

# **Experience windows**

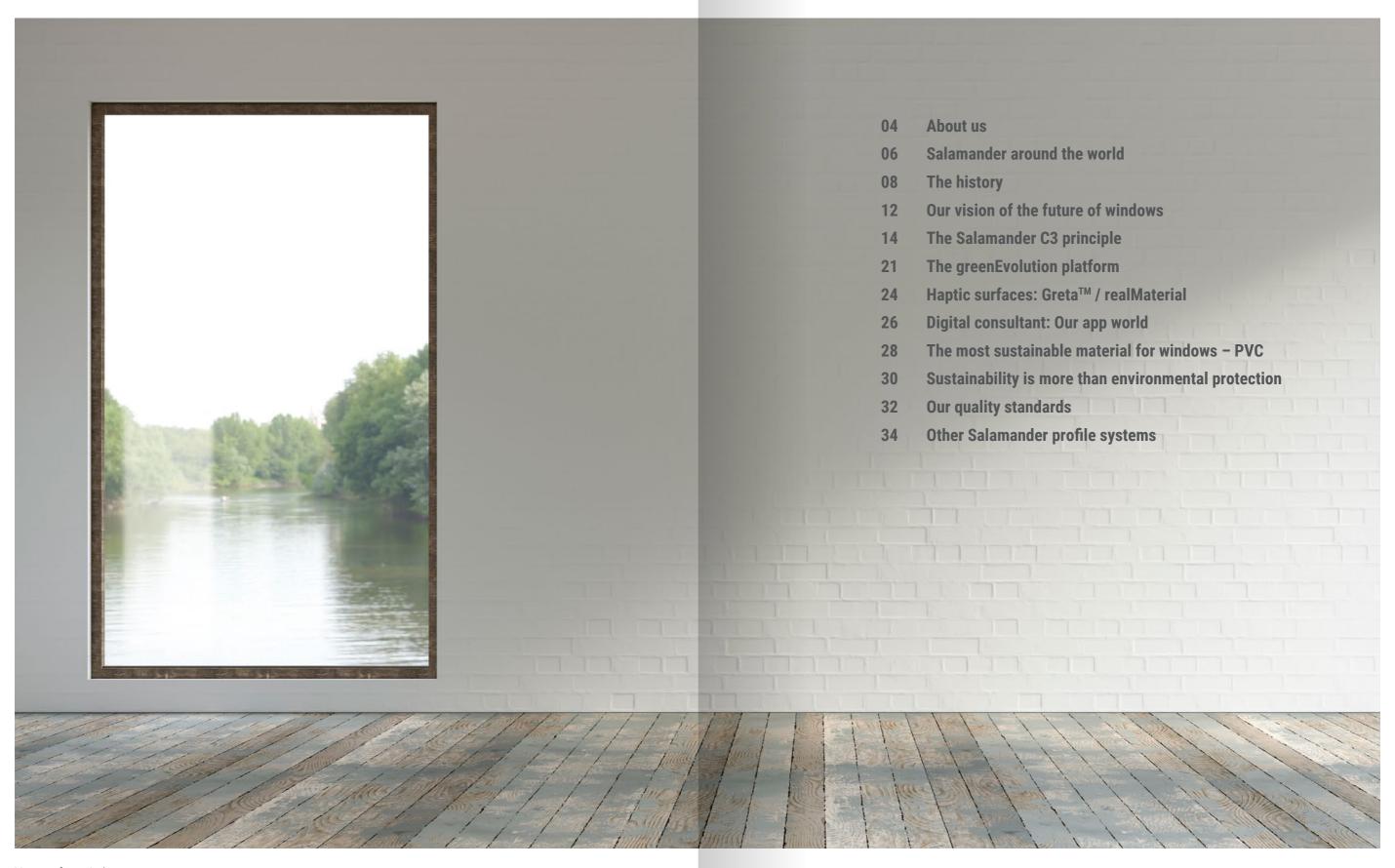
Quality, function, design – and more with Salamander.











# SALAMANDER WINDOW & DOOR SYSTEMS

# Salamander – long-established brand and globally active group of companies in family ownership

A successful family history "Made in Germany" which goes back more than one hundred years.

The Salamander Industrie-Produkte GmbH is a globally active, family-run company with an export rate of more than 70 % and a Group turnover in excess of € 260 million.

The Group is active in three business fields. The biggest field is Salamander Window & Door Systems: We develop and produce our extremely energy-efficient uPVC window and door profile systems in line with high ecological standards. Thanks to our products we are one of the leading system providers for window constructors in Europe.

We are the international market leader in our traditional division: Our company's original specialisation is managed by Salamander Bonded Leather GmbH & Co. KG. The bonded leather fibre material which we have developed is a completely biological recycled product and also a sustainable, cost-effective and high-performance alternative to genuine leather.

In the division Salamander technical uPVC profiles, we develop and produce customised profiles by means of extrusion to meet the specific needs of our customers.

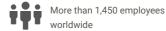
At our site in Türkheim, Germany we can look back on a more than 100-year history which provides the basis for our innovative, sustainable and digitalised products.

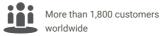




With the succession plan from 2017, the further development of the company has been ensured

The owning family of the Salamander Group:
Till Schmiedeknecht, Götz Schmiedeknecht, Dr. Heyo Schmiedeknecht















6





The Salamander brand looks back on an eventful history: As a family-run Group we remain firmly rooted in Allgäu, Germany and put a great emphasis on innovation in order to meet our customers' needs.



For more than 100 years now, the name Salamander has stood for the development and marketing of customer-oriented products.



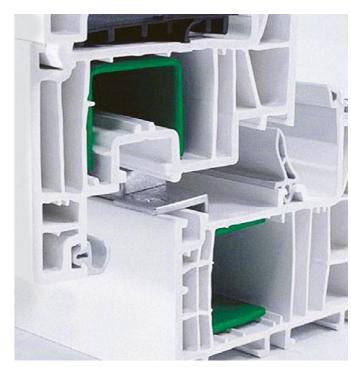
Jakob Sigle

Salamander was one of the first shoe manufacturers to market its own products and sell Salamander shoes to customers via its own network of branches.

Salamander started producing plastic parts in the 1970s and, in doing so, laid down the foundations for the current Group. At this time, the focus was on the processing of leather.



A famous face! Whilst the grown-ups shopped, the children whiled away the time with his adventures: The fire salamander "Lurchi" was the hero of our comics.





The recycled material "LEFA" symbolises our environmentally friendly approach; this completely sustainable bonded leather fibre material is made from surplus leather scraps.

Sustainability has always been a central issue at Salamander: Since 1917 the power required for production at our headquarters in Türkheim has been provided in part by a water power plant. The percentage of green energy from renewable sources used for production is being expanded continuously.

Even today, the Salamander brand is characterised by its progressive and marketing culture. Right from the very start our products are shaped by the concept of sustainability, reusability and innovation.

Jakob Sigle

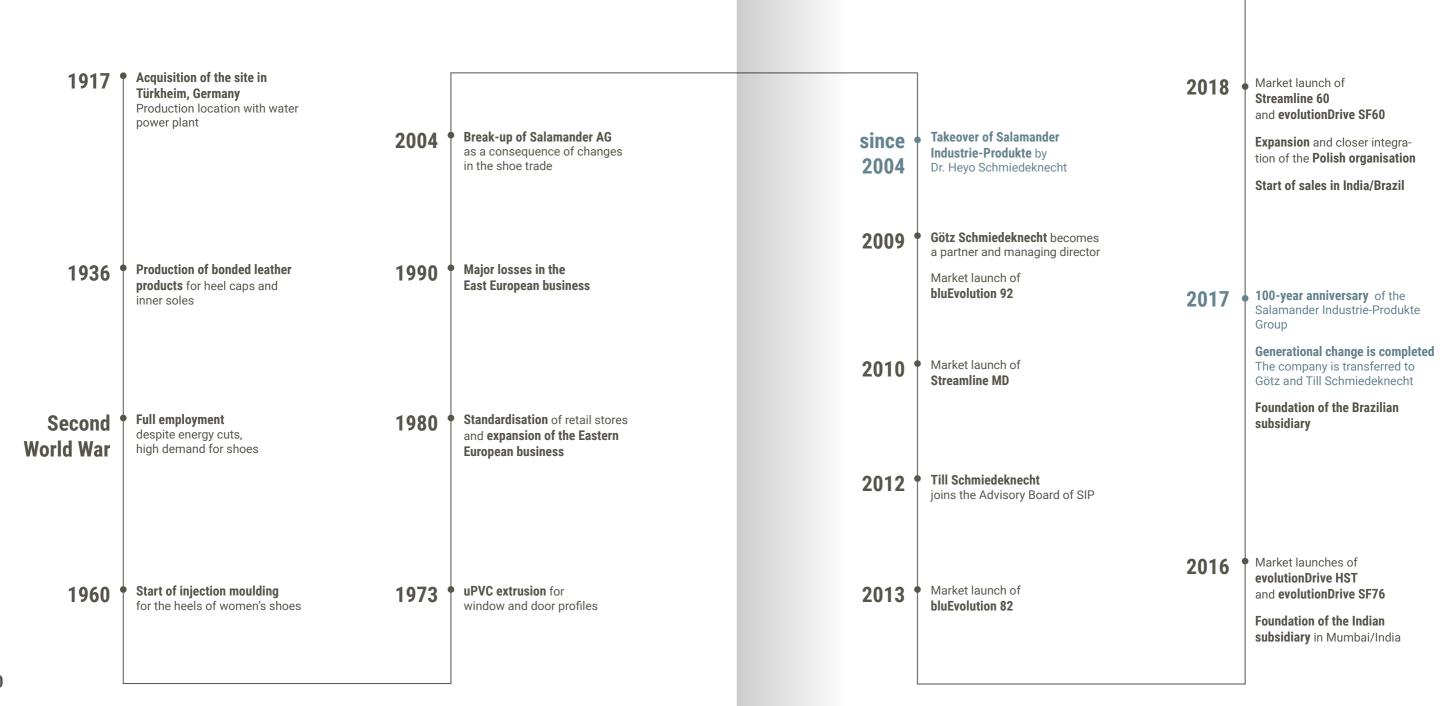


Market launch of the

greenEvolution modular system

### **The Salamander history**

The transition from an all-round shoe manufacturer to an innovative expert for profile systems and bonded leather fibre materials







"Today everything is digital. Why can't the same apply to window consultations?"

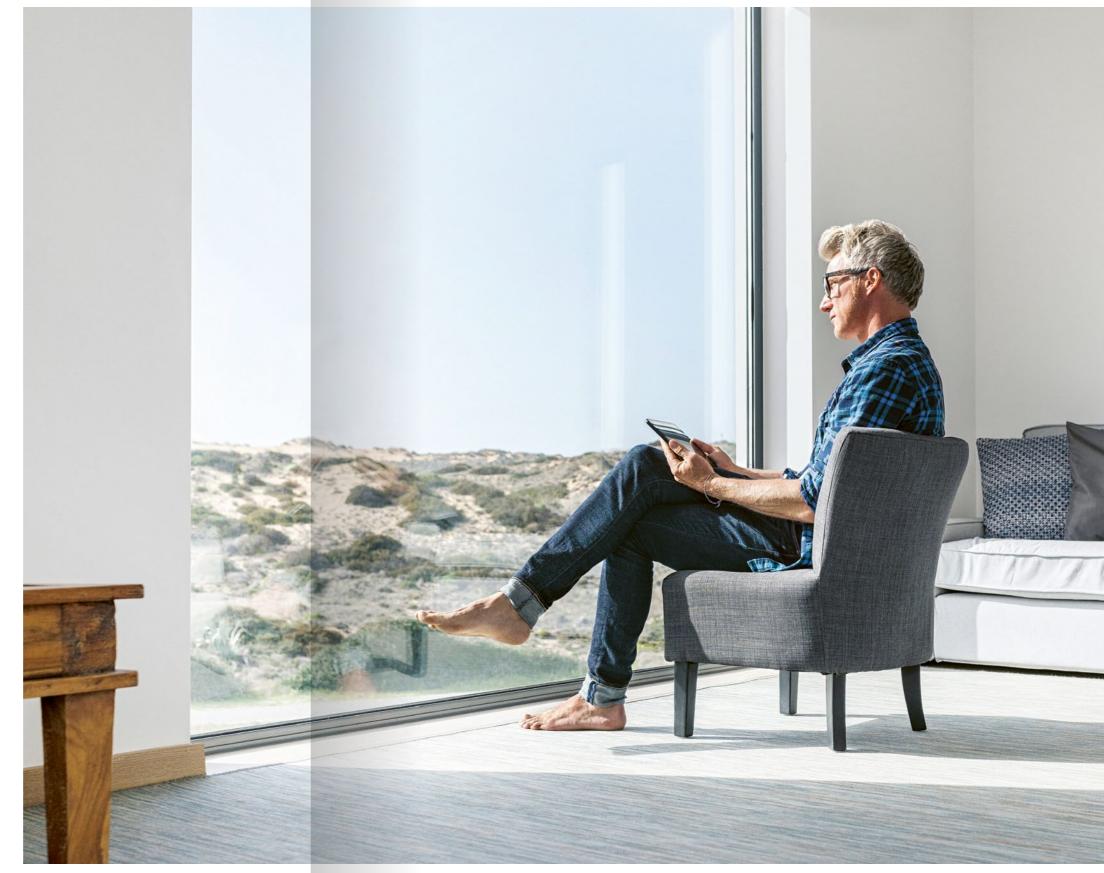
# myWindow: Find your match

We don't see windows as a purely technical product, but rather as an element which combines living and the façade.

Windows characterise the individual interior feel by means of light, heat input, view, ventilation and stunning finishes. At the same time, the window is also the design-shaping element of the façade and has to satisfy ecological, technical and safety-relevant criteria.

All these requirements cannot be fulfilled with a single standard but rather demand intelligent solutions which can be configured to match the specific situation, features of the building, the architecture and personal tastes.

With our window systems, we are paving the logical path to the optimum window configuration.





# The Salamander C3 principle: The route to the optimum window configuration

You can use our specially developed procedure to find the window that meets your standards and suits your building.

These factors essentially determine whether your choice of window matches the building and external influences:

#### Climate



### **Climate conditions and local factors**

Temperature curve and difference, rainfall, hours of sunshine, snowfall, wind loads, burglary rates, air pollution, noise pollution, metres above sea

#### Case



### **Building properties**

Year in which the building was constructed, living space, storeys, window frame material, glazing, alignment of the building as per GPS coordinates, number of windows per façade, window types, number of cross bars, window dimensions, analysis of light situation: Comparison of actual and desired light situation.

### Client

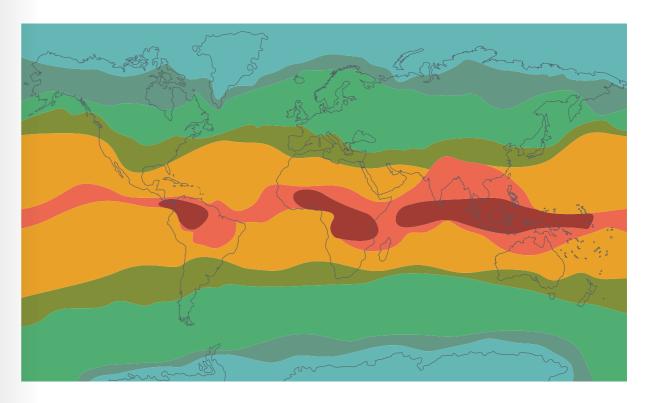


#### **Customer demands**

Strategies to optimise light and energy input, historical authenticity, regional style, individual selection of the design and materiality, ecological factors such as insulation and recycling as well as costs.



### **Climate**

















## **Not all locations** are the same

Different requirements are placed on your windows depending on the geographical location.

The new window must suit your building's climatic conditions: Germany alone is divided into 15 climate zones with differing temperatures, hours of sunshine, rainfall, snowfall and wind loads. What's more, additional criteria such as altitude, noise pollution, air pollution and burglary rates at the location must also be taken into consideration.





# The window - a core component of architectural history

We have the right window solution for every architectural style.

Building style and materials have changed time and time again since the beginning of the 20th century. The reasons for this are manifold: Economic influences and the availability of resources, changes in lifestyles and the emergence of new architectural styles. Each of these building periods makes different demands of window systems: The glass area and light incidence, insulation values and window shape and the profile geometry and surface must all be adapted to the building.

Turn of the century 1890-1914



20s and 30s 1920-1939





The diversity of shape and artistic design in terms of window construction culminate around the turn of the century. Bow

windows, mullioned windows and box

are typical of the "Gründerzeit" style.

windows with glazing bars in the fanlight

The windows associated with this construction style are based on the principle of "form follows function". For the most part asymmetrical windows with a large and a small sash are constructed, each with a divided frame.

1946-1959

In the early 1950s, pre-war architecture still prevails. The small, vertical windows are mostly made of timber with single glazing.

Standard window

Modern window with large glass area

Historical window

60s and 70s 1960-1979



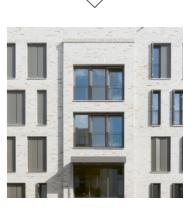
In the 1960s windows with timber frames in light colours and with single glazing dominated. Aluminium windows were also occasionally used. The size of windows grew due to the low cost of heating.

80s 1980-1989



As a result of an increased awareness for energy efficiency following the oil crises of the 70s, the Ordinance on Thermal Insulation from 1977 and the emergence of new historicism, windows tended to be smaller.

90s to the present day 1990-2020



The energy optimisations of the past three decades make larger window areas, floor-to-ceiling elements and French balconies typical of this period.



## **Optimal light and heat input**

### The orientation of the window is all-important.

The light quality and energy balance differ greatly depending on the orientation, this therefore determines the design and features of the windows.

#### North

- Constant scattered light is favoured by artists and for working.
- The low heat input is advantageous in the summer and in the winter the focus is on thermal insulation.
- Smaller windows for living, large windows for studios and workplaces here attention should also be paid to thermal insulation.

#### **East**

- Flat sun rays lead to clear contours.
- The heat input in the morning is mostly positive.
- Large window areas are ideal.

#### South

- Direct sunlight in the south ensures maximum use of light.
- In the winter the south side benefits from ideal light and heat input due to the lower position of the sun.
- In the summer the steep angle of inclination results in natural shade.
- The largest possible window areas should be realised here. Given the natural shading effect, sun protection can be achieved by means of simple measures.

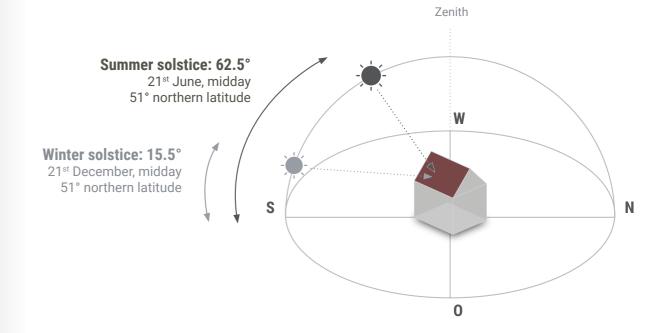
#### West

- The warm evening sun with long shadows is popular among many photographers.
- The low position in the summer results in a high heat input in the west.
- Large window areas make sense but should be fitted with shading.

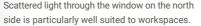
A customised strategy is required depending on the building layout, use of rooms and orientation in order to select and combine the window systems ideally.



The sun's angle of incidence changes with the seasons. This must be taken into account when planning windows.









Scattered light through the window on the north South-facing rooms stay cool and shaded in summer given the high position of the sun.

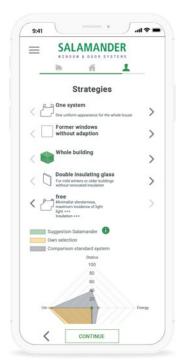


# **Client**

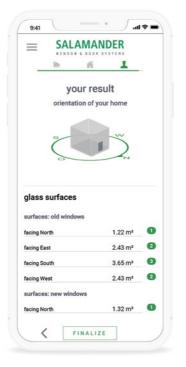
# Systematic realisation of customer wishes

With the C3 principle, the properties of the window solution can be quantified and optimisation strategies can be developed. As such, product properties such as light, heat input, U-Value and historical authenticity can be easily understood and the versions can be compared against each other.

The impact on the indoor climate is thus clear and the decision making process for the right window is improved based on the facts.







## greenEvolution

# Your digitally enhanced window

greenEvolution is our innovative and sustainable platform. This profile system allows for a uniquely high degree of customisation and offers impressive diversity in terms of design and materiality.



"We want to embrace a sustainable lifestyle, yet refuse to compromise in terms of style."



# The sustainable, flexible and digital platform for customised solutions

With six compatible profile versions for the optimum window configuration

greenEvolu System so	ution llutions	Light / heat input	U <sub>w</sub>	Structural analysis	Authen- ticity	Fall protection, burglar resistance and sound insulation	Window type
	free eco	+++	++	+	+++	+	
1	box	++	+++	++	+	+++	
Class A	flex A eco realMaterial	+	+++	+++	++	+	
	curve	+	+++	++	++	+	
	flex	+	+++	++	++	+	
	max	++	+	++	++	+	







# One system, six versions, ideal product properties

The features and accessories of the six different profile system are compatible and can be processed to create a diverse range of windows and doors to suit the location and style of your building, save energy and complement your personal living space with a customised design.

This compatibility and reduced complexity means our window construction and sales partners save time and money when it comes to storage, processing and manufacture.



### greenEvolution max

Frame construction depth: 76 mm MD up to U<sub>i</sub>: 1.1 W/(m²K) MD up to U<sub>i</sub>: 0.75 W/(m²K) AD up to U<sub>i</sub>: 1.2 W/(m²K) AD up to U<sub>i</sub>: 1.2 W/(m²K) Glazing up to 48 mm



### greenEvolution flex

Frame construction depth: 76 mm MD up to  $U_i$ : 1.0 W/(m²K) MD up to  $U_i$ : 0.73 W/(m²K) AD up to  $U_i$ : 1.1 W/(m²K) AD up to  $U_u$ : 0.77 W/(m²K) Glazing up to 48 mm



### greenEvolution curve

Frame construction depth: 76 mm MD up to U<sub>r</sub>: 1.0 W/(m²K) MD up to U<sub>w</sub>: 0.73 W/(m²K) AD up to U<sub>r</sub>: 1.1 W/(m²K) AD up to U<sub>w</sub>: 0.77 W/(m²K) Glazing up to 48 mm



### greenEvolution flex A

Frame construction depth: 76 mm MD up to  $U_i$ : 1.0 W/( $m^2$ K) MD up to  $U_w$ : 0.73 W/( $m^2$ K) AD up to  $U_w$ : 1.1 W/( $m^2$ K) AD up to  $U_w$ : 0.77 W/( $m^2$ K) Glazing up to 48 mm



### greenEvolution

Frame construction depth: 76 mm MD up to  $U_r$ : 1.0 W/( $m^2$ K) MD up to  $U_w$ : 0.73 W/( $m^2$ K) AD up to  $U_r$ : 1.1 W/( $m^2$ K) AD up to  $U_w$ : 0.76 W/( $m^2$ K) Glazing up to 56 mm



### greenEvolution free

Frame construction depth: 76 mm MD up to  $U_i$ : 1.1 W/(m²K) MD up to  $U_w$ : 0.74 W/(m²K) AD up to  $U_i$ : 1.2 W/(m²K) AD up to  $U_w$ : 0,77 W/(m²K) Glazing up to 48 mm

# **Tactile surfaces transform** windows into a haptic interior design experience

We turn uPVC windows into something special: Our specially developed surfaces turn the window into part of your interior design. Get all the benefits of a uPVC window - with the look and feel of diverse real materials. Customise your home down to the very last detail.



Greta<sup>™</sup> combines attractive surfaces with maximum sustainability and optimal thermal insulation. Our material experts have developed a recycling formula which gives the window a great feel and colour.

The profiles are created using climate neutral energy from renewable sources and can be fully recycled.





For the profile versions flex A and free

Open-pore texture; produced from 100% recycled PVC



Translucent concrete



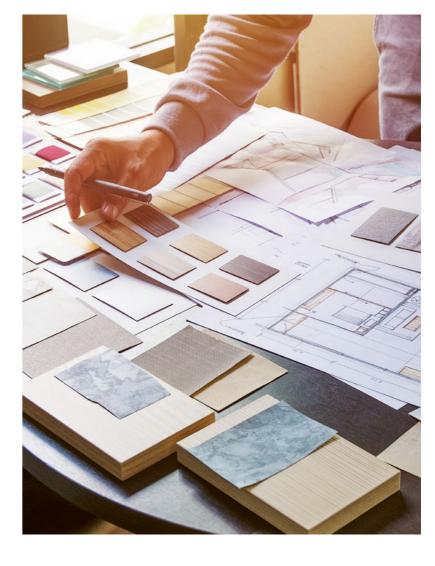
Olive-grey\*



Dark-grey\*

### Our highlight Salamander white.

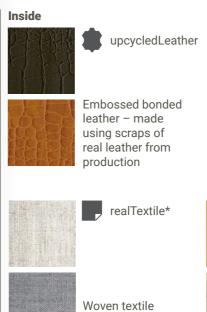
Our high quality profiles radiate in a pure and sparkling white. The uPVC is mixed using a special PVC formula and is evenly dyed through. Thanks to the dirt-repellent surface, the Salamander profiles remain brilliant white even after many years and are particularly easy to maintain.



### realMaterial

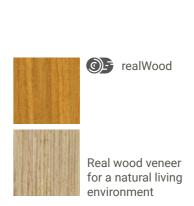
With realMaterial we offer the greenEvolution modular system in real materials. This is applied to the profile by means of lamination.

Recycled materials are used for production and the window can be fed back into the material cycle as usual.



surfaces for light,

modern rooms





vintage look

\* in development

\* in development

## SALAMANDER

# myWindow record: Determines your ideal window mix based on the C3 principle

As part of our digital window consultation, we take you through all the key questions, step by step. The Salamander myWindow record app establishes your specific requirements for an optimal window solution: Simply enter the details of your construction project into the user-friendly interface to find out further interesting background information on your building.





You will find the window that fits your requirements perfectly and can use all the advantages for your construction project.



This app provides ideal support to our window construction partners for direct sales.

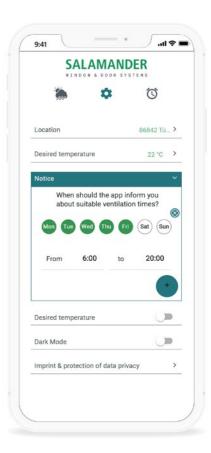


With this app, our partners in the window sales sector can offer you a window with customised added value: Tailored to your needs.

### myWindow play

# The handy everyday assistant for ensuring the correct ventilation times.

First and foremost, the ventilation app provides intelligent ventilation recommendations based on geo data. Depending on the wind, weather and pollen count, myWindow play determines the optimal ventilation times. Work is currently under way to develop the app so it can be used as a weather widget and a window passport to assist with warranty and service issues.



### myWindow record.professional

# The measurement and configuration app for our partners.

Our partners use this digital planning tool to configure windows on site during the consultation – with the details and recommendations from the myWindow record app. Thanks to the app, your sales person can give you a qualified quote for customised windows during the consultation. Augmented reality (AR) is used to take the measurements.





## The most sustainable material for windows - PVC

We focus on the sustainable material PVC in the production of our window profiles and combine this with our innovative realMaterial surfaces so that you can custom design your windows and create stunning results which are perfectly matched to the building - on both the inside and outside.

### **Insulation value**

The contouring and thermal conductivity of PVC result in ideal insulation values of up to 0.8 U,\*

0.80 U<sub>f</sub> \_  $1.2 - 1.5 U_f$ 

\*With aluminium windows, the insulation value  $\phantom{0}$  6.1 U $_{\rm f}$  \*  $\phantom{0}$  ultimately determined by the PVC in the core

### **Energy saving processing**

PVC can be shaped and processed at even low temperatures; primary energy is saved during mixing and extrusion

Processing temperature approx. \_

Processing temperature \_ between approx. 600°C - 660°C

### Longevity

PVC windows need only minimal care and maintenance yet offer longer durability thanks to an optimised formula and more resilient surfaces.

 Timber must be painted annually

### **Stability**

PVC remains permanently stable and functional due to the chemical and physical corner connection of the profiles.

window solutions

Salamander

 Adhesive connections tend to suffer from fatigue

### Recyclability

The use of PVC enables a closed material cycle since the material can be almost completely recycled.

- PVC can be completely recycled up to seven times

- More than 80% of the material we use is already made of recycled PVC

- Only recycled materials are used in Greta™ windows

- impregnated timber cannot be recycled

- The surface treatment of aluminium results in harmful substances during the recycling process

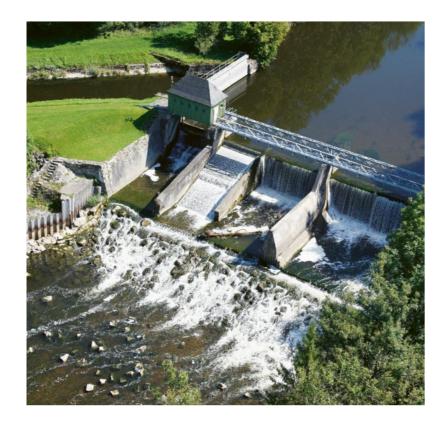
A comparison of window materials:

- Timber

- Aluminium

28





Sustainability starts with resource-saving production: We have been using green power for our production for a long time and will continue to increase this share in the future. Eight percent of our power needs are permanently covered by our in-house water power plant, which has been located at our site in Türkheim, Germany for more than 100 years

# We assume responsibility – and take a far-sighted approach

# Sustainability is more than environmental protection

We aim to create premium products, offer our customers and partners the best possible service and, in doing so, use only the resources which are essential to this end. One key, ecological advantage of PVC is the fact that it can be completely recycled. That's why we deliberately use a percentage of recyclate, i.e., recycled uPVC, in our profiles: Old windows and doors are thereby turned back into useful raw material and can be used to produce new profiles.

Thanks to their long lifespan and excellent heat insulation properties, the carbon footprint of our profile systems remains constantly low from the first production step through to their use in buildings.

Differentiated products are not only practical for our partners, but also environmentally efficient. For this reason, we develop profile systems which ideally satisfy many various requirements. When doing so, we avoid the use of materials which are harmful to the environment, e.g., glass fibres. Instead we use durable recycled materials which can be used time and time again: This enables us to reduce our  $\mathrm{CO}_2$  emissions from the very first stage of production.





Experts for profile systems:
Our staff work every day to offer you the highest possible quality.

### We not only assume responsibility for the environment, but also for people, the region and raw materials.

Salamander employees and business partners show their gratitude for our commitment through their trust and loyalty. On average employees stay with us for 15 years – and we also work together with window constructors and window sales companies for just as long on average.

We offer the next generation a broad range of training opportunities in a single location. We train the experts of tomorrow ourselves in all our divisions; from development, technology and production through to accounting, human resources and marketing. We also guarantee to employ trainees for at least six months.

We are committed to forward-looking and long-term planning as well as balanced growth both for us and our partners. At the same time, we are committed to energy-saving designs with long-lasting and low-maintenance products: As such, over the course of their entire service life, Salamander windows have made an important contribution to protecting our planet.

## **Our quality standards**

### From product development through to dispatch

Our uPVC profiles are synonymous with the highest quality and lasting value. We have pooled our many decades of experience in extrusion and pass this expertise on to the next generation by training our own specialists in-house. We only use premium raw materials for the production of quality profiles. The entire production process is continuously monitored by means of modern testing procedures and holistic quality management systems. This allows us to guarantee stable and long-lasting products.

#### Construction

Instead of a general solution for all applications, we develop intelligent modular systems that meet specific requirements in an optimal and resource-saving manner. We are committed to pragmatic concepts that window constructors can integrate in their processes safely and simply.

#### Tool design

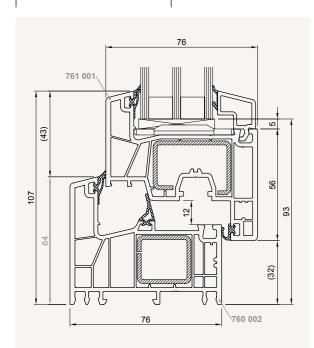
Thanks to our in-house tool development and production, we are able to implement new products flexibly, independently and quickly and to continuously improve our extrusion

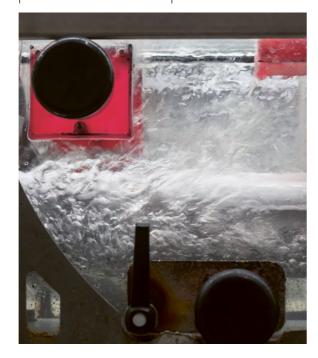
#### **Material development** and mixing

We regularly optimise the formulation of our materials so as to offer our customers long lasting, test-compliant and cost-effective uPVC profiles. In order to satisfy specific customer wishes, we develop new surfaces with different feels and looks as well as exceptionally environmentally friendly materials made from 100% recyclate.

#### Extrusion

We extrude 95% of Salamander profiles using our in-house systems to guarantee consistent high quality at fair prices.





#### **Testing and certificates**

- ISO 9001 certification (quality management system)
- ISO 50001 certification (energy management system)
- National and international product certifications (RAL, CSTB, ATG, STC and KOMO)
- Window system certifications (RAL system pass, IFT system pass, energy saving window)
- VinylPlus certification (sustainability)
- EPDs (environmental compatibility)

**Lamination**The profiles are encased in foils in our lamination department, resulting in a large selection of window and door designs. We also develop real material surfaces for our profiles and, in doing so, open up a whole new range of possibilities for designing façades and living space.

#### Digital quality assurance

When it comes to quality management, we rely on real people as contacts and digital solutions for optimising communication: Our customers use our in-house developed app SIPortal to contact our team and receive rapid feedback

Our highly efficient logistics department handles the incoming orders from our customers and puts together the desired profiles for dispatch thereby guaranteeing international and timely deliveries.







## SALAWANDEK WINDOW & DOOR SYSTEMS

### **Other Salamander profile systems**



#### bluEvolution 73

Compression seal Construction depth: 73 mm up to U<sub>i</sub>: 1.2 W/(m²K) up to U<sub>w</sub>: 0.80 W/(m²K) Glazing up to 44 mm



### bluEvolution 92

Central gasket
Construction depth: 92 mm
up to U<sub>i</sub>: 0.94 W/(m²K)
up to U<sub>w</sub>: 0.65 W/(m²K)
Glazing up to 60 mm
\* Reference value according to
DIN EN 14351-1: 1.23 m x 1.48 m



### evolutionDrive 60

Frame construction depth: 60 mm Sash construction depth: 39 mm Glazing up to 22 mm



### Streamline MD

Central gasket
Construction depth: 76 mm
up to U<sub>i</sub>: 1.0 W/(m²K)
up to U<sub>w</sub>: 0.67 W/(m²K)
Glazing up to 48 mm
\* Reference value according to
DIN EN 14351-1: 1.23 m x 1.48 m



### Streamline AD

Compression seal
Construction depth: 76 mm
up to U<sub>i</sub>: 1.1 W/(m²K)
up to U<sub>w</sub>: 0.70 W/(m²K)
Glazing up to 48 mm
with adhesive tape up to 50 mm



### bluEvolution 82 AD

Compression seal
Construction depth: 82 mm
up to U<sub>i</sub>; 1.0 W/(m²k)
up to U<sub>w</sub>; 0.67 W/(m²K)
Glazing up to 52 mm
\* Reference value according to
DIN EN 14351-1: 1.23 m x 1.48 m



### bluEvolution 82 MD

Central gasket
Construction depth: 82 mm
up to U<sub>r</sub>: 0.92 W/(m²K)
up to U<sub>w</sub>: 0.65 W/(m²K)
Glazing up to 52 mm
\* Reference value according to
DIN EN 14351-1: 1.23 m x 1.48 m



### evolutionDrive: SF

Frame construction depth: 76 mm Sash construction depth: 50 mm up to  $U_{\rm f}$ : 1.8 W/(m²K) up to  $U_{\rm w}$ : 1.2 W/(m²K)\* Glazing up to 28 mm \*3.50 m x 2.48 m



### evolutionDrive: HST

Frame construction depth: 194 mm Sash construction depth: 82 mm up to U<sub>i</sub>: 1.3 W/(m²K) up to U<sub>w</sub>: 0.64 W/(m²K)\* Glazing up to 52 mm \*Reference value: 4,80 m x 2,50 m



### Streamline: 60

Frame construction depth: 60 mm Sash construction depth: 60 mm Glazing up to 34 mm

### **Publication details**

Publisher:

Salamander Industrie-Produkte GmbH Jakob-Sigle-Straße 58 86842 Türkheim/Unterallgäu Germany

Telephone: +49 8245 52 0 Fax: +49 8245 52 359 info@salamander-windows.com salamander-windows.com

Management: Götz Schmiedeknecht Till Schmiedeknecht Wolfgang Sandhaus

Chairman of the Advisory Board: Dr. Heyo Schmiedeknecht

Legal form: Company with limited liability

Headquarters: Türkheim/Unterallgäu

Register court Memmingen district court

Registration number: HRB 5175

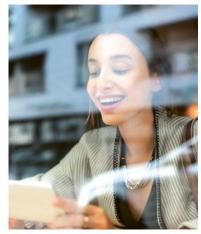
VAT ID No.: DE129089528

© 2020, Salamander Industrie-Produkte GmbH, 86842 Türkheim All right reserved.

Subject to changes, errors, printing and type setting mistakes.

## **SALAMANDER**





### We have the perfect window to suit your needs -

thanks to our decades of experience in profile development and PVC  $extrusion. \ Long-lasting, \ custom is able$ and sustainable from the word go: We are continuously developing our systems to offer you the perfect window for the future today.

### Salamander Industrie-Produkte GmbH

Jakob-Sigle-Straße 58 86842 Türkheim Germany

salamander-windows.com

2021-01













