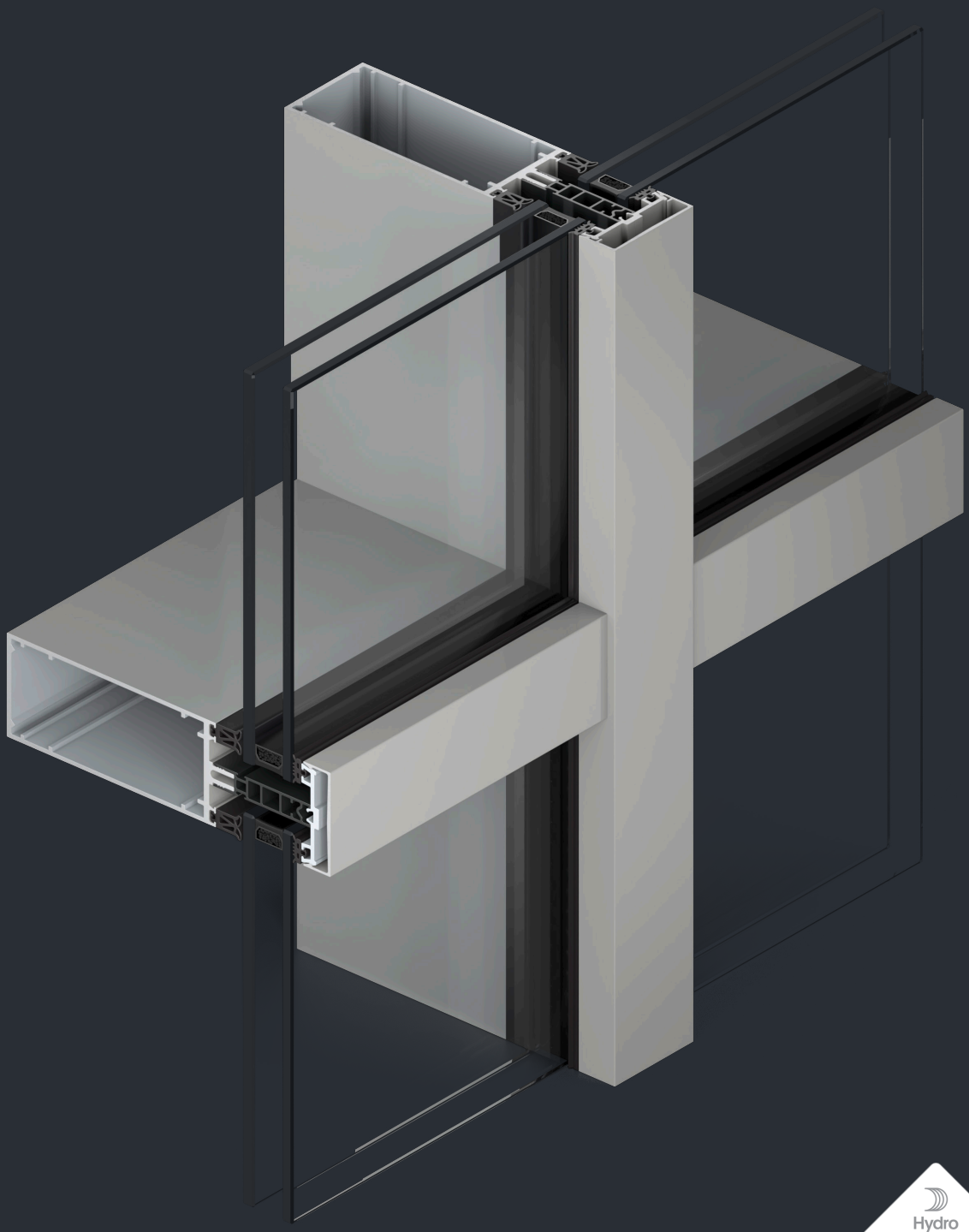
- Sightline: 50 or 60 mm
- Infill: from 28 to 44 mm
- Standard or high insulation level
- Mullion drainage
- Feature caps
- Flat cap
- Vertical line





MORE POSSIBILITIES. LESS IMPACT.

↗ TENTAL – THE CIRCULAR FACADE



Hydro
CIRCAL®
Recycled Aluminium

KEY FEATURES & INNOVATIONS

↗ TENTAL – THE CIRCULAR FACADE

AESTHETICS AND MODULARITY

- Available in 50 and 60 mm module
- Multiple exterior aspects:
  - Feature cap aspect
  - Horizontal line aspect (HL)
  - Vertical line aspect (VL)
  - Flat cap aspect
  - Structural glazing (SG)
- Collection of caps that mark the identity of each facade
- A full pallette of exclusive colours
- Facet solution up to +/- 10°
- 90° corner post
- Concealed drainage option

EXTERNAL CLADDING

- The fixing bracket allows elements to be incorporated onto the outside of the facade for enhanced thermal comfort (management of solar gain):
- Envelope cladding: variety of decorative elements

INTERIOR AND EXTERIOR OPENINGS

- Compatible with a full range of present and future window, door and sliding systems
- High weather-tightness performances, for openings:
  - Air permeability: up to Class 4
  - Water tightness: up to E1500 Pa
  - Resistance to wind pressure: up to C5
  - Mechanical resistance: up to Class 3

LARGE DIMENSIONS

- Large infills up to 12.5 m^2
- Maximum infill weight: up to 850 kg according to EN 16758 / EN 17146
- Maximum glazing thickness 62 mm

PERFORMANCES

(according to EN standards)

- Air permeability: up to AE 1500 Pa Water tightness: up to RE 1500 Pa
  Wind pressure resistance:
  - Service pressure: up to 2000 Pa
  - Safety pressure: up to 3000 Pa
- Burglar resistance: RC 1N, RC 2N, RC 2 and RC 3
- Impact resistance: up to I5/E5
- Thermal performance:
  - U_f: up to 0.54 W/m^2K
  - U_{cw}: up to 1.4 W/m^2K (with U_g 1.1 W/m^2K)
  - Passive House certified phA
- Acoustic performance:
  R_w (C;C_{tr}) = 47 (-1 ; -5) dB

INSTALLATION AND ASSEMBLY

- 5 glazing installation techniques:
  - Continuous pressure plate (CPP)
  - Continuous pressure plate with concealed pane drainage (CPP+)
  - Punctual pressure plate (PPP)
  - Structural glazing (SG)

SOFTWARE

- Available in TechDesign and Tech3D.
- Available BIM models

SUSTAINABLE CIRCULAR FACADE

- Designed for assembly and disassembly
- Components are made of 75% recycled and 95% recyclable material
- Cradle to Cradle® under certification
- Available in Hydro CIRCAL®, aluminium made with a minimum of 75% recycled end-of-life aluminium. This aluminium has one of the lowest CO_2 footprints worldwide: 1.9 kg of CO_2/kg aluminium.
- Dynamic EPD available on TechDesign

MORE INNOVATION

↗ TENTAL – THE CIRCULAR FACADE

ASSEMBLY

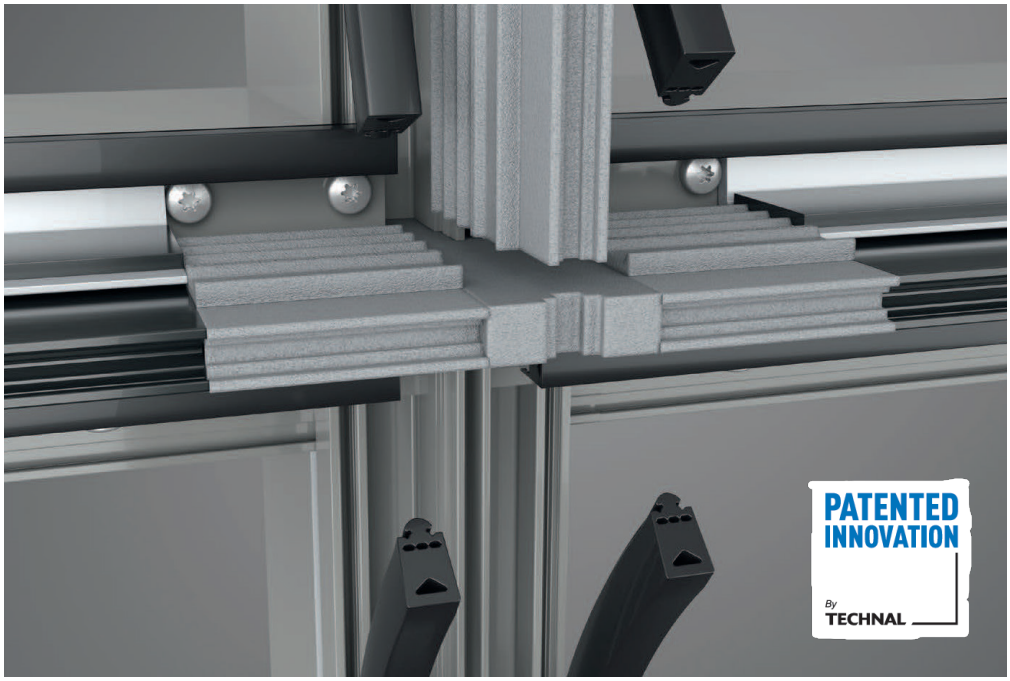
- Simple and quick to manufacture:
  - Patented dry connection of the internal glazing gaskets
- Developed for an improved and reliable assembly in a controlled workshop environment.

CIRCULARITY

- All aluminium profiles are made of recycled aluminium with a minimum of 75% post-consumer scrap.
- Ecodesign: developed for easy disassembly.

BIG GLASS SURFACES

- Maximum glass loads (up to 850 kg according to EN 16758 / EN 17146) are reached by means of:
  - Dedicated and reinforced transoms.
  - Reinforced "tubular" glass supports.
  - Screwed T-blocks.
  - Heavy load pins between connecting transom and mullion



Dry connection of inner gaskets

MORE DESIGN

↗ TENTAL – THE CIRCULAR FACADE

COLLECTION OF CAPS

TECHNAL offers a complete collection of caps that marks the identity of each facade.

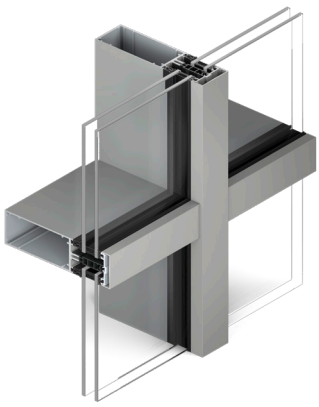
A flat and discrete design (height 4.5 mm) for providing a crystal-clear envelope, an "Aero", "H" shape or "U" shape for accentuating lines. These shapes can also be combined for reinforcing the original character of the building in order to meet the specific requirements of specifiers.

90° ANGLE, THIN ALUMINIUM VIEW

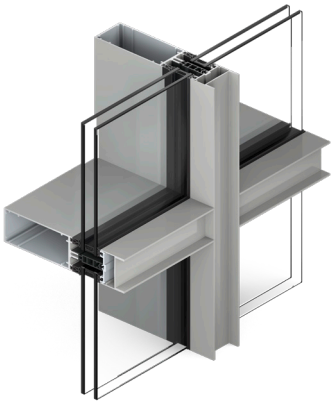
With corner post implementation it allows to make 90° angles with less aluminium seen from inside.

They contribute to the fineness of the structure while supporting the construction of large glazed surfaces.

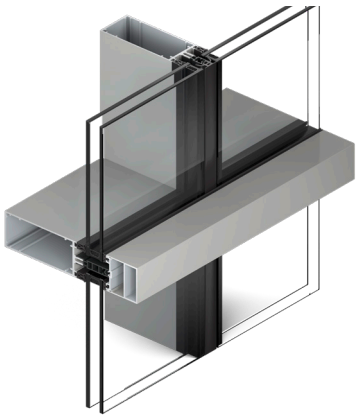
TENTAL also enables 90° convex angles to be created with edge-to-edge glazing.



U cap



H cap



Horizontal line with U cap

Vertical line with U cap

Flat cap

MORE POSSIBILITIES

↗ TENTAL – THE CIRCULAR FACADE

LARGE DIMENSIONS

Based on a 50 or 60 mm module and featuring several patents, TENTAL curtain walling optimizes grids of residential and commercial buildings, new builds or renovations. It offers large glazed surfaces up to 12.25 m^2 and weighing up to 850 kg.

CHOICE OF ASSEMBLY TECHNOLOGIES

TENTAL gives the opportunity to choose between:

- transom / transom or mullion / transom technology
- continuous pressure plate or punctual pressure plate

VARIETY OF SHAPES

- Visual consistency between the transoms and mullions to create a continuous line
- Possibility of a continuous or asymmetric grid
- Facade can be facetted +/- 10°

OPENING INTEGRATIONS

↗ TENTAL – THE CIRCULAR FACADE

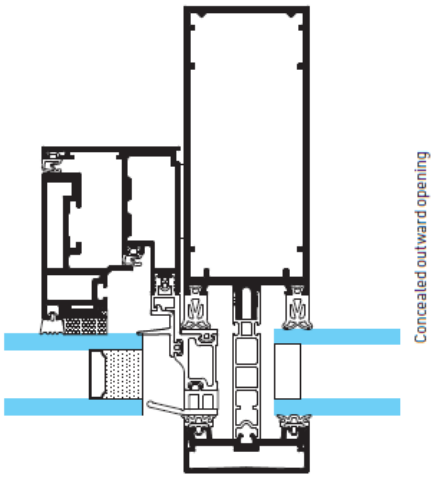
OUTWARD OPENING FAÇADE WINDOWS

Concealed windows specially designed for TENTAL facade allowing outward openings (top hung or parallel). Innovative solution of fixed frames with thermal adapter profiles, enabling 2 openings side by side or in alternation with a fix frame.

The concealed opening aspect is made by using SSG technique.

Integration is possible with feature caps, horizontal line, vertical line, flat cap and structural glazing exterior designs.

The openings can be manually operated or motorised depending on the project demands.



Concealed outward opening

Photographer: Hans Couckuyt

MORE COMFORT

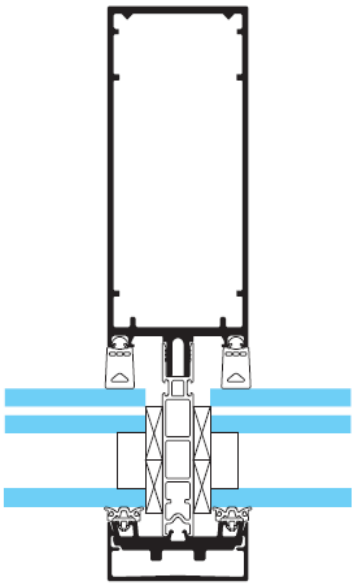
↗ TENTAL – THE CIRCULAR FACADE

TENTAL offers an elevated level of comfort:

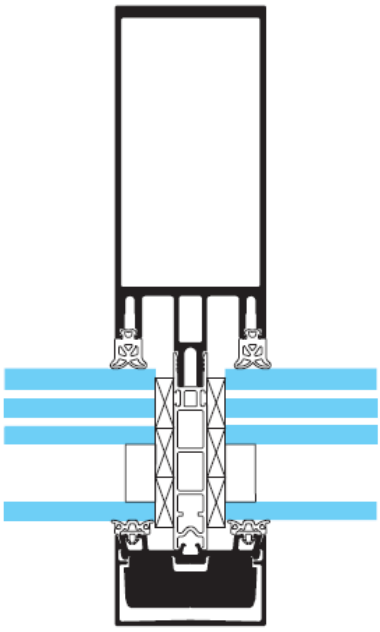
- Compatibility with full range of windows, doors and sliders
- Integration of solar control
- Complying to the highest international standards
- Tested burglary resistance

Facade TENTAL grid aspect is burglary resistant according to the EN 1628 -2011,EN1629 - 2011 and EN 1630 -2011 standards.
Ideal for car dealerships, banks, jewellers, luxury brands, police stations, etc.

- Resistance class level 2 with glazing P4A
- Resistance class level 3 with glazing P5A



Resistance class level 2



Resistance class level 3

A SOLUTION TO MEET YOUR NEEDS

TECHNAL has developed fixing brackets which are positioned on the mullion of TENTAL curtain walling and allow for the integration of sun shading blades or a stretched canvas solution whilst maintaining the overall performance - a perfect combination of aesthetics and efficiency. This range enables you to personalise the design and to optimise comfort with a wide choice of solutions: vertical or horizontal sun blinds, fixed or motorised with many possibilities.

SUN SHADING: DESIGN AND PROTECTION

The SUNEAL sun shading can be integrated with all aspects of TENTAL curtain walling: grid or vertical trames as well as independent structure. This SUNEAL sun shading allows you to customise the design and optimise comfort with a wide choice of solutions: vertical or horizontal, fixed or moveable, manual or motorised sun shading. From 100 mm to 300 mm fixed blades are adaptable and the multitude of available shapes (ogive, rectangular, louvre or perforated sheets) increase the wall cladding options. Interior comfort is optimised and you can enjoy warmth from the sun in the winter and solar protection in the summer, as well as energy savings by adjusting the amount of natural light entering the rooms.

Photographer: Hans Couckuyt

LESS IMPACT

↗ IMAGINE BEYOND LIMITS

The building and construction sector represents 39% of global energy-related carbon emissions.

The carbon footprint of a building is made of two stages:
USE: "operational" emissions caused by heating, cooling... and
CONSTRUCTION: "upfront" emissions caused by materials extraction and production, delivery, waste management...

We go beyond materials to provide you with high-performance and circular products which contributes to reducing the carbon emissions caused in the **use** phase.

At the same time we go beyond products to focus on upfront emissions, to contribute to the reduction of carbon emissions during both the **production and construction** phase.

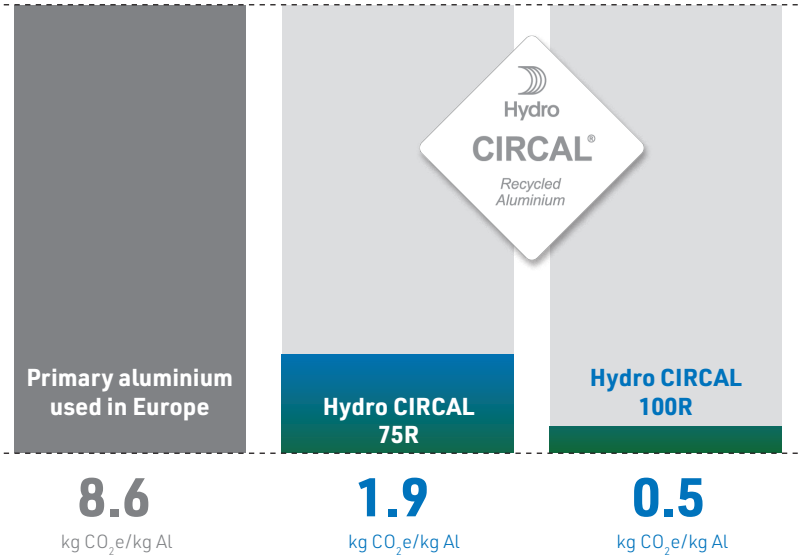
COMMITMENT AND SUSTAINABILITY

↗ DRIVING DECARBONISATION PATHWAY

TECHNAL 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). Hydro CIRCAL® also has **one of the smallest CO_2 footprint worldwide: 1.9 kg CO_2 per kg of aluminium** – 85% of reduction vs the world global primary average.



OUR CERTIFICATIONS

Tental 60 has been certified Cradle to Cradle silver.

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

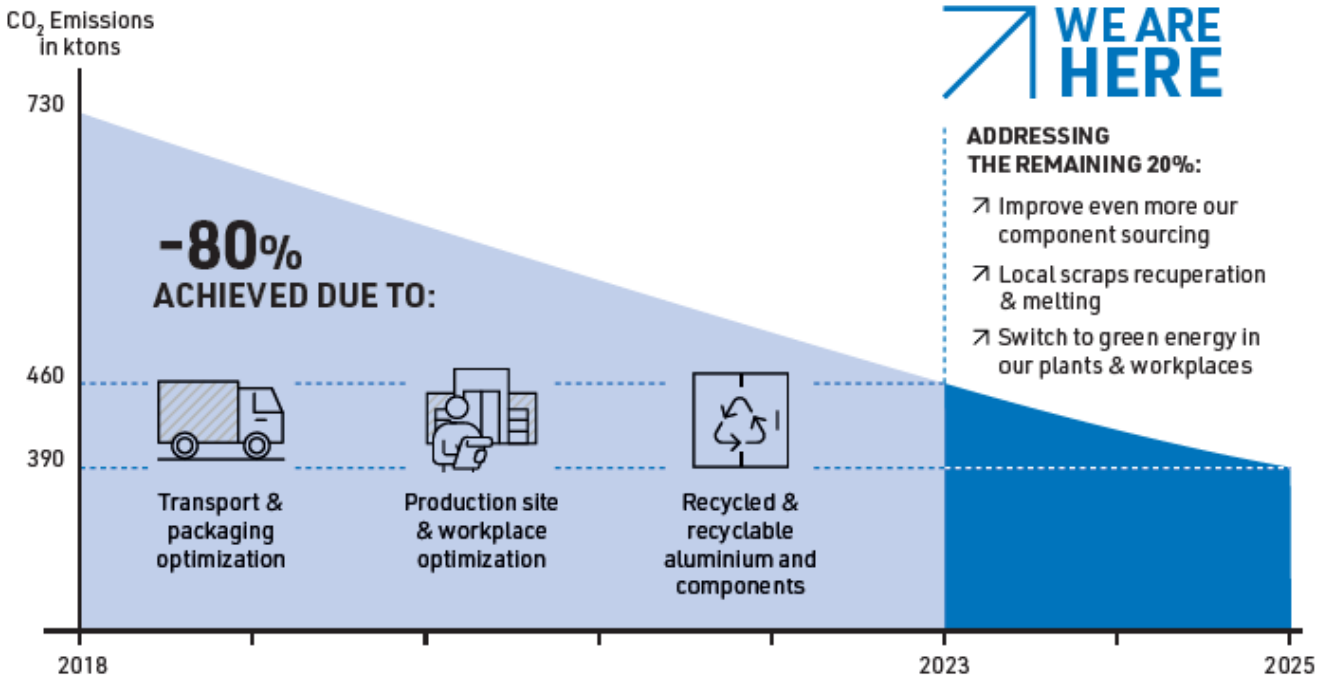
Thanks to TechDesign, it's possible to generate a dynamic EPD according specified dimensions, applications any type of glazing.

75% RECYCLED ET 95% RECYCLABLE CONTENT

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.

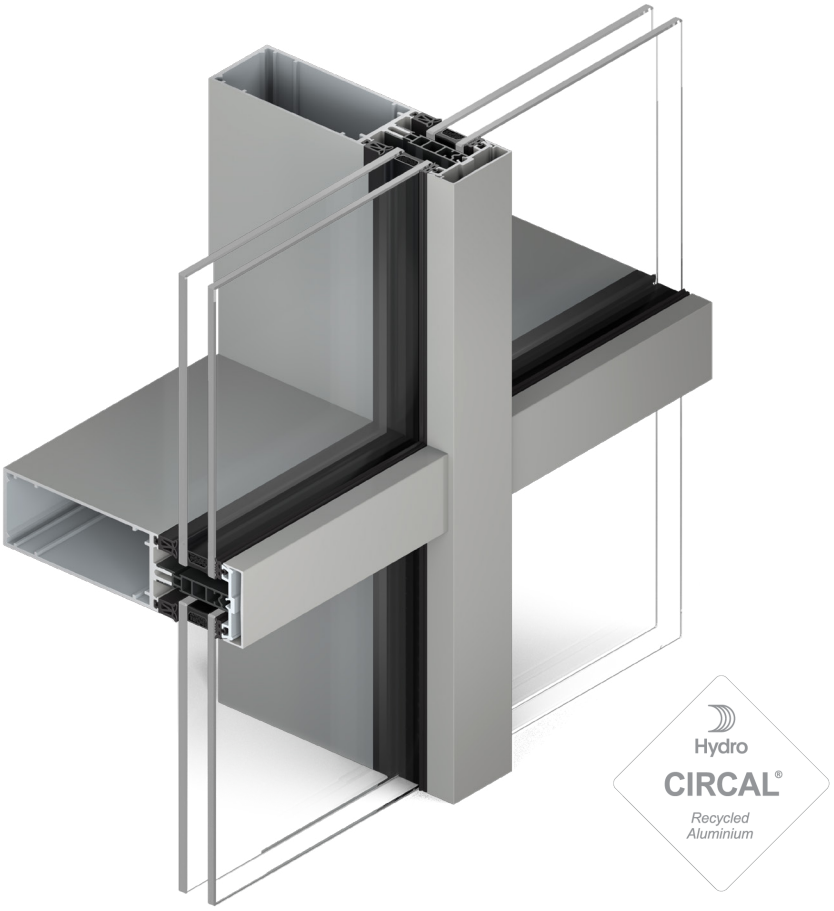
In rough figures, we're talking about **75% recycled content and 95% recyclable content**. It's an efficient way to drastically reduce the impact of materials on the life cycle of a building. Finally, our greener approach goes a step further thanks to recycled thermal strips for 75 mm modules.

TARGET 2025 VS 2018: CO_2 COMPANY EMISSIONS DIVIDED BY 2



FEATURE CAPS

↗ TENTAL – THE CIRCULAR FACADE



↗ ENHANCED THERMAL AND ACOUSTIC PERFORMANCE

Enhanced thermal performance is reached by means of xPET insulators.

Enhanced acoustic and thermal performances with glazing up to 62 mm.

↗ DRY GLAZING

Patented dry connection of the internal glazing gaskets

Patented dry transom/transom connection

↗ DESIGN

Choice of aluminium caps to highlight the external design of the facade.

↗ FLAT OR FACETED FACADES

Glazing available from 6 mm to 62 mm for flat or faceted curtain wall up to +/- 10°.

↗ COMMON STRUCTURE FOR 50 AND 60 MODULE PROFILES

Range of profile depths to meet the needs of each project.

↗ CHOICE OF GASKETS

Available as large vulcanised frames or linear pieces depending on project requirements.

↗ CONCEALED OPENING WINDOWS

The projecting top-hung, parallel, tilt-turn or emergency access opening vents provide natural ventilation whilst maintaining the aesthetic lines whatever the appearance of the external facade.

↗ OPTIMISED DISTRIBUTION OF LOADS

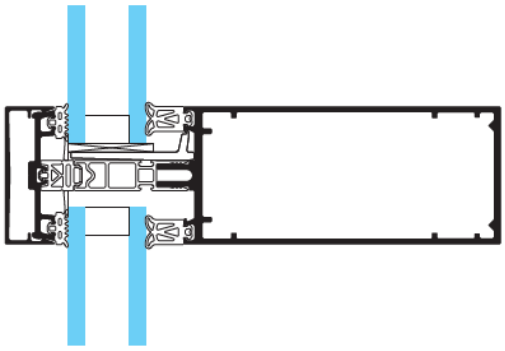
To prevent unacceptable deflection of the transoms and to allow the use of heavy and large glazing infills (up to 850 kg), a connector, an anti-rotation spigot and heavy load pins are used.

↗ INFILLS

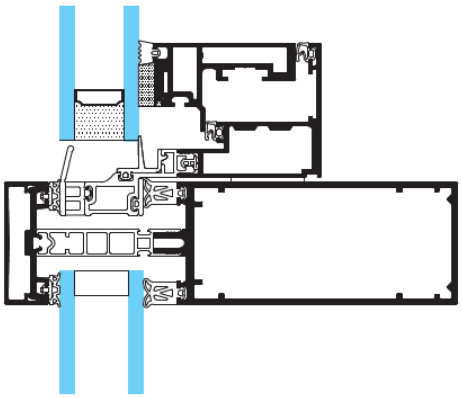
The infills are held in place with a continuous aluminium pressure plate or a specific punctual polyamide pressure plate for 50 mm.

PERFORMANCE

- Advanced thermal performance. The thermal insulation of the standard TENTAL feature capped solution is obtained via an ABS thermal insulator between the pressure plates and the mullion and transom structure. This principle ensures optimal thermal performance and meets or exceeds building regulations' requirements. Optional xPET insulators can be applied to reach the highest thermal performances.
- Thermal insulation with glazing U_g = 1.1 W/m²K, TENTAL 50
  - Fixed curtain wall (transom-transom) with 80% glazing (24 mm insulating panel, U_p = 1.2 W/m²K) U_{cw} = 1.4 W/m²K.
  - Fixed curtain wall (mullion-transom) with 50% glazing (80 mm insulating panel, U_p = 0.37) U_{cw} = 1.0 W/m²K.
- Air, water and wind resistance in accordance with European standards.



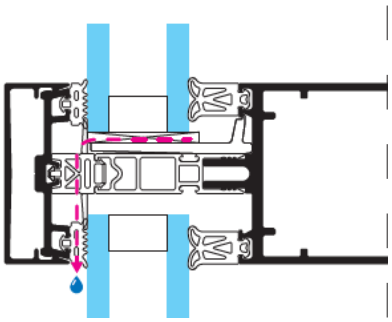
Concealed drainage (for 50 mm)



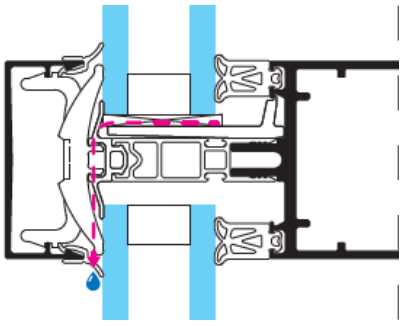
Concealed outward opening (for 50 mm and 60 mm)

CONSTRUCTION

- Simplified manufacturing. The mullions and transoms are optionally straight cut and assembled using a combination of cast spigots face fixed and concealed anti-rotation spigots for ease of manufacture.
- Faceted facades. For facets up to ±10°, standard connectors may be used.
- Special option. The transom assembly block options offers an alternative to anti-rotation spigots in order to meet requirements of design or the project in general.



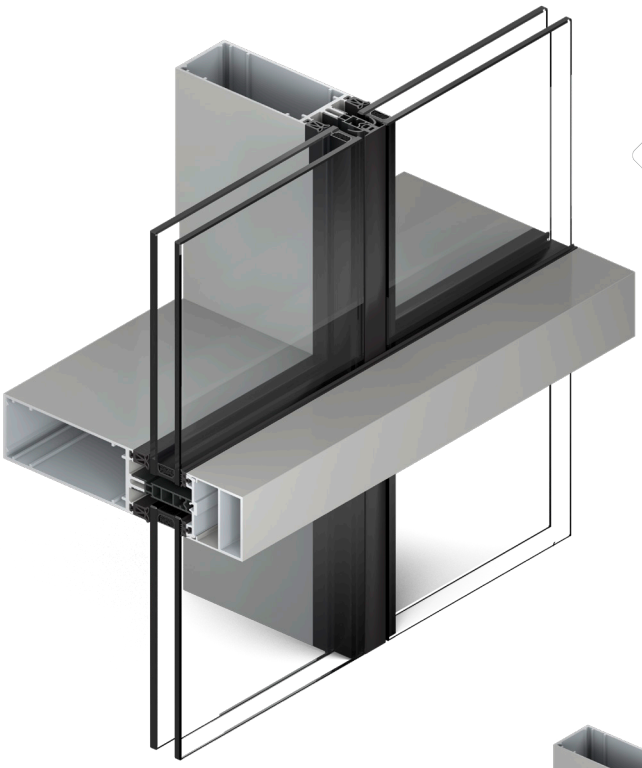
Optional concealed pane drainage (for 50 mm)



Optional punctual pressure plate (for 50 mm) with pre-inserted gaskets

HORIZONTAL LINE - VERTICAL LINE

↗ TENTAL – THE CIRCULAR FACADE



↗ FLAT OR FACETED FACADES

Glazing available from 6 mm to 62 mm for flat or faceted curtain wall up to +/- 10°.

↗ DESIGN

Choice of aluminium caps to highlight the external design of the facade.

↗ INFILLS

The infills are held in place with a continuous aluminium pressure plate or a specific punctual polyamide pressure plate for 50 mm

↗ COMMON STRUCTURE FOR 50 AND 60 MODULE PROFILES

Range of profile depths to meet the needs of each project.

↗ CHOICE OF GASKETS

Available as large vulcanised frames or linear pieces depending on project requirements.

↗ OPTIMISED DISTRIBUTION OF LOADS

To prevent unacceptable deflection of the transoms and to allow the use of heavy and large glazing infills (up to 850 kg), a connector, an anti-rotation spigot and heavy load pins are used.

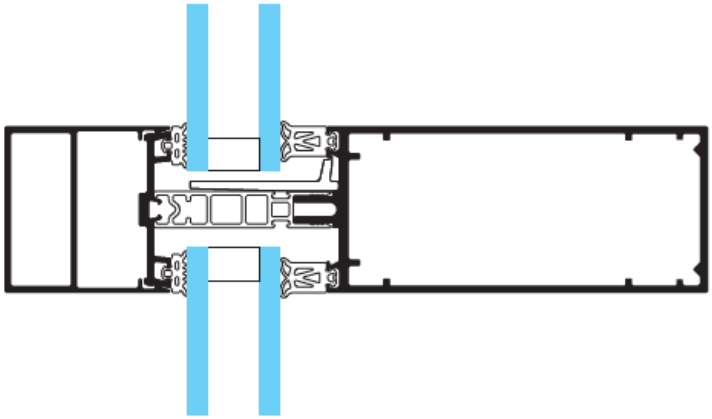
↗ CONCEALED OPENING WINDOWS

The projecting top-hung, parallel, tilt-turn or emergency access opening vents provide natural ventilation whilst maintaining the aesthetic lines whatever the appearance of the external facade.

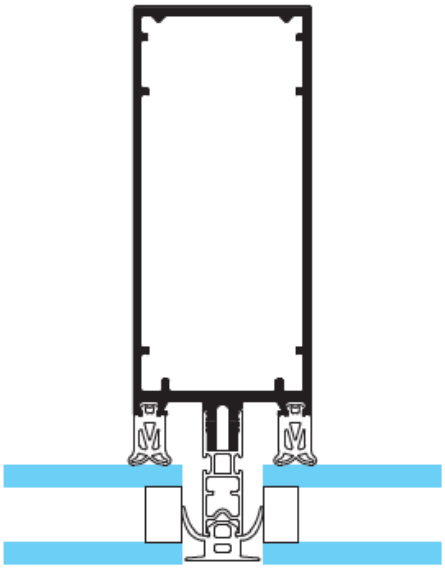
↗ ENHANCED THERMAL AND ACOUSTIC PERFORMANCE

Enhanced thermal performance is reached by means of xPET insulators on the horizontal or vertical line.

Enhanced acoustic and thermal performances with glazing up to 62 mm.



Horizontal line (for 50 mm and 60 mm)

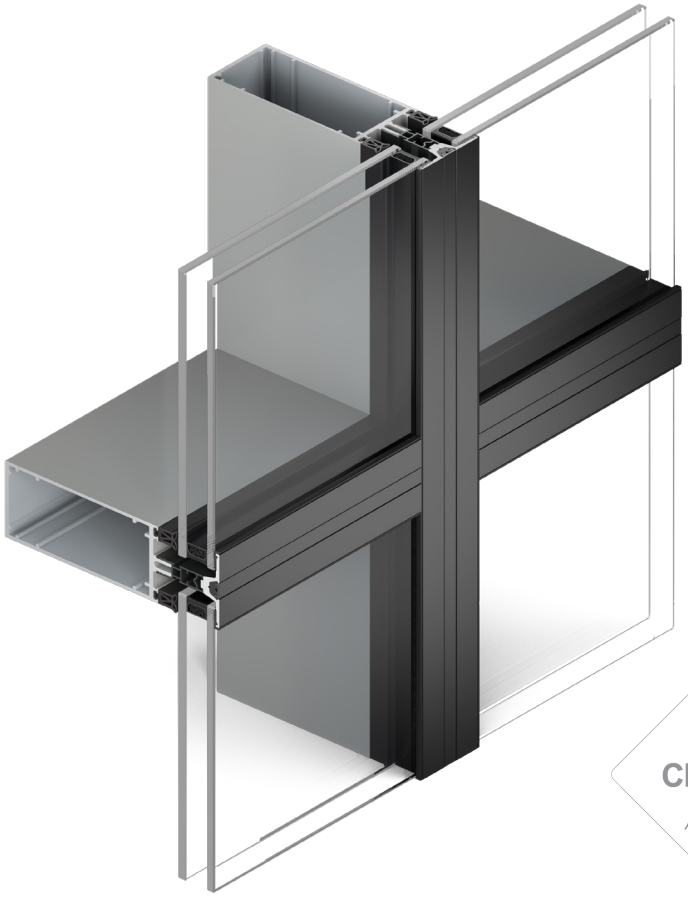


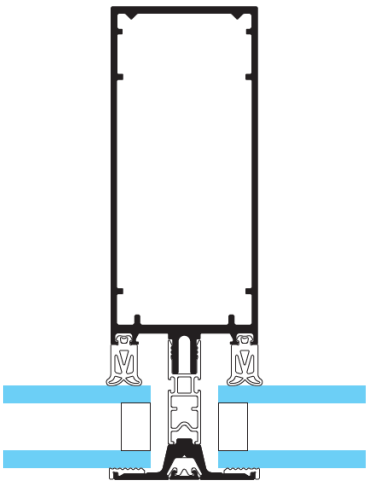
Vertical line (for 50 mm and 60 mm)

Architect: Valenti Alvarez Planas
Photographer: Simón Garcia

FLAT CAP

↗ TENTAL – THE CIRCULAR FACADE





FEATURES

- For 50 mm and 60 mm module
- Black anodized flat pressure plate of 4.5 mm depth
- Infill up to 62 mm
- Maximum weight: 850 kg by glazing panel
- Possibility to realize an all-glass facade with horizontal or vertical line

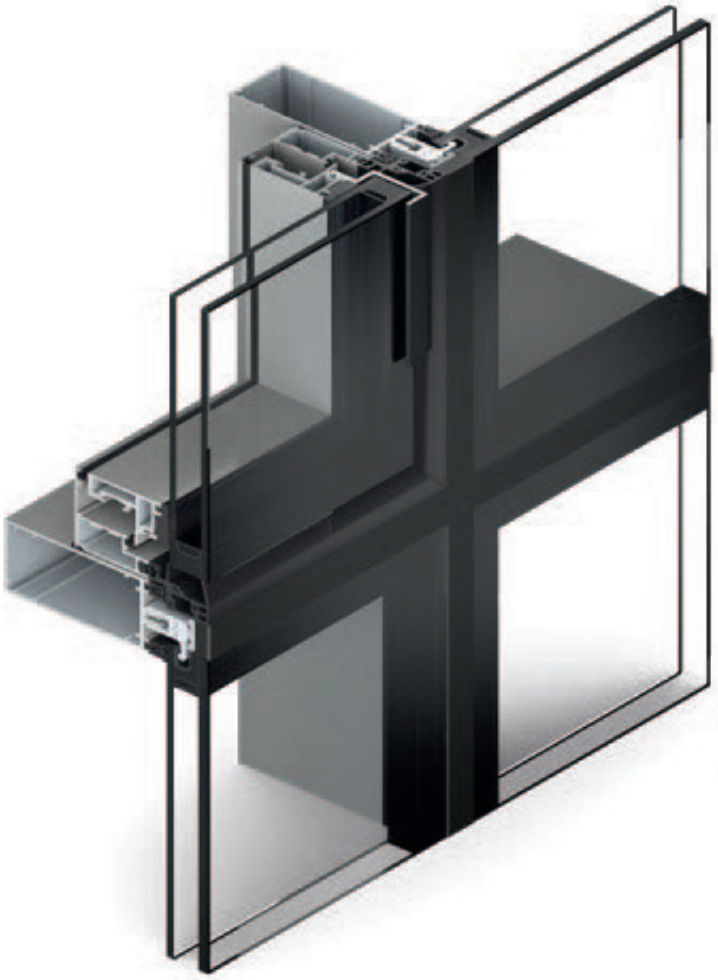
PERFORMANCES

- Advanced thermal performance. The thermal insulation of the standard TENTAL feature capped solution is obtained via an ABS thermal insulator between the pressure plates and the mullion and transom structure. This principle ensures optimal thermal performance and meets or exceeds building regulations' requirements. Optional xPET insulators can be applied to reach the highest thermal performances.
- Air, water and wind resistance in accordance with European standards.

Photographer: Hans Couckuyt

STRUCTURAL GLAZING

↗ TENTAL – THE CIRCULAR FACADE



↗ FLAT OR FACETED FACADES

Inward and outward angles of +/- 5°

↗ CONCEALED OPENING SG WINDOW

The projecting top-hung vents provide natural ventilation whilst maintaining the aesthetic lines whatever the appearance of the external facade.

- W 1,30 m x H 2,50 m
- Max weight 100 kg

↗ COMMON STRUCTURE FOR 50 AND 60 MODULE PROFILES

Range of profile depths to meet the needs of each project

↗ LESS VISIBLE ALUMINIUM

The TENTAL SG system fulfills the need for glazed facades boasting a seamless appearance without any externally noticeable aluminum.

The glazing units and panels are fixed to the supporting structure using concealed toggles that are rotated and tightened during the installation process.

↗ QUALITY ASSURANCE

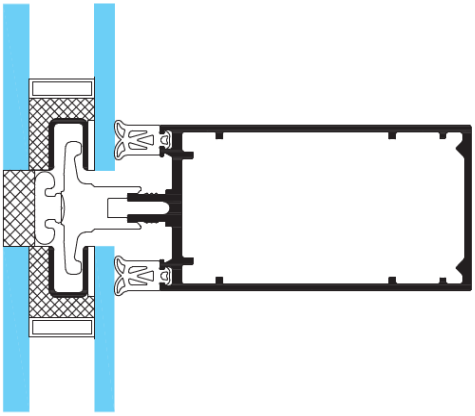
Glass spandrel panels are manufactured and bonded in the factory by certified companies in accordance with European standards.

Insulated glass units are manufactured in accordance with recommendations from approved structural silicone suppliers Dowsil, Sika and Tremo.

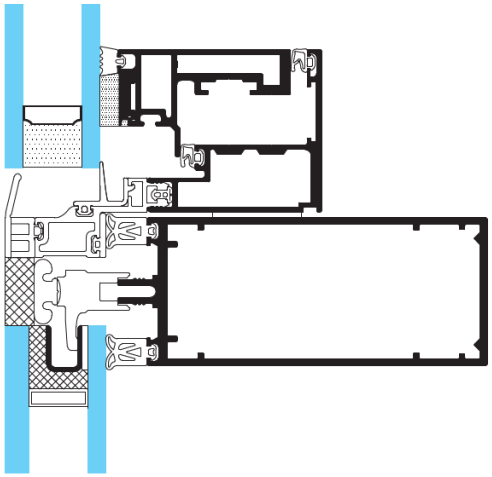
↗ GLAZING

34 mm to 68 mm insulated glass units with continuous aluminium channels inset into the perimeter edge seal to receive fixing toggles.

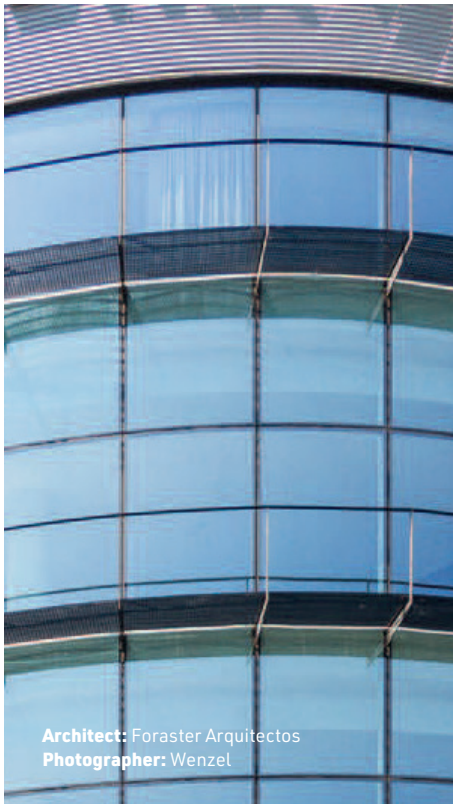
6 mm to 12 mm spandrel glazing bonded to dedicated panel profiles with integrates perimeter channels to receive fixing toggles.



Fixed Structural Silicone Glazing (SSG)



Concealed outward opening window



Architect: Foraster Arquitectos
Photographer: Wenzel

SLOPED GLAZING

↗ TENTAL – THE CIRCULAR FACADE

↗ COMMON STRUCTURE FOR 50 AND 60 MODULE PROFILES

Range of profile depths to meet the needs of each project, based on mullion-transom assembly.

↗ DESIGN

Choice of aluminium caps to highlight the external design of the facade.

Dedicated flat cap for use on transoms/purlins.

↗ SLOPED GLAZING

Glazing available from 6 mm to 62 mm for inclined facades down to 10° from horizontal.

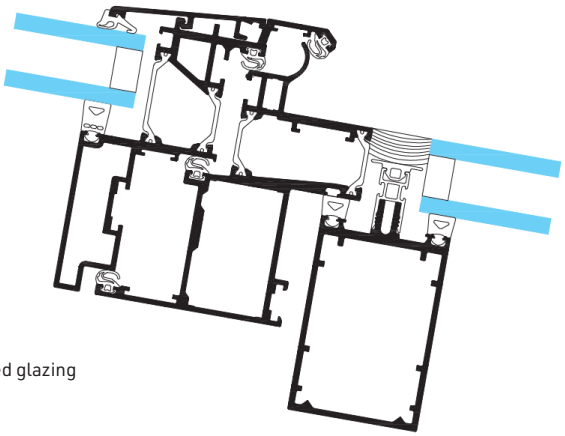
↗ ROOF WINDOWS

Top-hung opening vents can be used for natural ventilation or to meet the requirements of a natural smoke and heat exhaust ventilator (NSHEV).

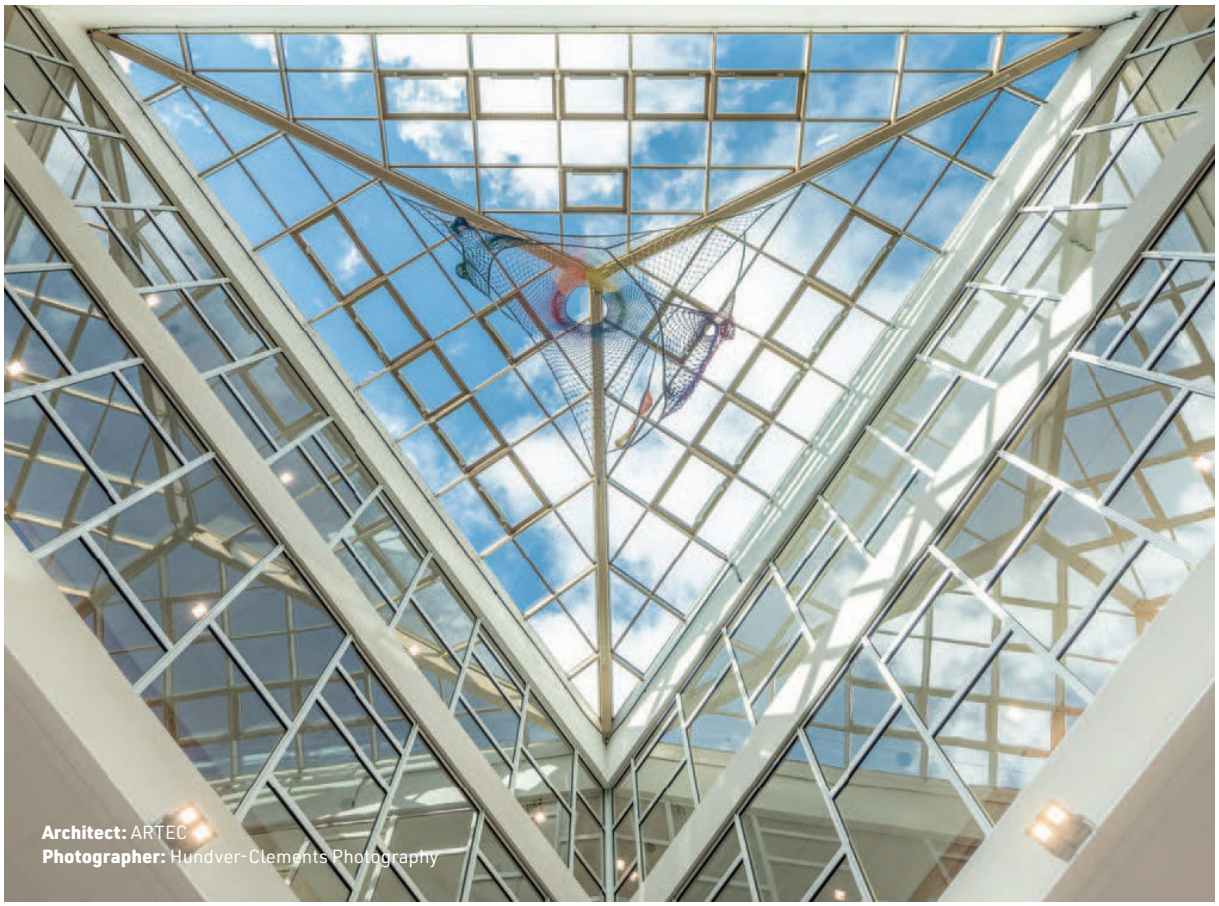
- W 2,50 m x H 1,20 m
- Max weight 200 kg

↗ INFILLS

The infills are held in place with a continuous aluminium pressure plate or punctual pressure parts in combination with vertical line applications using a horizontal silicone seal between infills.



Sloped glazing



Architect: ARTEC
Photographer: Hundver-Clements Photography

MORE FABRICATION OPTIONS

↗ TENTAL – THE CIRCULAR FACADE

ASSEMBLY

Transoms can be front assembled between pre-installed mullions and supported on the inside using anti-rotation spigots. Alternatively, transoms can be end assembled on to T-blocks pre-installed to the side of each mullions for a progressive installation.

Advanced thermal performance.
The thermal insulation of the standard TENTAL feature capped solution is obtained via an ABS thermal insulator between the pressure plates and the mullion and transom structure. Optional xPET insulators can be applied to reach the highest thermal performances.

GLAZING

Infills can be retained using continuous pressure plates fitted with an array of decorative feature caps.

Alternatively, the glazing infills can be retained using intermittent or punctual pressure plates molded from polyamide, but still fitted with the same array of decorative feature caps as the continuous pressure plate option.

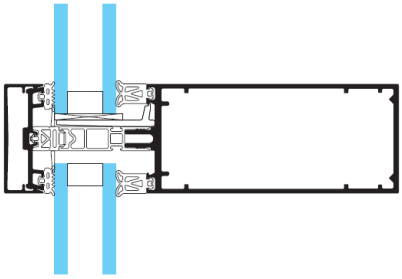
TENTAL 60 is an option that uses 60 mm module mullions and transoms to increase the dimensions of the glazing and thus maximizing natural light.

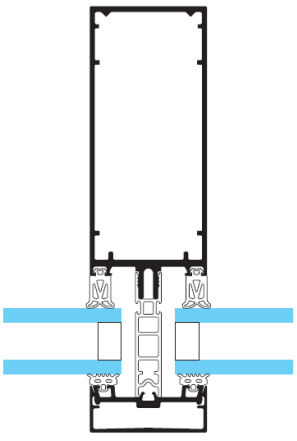
TRANSOM-TRANSOM

Simplified manufacturing. Straight cut profiles with transom connections using components that are installed and sealed in the workshop for a dry-assembly of the construction site.

Drainage. Field zone or pane drainage at each transom level. Drainage can be made in a conventional way, through the horizontal pressure plate and cover cap, or alternatively, through an optional centre seal and the external glazing gaskets which requires no aluminium machining.

Available in TENTAL 50.





TENTAL 50 Concealed drainage
Standard insulation level

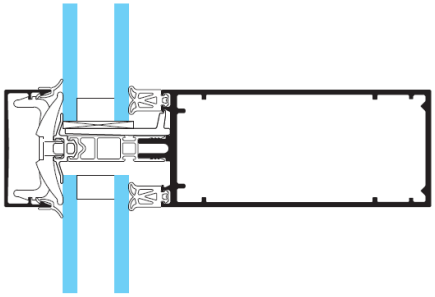
MULLION-TRANSOM

Simplified manufacturing. The transoms are notched and overlapped on to the mullions.
The transom connection can be further enhanced for heavy loads using integrated pins with a dedicated range of heavy-load transom profiles.

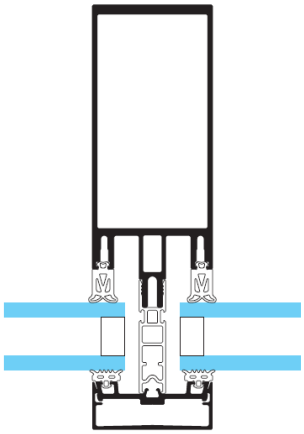
Faceted facades. For facets up to ±10°.

Drainage. Cascading drainage via the mullions, allowing water to be evacuated at the very bottom of the façade or at each floor level using drainage parts.

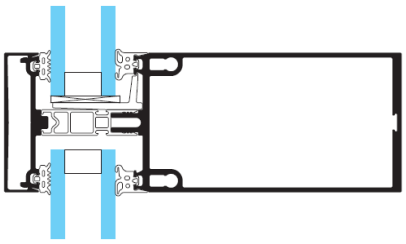
Available in TENTAL 50 and 60.



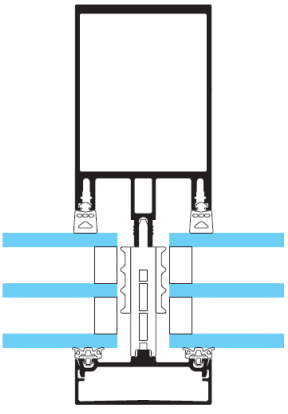
TENTAL 50 optional punctual pressure plate
Standard insulation level



TENTAL 50
Standard insulation level



TENTAL 60 Continuous pressure plate
Standard insulation level



TENTAL 60
High insulation level

Photographer: John Kees Photography

WEATHER AND RESISTANCE PERFORMANCES

↗ TENTAL – THE CIRCULAR FACADE

The curtain wall system has been tested in accordance with the requirements of the European standard EN 13830 and opening windows tested in accordance with the requirements of the European standard EN 114351. Further information is available upon request.

TENTAL 50 | WEATHER PERFORMANCES (A.E.V.)					
	Air permeability		Water tightness		Resistance to wind pressure
	Tran.-Tran.	Mul.-Tran.	Tran.-Tran.	Mul.-Tran.	
Feature caps	up to AE 1500 Pa	AE 1500 Pa	RE 1200 Pa	up to RE 1500 Pa	Service 2000 Pa Security 3000 Pa
Horizontal and vertical line Flat cap	AE 1200 Pa	AE 1200 Pa	RE 1200 Pa	RE 1500 Pa	Service 2000 Pa Security 3000 Pa
SG	AE 1200 Pa	AE 750 Pa	RE 1200 Pa	RE 900 Pa	Service 2400 Pa Security 3600 Pa

TENTAL 60 | WEATHER PERFORMANCES (A.E.V.)			
	Air permeability	Water tightness	Resistance to wind pressure
Feature caps /Flat caps Horizontal / vertical line	AE 1200 Pa	RE 1500 Pa	Service 2000 Pa Security 3000 Pa
SG	**AE 750 Pa**	**RE 900 Pa**	**Service 2400 Pa Security 3600 Pa**

TENTAL WINDOWS | WEATHER PERFORMANCES (A.E.V.)			
	Air permeability	Water tightness	Resistance to wind pressure
SG window top hung open-out	Class 4	RE 1500 Pa	Class C5

TENTAL 50 & TENTAL 60 | RESISTANCE PERFORMANCES			
	Burglary resistance		Impact resistance
	Transom-Transom	Mullion-Transom	
TENTAL 50	RC1N, RC2N, RC2, RC3	RC1N, RC2N, RC2, RC3	I5 / E5
TENTAL 60	-	RC1N, RC2N, RC2, RC3	I5 / E5

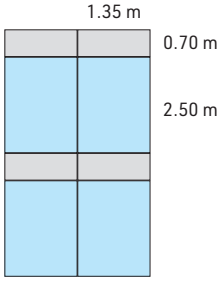
THERMAL PERFORMANCES

↗ TENTAL – THE CIRCULAR FACADE

The precise performance depends on a combination of the size of the frames, the thickness of the glass, the type of infill and the options chosen. The values below are provided for indicative purposes only. Further information is available upon request.

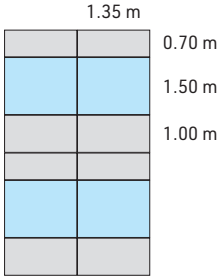
TENTAL - U_f (W/m²K)				
U_f (W/m²K)	Transom-Transom		Mullion-Transom	
	Standard insulation	High insulation	Standard insulation	High insulation
TENTAL 50 Feature caps	1.20 - 1.79	0.55 - 1.01	1.15 - 2.02	0.53 - 1.18
TENTAL 60	-	-	1.09 - 2.05	0.52 - 1.42
TENTAL 60 BG fixed frames	-	-	2.99 - 3.22	-

TENTAL - U_{cw} (W/m²K)										
U_g (W/m²K)	Triple glazing (36 mm)				Double glazing (24 mm)					
	0.5 + Swisspacer Ultimate	0.5	0.7	0.9	1.0 + Swisspacer Ultimate	1.1	1.3	1.5	1.7	1.9
TENTAL 50										
Feature caps transom/transom	0.73	0.86	1.0	1.1	1.2	1.4	1.5	1.7	1.8	2.0
Features caps mullion/transom	0.73	0.88	1.0	1.2	1.2	1.4	1.6	1.7	1.9	2.0
TENTAL 60										
Feature caps mullion/transom	0.74	0.87	1.0	1.2	1.2	1.4	1.6	1.7	1.8	2.0



Each section (100% glazed looking from inside to outside):
glazed section + opaque spandrel panel + 2 frames per level.
W 1.35 m x H (0.7 m spandrel + 2.5 m glazing)
24 mm spandrel in combination with double glazing: Up 1.2 W/m²K
36 mm spandrel in combination with triple glazing: Up 0.79 W/m²K

TENTAL - U_{cw} (W/m²K)										
U_g (W/m²K)	Triple glazing (36 mm)				Double glazing (24 mm)					
	0.5 + Swisspacer Ultimate	0.5	0.7	0.9	1.0 + Swisspacer Ultimate	1.1	1.3	1.5	1.7	1.9
TENTAL 50										
Feature caps transom/transom	0.87	1.0	1.1	1.1	1.3	1.5	1.5	1.6	1.7	1.8
Feature cap mullion/transom	0.88	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.7	1.8
TENTAL 60										
Feature caps mullion/transom	0.85	0.95	1.0	1.1	1.4	1.5	1.6	1.7	1.7	1.8



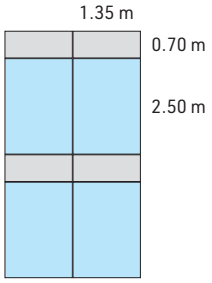
Each section (60% glazed looking from inside to outside):
glazed section + 2 opaque spandrel panels + 3 frames per level.
W 1.35 m x H (0.7 m spandrel + 1.5 m glazing + 1 m spandrel)
24 mm spandrel in combination with double glazing: Up 1.2 W/m²K
36 mm spandrel in combination with triple glazing: Up 0.79 W/m²K

SUSTAINABLE PERFORMANCES

↗ TENTAL – THE CIRCULAR FACADE

Thanks to the property of our recycled aluminium, we are able to reduce the CO_2 footprint on stage A1 to A3 (raw material supply, transport and manufacturing). Glazing is included in the calculation.

CO_2 FOOTPRINT - GLOBAL WARMING POTENTIAL			
Application	Global warming potential (kg CO_2 eq./m^2)	Surface (m^2)	Transparent area (m^2)
TENTAL 50			
TENTAL 50 double glazing	44,2	17,74	16,12
TENTAL 50 triple glazing	57,9	17,74	16,12
TENTAL 60			
TENTAL 60 double glazing	46,9	17,74	16,12
TENTAL 60 triple glazing	59,8	17,74	16,12



ACOUSTIC PERFORMANCES

↗ TENTAL – THE CIRCULAR FACADE

The precise performance depends on a combination of the size of the frames, the thickness of the glass, the type of infill and the options chosen. The values below are provided for indicative purposes only. Further information is available upon request.

TENTAL - ACOUSTIC PERFORMANCES			
Application	Dimensions L x H (mm)	Glazing composition	Attenuation (dB) Rw (C, Ctr)
TENTAL 50 - Capped with standard insulation	1850 x 2180 (2-panes)	88.2 Silence/20/66.2 Silence	46 (-1, -4)
TENTAL 50 - Horizontal line	3640 x 2170 (4-panes)	88.2 Silence/20/66.2 Silence	44 (-1, -3)
TENTAL 50 - Flat cap with high insulation	3640 x 2170 (4-panes)	88.2 Silence/20/66.2 Silence	43 (-1, -3)
TENTAL 60 - Capped with standard insulation	3650 x 2180 (4-panes)	88.2 Silence/20/66.2 Silence	45 (-1, -4)
TENTAL 60 - Horizontal line	3650 x 2180 (4-panes)	88.2 Silence/20/66.2 Silence	44 (-1, -3)
TENTAL 60 - Flat cap with high insulation	3650 x 2180 (4-panes)	88.2 Silence/20/66.2 Silence	47 (-1, -5)
TENTAL 50TT - Capped with standard insulation	1850 x 2180 (2-panes)	88.2 Silence/20/66.2 Silence	45 (-1, -3)
TENTAL 50TT - Capped with standard insulation	1850 x 2180 (2-panes)	44.2/16/8	35 (-1, -4)

Architect: Peter Hunt
Photographer: Scott Shirley

TECHNAL®

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TECHNAL Tental Facade - August 2024