

**WICONA®**  
TECHNOLOGY FOR IDEAS

Window systems and fittings

**WICLINE®** *evo*



# What does evolution mean?

Dictionary:  
**Evolution** [ěv'ə-lū'shən; lat.] a gradual progressive change, continuous development through history and time.

# What does **WICLINE** *evo* stand for?

**WICLINE evo** [WICLEIN ěv'ə; lat.] a progressive development of a window system into higher performance features, continuous development in the work flow.

# What does **WICLINE** *evo* mean for metal building?

WICLINE evo is a future-oriented further development of the successful WICLINE window series, consisting of a profile system and fittings technology that further enhances existing advantages.

WICLINE evo is flexible, energy-efficient, fast, production-friendly, process safe, variable, environmentally more responsible, cost-effective and visually attractive. WICLINE evo offers you a headstart when it comes to cost effectiveness, technology, and sustainability.



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**WICLINE®** **evo** simply better:



#### more flexible:

- All system variants for many special requirements and opening features are based on only one system technology
- Two fitting options (visible and concealed hinges), using the same production steps
- Large sashes, up to 2,500 mm and sash weight up to 160 kg as standard design, heavier weights can easily be customized

#### more energy efficient:

- Better  $U_i$  values for both series 65 and 75
- Better  $U_w$  values
- Triple glazing option, even as posterior upgrade

#### faster:

- Patented corner connection system with injection from one side
- Unique fitting installation with DPS (**D**irect**P**ositioning**S**ystem)
- All profile processes can be punched

#### production-friendly:

- Integral concept using WICPRO multi punches or manual punches
- WICONA Unisys using the same components for all window as well as door series
- Expertly developed components for optimal production processes

#### more reliable:

- Fewer components and processing stages, therefore increased safety during production
- Reliable and safe calculations, design and production engineering using WICTOP Software
- High pre-fabrication level of installing components

#### more flexible:

- One centre seal, three installation methods: "Frame off the bobbin", with formed corners or as complete vulcanised frame
- Large selection of profiles for all applications
- Simple upgrade (e.g. functional changes or heavier glass without changing the hinges)

#### more environmentally friendly:

- 100 % recyclable aluminium
- 68 % of the energy required to produce aluminium WICONA profiles comes from hydro-electric power
- Developed by using eco-design methods: e.g. higher insulation and static values while using less materials

#### visually more attractive:

- Visible hinge components and handles can be anodized in all colours
- Design variation such as Classic Design, concealed sashes, large sash dimensions, and custom-made profiles can be easily achieved
- Slim, filigree design



# Your benefits: **WICONA** Unisys **optimized**

Reduced complexity!



## One system for all requirements

WICONA Unisys means:

- Consistent modular design with identical components, e.g. same corner angles for the 65 and 75 series, and for inner and outer half shells, for special applications, and for WICSTYLE doors.
- Same visual appearance for different applications such as burglar protection, sound insulation or increased thermal insulation.
- Simple adjustment for different application, even as upgrade.
- Easy planning and design with WICTOP Genius metal construction software.

## One hinge design, two different options

WICONA Unisys means:

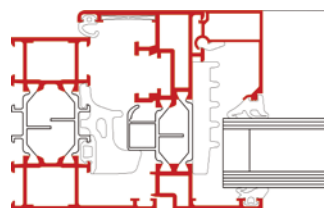
- Same installation steps for fittings, either with visible or concealed hinges.
- Same fitting components for 65 and 75 series.
- One hinge type for sash weights up to 160 kg, special designs are available for weights up to 300 kg.
- Easy planning and design with WICTOP Genius Metal construction software.



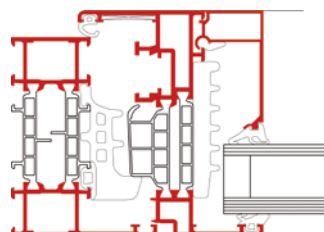
WICSTAR evo fittings with visible hinges



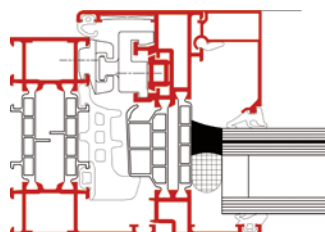
WICSTAR evo fittings with concealed hinges



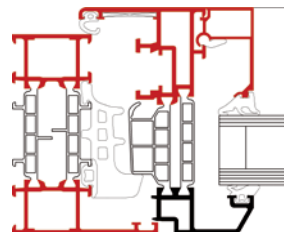
WICLINE 65 evo



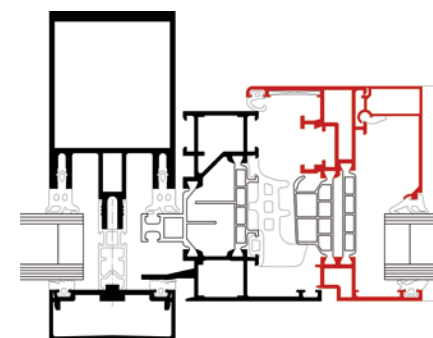
WICLINE 75 evo



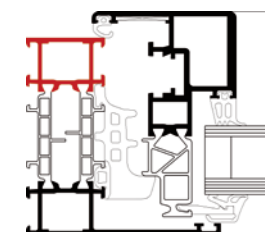
WICLINE 75 evo Burglar protection



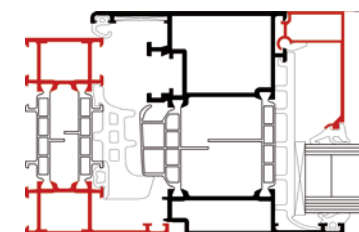
WICLINE 75 evo Classic Design



WICLINE 75 evo Window integration



WICLINE 75 evo Concealed sash

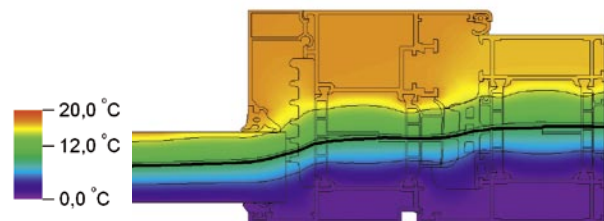


WICLINE 75 evo Balcony door

## Your benefits:

- Simplified logistics and less stock keeping.
- Simple planning, easy ordering and possible adaptations until short before the production.
- Less time and effort when changing sizes or designs.
- Increased process reliability, due to the same manufacturing steps.

## Your benefits: increased energy efficiency



### Saving energy effectively

- The intelligent system design of WICLINE evo assures  $U_f$  values up to  $1.2 \text{ W/(m}^2\text{K)}$  even without insulation foam.
- Efficient thermal insulation, in spite of its filigree design means maximum energy-saving and optimized solar energy usage.
- Triple glazing up to 69 mm is possible and can be upgraded after years.

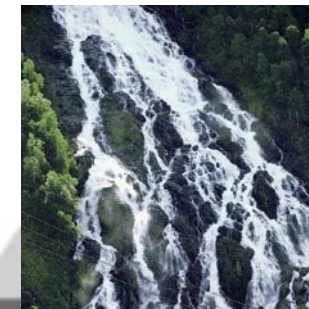
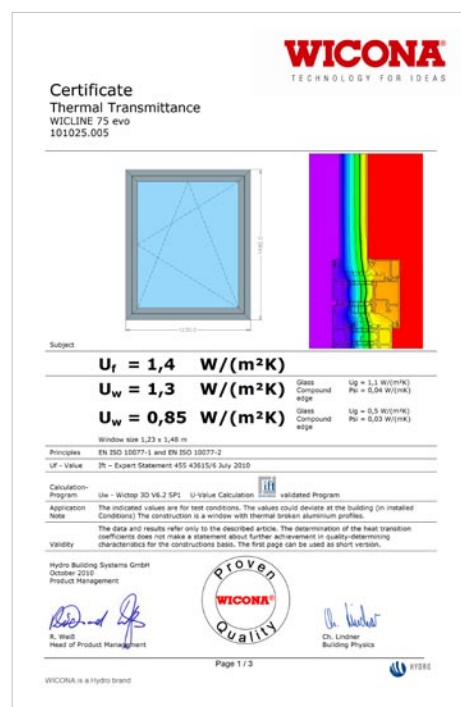
### Certified maximum performance:

By using the ift-validated  $U_w$  report of the WICTOP construction software, the precise  $U_w$  value of each window can be determined based on the current standards. The exceptional insulation characteristics of WICLINE evo meet requirements today that will be demanded tomorrow.

### Building certification made easy:



Its  $\text{CO}_2$ -saving aluminium production, thermal insulation & durability make WICLINE evo ideal for all buildings that shall be certified according to an ecolable, 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's 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.

## Your benefit: state-of-the-art fitting technology with DPS (DirectPositioningSystem)

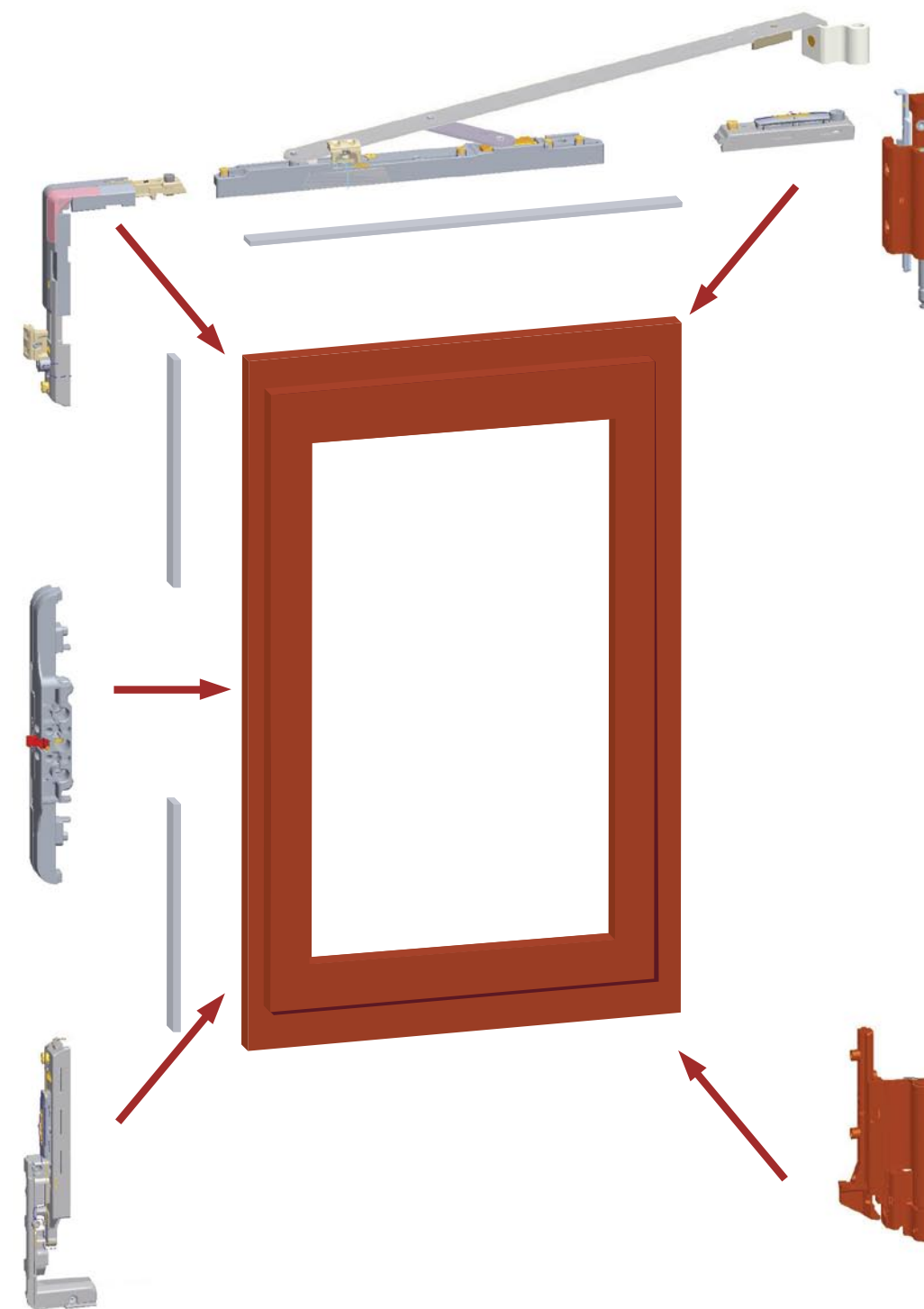


A window consists of a profile system and fittings.



offers exceptional advantages:

- Fittings with visible or concealed hinges using the same fitting technology.
- DPS (**D**irect**P**ositioning**S**ystem) stands for:
  - No opening of the fitting groove in the mitre.
  - Fastest installation of fitting components: position, tighten, done.
  - Fitting components can be installed in individual sequences.
  - Pre-fabricated components for fast assembly and higher process reliability.
  - Using clamping connections for the fitting installation, pre-drilling is not required.
  - Optional usage of opening delimiter.
- Highest possible quality, e.g. corrosion protection class 4 using Nanosil Technology.
- Simple logistics, using environmentally friendly reusable packaging.
- High sealing effect, since fittings do not penetrate or break the seals.
- Installation of components at ergonomically favourable 45 % angle.
- A visual highlight: Upon request, visible hinge components and handles can be anodized in all colours.

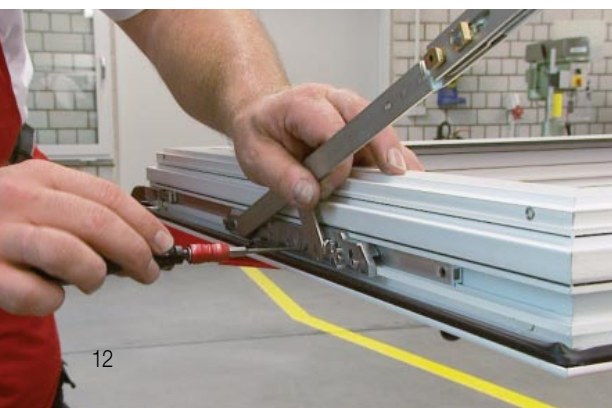


### Your benefits:

- Significant time savings during the installation of the fittings.
- Increased process reliability and minimized risk of errors.
- Easy implementation of the architect's demands or the builder's requirements.



## Your benefit: efficient processing in all production steps



**WICLINE** **evo** was developed for maximum efficiency, process reliability, and dependable results. This ensures advantages during all processing steps:

- All profile treatments can be punch-pressed, using either WICPRO multi punches or manual punches.
- Patented corner connection system with guided glue distribution and injection from one side only.
- Three alternatives for the installation of the centre seal:
  - New: Circumferential centre seal without joint, "Frame off the bobbin"
  - New: with formed corners, without the use of cyanacrylate adhesives.
  - With corner-vulcanized frame.
- Rational fitting installation by using the DPS (**D**irect**P**ositioning**S**ystem).

**WICLINE** **evo**



**WICPRO** offers professional tools and processing equipment for all installation steps:

- Multi-punch concept
- Manual punches
- Turntables for easy installation
- Fitting installation trolley
- Reusable packages for all fittings
- Adhesives, seals, foils, and much more

We offer a comprehensive program for the professional workshop.  
Ask for our WICPRO catalogue.

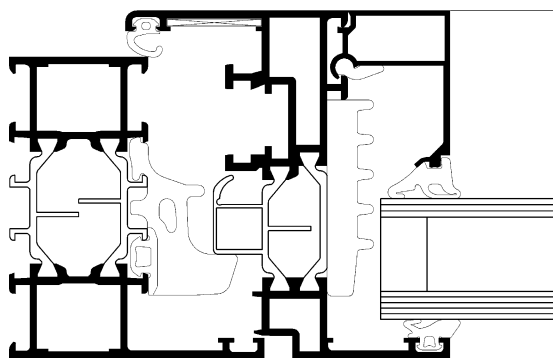
## Your benefits:

- Significant time savings during all processing steps.
- Reliable and high-quality results.
- Minimum investments.

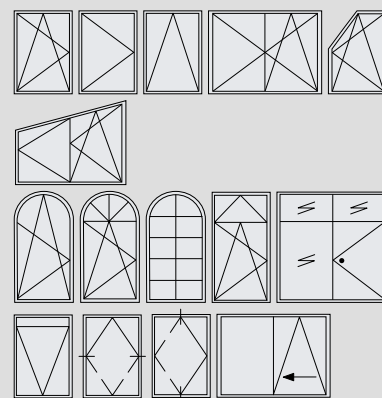
# WICLINE® 65 evo



State of the art technology and a comprehensive profile range make WICLINE 65 evo a perfect all-rounder with a versatile spectrum of applications. By using a design depth of only 65 mm, this system meets high standards required for heat and sound insulation. WICLINE 65 evo offers a very attractive price/performance ratio.



WICLINE 65 evo



## WICLINE 65 evo – at a glance

### Profile technology:

- Multi-chamber system using a symmetric design, quality assured factory connections of aluminium and thermal break profile
- Patented corner connection system for high rigidity
- Corner angles with valve technology and adhesive injection from one side only
- Infill thickness up to 59 mm

### Thermal insulation:

- $U_f$  values from 1.9 to 1.4 W/(m<sup>2</sup>K) for WICLINE 65 evo
- Making  $U_w$  values up to 1.2 W/(m<sup>2</sup>K) feasible

### Sealing concept:

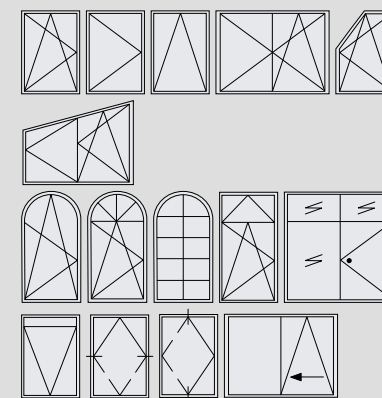
- One centre seal, three installation methods, no adhesive processing
  - Circumferential centre seal, "Frame off the bobbin"
  - With formed corners
  - Corner vulcanised frames

### Fittings:

- Concealed single-handed operated fittings DPS (**D**irect**P**ositioning**S**ystem)
- Visible hinges and fittings anodized in all colours. Permitted sash weight:
  - Turn/tilt hinges up to 160 kg, special hinges up to 200 kg
  - Turn fittings up to 300 kg
- Concealed hinges with integrated end position damping. Permitted sash weight:
  - Turn/tilt fittings up to 160 kg

### Additional designs:

- Concealed sash
- Classic Design
- Integration frame for stick façades
- Burglar protection in resistance class RC1, RC2, RC3
- Bullet-resistance in FB4



## WICLINE 75 evo – at a glance

### Profile technology:

- Multi-chamber system using a symmetric design, quality assured factory connections of aluminium and thermal break profile
- Multi-chamber insulation with additional profile depth for increased thermal insulation
- Patented corner connection system for high rigidity
- Corner angles with valve technology and adhesive injection from one side only
- Infill thickness up to 69 mm

### Thermal insulation:

- $U_f$  values from 1.9 to 1.2 W/(m<sup>2</sup>K) for WICLINE 75 evo
- Making  $U_w$  values up to 0.9 W/(m<sup>2</sup>K) feasible

### Sealing concept:

- One centre seal, three installation methods, no adhesive processing
  - Circumferential centre seal, "Frame off the bobbin"
  - With formed corners
  - Corner vulcanised frames

### Fittings:

- Concealed single-handed operated fittings DPS (**D**irect**P**ositioning**S**ystem)
- Visible hinges and fittings anodized in all colours. Permitted sash weight:
  - Turn/tilt hinges up to 160 kg, special hinges up to 200 kg
  - Turn fittings up to 300 kg
- Concealed hinges with integrated end position damping. Permitted sash weight:
  - Turn/tilt fittings up to 160 kg

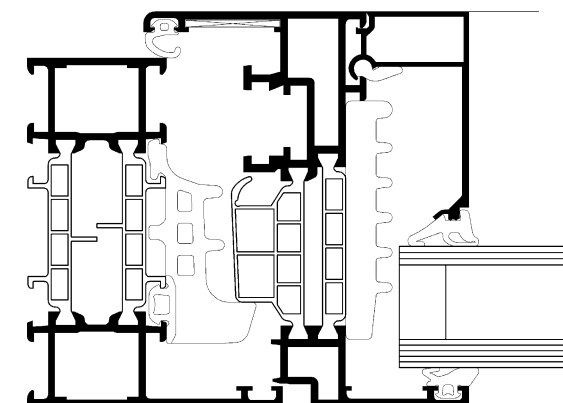
### Additional designs:

- Concealed sash
- Classic Design
- Clamping frame for stick façades
- Burglar protection in resistance class WK 1, WK 2, WK 3
- Bullet-resistance in FB4

# WICLINE® 75 evo



With 10 mm more profile depth, WICLINE 75 evo features the highest thermal insulation properties, and structural characteristics. In all other aspects similar to WICLINE 65 evo, this system is attuned to all architectural requirements of the future.



WICLINE 75 evo



# Tried and tested **WICLINE**® series for special requirements

The comprehensive application spectrum and high-quality performance of the new WICLINE evo series meet the demands of the market and most of the newest standards. By using only two profile depths, most challenges in modern metal construction work can be solved at the highest level. For all other special requirements, the WICLINE product range offers the right solution.



WICLINE 215 – Double skin window, see page 18



WICLINE 125 Composite windows, see page 19



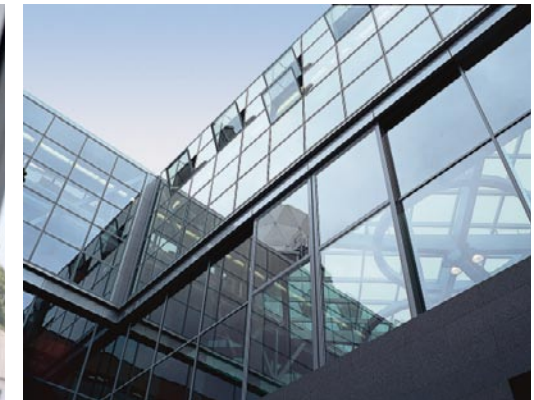
WICLINE 90SG All-glass window, see page 20



WICTEC 50 Skylights, see page 21



WICLINE 65N Non-insulated window, see page 22



NSHEV, see page 23



## WICLINE® 215

### TOP-Window

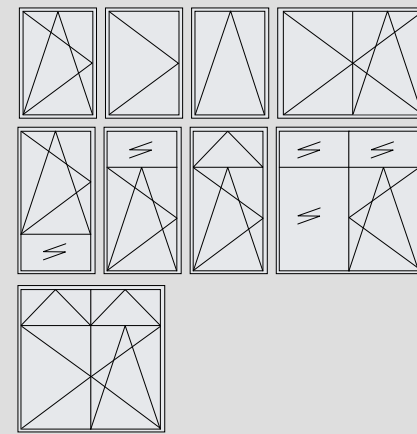
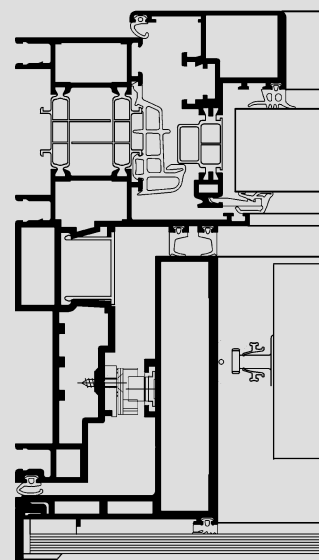


High sound insulation even when the window is open? WICONA has found a solution for an issue that at first appears irresolvable – the TOP-Window. A double pane window with the same structural-physical values of a double skin façade. This new type of window combines a turn/tilt sash with a parallel projecting sash. Both sashes can be opened independently. A solar protection integrated between both sashes ensures even greater comfort. Not only does it create a pleasant climate within the room, but it also reduces energy consumption.



#### WICLINE 215 (TOP-Window) - at a glance

- $U_w$  values up to  $0.7 \text{ W}/(\text{m}^2\text{K})$  are feasible
- Up to 40 times higher air exchange; increasing the user's comfort even more
- Two sashes that can be opened individually, no restrictions on use
- Integrated sun protection, protected against dirt and the effects of the weather
- Night-time cooling possible if combined with the WICONA E-TecDrive in the inner sash
- Increased noise protection (57 dB depending on the glazing) with standard panes and windows closed; noise protection even if outer sash and inner sash are open
- Double-shell construction enables passive capture of solar energy
- Low profile depth, despite integrated solar protection, motor assistance and control system
- Inner windows protected from burglary or weathering even when outer window is open



#### WICLINE 125 – at a glance

##### Profile technology:

- Profile depths
  - 125 mm: Frame and transom profiles
  - 136 mm: Combined sash profiles, main inner sash with overlap

##### Thermal insulation:

- $U_w$  values below  $0.9 \text{ W}/(\text{m}^2\text{K})$  feasible
- Sound insulation (standard up to 48 dB)

##### Burglar resistance:

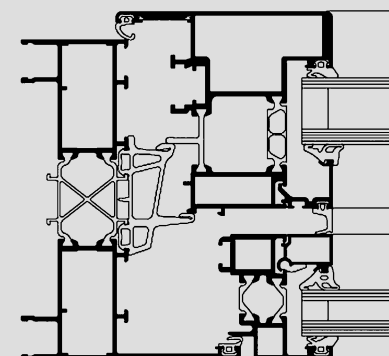
- Resistance classes from WK 1 to WK 3 in accordance with DIN V ENV 1627 can be achieved

##### Fittings:

- Permitted sash weight (total for combined windows)
  - up to 130 kg or reinforced up to 160 kg

##### Variants:

- Outer sash - with thermal insulation
- Outer sash - concealed installation
- Outer sash - industrial contour design
- Outer sash - all-glass window, glued

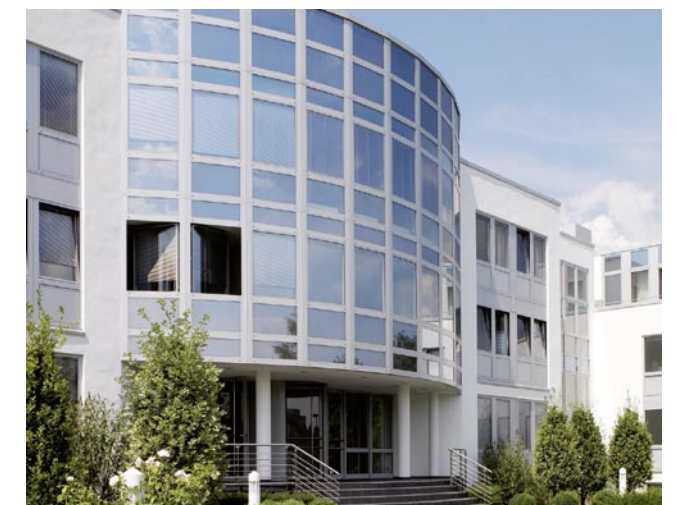


## WICLINE® 125

### Twice the protection



WICLINE 125 is a composite window system for buildings with particularly high thermal and sound insulation requirements. The inner window level is combined with an additional sash in front of it. This significantly increases the window's protective features and living comfort. Depending on the glazing used,  $U_w$  values of less than  $0.9 \text{ W}/(\text{m}^2\text{K})$  can be achieved. Weather protection and solar shading between the outer and inner sashes can be integrated at any time.





## WICLINE® 90SG

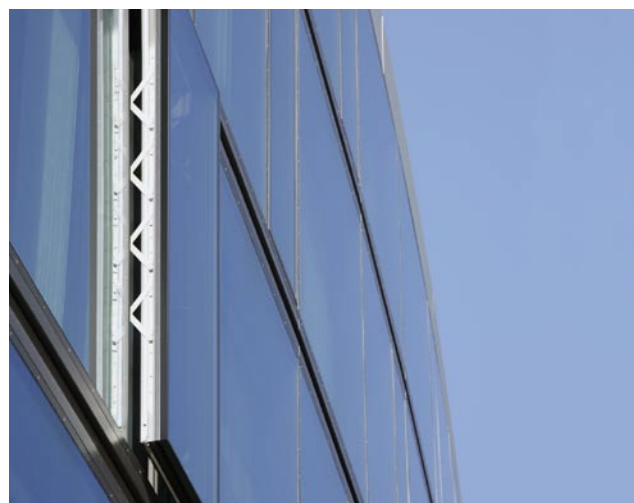
### All-glass windows



WICLINE 90SG, top-hung window

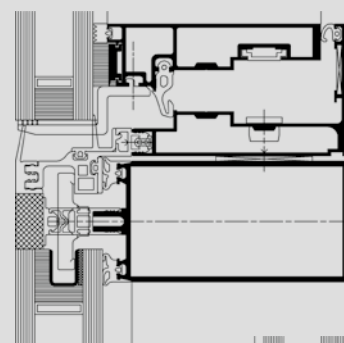
An attractive supplement for all-glass façades, the WICLINE 90SG (Structural Glazing) provides efficient ventilation.

As top-hung window or parallel outward-opening window, the WICTEC 90SG all-glass window can be integrated into the WICTEC 50SG as well as into the stick façade with outer pressure strip. The WICLINE 90SG comes in double and triple glazing design and provides optimal heat protection.

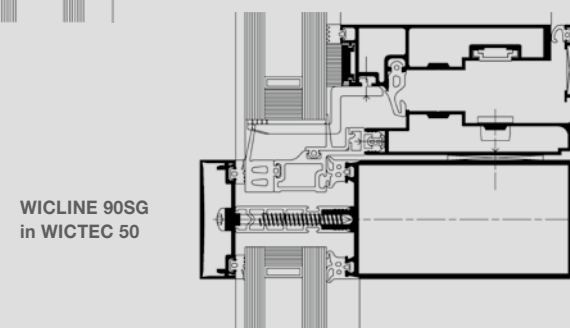


#### WICLINE 90SG – at a glance

- Top-hung window or parallel outward-opening window, with same visual appearance
- SG technology without stepped-edge glazing, resulting in cost savings and simple installation
- Slim frame design for filigree visual appearance and maximum transparency
- Individual thermal installation through the double and triple glazing construction
- WICONA motor and control technology: One system partner for a complete solution
- Compatible with BUS/Elb control systems
- Usable with all WICONA mullion and transom façades, with silicon joints or pressure strip
- Durable, reliable application through high-quality components and system design



WICLINE 90SG  
in WICTEC 50SG



WICLINE 90SG  
in WICTEC 50

#### WICTEC 50 – at a glance

##### Profile technology:

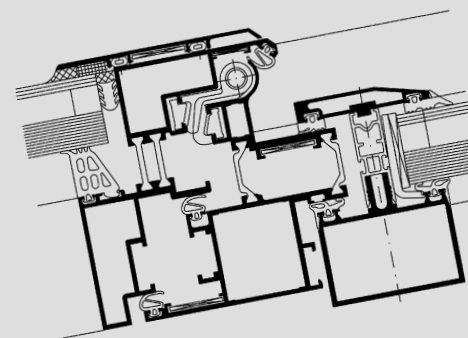
- Three-chamber system with quality assured factory connection of aluminium and thermal break profile
- Large sashes, possible up to 1400 x 1800 mm or 1800 x 1400 mm

##### Fittings:

- Fully concealed, top-hung strip windows
- Manual- or motor-operated
- Opening angle 90°

##### NSHEV:

- Tested and approved as a natural smoke and heat extraction device



## WICTEC® 50

### Skylights



The quality requirements for ventilation sashes in stick constructions are particularly high for those installed in the roof.

WICTEC 50 meets these requirements and delivers a delicate appearance with minimal displacement of the glass level. Streamlined profile elevations, concealed hinges and the option of large sash formats offer you extensive freedom of design. Thanks to the large ventilation cross sections with an opening angle of up to 90°, the WICTEC 50 skylight is also ideal as a natural smoke and heat exhaust ventilator.



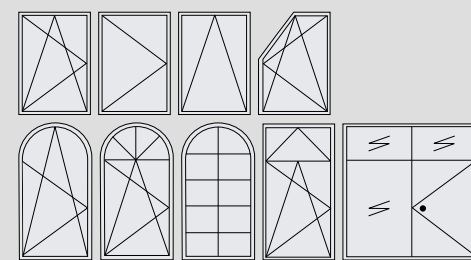
WICTEC 50 Skylight

# WICLINE® 65N

## Non-insulated windows



The WICLINE 65N is ideally-suited to applications such as open-plan factory halls, interiors, warehouses or other industrial buildings, in which specific heat protection measures are unnecessary. Ideal for the use as smoke control doors and NSHEV (Natural smoke and heat extraction equipment).



### WICLINE 65N – at a glance

#### Profile technology:

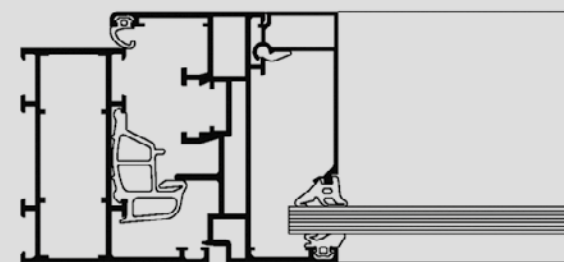
- Non-insulated profiles

#### Profile construction depths:

- 65 mm: Frame and transom profiles
- 76 mm: Overlap profile

#### Fittings:

- Visible and concealed fitting



### WICLINE NSHEV – at a glance

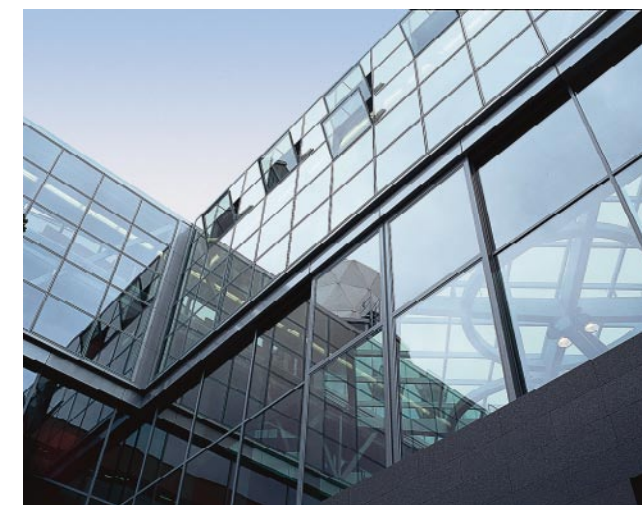
- Remarkable system diversity always ensures the appropriate solution
- For façades and glass roofs
- Opening inward or outward
- Can also be used as vent sashes
- Tested and approved as complete system
- Very good aerodynamic data and flow coefficients thanks to large opening angle
- Types of opening:
  - Tilt sash windows, opening inwards and outwards
  - Turn sash windows, opening inwards and outwards
  - Top-hung sashes (opening to the outside)
  - Flush top-hung sashes (opening to the outside)
  - Horizontally pivoting sashes
  - Vertically pivoting sashes
  - Skylights (opening to the outside)

# WICLINE®

## NSHEV



The purpose of Natural Smoke and Heat Extraction (NSHEV) devices is to divert hot smoke gases during a fire and to ensure a smoke-free layer near the floor and along evacuation routes. Thoroughly tested solutions from WICONA provide safety both for planners and builders, as well as cost benefits for the customer. In order to facilitate compliance with the statutory requirements, we will support you by providing a comprehensive package consisting of knowledge transfer, documentation and personal advice: Extensive planning instructions for NSHEV elements in accordance with EN 12101-2 are part of a brochure especially designed for use by metal construction companies. Please request additional information from us.



NSHEV, Britische Botschaft, Berlin



## Window systems and fittings



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