

TENTAL

THE CIRCULAR FACADE



TECHNAL®

By  Hydro



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 m², 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 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 is under certification to obtain Cradle to Cradle label. The specific characteristics contributes to constructing sustainable buildings that are eligible to be awarded to the main environmental certifications.

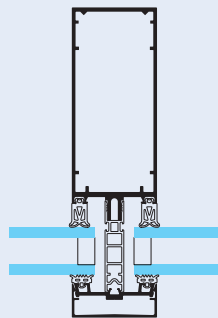
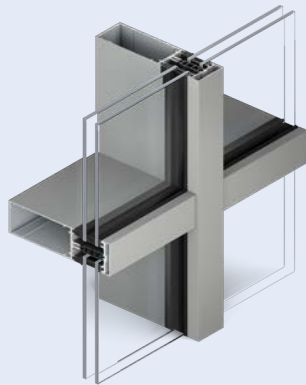
The TENTAL curtain wall is the perfect solution for current needs in terms of design and sustainability in the building industry.

TENTAL

/ THE WIDEST POSSIBLE RANGE OF FACADE SOLUTIONS

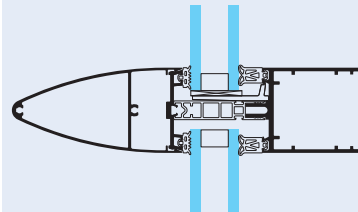
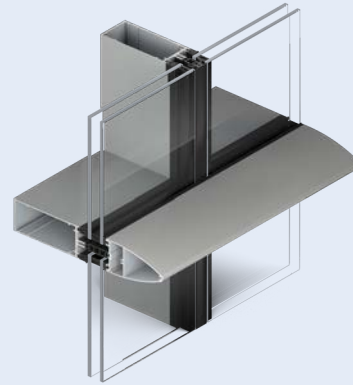
TENTAL FEATURE CAPS

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



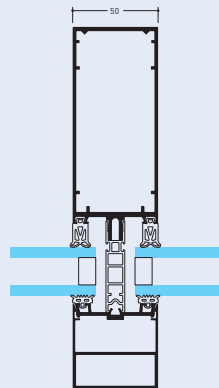
TENTAL HORIZONTAL LINE

- Sightline: 50 or 60 mm
- Infill: 6 to 62 mm
- Standard insulation level
- Mullion drainage



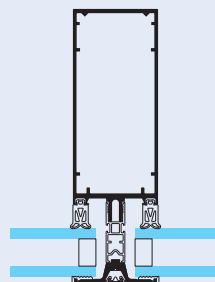
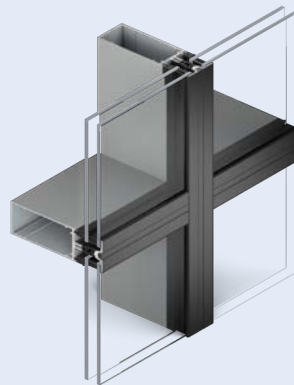
TENTAL VERTICAL LINE

- Sightline: 50 or 60 mm
- Infill: from 6 to 62 mm
- Standard insulation level
- Mullion drainage
- Facet solution up to +/- 10°



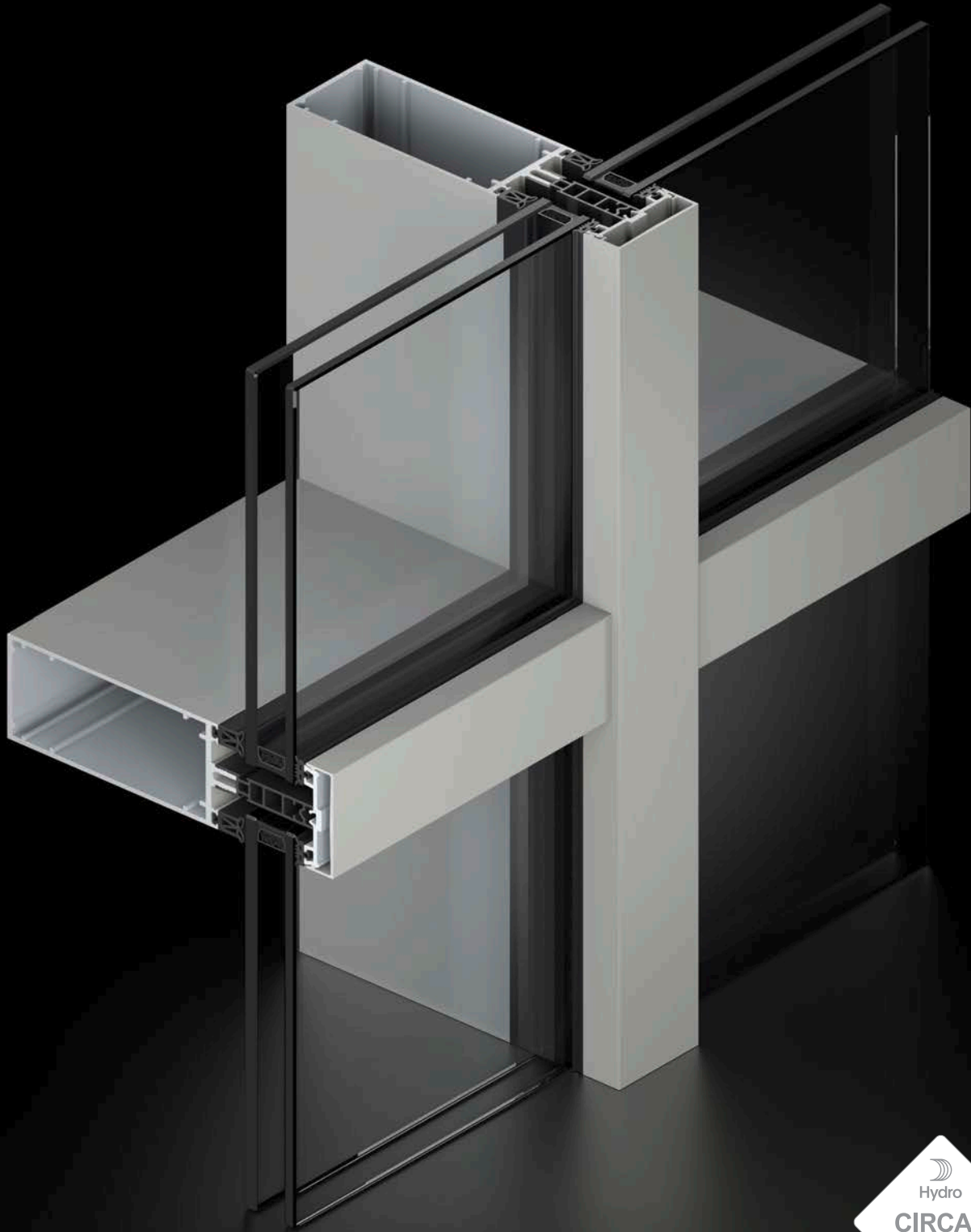
TENTAL FLAT CAP

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



TENTAL

/ MORE POSSIBILITIES. LESS IMPACT.



TENTAL

/ KEY FEATURES & INNOVATIONS

AESTHETICS AND MODULARITY

- Available in 50 and 60 mm module
- Multiple exterior aspects:
 - Feature cap aspect
 - Horizontal line aspect
 - Vertical line aspect
 - Flat cap aspect
 - Structural silicone glazed aspect
 - Bead glazed aspect
- Collection of caps that mark the identity of each facade
- A full pallet of exclusive colours
- Facet solution up to +/- 10°
- 90° corner post

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 12,25 m²
- Maximum infill weight: up to 850 kg according to EN 13830,
- Maximum glazing thickness 62 mm

PERFORMANCES

(according to EN and CWCT*)

- Air permeability: up to AE 1500 Pa
- Water tightness: up to RE 1500 Pa
- Wind pressure resistance:
 - Service pressure: up to 2000 Pa
 - Security pressure: up to 3000 Pa
- Burglar resistance: RC2 and RC3
- Impact resistance: up to I5/E5
- Thermal performance:
 - U_i : up to 0.52 W/m²K
 - U_{cw} : up to 1.4 W/m²K (with U_g 1.1 W/m²K)
- Acoustic performance:
 $R_w [C;C_{tr}] = 43 [-1 ; -3]$ dB

INSTALLATION AND ASSEMBLY

- 3 glazing installation techniques:
 - Continuous pressure plate
 - Punctual pressure plate
 - Structural glazing
- Patented dry connection method

SOFTWARE

- Available in TechDesign and Tech3D.
- Available BIM models

SUSTAINABLE CIRCULAR FACADE

- Designed for assembly and disassembly
- Components are made of recycled material
- Cradle to Cradle® certified
- Available in Hydro CIRCAL®, aluminium made with a minimum of 75% recycled end-of-life aluminium. This aluminium has one of the lowest CO₂ footprints worldwide: 2.3 kg of CO₂/kg aluminium.

* Available later in 2022.

TENTAL

/ MORE INNOVATION

ASSEMBLY

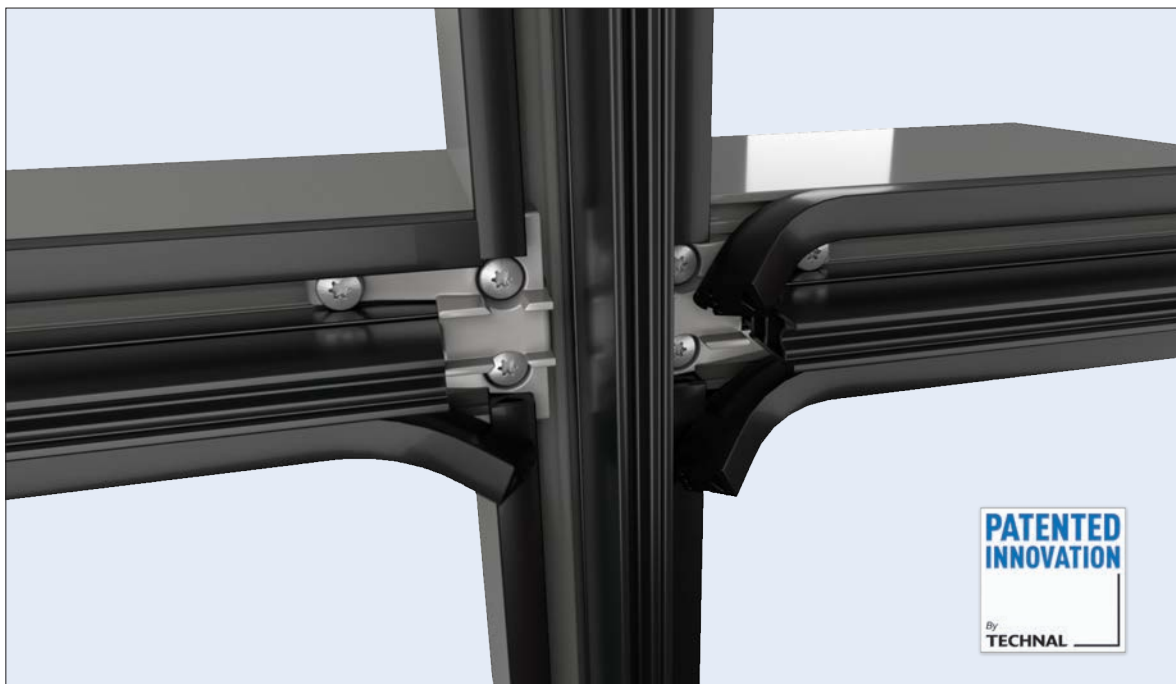
- Simple and quick to manufacture:
 - Patented dry connection of the internal glazing gaskets
 - Patented dry transom/transom connection
- Developed for an improved and reliable assembly in a controlled workshop environment.

CIRCULARITY

- The high thermal insulators are made of recycled drinks bottles
- 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 13830) 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

TENTAL

/ MORE DESIGN

COLLECTION OF CAPS

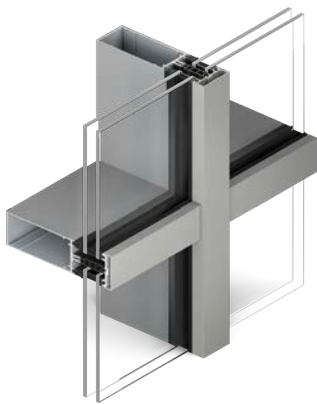
TECHNAL offers a complete collection of caps that marks the identity of each facade. A flat and discrete design (height 4.5 mm) for providing a crystal-clear envelope, an "Aero", "H" shape or "U" shape for accentuating lines. These shapes can also be combined for reinforcing the original character of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

90° ANGLE, THIN ALUMINIUM VIEW

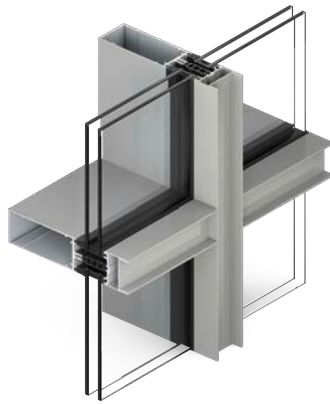
With corner post implementation it allows to make 90° angles with less aluminium seen from inside.

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

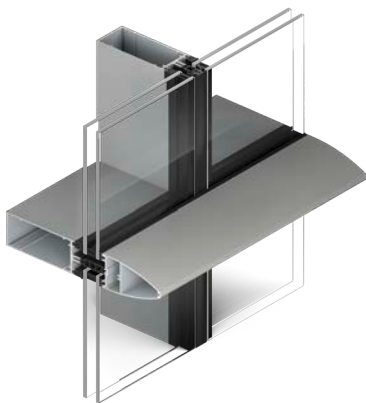
TENTAL also enables 90° convex angles to be created with edge-to-edge glazing.



U cap



H cap



Horizontal line with aero cap



Vertical line with U cap



Flat cap

TENTAL

/ MORE POSSIBILITIES

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 m² 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 faceted +/- 10°



TENTAL

/ OPENING INTEGRATIONS

INWARD AND OUTWARD OPENING WINDOWS

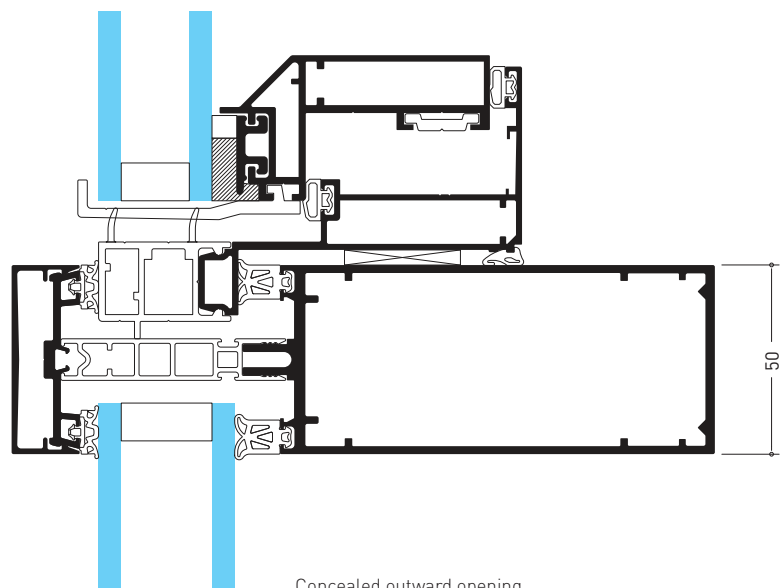
Concealed windows specially designed for TENTAL facade allowing inward openings (side hung, tilt and turn or turn and tilt) or outward openings (top hung or parallel). Innovative solution of fixed frames with thermal barrier created, enabling 2 openings side by side or in alternation with a fix frame.

The concealed opening aspect is made by using SSG technique.

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



Photographer: Hans Couckuyt



TENTAL

/ MORE COMFORT

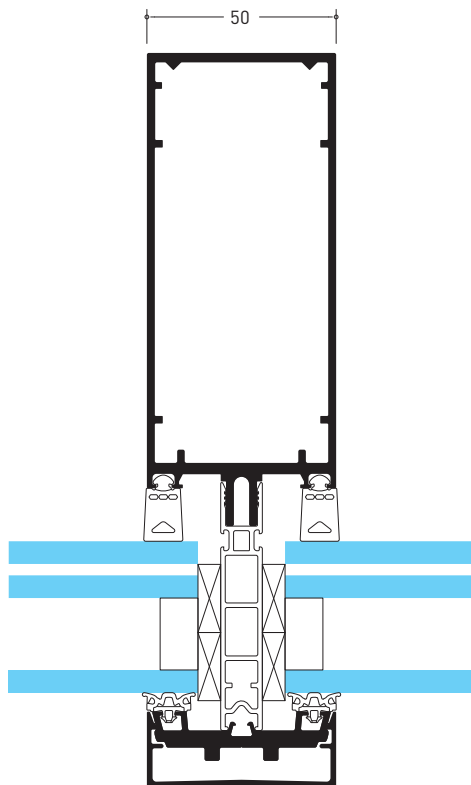
TENTAL offers an elevated level of comfort:

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

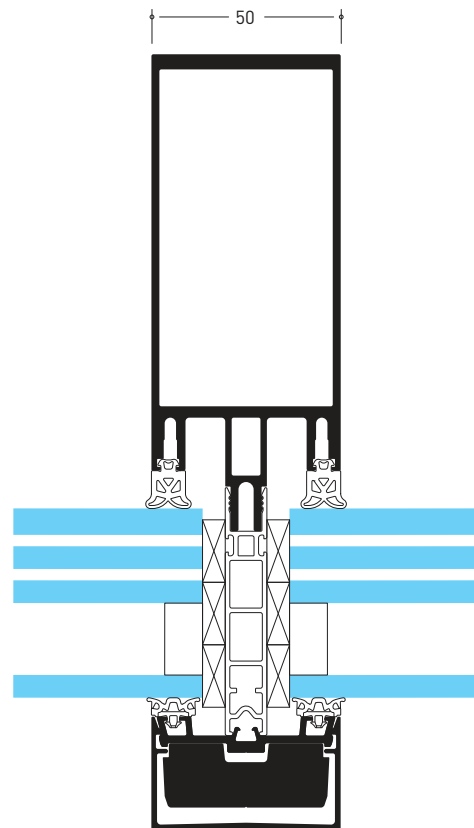
Facade TENTAL grid aspect is burglary resistant according to the EN 1628 -2011, EN1629 - 2011 and EN 1630 -2011 standards.

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

TENTAL

/ MORE COMFORT

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 frames 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.

100 mm and 150 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.



An aerial photograph of a waterfall cascading over dark, wet rocks in a dense forest. The water is white and frothy as it falls. The surrounding vegetation is lush and green, with some trees showing early autumn colors of yellow and orange. The overall scene is natural and serene.

TENTAL

/ LESS IMPACT

Producing aluminum has an impact on the environment: locally where we operate, and on the global climate due to greenhouse gas emissions. The main inputs related to our production, are bauxite, energy, water. As the leading fully integrated aluminum company, we are responsible for operating in an environmentally conscious way.

By continuously improving the way we produce our aluminum building systems, we strive to minimize the impact our activities have on the environment, especially in biodiversity, water stewardship and climate change.

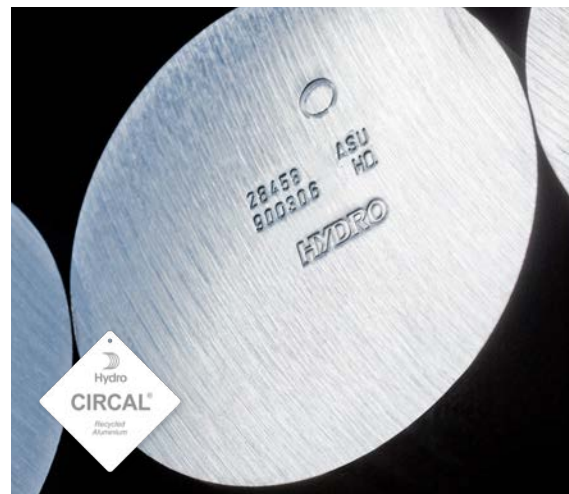


COMMITMENT & SUSTAINABILITY

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). 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: 2.3 kg CO₂ per kilo of aluminium – 4.5 times less than the world global primary average.



HYDRO REDUXA®

Hydro REDUXA® is a low-carbon aluminium, which is made by using renewable energy sources like hydro power. The result is aluminium with a maximum carbon footprint of 4.0 kg CO₂ per kg aluminium, which is one of the world's lowest carbon footprint. Hydro REDUXA® is verified by an independent third party (DNV-GL), covering all carbon emissions from bauxite mining and alumina refining to the production of aluminium in electrolysis and casting. It is also confirmed by an EPD (Environmental Product Declaration).





CRADLE TO CRADLE (C2C) CERTIFICATIONS

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.



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).



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.







TENTAL

/ FEATURE CAPS



FLAT OR FACETED FACADES

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

OPTIMISED DISTRIBUTION OF LOADS

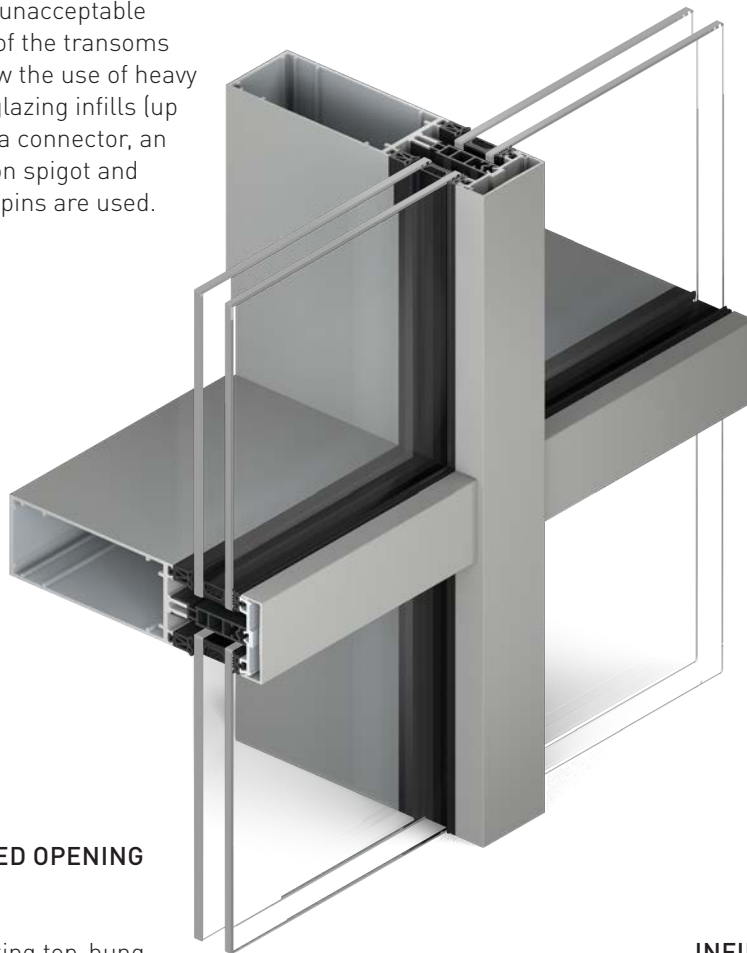
To prevent unacceptable deflection of the transoms and to allow the use of heavy and large glazing infills (up to 850 kg), a connector, an anti-rotation spigot and heavy load pins are used.

COMMON STRUCTURE FOR 50 AND 60 MODULE PROFILES

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

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.

CONCEALED OPENING WINDOWS

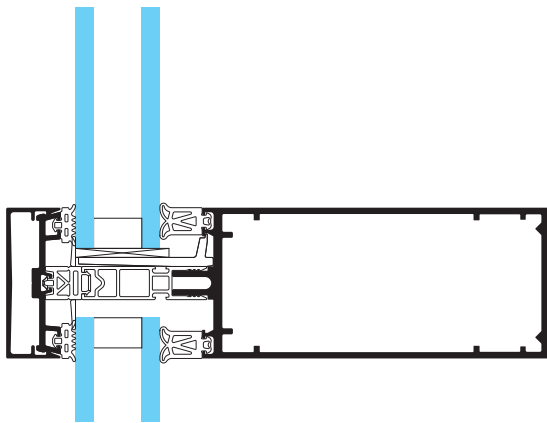
The projecting top-hung, parallel, tilt-turn or emergency access opening vents provide natural ventilation whilst maintaining the aesthetic lines whatever the appearance of the external facade.

CHOICE OF GASKETS

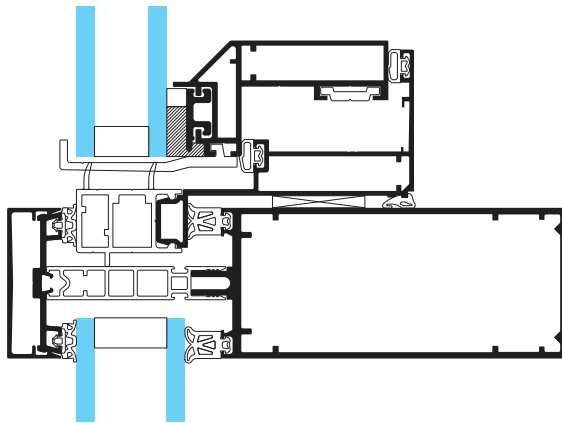
Available as large vulcanised frames or linear pieces depending on project requirements.

INFILLS

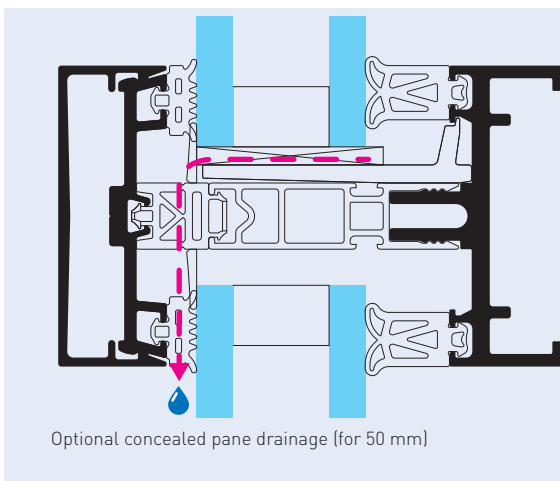
The infills are held in place with a continuous aluminium pressure plate or a specific punctual polyamide pressure plate for 50 mm.



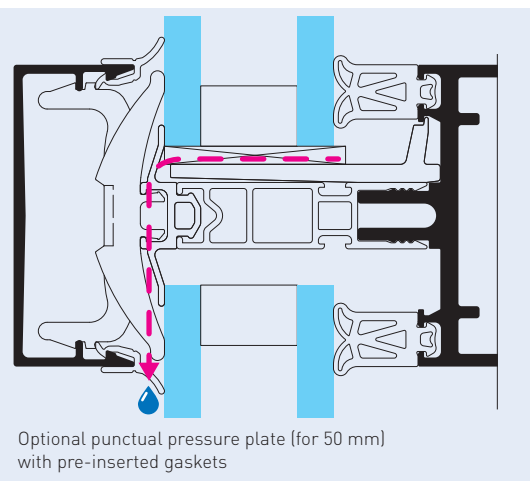
Concealed drainage (for 50 mm)



Concealed outward opening (for 50 mm and 60 mm)



Optional concealed pane drainage (for 50 mm)



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

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 $\pm 10^\circ$, 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.

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
 - $U_g = 1.1 \text{ W/m}^2\text{K}$, TENTAL 50
 - Fixed curtain wall (transom-transom) with 80% glazing (24 mm insulating panel, $U_p = 1.2 \text{ W/m}^2\text{K}$) $U_{cw} = 1.4 \text{ W/m}^2\text{K}$.
 - Fixed curtain wall (mullion-transom) with 50% glazing (80 mm insulating panel, $U_p = 0.37$) $U_{cw} = 1.0 \text{ W/m}^2\text{K}$.
- Air, water and wind resistance in accordance with European standards.

TENTAL

/ HORIZONTAL LINE - VERTICAL LINE



FLAT OR FACETED FACADES

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

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

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.

COMMON STRUCTURE FOR 50 AND 60 MODULE PROFILES

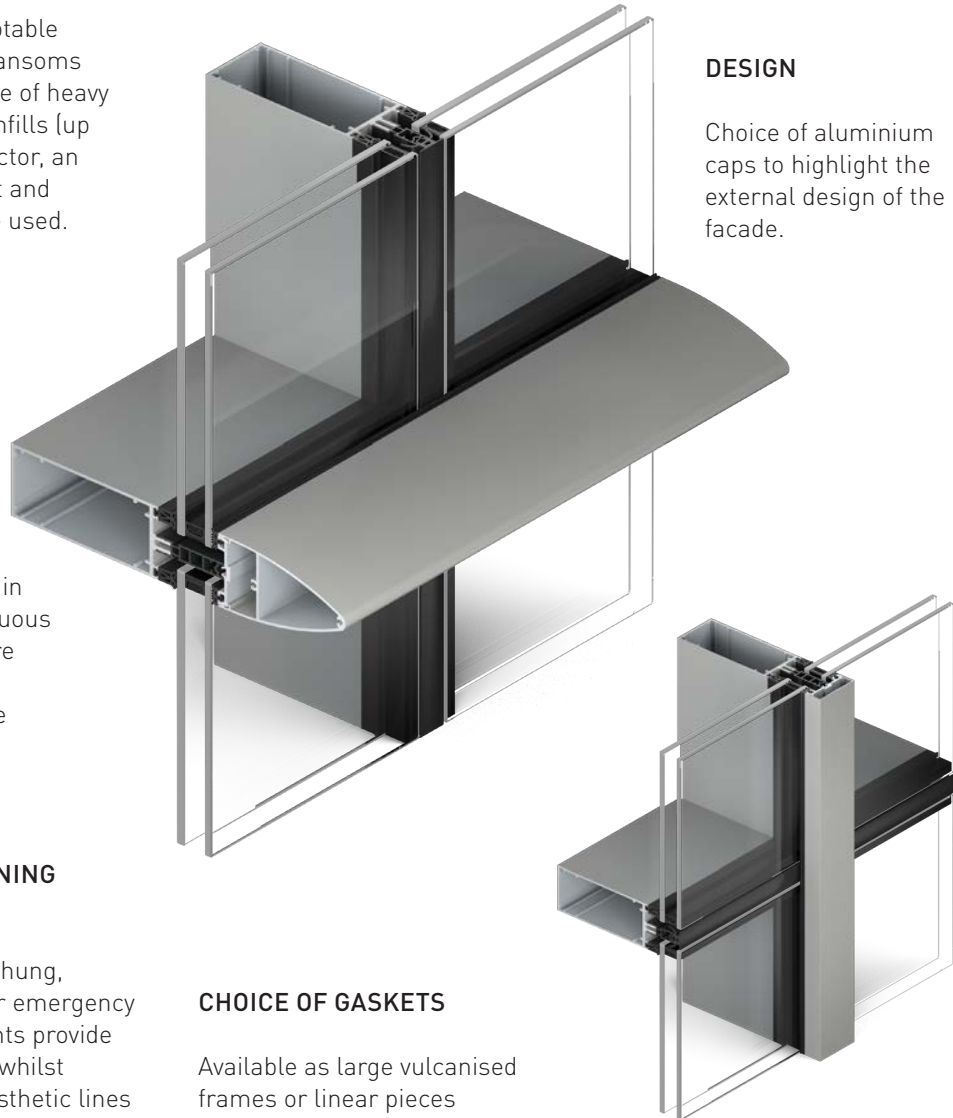
Range of profile depths to meet the needs of each project.

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.

DESIGN

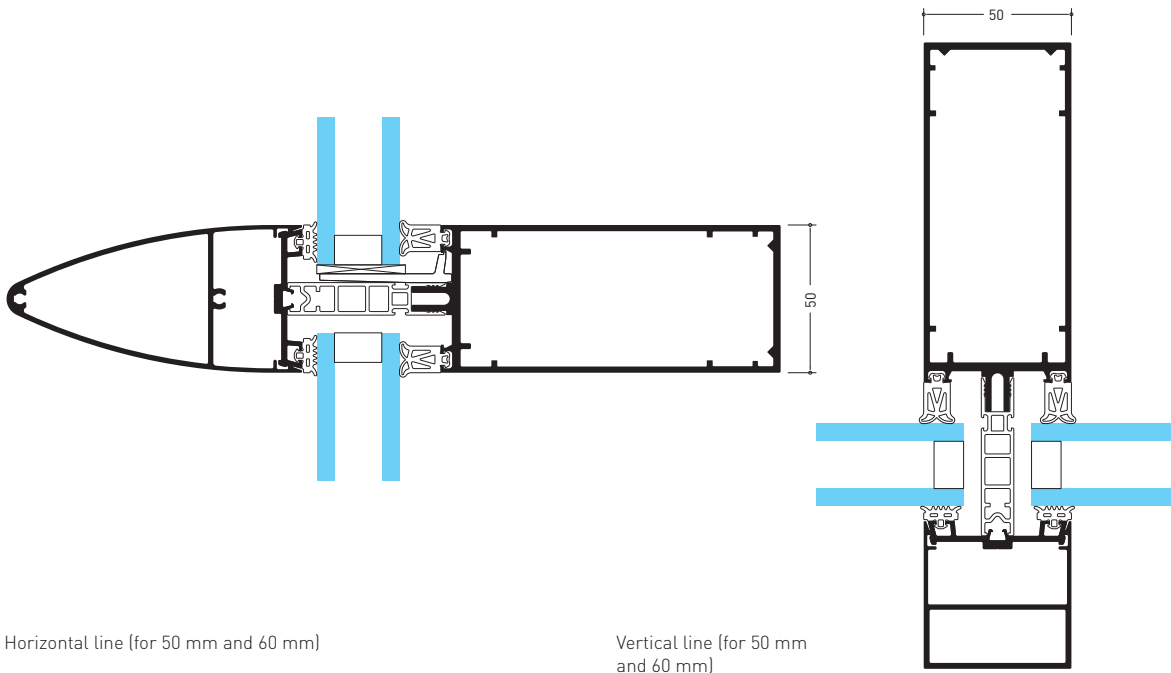
Choice of aluminium caps to highlight the external design of the facade.



Vertical Line

CHOICE OF GASKETS

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



Horizontal line (for 50 mm and 60 mm)

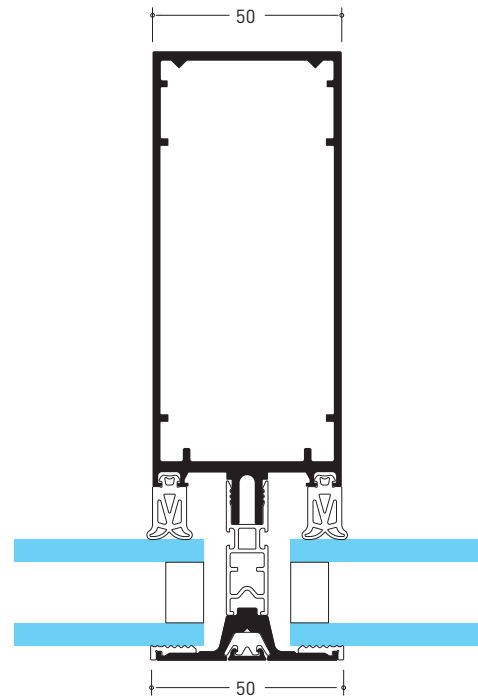
Vertical line (for 50 mm and 60 mm)



Architect: Valenti Alvarez Planas
Photographer: Simón García

TENTAL

/ FLAT CAP



FEATURES

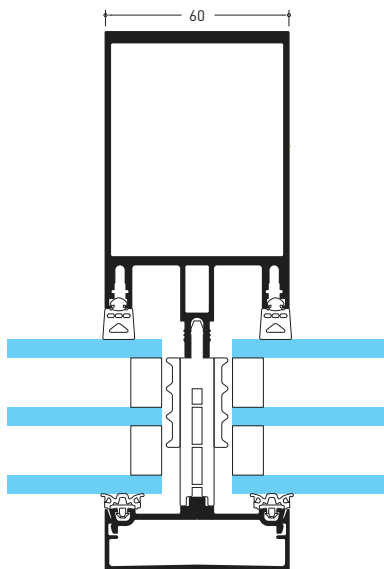
- For 50 mm and 60 mm module
- Black anodized flat pressure plate of 4.5 mm depth
- Infill up to 62 mm
- Maximum weight: 850 kg by glazing panel
- Possibility to realize an all-glass facade with horizontal or vertical line

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.



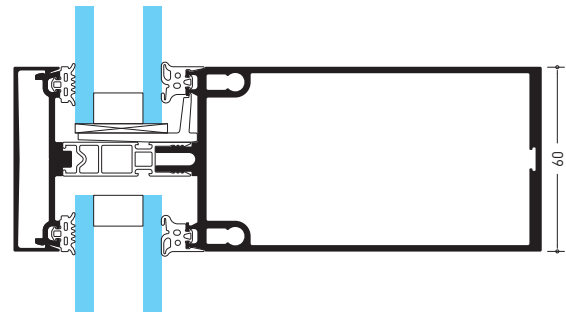
TENTAL 60



High insulation level (for 50 mm and 60 mm)

LARGE DIMENSION GLAZING

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.



Standard insulation level (for 50 mm and 60 mm)

CONSTRUCTION

- Simplified manufacturing. The transoms are notched and overlapped on to the mullions.
- Faceted facades. For facets up to $\pm 10^\circ$.
- 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.

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
Air, water and wind resistance in accordance with European standards.



Architect: Intergaup
Photographer: AFP Filipe

TENTAL

/ WEATHER AND RESISTANCE PERFORMANCES

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

| TENTAL 50 WEATHER PERFORMANCES (A.E.V.) | | | |
|---|------------------|------------------|-------------------------------------|
| | Air permeability | Water tightness | Resistance to wind pressure |
| Features caps | AE 1500 Pa | up to RE 1500 Pa | Service 2000 Pa Security 3000 Pa |
| Concealed inward opening | Class 4 | RE 1500 Pa | Class C5 |
| Concealed outward opening | Class 4 | RE 1500 Pa | Class C5 |

| TENTAL 60 WEATHER PERFORMANCES (A.E.V.) | | | |
|---|------------------|-----------------|-------------------------------------|
| | Air permeability | Water tightness | Resistance to wind pressure |
| Features caps | AE 1200 Pa | RE 1500 Pa | Service 2000 Pa Security 3000 Pa |
| Horizontal line | AE 1200 Pa | RE 1500 Pa | Service 2000 Pa Security 3000 Pa |
| Vertical line | AE 1200 Pa | RE 1500 Pa | Service 2000 Pa Security 3000 Pa |
| Flat cap | AE 1200 Pa | RE 1500 Pa | Service 2000 Pa Security 3000 Pa |
| Concealed inward opening | Class 4 | RE 1500 Pa | Class C5 |
| Concealed outward opening | 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 | RC1N, RC2N, RC2, RC3 | I5 / E5 |
| TENTAL 60 | - | RC1N, RC2N, RC2, RC3 | I5 / E5 |

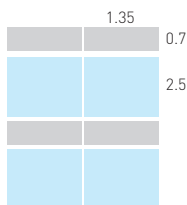
TENTAL

/ THERMAL PERFORMANCES

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/m ² K) | | | | |
|-------------------------------------|---------------------|-----------------|---------------------|-----------------|
| U_f (W/m ² K) | transom / transom | | mullion / transom | |
| | standard insulation | high insulation | standard insulation | high insulation |
| TENTAL 50 | 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 50 - U_{cw} (W/m ² K) | | | | | | | | | | |
|---|---------------------------------|------|-----|-----|---------------------------------|-----|-----|-----|-----|-----|
| U_g (W/m ² K) | 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 |
| 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 | 1.1 | 1.2 | 1.4 | 1.6 | 1.7 | 1.9 | 2.0 |



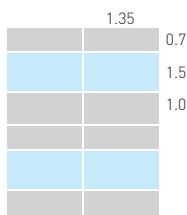
Each section (100% glazed looking from inside to outside): glazed section + opaque spandrel panel + 2 frames per level.

W 1.35 m x H (0.7 m spandrel+ 2.5 m glazing)

24 mm spandrel in combination with double glazing: U_p 1.2 W/m²K

36 mm spandrel in combination with triple glazing: U_p 0.79 W/m²K

| TENTAL 50 - U_{cw} (W/m ² K) | | | | | | | | | | |
|---|---------------------------------|-----|-----|-----|---------------------------------|-----|-----|-----|-----|-----|
| U_g (W/m ² K) | 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 |
| Feature caps transom/transom | 0.87 | 1.0 | 1.1 | 1.1 | 1.3 | 1.5 | 1.5 | 1.6 | 1.7 | 1.8 |
| Features caps mullion/transom | 0.88 | 1.0 | 1.1 | 1.2 | 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: U_p 1.2 W/m²K

36 mm spandrel in combination with triple glazing: U_p 0.79 W/m²K



MATERIALS AND FINISHES

For all TECHNAL systems only the best materials and parts are used to ensure long-term performance and to minimise maintenance and environmental impact.

- Fittings are cast from EN 12844 compliant Zamak 5.
- All seals are EPDM or TPE (Thermoplastic elastomer).
- Thermal breaks are extruded from ABS or xPET.
- 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 "QUALANOD" instructions.
- Polyester coating finishes in a wide range of colours in accordance with "QUALICOAT" and "QUALIMARINE" instructions.
- TENTAL is also available in lacquered finishes with the colour range EXCLUSIVE for a stylish and contemporary look.

PROFILES

- TENTAL 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 alloy EN AW 6060 Building complying to EN 12020, EN 573-3, EN 515 and EN 775-1 to 9.





IMAGINE WHAT'S NEXT

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