



Press Kit  
Pre-Batimat 2015

# WICONA

Providing the technological  
and human resources for  
the city of the future

**Press contacts**

Sandra Laporte - +33 (0)5 61 31 28 01  
sandra.laporte@sapagroup.com

**WICONA**<sup>®</sup>  
TECHNIK FÜR IDEEN



# contents

WICONA is reinventing itself to create the city of the future	4
Solutions for the city and buildings of the future	6
<b>Thermal solutions:</b>	
• WICONA ETC Intelligence: a fourth-generation thermal break concept	8
• WICLINE 95: a new range of Passive House windows	9
• WICLINE 75 TOP: minimal dimensions for a high level of energy efficiency	9
<b>Solutions that promote sustainable development</b>	
Green: WICONA's green revolution	10
<b>Projects for the city of the future</b>	
Closed Cavity Façade (CCF): the sealed modular façade	12
<b>Digital solutions</b>	
WICONA is developing project applications	14
WICONA: experience and know-how	16



## » WICONA is reinventing itself to create the city of the future

Today, 50% of the world's population is urban. By 2050, this figure will rise to more than 70%. Sustainable urban planning has become a key issue and there are numerous challenges to overcome if we want to develop design modes, products and processes, uses and behaviour. WICONA's expertise in the fields of aluminium and construction positions it as a key player in the evolution of cities. As experts in high-quality technological solutions, WICONA stands out in its sector through the creative and bespoke way it approaches the projects that it works on. To illustrate its new aims, WICONA is continuing to develop and reinvent itself, incorporating changes in product and service offerings, organisation and communication.



### **New DNA for a new direction...**

WICONA is rethinking the way it expresses itself and is "reinventing its DNA" to better share its vision. WICONA is taking a bold and firm position to match the challenges and issues of the future. This perfectly illustrates the business strategy, which is to provide ever more creative technological solutions to imagine and create the city of the future.

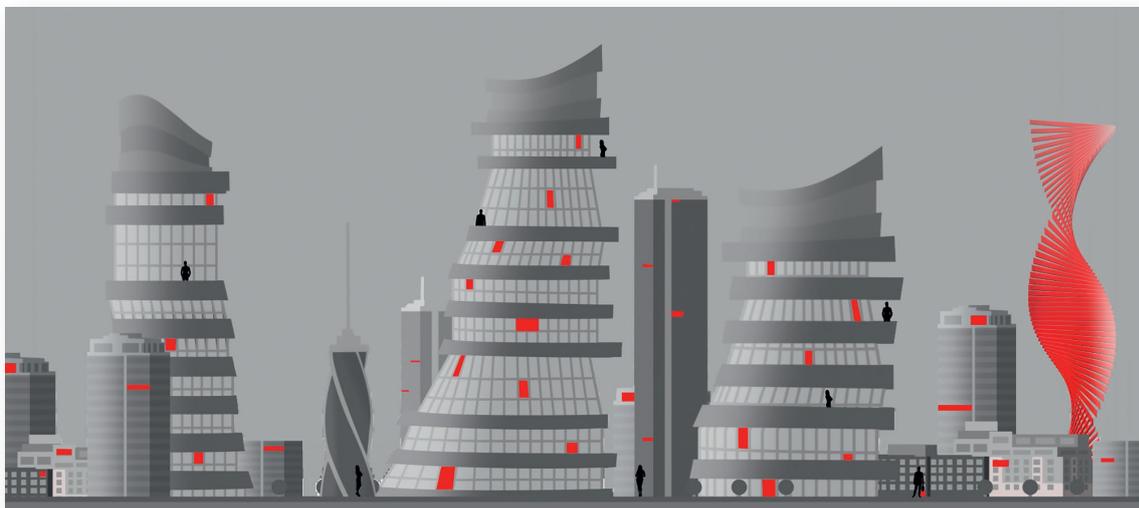
This new eye-catching approach is a way of showing that, beyond the product innovations and technical proposals that underpin the brand's reputation, WICONA is able to solve the most complex of equations thanks to its department devoted to special projects.

In adopting this new way of expressing itself, WICONA is making a commitment to find sustainable and effective solutions in order to provide the market with new ways of building in this changing context. The brand asserts its aims loud and clear: to become the leading project specialist in aluminium solutions for the construction sector and to place its partners at the heart of its considerations.

### **At the BATIMAT fair: discover ground-breaking innovations for the city of the future and user comfort**

This promise will be on show at BATIMAT 2015, where it will present ground-breaking innovations that are part of a proactive approach to the city of the future. WICONA is the first and only building system creator to provide 100% recyclable strips; by 2017 this will involve all products. The brand has just made the decision to use thermal insulation strips made of recyclable polyamide for all of its aluminium profiles. This world first is a perfect illustration of the company's commitment to sustainable development and its willingness to actively contribute to the High Environmental Quality of the buildings that it works on.

Among the new products being exhibited is a fourth-generation thermal break system. Called ETC Intelligence<sup>®</sup>, it will be fitted on two ranges of windows that meet the Passive House standards: WICLINE 95 and WICLINE 75 TOP. Not to be outdone, Closed Cavity Façades (CCF) will be on show with its new technology that is particularly suited to the challenges of upgrading buildings' energy efficiency.



### **At the BATIMAT fair: a stand to take you deep into the heart of the city**

Located in hall 6 (Aisle G - stand No. 65), the WICONA stand at the BATIMAT fair is intended to be a reflection of the brand's assured positioning. Visitors will be invited to quite literally wander around the city of the future, symbolised by a large road. WICONA will present its effective technologies by theme (ventilation, thermal performance, motorisation and solar protection, fire protection and safety, etc.) and an area will be set up exclusively for special projects that are representative of the brand's know-how. You will also be able to discover the impact of BIM objects for various stakeholders in the modelling and construction of a building: architects, design offices, economists, metal builders and fabricators.

There will also be a virtual show, sparking a unique experience that visitors will never forget. This extensive and skilfully orchestrated scenography reflects the highly technological aspect of WICONA solutions as well as the company's ability to develop tailor-made systems for the city of the future.





# » Solutions for the city and buildings of the future

## THERMAL SOLUTIONS

Because the energy efficiency of buildings is and always will be a key challenge in the fight against global warming, WICONA has developed energy-efficient equipment and solutions for the city of the future and user comfort. This innovation strategy will be on show at the BATIMAT 2015 fair, through the introduction of ground-breaking innovations such as the ETC Intelligence concept®. An innovative, fourth-generation thermal break system, which will be fitted on two new ranges of windows: WICLINE 95 in accordance with Passive House standards and WICLINE 75 TOP.

### 1. WICONA ETC Intelligence®: Emission - Transmission - Convection A fourth-generation thermal break concept

From the invention of the process in the early 1970s, WICONA was the first façade specialist to successfully implement a thermal break in its aluminium profiles using polyamide insulating strips. This innovation enabled WICONA to significantly reduce thermal losses.

WICONA improved this technology over the years, culminating today in the fourth generation of the system. Fitted on the new WICLINE 95 and WICLINE 75 TOP ranges, the ETC Intelligence® concept is WICONA's latest technical breakthrough. This project is the culmination of the last few years of research and development.

#### ■ The principle

The ETC Intelligence® concept represents a thermal break zone which offers high levels of thermal insulation, without the need for inserts or foam fillers. A low-emission film effectively reflects heat, while the low-transmission insulation strips keep thermal conduction to a minimum.

When combined, these technological breakthroughs achieve high levels of thermal efficiency, strengthening WICONA's position as market leader in window design innovations.



## 2. WICLINE 95 with the ETC Intelligence® system: a new range of windows that comply with Passive House standards

With the range of WICLINE 95 windows, WICONA is breaking new ground in terms of energy efficiency to meet the demanding Passive House requirements.

With a 95 mm section, WICLINE 95 combined with ETC Intelligence® is Passive House-certified with a thermal performance of 0.8 W/m<sup>2</sup>.K. that is achieved without the addition of insulating foam. The exterior heat insulation technique, with fitting in rebate, is often used to achieve Passive House certification; this technique, however, is not needed with this window. It's actually the opening sash protection, integrated into the fixed frame, that enables the system to achieve such high performance values.

### ■ Benefits

- Reuse of the Direct Positioning System from WICLINE 65 & 75 evo windows
- Reuse of several elements from existing series, such as cleats and the central gasket
- Hidden drainage
- Concealed opening sash technique
- Maximum infill of 55 mm
- Sober and sleek design
- Simplified manufacture given the high performance of the frame

**On sale:** mid 2016. Strips undergoing approval

## 3. WICLINE 75 TOP: reduced dimensions for a high level of energy efficiency

The WICONA WICLINE 75 TOP is raising the benchmark in the ongoing evolution of ever more energy-efficient window solutions. The WICLINE 75 TOP combines the quality of WICLINE 75 evo windows with high energy efficiency.

### ■ Performance

Based on the WICLINE 75 evo, the new WICLINE 75 TOP in conjunction with the ETC Intelligence® concept achieves unmatched performance values in frame sections of 75 mm. This means that a value of  $U_w$  1.0 W/m<sup>2</sup>.K can be achieved without the addition of insulating foam.



WICLINE 95



WICLINE 95

### TOP for:

- T** = Thermal insulation of the highest level
- O** = Optimum performance and fabrication
- P** = Passive House level

## ■ Benefits

- All the benefits found in WICLINE 75 evo frames
- Evo fittings with DPS
- Hidden drainage
- Visible or concealed opening sashes
- Maximum infill of 50 mm in concealed opening sash
- Integration into a WICTEC 50 curtain-wall with suitable frames

The system is currently undergoing approval in France.

**On sale:** mid 2016.



WICLINE 75 Top

## **SOLUTIONS THAT PROMOTE SUSTAINABLE DEVELOPMENT**

WICONA is the market leader in terms of innovation in the façade systems sector and is committed each and every day to protect the environment. The company helps reduce the environmental footprint of its products and business activities and is committed to protecting natural resources and developing more sustainable cities.

### **WICONA is alone in offering 100% green products!**

The brand has made the decision to use thermal insulation strips made of recyclable polyamide for all of its aluminium profiles. This will enable WICONA to significantly reduce the consumption of precious natural resources and improve the environmental footprint of its products.

Half of its range is already guaranteed green, and the aim is to lead the way in having all of its products go green by 2017. WICONA is currently the only building system creator to provide 100% recyclable products! This is a perfect illustration of the company's commitment to sustainable development and its willingness to actively contribute to the High Environmental Quality of the buildings that it works on.

### **Green: WICONA's green revolution**

WICONA is the first systems supplier to use strips made of recyclable polyamide as thermal insulators. Made of 100% recycled material, these strips are a significant improvement in assessing a system's life cycle without compromising quality.

Only pure, high-quality polyamide is used to manufacture these strips. Polymer blends or mixed recycled materials are avoided as they are considered to be lower quality. Furthermore, the supply chain is closely monitored and strict checks are performed throughout the production process.

Use of the product results in an 89% reduction in the consumption of fossil fuels, an 84% reduction in carbon dioxide emissions and a 32% reduction in water consumption.

Absolutely no compromises are made on performance or quality of finish. All thermal insulation strips made of recycled polyamide are tested for compliance with the DIN EN 14024 standard and have the same physical properties as thermal insulation strips made of polyamide PA 6.6.

This innovation is being gradually introduced on the entire range of WICONA products. Profiles do not have to be ordered separately by the client, and there is no need to take specific precautions in terms of handling or logistics when installing them.

The WICONA guarantee also fully covers systems fitted with these new strips.

## PROJECTS FOR THE CITY OF THE FUTURE

### Closed Cavity Façade (CCF): the sealed modular façade



Closed Cavity Façade

The TeMotion double-skin façade, implemented at the test centre in Bellenberg in Germany, is used to carry out tests, measurements, observations and improvements. It is also a source of innovations. Upgrading buildings' energy efficiency is an opportunity for cities to overcome the challenges they are faced with (urban densification, scarcity of available land, changes in land prices, research into the energy efficiency of buildings, etc.). The residential and tertiary sectors are responsible for 43%\* of final energy consumption and over 20%\* of greenhouse gas emissions. Buildings in the tertiary sector, meanwhile, accounts for a third of this amount, hence the need to quickly initiate actions to upgrade energy efficiency. The building envelope has a vital role to play in the pursuit of sustainable, effective and size-optimised urban planning. It is this complex equation that WICONA's new CCF technology is attempting to solve. Here, WICONA demonstrates how to combine façade design with building envelope management.

\*Ademe

## ■ The principle

The Closed Cavity Façade is a fully sealed, double-skin façade that automatically controls the flow and pressure of "dry air" in all the modules in a building. This solution is suitable for use both for new builds and in renovation projects.

WICONA launched a project to study the automation of these modules and the impact of closed cavity conditions on the solutions and materials used for façades. This ongoing research and development work is performed at WICONA's test centre (a ZEB laboratory) in Bellenberg, Germany.

## ■ Engineering for buildings

Regulating pressure conditions in units poses quite a challenge. WICONA is venturing into uncharted territory and is working in collaboration with specialists in compressed air. Materials which come into contact with the dry air blown into the closed cavity must undergo a set of precise tests. Gaskets, sealing products, powder-coated surfaces and solar protection systems are all subject to tests in order to ascertain their reaction to dry air, sustainability and longevity. Furthermore, increased requirements concerning cavity sealing necessitate adjustments in the production and manufacturing of the units.

## ■ Technical characteristics

- Exterior: single glazing
- Interior: double or triple glazing
- Fabric or blade blinds integrated between the two glazed units
- Prefabrication of modules in the workshop.

## ■ One project, one solution

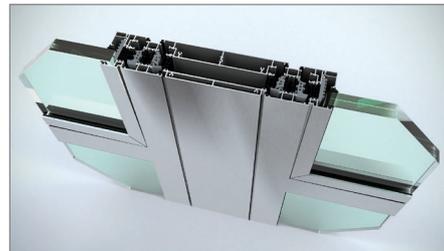
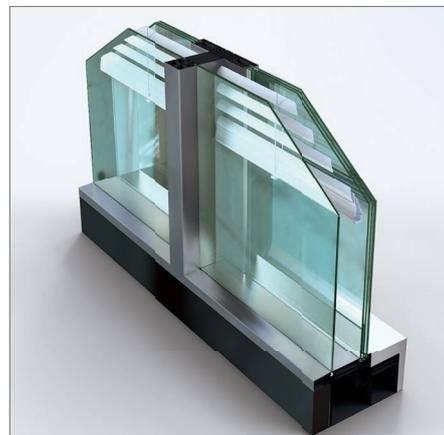
WICONA is currently developing its first façade using CCF principles. This work is carried out in partnership with App (a German company based in Leutkirch and specialists in façades), as part of the renovation of a building in Zurich for an insurance company. The project will feature a Closed Cavity Façade of around 5,000 m<sup>2</sup> with rounded corners which are also designed using CCF technology. Delivery is scheduled for late 2015.

This double-skin façade was developed and almost entirely produced and assembled in Switzerland by Gartner. It is intended for use on large-scale office projects.

## Reduced dimensions

Thickness of the Closed Cavity Façade reduced by a minimum of 40 cm compared to a conventional double skin

## Refined design



## DIGITAL SOLUTIONS

### WICONA is organising in project mode

According to the definition given in the BIM Handbook, "using Building Information Model technology, accurate virtual models of a building are constructed digitally. They support design, allowing better analysis and control than manual processes. When completed, these computer-generated models contain precise geometry and data needed to support the construction, fabrication, and procurement activities."



WICONA is part of this scheme, which will be mandatory in France for all public buildings from 2017. The brand has always wanted to be a pioneer in terms of design-aid tools and on an overall approach to high-performance integrated solutions like 3D in the costing and design software Wictop, as well as thermal calculations, checking of required inertia values and optimisation of a building's orientation through solar protection systems with 3D Master.

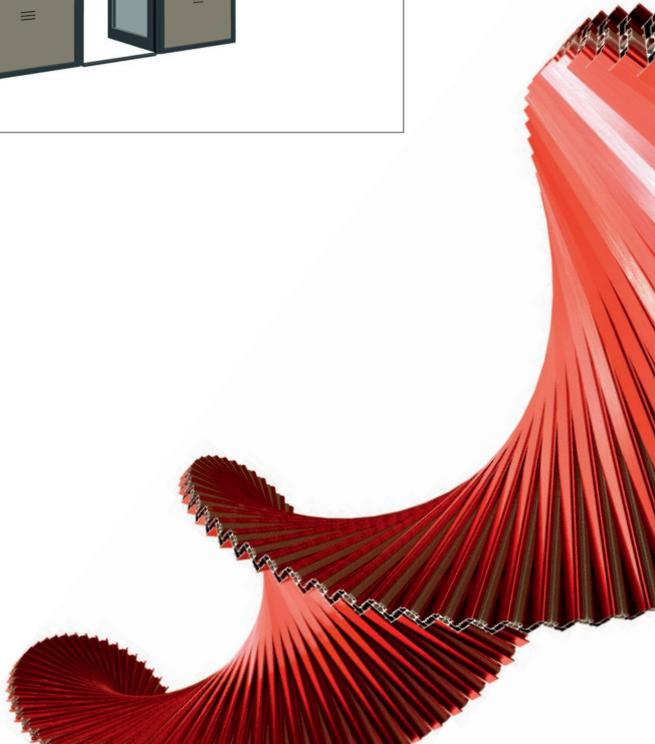
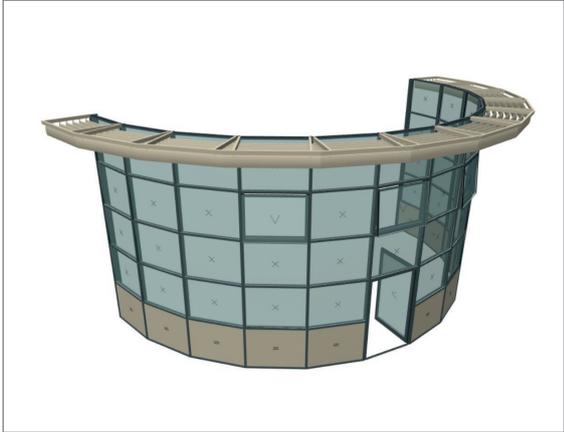
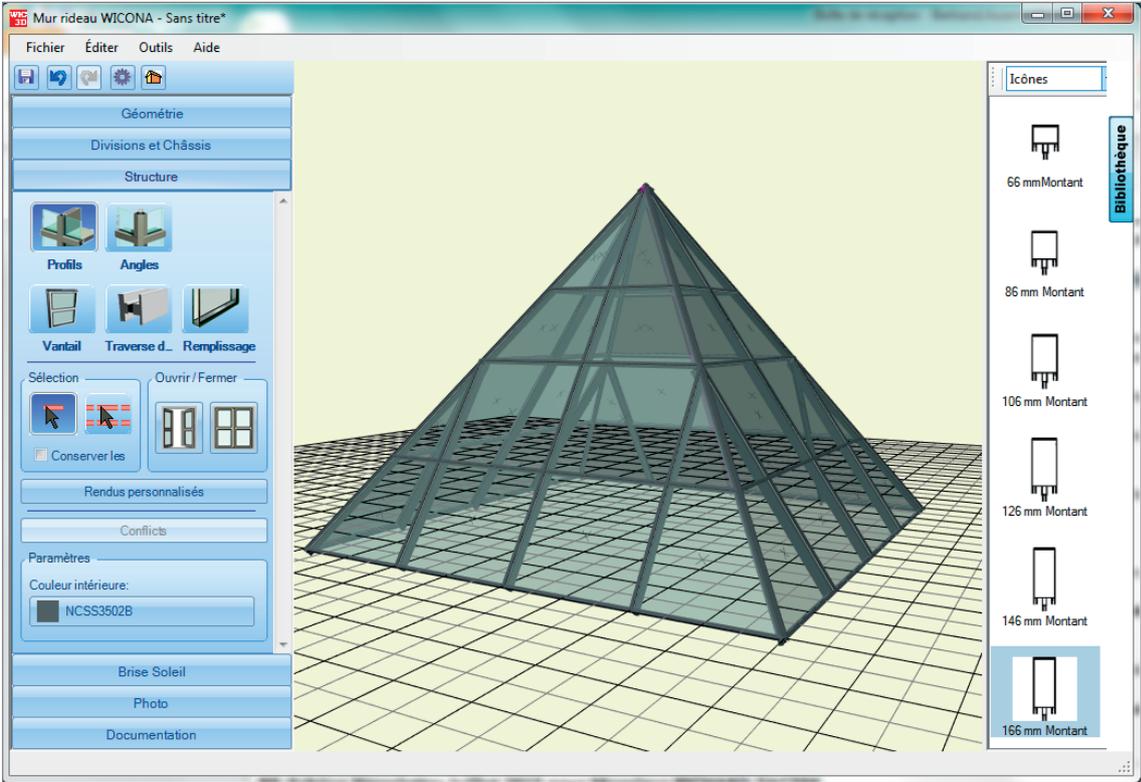
WICONA's approach is twofold:

- **Simple constructions** with the provision of libraries in "Revit" format. The products included such as the WICTEC 50 façade, WICLINE windows and WICSTYLE doors are available on the wicona website. These objects are configurable a limited number of times.
- **For complex constructions**, such as curtain-walls, WICONA provides a special piece of software: Wic3D.

Once the mock up has been defined, in Google Sketchup for example, architects can send it to the Wic3D software. They can then redefine the façade or frames with accurate elements of the brand's products that are integrated in the software. Once they have made any changes and recovered the data, architects can reintegrate them into their mock up. What's really of value is that these data can be recovered by WICTOP, the technical costing and design software. It is therefore much easier to check and validate the data that the architect came up with based on WICONA products.

Once the modifications have been made, if necessary, to the project, the fabricator just has to send these data back to the architect or design office to calculate the building's performance.

At the Batimat 2015 fair, WICONA will offer an animated scenario with exchanges between various stakeholders at each stage of a building's conception and design. Based on an existing construction, visitors will be able to see the value of the Wic3D software in a fun and clear way throughout these exchanges.



# » WICONA, experience and know-how

WICONA now has 60 years of experience, know-how and expertise in aluminium systems for buildings: façades, windows, sliding systems and doors. The brand sets the standard in its sector and is known for its stringent requirements on reliability, mechanical, thermal and acoustic performance, sustainability and recyclability. WICONA, then, is naturally the chosen partner for architects and design offices, with which the brand works closely to help them bring their creative ideas to life.



Blondel university building Patriarche & Co

## **Optimised and tested solutions**

The WICONA teams rely on the design office at the company's head office in Ulm, Germany. This is where all the products are tested, thereby ensuring the quality and consistency of the product lines.

The brand is thus able to provide innovative and effective technological solutions for the construction of aluminium joinery products and façades. The brand now provides stakeholders in the construction industry with the widest choice in the field, and has comprehensive services on offer too.

At the same time, WICONA is stepping up efforts to renew its product ranges to keep in line with the changing regulations and standards, thereby meeting the requirements of fabricators, façade specialists and metal workers that the brand has worked with for many years.



## Large-scale, tailor-made projects

As well as its comprehensive catalogue of building systems, WICONA stands out thanks to its tailor-made projects. The company positions itself as a leading partner for international architects and façade design offices and supports them through all stages of their most ambitious projects. A team of engineers adapts demanding proposals, helped by a department devoted to special projects.



Château-Thierry Aquatic Centre

The department uses the expertise of the Ulm design office, as well as the skills of the Bellenberg technical centre (also in Germany), where all WICONA products, even façades (up to 10 m high) are tested and certified to ensure optimum quality.



Ponsan Bellevue accommodation

**WICONA®**  
TECHNIK FÜR IDEEN