

WICONA®

TECHNOLOGY FOR IDEAS

Aluminium façade systems

WICTEC®



Why WICONA?

Because as a successful aluminium systems company based in Germany, WICONA has more than 60 years' experience – experience from which you can benefit on a daily basis. Not only are we able to fulfil the role of a reliable and cooperative supplier, but you can also enjoy the advantages of a strong, technologically advanced brand that has enjoyed long-term success in the market. At WICONA, every detail counts: from planning, processing material and rapid delivery right through to active sales support.

That's why WICONA!

What does WICTEC mean for metal construction?

WICTEC makes façade technology fascinating – for you as the metal construction experts just as much as for your customers. It encompasses an overall concept of modern-day architecture that reconciles the elements of heat store, air conditioning, light provider, sun screen, fire and noise protection and design within one single construction. With WICTEC you can be sure to meet these multifunctional requirements.

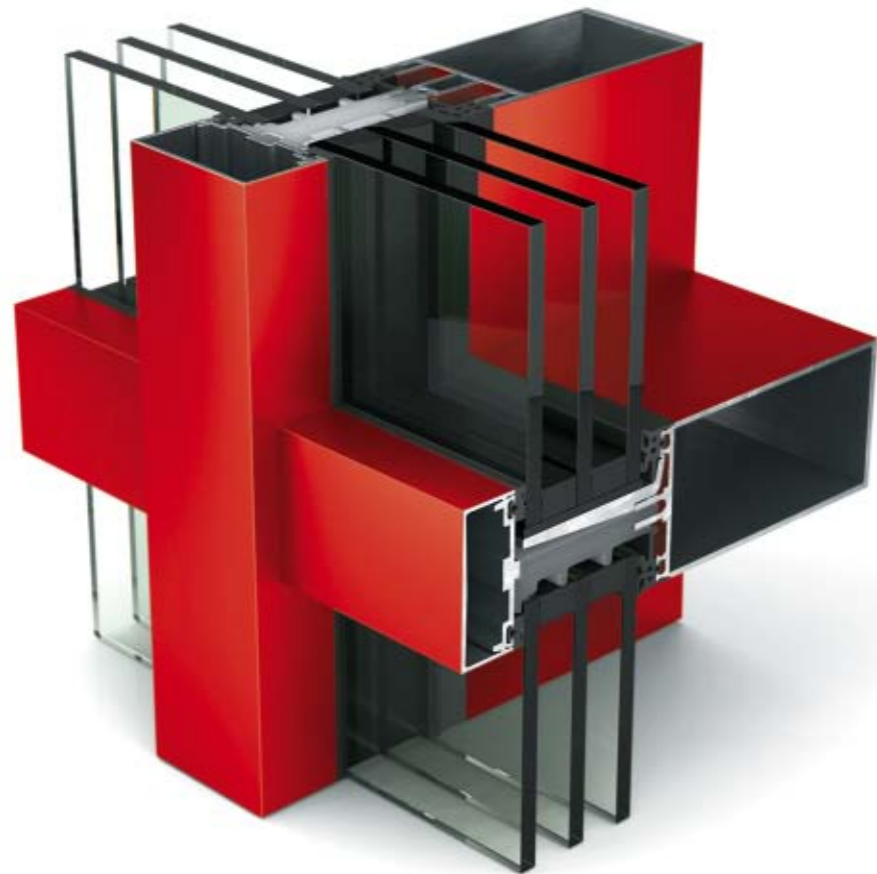
And it makes no difference whether your project is the little baker's shop round the corner or an elegant company headquarter located in a major city. It is you who can use WICTEC façades to set new highlights within the urban landscape, and turn architectural ideas into built reality.

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Experiencing innovative façade technology



Performance

- Always the suitable solution due to a wide range of series (stick, unitized, structural glazing, double façades)
- Functional safety due to several cascading drainage levels
- Functions like burglar and bullet resistance and fire protection are feasible with minimum additional effort
- Comprehensive tests according to international standards like EN 13830 (CE marking)
- Multiple certificates, e.g. first aluminium passive house curtain wall certified by the ift window institute

Flexibility

- Based on the WICONA Unisys principle: High level of process security, cost and time savings, simple production, fewer tools required due to use of standard components
- Special gasket design for polygonal constructions
- Several system widths for any requirement
- Cost-effective adaptation to structural needs and optimized use of materials due to large profile range to choose from

Efficiency

- Simplified transom mullion connection – with or without connector parts
- WICTEC AN modular attachment system
- Highest possible process reliability in planning, production and assembly

Perfect supplements Integrated opening elements

- Window series WICLINE 65 evo, WICLINE 75 evo and WICLINE 125 with visible or concealed sash
- Turn, tilt-turn, tilt and parallel sliding/tilt windows
- Skylight windows
- Parallel and top-hung outward opening windows
- Vertical and horizontal pivot windows
- Ventilation flap
- Door series WICSTYLE 65 evo, WICSTYLE 75 evo and WICSTYLE 88 inward and outward opening, single or double action doors
- WICSLIDE lifting sliding and lifting folding doors
- Automatic sliding door WICSTYLE 65ED
- NSHE units for vertical and sloped application



Your advantage: **WICONA** Unisys optimized
 Reduced complexity!



One system for all requirements

WICONA Unisys simplifies processing steps, enables more rapid processing, saves both cost and time.

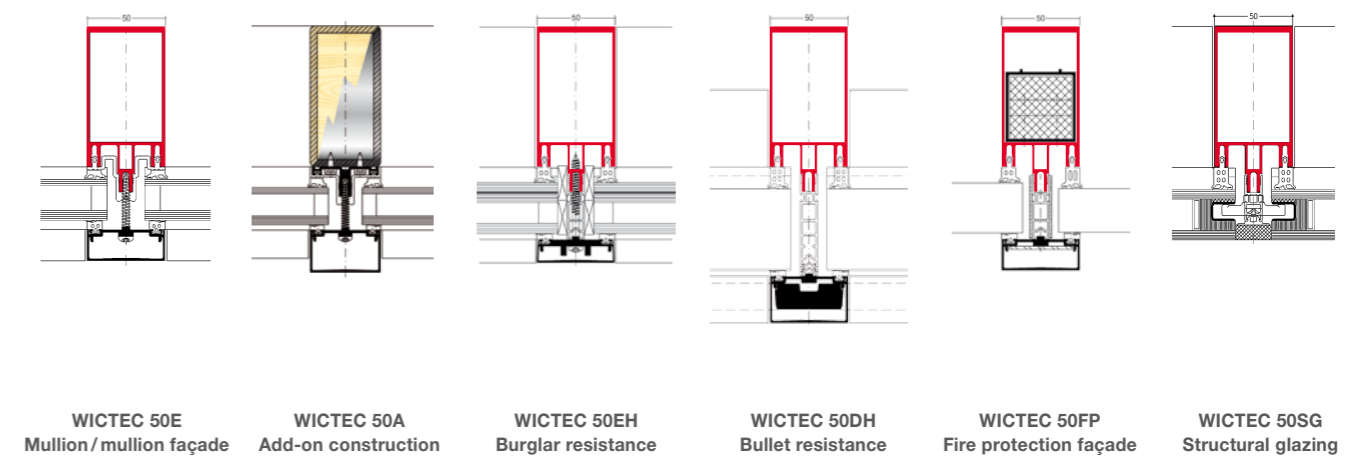
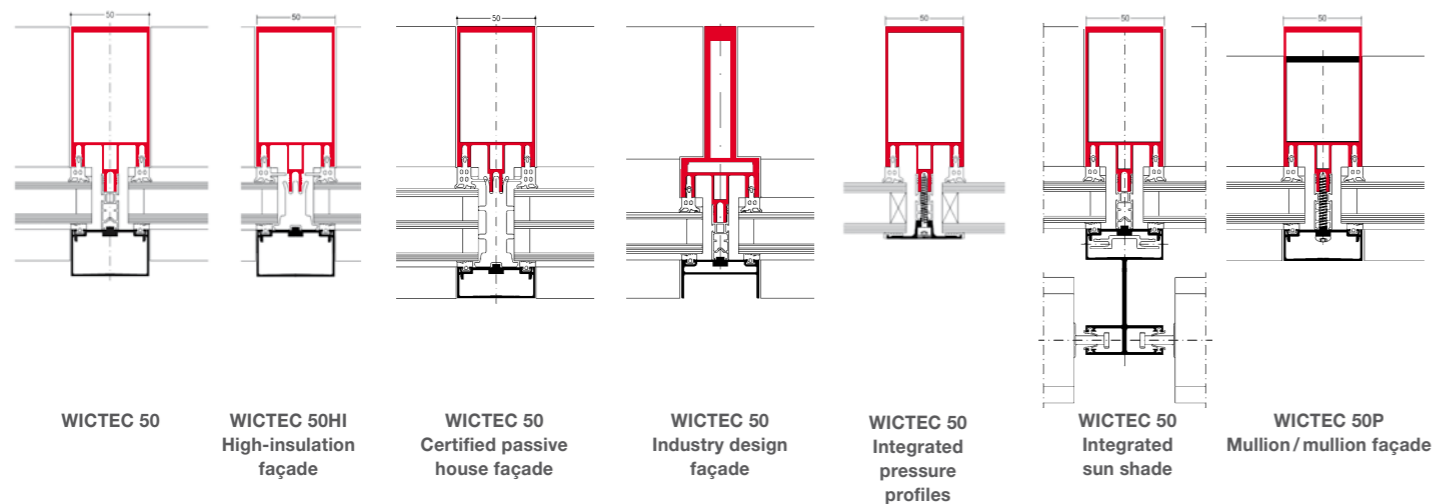
Quality, freedom in design, reliability of processes and simplicity of fabrication form the tangible benefits of aluminium façades by WICONA.

Whatever the requirements may be, WICTEC profiles coupled with your own specialist expertise make it possible to provide the individual, tailor-made solution. Our products are always simple to install.

The reason: The WICONA Unisys principle also applies to our range of façades. WICONA Unisys is a modular concept used in the design of all WICONA systems. When constructing a façade, you are able to make use of the same processing steps, accessories, gaskets, sealants and tools. It is very simple to upgrade the façade with burglar or bullet resistance or fire protection. This means that overall, WICONA constructions offer maximum flexibility, are more cost-effective, safer and quicker to install.



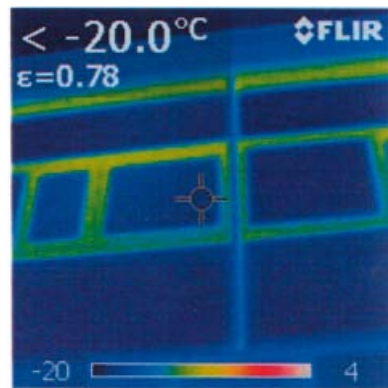
One standard system with a wide variety of applications: WICONA Unisys



Your benefits:

- Reliability of processes due to the use of the same components, processing steps and tools
- Time savings due to faster information, training and production
- Cost savings due to reduced number of parts and less stock keeping
- Consistent availability of goods

Your benefits: increased energy efficiency



Saving energy effectively

- The intelligent system design of WICTEC 50 assures U_i values up to 0.74 W/(m²K).
- Efficient thermal insulation, in spite of its filigree design means maximum energy-saving and optimized solar energy usage.
- Triple glazing up to 63 mm is possible and can be upgraded after years.

Certified maximum performance:

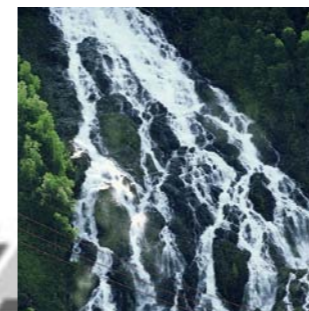
WICTEC 50HI is the first aluminium curtain wall system which was certified as a passive house suitable component by the ift (institute for window technology) in Rosenheim.



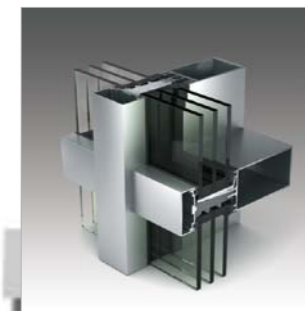
Building certification made easy:



Its CO₂-saving aluminium production, thermal insulation & durability make WICTEC ideal for all buildings that shall be certified according to an eco-label, e.g. DGNB (German Sustainable Building Council). The WICTOP Genius metal construction software provides a module for the generation of an EPD (environmental product declaration).



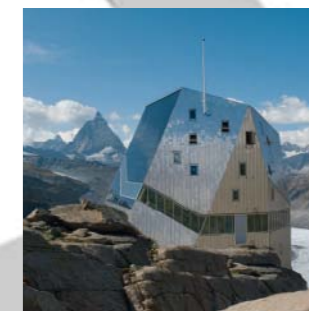
Aluminium production with hydro power



System development using eco-design



Recycling



Energy-saving application

Environmental responsibility during the entire lifecycle

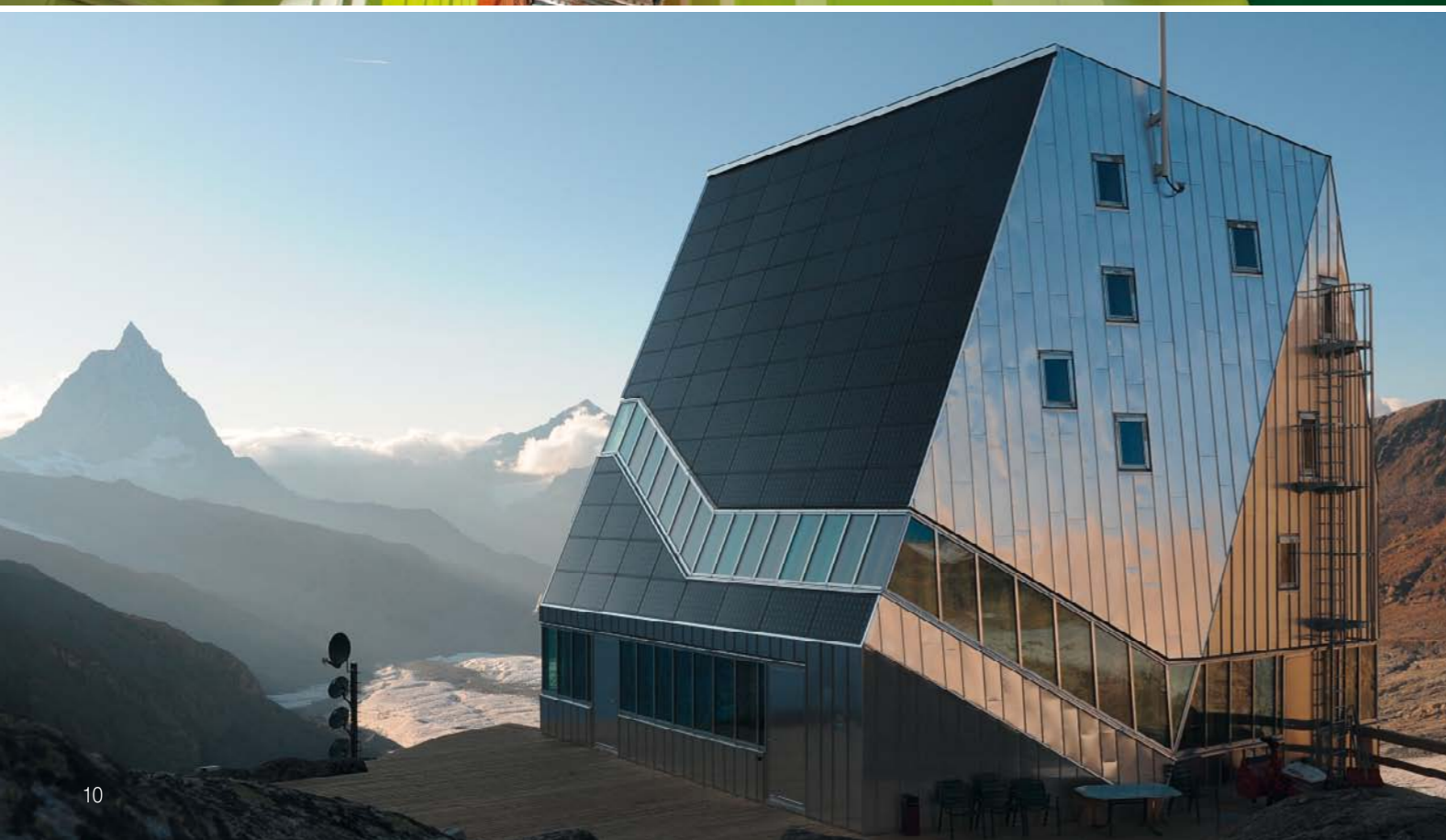
Here at Hydro, we target the sustainability of buildings not only through thermal insulation, but also consider energy efficiency and climate protection during the entire lifecycle of the aluminium building material. Our philosophy is the careful management of natural resources, starting with the aluminium production using 68 % of the energy from hydro power, up to recycling processes in our own factories. This is just one of the reasons why Hydro is leading the Dow Jones Sustainability Index for the fifth time.

Your benefits:

- The demands by the architect or the builder' requirements can easily be met
- Easy to obtain building certification with EPD (Environmental Product Declaration) for the WICONA components in the WICTOP Genius software
- Exemplary durability: tomorrow's standards are already met today, changes and upgrades can be implemented at any time

WICTEC – versatility and flexibility

WICTEC stick system façades are the flexible, tried-and-tested solutions among WICONA's range of façade systems. The wide range of profiles and the extensive equipment options guarantee optimum creative freedom. The state-of-the-art technology ensures the highest level of process security, from the planning stage through to completion. With narrow face widths of 50 and 60 mm, the system construction lends façades a particularly filigree appearance. Additional functions for security and maximum thermal insulation may be included simply and inexpensively, without compromising on aesthetics.



WICTEC 50 at a glance

Thermal insulation:

- U_f values until $0.74 \text{ W}/(\text{m}^2\text{K})$

System technology:

- Individual design due to a wide selection of profiles
- Infill thickness from 3 to 63 mm for perfect adaptation to individual requirements
- Polygonal structures up to $\pm 45^\circ$ on each side
- Reliable glass load transmission with adaptive transom connector technology
- Reliable tightness due to overlapping and safe drainage control on the cross points, without mechanical mullion processing
- Filigree design with identical gasket size on transom and mullion
- Inexpensive adaptation to structural need, with a possible interior reinforcement

Sound insulation:

- Acoustic insulation performance until $R_w 47 \text{ dB}$ (DIN 4109)

Special functions:

- Burglar resistance in class WK1 to WK3
- Bullet resistance in class FB4
- Fire protection in class G30/F30, also on sloped applications, and fire protection panels in class W90

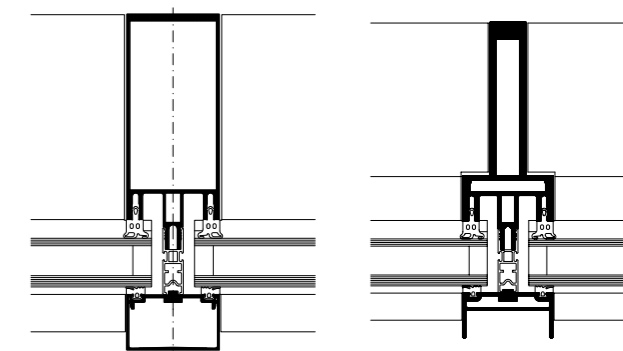
CE marking according to EN 13830

WICTEC® 50

Stick system façade



WICTEC 50 is the basic version of the stick system façade, with an extra-narrow face width of 50 mm, inside and outside. The unique flexibility is demonstrated by the various system variants and complementary options, all of which are feasible with minor additions to the system and without compromising on appearance. Alternatively the system width of 60 mm is available.



WICTEC 50

WICTEC 50
Industry design

WICTEC® 50**Stick system façade – options****WICTEC 50HI High insulation façade**

- ift-certified as passive house curtain wall with infill thickness 46 mm
- Thermal insulation: U_i value until $0.75 \text{ W}/(\text{m}^2\text{K})$, U_w below $0.8 \text{ W}/(\text{m}^2\text{K})$
- Simplified upgrade to the system WICTEC 50 by additional insulation parts made of elastomers
- Polygonal constructions possible
- Burglar resistance until class WK2

WICTEC 50 Industry design façade

- Profiles in technical shape
- Steel design for curtain walls in historical or slim look

WICTEC 50 Integrated pressure profile

- Face width of the pressure profiles 51 mm or 43 mm, surface-mounted or flush
- A simple construction with structural glazing design
- Replaces the silicone joints of the SSG façade: no maintenance, no approvals, no third-party monitoring required

WICTEC 50 Integrated sun shade

- Guide rails for sun protection are integrated into the external cover profiles of WICTEC 50
- The subsequent installation of fastening screws into the mullions is no longer necessary, nor is any additional or subsequent drilling necessary at the construction site
- The sun shades resist high wind speeds of up to 25 m/s

WICTEC 50A Add-on construction

- For steel and wood structures
- Overlapping by means of vertical and horizontal, single-piece overarching EPDM gaskets
- Installation is simplicity itself using bolt gun technology for steel substructures from 4 mm wall thickness

WICTEC 50 Mullion / mullion

- Mullions and transoms of the same geometry – notching therefore not necessary
- Overlapping via vertical and horizontal single-piece sealing profile

WICTEC 60

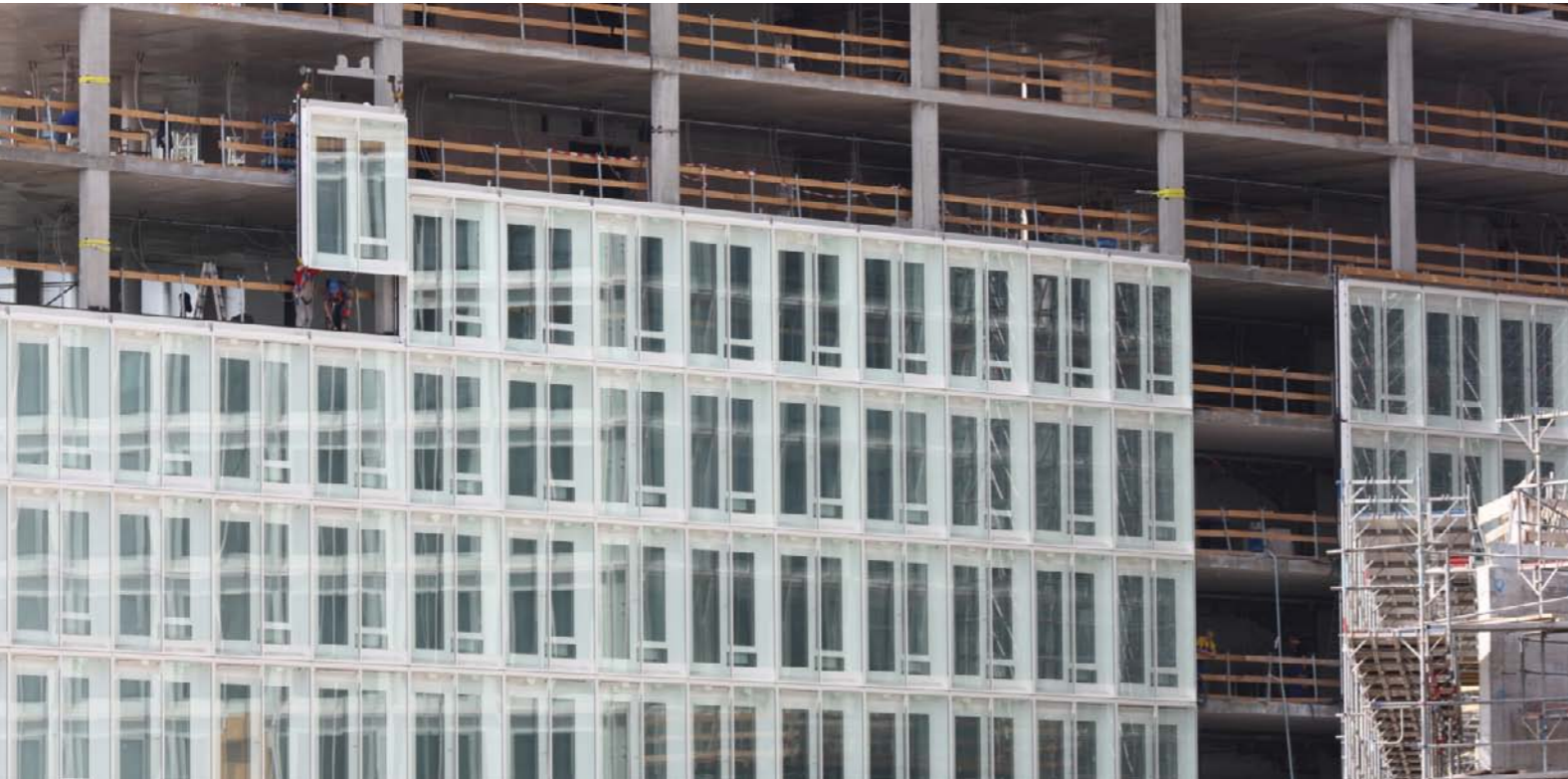
- For curtain walls with increased technical and structural requirements
- System width 60 mm, profile depth 70–170 mm



Predictable efficiency

Today, most building projects are subject to intense time pressure. When it comes to meeting demanding deadlines, WICONA unitized façades provide a solution: production and installation can be scheduled precisely.

The unitized façade series WICTEC 50EL and WICTEC EL60 fuse many years of professional expertise and experience from a multitude of projects for your application in buildings of any size.

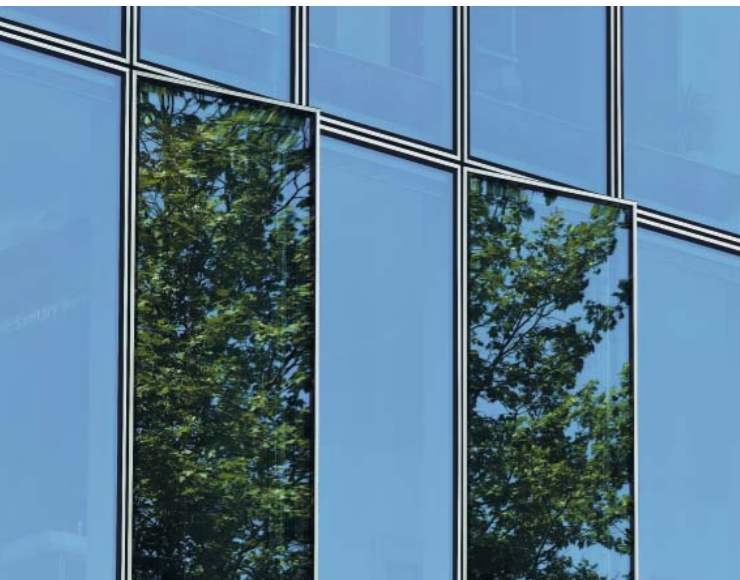


WICTEC®

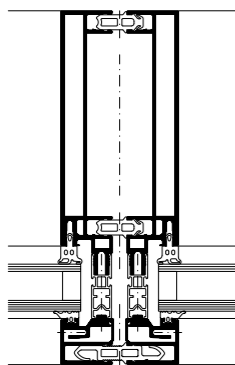
Unitized façades

The individual façade units that form the construction can be pre-fabricated in your workshop under controlled conditions and fitted with glazing and parapets. Even accessories such as sun shades and glare shields or light systems can be installed in the workshop, irrespective of the weather conditions outside. Once on site, the pre-fabricated units are inserted into pre-arranged façade anchors. The installation can take place without scaffolding. This pre-fabrication ensures a consistent high quality product, facilitates the logistical arrangements and the management on site and leads to a faster completion of the building.



WICTEC® 50EL**Unitized façade**

WICTEC 50EL is a unitized version of the WICTEC 50 stick system. This range combines the advantages of the stick system structure with the assembly benefits of the unitized façade, keeping up an extremely narrow sight line of only 50 or 65 mm. The exterior profiles with mitre joints on the outside achieve a particularly elegant appearance with a “picture frame effect”. Particularly where there are stringent requirements pertaining to thermal insulation, WICTEC 50EL offers the appropriate solution, with U_f values of up to 1.4 W/(m²K).



WICTEC 50EL

WICTEC 50EL at a glance**Thermal insulation:**

- U_f values until 1.4 W/(m²K)

Profile technology:

- Main profiles from the WICTEC 50 range
- Especially slim sight lines
 - 65 mm in the case of divided frames
 - 50 mm for undivided mullion and transom profiles
- Expansion tolerance horizontal 5 mm, vertical 5 mm
- Big unit sizes of up to 3.0 m wide and 3.5 m high, or of 1.5 m wide without central mullions
- Externally applied pressure or cover profiles

Frame jointing technology:

- Corner connection with system corner angles
- Mullion and transom profiles with overlapping joints
- External cover profiles with mitred corner joints

Infills:

- In transparent and parapet areas 21–45 mm

CE marking according to EN 13830**WICTEC EL60 at a glance****Thermal protection:**

- U_f values for frame combinations until 1.8 W/(m²K), for mullion and transom profiles until 1.6 W/(m²K)

Profile technology:

- Identical construction depth of frames, supports and transoms
- Overall construction depth 198 mm
- Especially slim sight lines
 - 60 mm in the case of divided frames
 - 60 mm for undivided mullion and transom profiles
- Pressure profiles with mitred corner joints (picture frame effect)
- Expansion rebates with gasket profiles for reliable coupling of the units
- 9 mm expansion gap both vertically and horizontally, expansion absorption +5/–7 mm

Frame jointing technology:

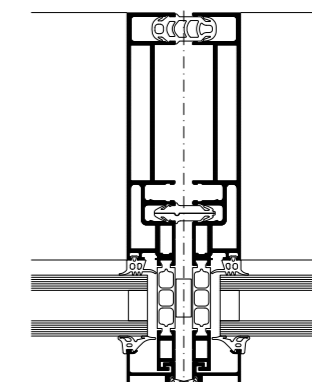
- Unit frames are fixed with corner angles and mechanically secured
- T-joint with direct screw connection or connector technology
- Transom – mullion connections with special connectors

Infills:

- In transparent areas 22–36 mm, in parapet areas 4–12 mm

CE marking according to EN 13830**WICTEC® EL60****Unitized façade**

WICTEC EL60 is the filigree version of the unitized façade, with especially slim sight lines of just 60 mm both inside and outside. The exterior glazing profiles with mitre joints achieve a particularly elegant appearance with a “picture frame effect”. As a result of optimized thermal insulation, the system leads the way with outstanding U values.



WICTEC EL60

Splendid views

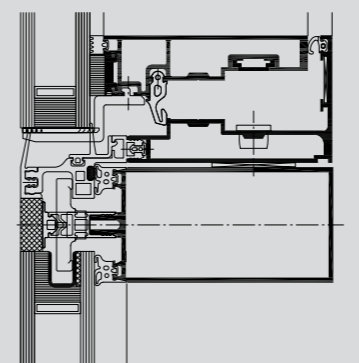
Façades made entirely of glass have a firm place in contemporary architecture and create impressive building elevations. Using WICONA systems, extremely delicate outside structures which only have narrow joints can be created. Opening elements and insulating glazing can be incorporated. Based on an innovative mechanical fixing, WICTEC 50SG opens up a new, simpler possibility for the construction of façades made entirely from glass. Designed as a traditional stick system façade, the insulating glazing is retained between the panes. Although its appearance is identical to that of a traditional SSG façade, this technology is faster, simpler and more economical to realize.



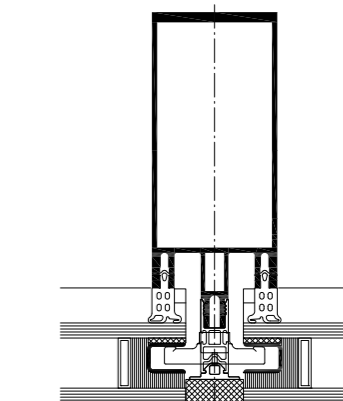
WICTEC 50SG at a glance

- With ETA (European Technical Approval)
- Outstanding appearance with extremely slim silicone joints
- Basic structure is the WICTEC 50 façade, with easy assembly of the glazing on site, without special tools
- Simple and straightforward installation thanks to a special patented fastener
- Standard glass spacers can be used
- Fastener can be fixed before the glass installation

CE marking according to EN 13830



WICTEC 50SG with WICLINE 90SG sash



WICTEC 50SG

WICTEC® 50SG

Structural glazing façade





Technology for ideas

One of the primary functions of a façade is to protect the people and valuables inside. That is why burglar resistance, bullet resistance and fire protection form an integral part of the technical development of WICONA façades.

Starting at a basic level, you can create an all-round safety and security package for your customer that is appropriate to the location of the building, the potential risk, and the individual wishes of the customer, without influencing the visual appearance of the façades. To allow you to upgrade the basic construction to the desired level of security, we have implemented the WICONA Unisys principle consistently across the entire range. Standardised components with the same basic construction and the same profiles enable you to meet any security requirements in any building, economically and quickly – the visual appearance will always remain identical.

WICTEC 50 and WICTEC 60 Burglar resistance

- Resistance classes up to WK3 in accordance with ENV 1627 by few additional measures like security features in the mullion and transom profile and in the pressure profiles
- Façade construction based on WICTEC 50/60 standard façade
- The same processing benefits as standard stick construction façades
- Glazing compliant with EN 356
- Construction depths correspond to WICTEC 50/60 standard façade
- WICLINE 65/75 evo and WICSTYLE 65/75 evo integration elements available in the same resistance class

WICTEC 50 and WICTEC 60 Bullet resistance

- Bullet resistance class FB4 in accordance with EN 1522
- Façade construction based on WICTEC 50/60 standard façade with additional profiles
- Offers the same processing benefits as the standard WICTEC 50/60 façade

WICTEC 50FP and WICTEC 60FP fire protection façades

Fire protection fields:

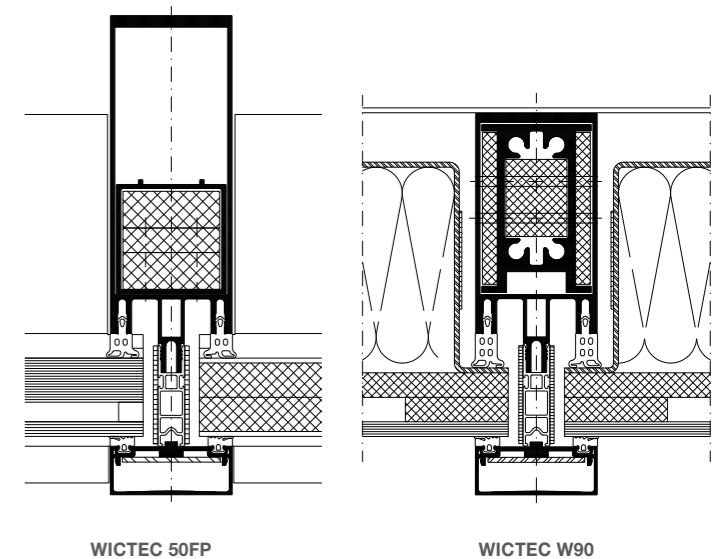
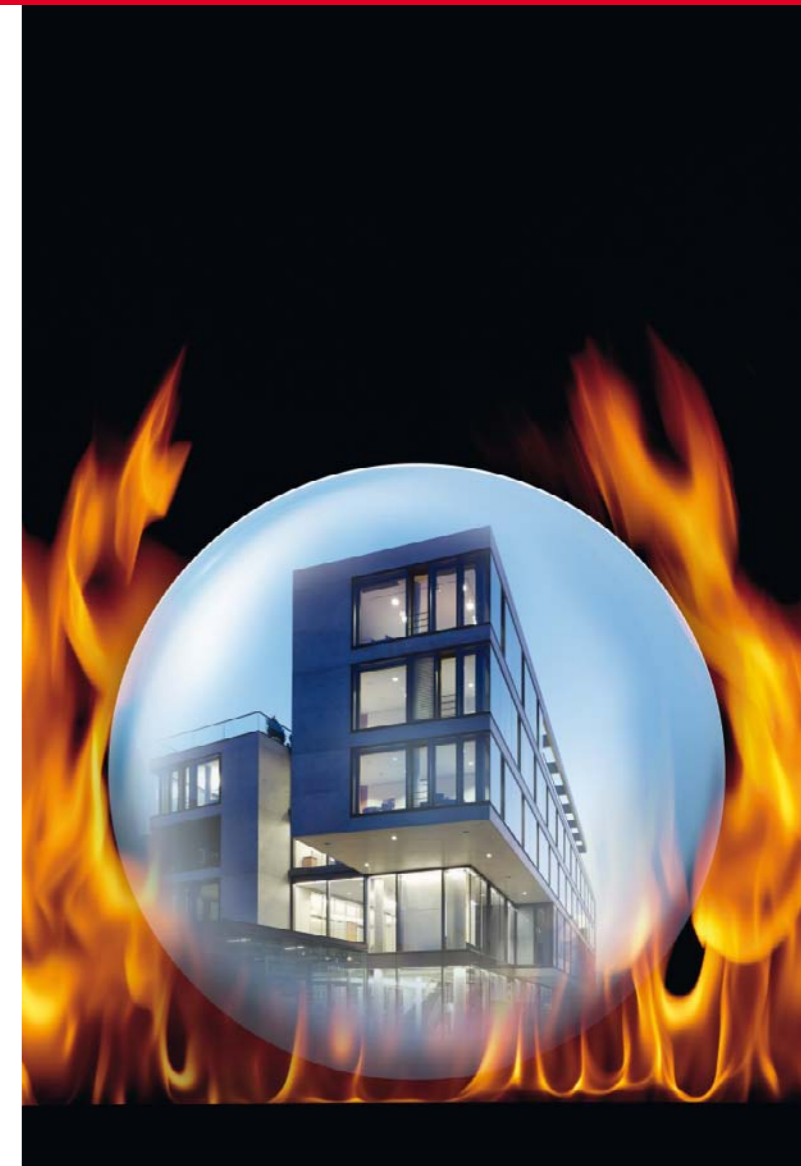
No matter whether staircases, extensions, hallways or glazed roofs – with WICTEC FP all types of façade and architectural concepts can be adapted and produced in accordance with the necessary protection requirements. WICTEC FP is fully compatible with the WICTEC 50 and WICTEC 60 standard façades, which means that fire protection can come to form a harmonic part of any tailor made façade solution.

Further details:

- Fire resistance class G30/F30
- Slim sight lines: 50 mm and 60 mm
- Infill: Glass or panel
- Can also be combined with WICSTYLE 77FP fire protection doors
- Overhead glazing possible
- Suitable for indoor and outdoor use
- Maximum unit height / floor to floor 5000 mm
- Length of fire protection façade unlimited
- Polygonal façade up to $\pm 5^\circ$ per mullion side with standard pressure profile
- Fire protection in mullion and transom profiles possible simply by limited additional measures

WICTEC W90 Fire protection panel

Parapet panels of fire resistance class W90 are incorporated into the façade if it is necessary to prevent fire from spreading from storey to storey. The WICTEC W90 fire protection parapet panels can be incorporated into WICTEC 50 and WICTEC 60 façade systems. The external surface of these is made up of glass or aluminium.





Technology for your ideas

It is our aim that as a WICONA partner, you are able to distinguish yourself very clearly in the market and will therefore achieve greater success than your competitors. That is why we are continually working to develop our products and why our innovations are setting new standards within the sector. That is what we call: Technology for ideas.

We consider the technical requirements of the future as our core challenge. Aspects such as thermal insulation, energy efficiency and sustainable building all form key considerations within our current developments and will do so to an increasing extent in the future.

It is our wish to offer you the very best solutions that will enable you to provide your customers with the perfect solution for their requirements. The field of aluminium profile systems for façades in particular is one area in which the WICONA brand is playing a leading role. Our pioneering spirit has resulted in solutions that have set new standards in terms of ecology, design, flexibility, thermal protection and sound proofing. And we will continue to progress along that road – with you by our side.

Double façades – twice the protection

Duowall is a façade concept that opens up new approaches based on WICONA systems. Today's building market is determined as much by ecological standards as by technical-functional, aesthetic and economic criteria. Holistic system solutions which combine a high level of technology, ecology, design and visions are required.

The basic concept of a second, non-insulated layer of glass in front of an internal heat-insulated façade with opening sashes can be achieved with various combinations of WICONA systems. The individual form is tailored to the specific building in each case. You can rely on the WICONA team to support you throughout your project, with the benefit of our long and comprehensive experience and know-how.

TEmotion – The intelligent façade concept

TEmotion is an intelligent façade concept that has been developed by WICONA incorporating active and self-sustaining building technology. The façade reacts to changes in outdoor and indoor conditions, such as light or temperature, and therefore makes a significant contribution to improving the energy efficiency of the building envelope and reducing the operating costs. TEemotion not only incorporates technical components, but also includes the relevant sensors and control systems. The individual elements can therefore adjust automatically to the changing situations within and outside the building. The intelligent façade controls the integrated ventilation, air-conditioning and heating technology, adjusts the sun protection and prevents the interior from overheating. At the same time, an adaptive light control system ensures dazzlefree, indirect natural daylight at the level required for the user. By automatically opening sashes it allows the building to be "flushed" with fresh air at night, considerably reducing the costs of cooling it actively. In contrast to conventional façades, using TEemotion saves 40 to 50 per cent of the primary energy otherwise used for heating, cooling, ventilation and illumination. The fact that energy savings of that level can also be achieved in existing buildings is demonstrated by the intelligent façade system such as the one that has been installed at the WICONA training centre in Bellenberg.



Sun shading systems

WICSOLAIRE represents a comprehensive solution when it comes to providing external solar protection. As the system allows positioning of the slats at different angles and with different spacing, the sunshading can be adjusted perfectly to the building. This individual adjustability not only improves the energy balance of the building, but also increases the users' comfort; the full scope of visual contact with the surroundings of the building can be preserved despite the protective shading. Alongside conventional surface treatment versions, the flexible system can also be fitted with photovoltaic elements. WICSOLAIRE will be available from 2012.



Façade systems

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