

Roto Inside

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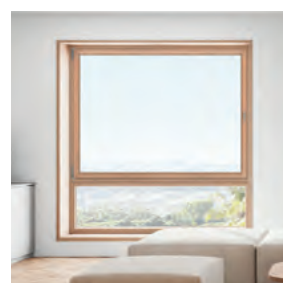
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E-learning for all
The world speaks Roto's language

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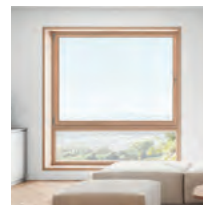
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Hardware technology for building elements made from any frame material

BAU 2023 and new Trade Show Experience

■ **Event** In just a few days it will be time for the BAU 2023 trade show in Munich to open its doors on 17th April. Roto is looking forward to welcoming many visitors to stand 303 in hall C4. This is where hardware solutions for building elements made from any frame material will be showcased. At the same time, a new Trade Show Experience will be launched in the virtual conference centre of the Roto City.

Greater comfort and quality of life for any space – Roto remains the best partner for window and door manufacturers who are dedicated to fulfilling this objective. This is also evident from the presentation in Munich, where the focus is on hardware solutions which can be used to create a building element that perfectly fulfils all specific function, comfort and design requirements. Whether you are interested in sliding systems, the flexible modular hardware system for Tilt&Turn windows or attractive door hinges for main doors – the trade show stand is well worth a visit for detailed, expert advice on all hardware-related matters.

All frame materials

Visitors can experience at first hand Roto hardware technology for PVC, timber and aluminium building elements. "The entire range will be showcased over an extended area in hall C4. This is where Roto will demonstrate its all-encompassing expertise for any building-related requirement," explains Eberhard Mammel, Head of Range Marketing and Product Adaptation. Specialists from the Roto Object Business will also be there to provide advice on standard and special solutions for aluminium window construction.

Stay well informed no matter where you are in the world: the Trade Show Experience

During the six days of the trade show and beyond, the exhibits on display there will be showcased in the virtual Roto City at the same time. These can be viewed at any time as part



A warm welcome!
Roto looks forward to
seeing you at BAU 2023
in hall C4, stand 303.

of a consultation given by a Roto advisor. Architects, planning engineers and window manufacturers who cannot make it to the trade show in person will learn all about the solutions presented there during a digital "tour" through the conference centre of the Roto City.

Mammel sums up the benefits: "Presenting the trade show highlights in the Roto City allows prospects to see the benefits of our hardware solutions for themselves during this virtual tour of the trade show, even if they can't visit us in Munich." He has been working on designing the Roto City for more than two years together

with his team. "The platform has received very good feedback at international level too. This is because our Roto colleagues guide people through the Roto City in their native language, individually tailoring the experience to the visitors and market-specific situation."

Roto goes digital

Eberhard Mammel is certain that the combination of attendance at a trade show and the virtual Trade Show Experience at the same time is the perfect environment for providing advice. "In this way, our customers are safe in the knowledge that they won't miss out on any Roto topics or products if they weren't able to travel to a trade show."



➤ **For information about the Roto City and to sign up for a consultation**

www.roto-frank.com/en/roto-city

The innovations showcased at BAU will also be presented in the virtual conference centre in the Roto City from 17th April onwards.



Eberhard Mammel,
Head of Range
Marketing and
Product Adaptation,
Roto Frank Fenster- und
Türtechnologie GmbH

In conversation



An interview with Marcus Sander, Chairman of the Board of Directors at Roto Frank Fenster- und Türtechnologie GmbH

Roto Inside: Mr Sander, we hope that Roto Frank Fenster- und Türtechnologie got 2023 off to a good start.

Marcus Sander: Thank you. We did indeed – mostly thanks to the outstanding work our colleagues did last year. We have another exciting year ahead of us full of ambitious projects. In 2023, we want to continue to improve the benefits we offer customers internationally and further develop our company. Continued growth is definitely on our agenda and with our attendance at BAU in Munich, I'm looking forward to a real trade show highlight this year.

Roto Inside: What can attendees at BAU look forward to?

Marcus Sander: In Munich, we will bring the digital Roto City to life for our visitors. We will be showcasing our entire product range in various building and room situations across a significantly extended stand area in hall C4. All of our product groups will be represented: Tilt&Turn, Sliding, Door, Seals, Equipment and solutions from our Roto Aluvision department.

Roto Inside: By "growth", you must be referring to the acquisition of Ultrafab Inc. in North America.

Marcus Sander: That's correct. Strategic acquisitions, like that of Ultrafab Inc., are an integral part of our growth strategy and are a visible expression of our forward-looking approach. At the end of last year, Roto purchased 100% of the company shares of this manufacturer of window and door gaskets which is very successful in the US and Canada. You could call this a perfect match, as Roto and Ultrafab are united by their focus on customers and share a common culture. What's more, the Ultrafab product portfolio is a perfect fit for the other companies in our group.

Roto Inside: What do you expect from this new "member of the family"?

Marcus Sander: With this acquisition, we can achieve further growth in the gasket product segment. We also see promising potential for cross-selling again here, as this will expand the product range of our companies to 100%. The appeal of Roto as a business associate to American building element manufacturers will be even further enhanced and Ultrafab customers have gained a reliable partner.

Roto Inside: In your opinion, what do Roto customers expect from the company in 2023 and how will you meet these expectations?

Marcus Sander: Their expectations haven't changed much. We have to continue to prove ourselves as the most reliable partner in the market. This means that our clear priority remains meeting customer requirements, including delivery reliability. Fulfilling all customer requirements in the best possible way on the whole means listening carefully to our customers and supplying them with the right products of the required quality at the requested time.

Further growth requires the ability to master highly complex circumstances and act with flexibility in markets in the face of a varying political and economic environment. We are well equipped to meet both of these requirements. Roto always enjoys somewhat stronger growth than the market as a whole and is resilient. We proved this over the past year, and our aim is to keep it this way. We want to continue to provide our customers with optimal advice and support – regardless of how easy or difficult this is made for us by the procurement markets.

Roto Inside: Can you give us an insight into the future plans for the company?

Marcus Sander: We will continue to focus on digitalisation this year too. A large number of projects are in place with the objective of increasing the performance of machines, tools and vehicles in production facilities. Through networking and automation, we prevent production errors and machine failures, so that we can ensure a timely and constant supply of flawless products to our customers.

Another important tool for improving benefits for customers is, for example, the digital customer portal which gives our customers even more self-service functionality. This allows them to access data on products, hardware configurations, orders and delivery dates at any time and from any location. The information can be accessed 24/7, meaning that the portal offers even more transparency and security and provides the best possible support to our customers in their daily business.

But we're not just interested in becoming more and more digital within our own company. We would like to actively help our customers increase their own efficiency using digital processes. Electronic Data Interchange (EDI), the electronic exchange of data for orders, delivery notifications and invoices, is an excellent example of this.

The effort to ensure sustainable production will continue to strongly influence our commercial decisions this year as well. Among other initiatives, we will continue to promote the use of renewable energies at as many of our sites as possible. By reducing the environmental footprint of our own products, Roto can make a contribution to the efforts of building manufacturers to achieve CO₂ neutrality.

This is why we look forward to working together with our customers to shape the sustainable, digital future of the sector. Roto enjoys a global reputation as an extremely reliable partner. We will make every effort to continue to reinforce the good experience our customers have of us in the coming years.

Roto Inside: What new products can we look forward to in 2023?

Marcus Sander: We plan to work on further developing our product ranges. On page 11 of this edition of Inside, we present an innovation resulting from the development of our Roto NX system. At BAU, you can see Roto NX for aluminium elements at first hand. There will also be new developments in our ranges of door locks and door hinges.

I'm really looking forward to discussing many topics together with our customers and partners, and I hope we all have a successful year. See you in Munich!

Roto Patio Inowa for Salamander evolutionDrive Plus+

Impressive demo assembly

■ **PVC** In October 2022, Romanian company Madrugada carried out demo assembly with the evolutionDrive Plus+ parallel retraction sliding system from Salamander and the Roto Patio Inowa intelligent sliding hardware. Another demo assembly was performed at Salamander in Türkheim at the same time. Madrugada's production operations are based in Palota, close to the border between Romania and Hungary.

The window producer came to the conclusion that Patio Inowa is pleasantly easy and quick to install in the Salamander system. With its delicate strikers on the frame and the cover caps for the striker in the mullion, the concealed hardware looks good even when the sliding element is open.

Troubleshooter

Large sliding doors, like those to be produced with evolutionDrive Plus+, are in demand in residential construction, emphasises

Thomas Lachenmaier, Head of Application Engineering at Salamander. However, since it's important to avoid introducing too much weight, especially in multi-storey buildings, planning engineers are likely to soon discover the benefits of the lightweight yet tightly sealed evolutionDrive Plus+ solution. Even very large sashes are comfortable to operate. High-quality rollers ensure quiet operation of the sash. It is also possible to produce space-saving windows, for example for kitchens and bathrooms, with evolutionDrive Plus+.

Smiling faces after the demo assembly at Salamander in Türkheim (from left to right): Jan Schiller and Markus Hansbauer, Salamander, Michael Hammelehle, Roto, and Salamander employees Michael Pommer, Manfred Gudd, Marius Demler, Kaan Coban and Herbert Port.



The silicone sealing profile Roto supplied for the system meets the exacting requirements of Salamander and Madrugada. It is available in grey and black. Roto also supplied the aluminium components used for the demo assembly, including the operator track and roller track, as well as the adapter profiles for the espagnolette side and locking side.

Large elements even with a minimal installation depth

Salamander recommends its evolutionDrive Plus+ parallel retraction sliding system for all installation situations which do not offer the necessary depth to install a conventional Lift&Slide door. According to the system supplier, Patio Inowa makes it possible to produce extremely wind-tight and rain-tight constructions with a frame size up to a width of 4000 mm and a height of 2600 mm. Diagram A sliding elements can also be designed in RC 2 using conventional, standard measures.

Glazing thicknesses of up to 48 mm are possible, achieving a U_w heat transfer coefficient of up to 0.71 W/(m² K) and a sound insulation value of up to 44 dB. This makes evolutionDrive Plus+ ideal for energy-efficient construction and for use in areas with higher noise levels. Anyone interested in Patio Inowa for the modern Salamander profile system can find all technical data in Roto installation, maintenance and operation instructions IMO 403. www.madrugada.ro

Market position in North America strengthened

Perfect match: Ultrafab becomes part of the Roto Group



The Roto Frank Window and Door Technology group of companies – which now includes Ultrafab Inc. – is a powerful partner in the North American window and door industry. Pictured from left to right: Michael Stangier (CFO Roto Frank Window and Door Technology), Thomas E. Hare (CFO Ultrafab, Inc.), Alan J. DeMello (President/CEO Ultrafab, Inc.), Marcus Sander (CEO Roto Frank Window and Door Technology) and Thomas C. Horton (Chairman Ultrafab, Inc.).

■ Company Ultrafab Inc. has been part of Roto Frank Window and Door Technology since the end of last year. These two companies complement one another perfectly. And not only in terms of their products, but also their company culture and brand promise.

The name Ultrafab is a portmanteau of the words ultrasound and fabrication. The reason behind this is that, since the 1960s, company founder Robert Horton has been involved in the construction of production machines that use ultrasound to shape a variety of materials. In 1970 he founded Ultrafab, a company involved in the processing of thermoplastics – and with the objective of becoming a leader in the industry.

Dynamic growth

In the five decades following its founding, Ultrafab has indeed evolved into an established technological leader in the ultrasonic processing of thermoplastics in the USA and Canada. The product portfolio now includes premium pile weatherseals and extruded seals for windows and doors, and various specialty products for applications outside the fenestration industry. Around 300 employees work at the three US manufacturing facilities in Farmington (New York), Greer (South Carolina) and McPherson (Kansas).

Customized seals

The remarkable success of Ultrafab is grounded in its promise that, for every building element, it can provide a sealing system that is optimally suited to the product and manufacturing process. President and CEO Alan J. DeMello, who joined Ultrafab in 1996 as a product manager, is confident: “Our customers are able to economically produce tightly sealed windows and doors in any design precisely because we offer them comprehensive sealing options that result in an extremely effective overall sealing system.” Extensive vertical integration combined with the company’s decades of experience make all this possible.

The partner for product developers

The designers at Ultrafab support window manufacturers even in the early stages of product development. Seal prototypes are created within just a few days. According to Alan J. DeMello, the pace of development has increased significantly in recent years. “Digital, collaborative design as well as modern prototyping and preliminary testing that can be carried out at Ultrafab speed up the processes for our customers.”

Expertise for the industry

They are working together to meet the rapidly increasing demand for tightly sealed,



Adaptable: individually designed Ultrafab sealing systems

energy-efficient windows. A window or door with the perfect Ultrafab seal will perform extremely well in a wide range of climates, including the harsh low temperatures of a North Canadian winter, or the extreme heat of the Arizona desert – both reliably and permanently. The established specialist has even supplied seals to manufacturers for numerous hurricane-tested windows. “Every day we work to improve the air, water and wind tightness of windows and doors, and we are passionate about doing so,” remarks Alan J. DeMello about his team’s mission.

Once a window system is fitted with the recommended seal, the customer can check whether it meets the targets they have set, directly on Ultrafab’s premises: just like Roto, Ultrafab offers the option of testing products in the company’s state of the art Applications Laboratory. This allows various seals to undergo reliable preliminary testing before a window manufacturer has the system tested and certified at a certified test centre.

Vertical integration and reliability

Ultrafab not only manufactures the majority of the components for its seals, but also

the machinery on which they are made. Even the high-quality polypropylene yarns for the pile weatherseals are produced on machines in-house. The company is the market leader in the USA and Canada for this product.

In Alan J. DeMello’s opinion, the key benefit of such extensive vertical integration is the ensured control over the quality of the company’s own products. “The advantage for our customers is obvious: they benefit from an excellent product quality over many years.”

This all sounds rather like being a guest at Roto? Alan J. DeMello nods: “Indeed it is. All those involved in signing the contract knew after just a few visits to each other’s premises: we have each found a company whose culture and philosophy, working methods and quality management are very similar to our own. With a focus on the value for the customer, we are constantly looking for economical and highly efficient solutions. Fabricators of excellent windows or doors that dominate the market benefit clearly from partnering with Roto and Ultrafab.”

www.ultrafab.com

Market leader in the USA and Canada: durable premium pile weatherseals from Ultrafab



Versatile: Ultrafab seals in custom colours



Roto Door

Expert team gets off to a good start

Products for external doors from one provider – the Roto Door portfolio:

- 1 Lockings
- 2 Door hinges
- 3 Thresholds



■ **Door** The newly founded expert team of Door Innovation began its work two years ago. Since then, the professionals led by Tom Vermeulen, Head of Sales Door & Door Innovation, have been making good progress. Roto Inside spoke to him and Dieter Manz, Head of Sales Door for the DACH region (Germany, Austria and Switzerland), about the benefits for door manufacturers.

Vermeulen sums up the team's achievements so far: "As a specialist team, we have managed to scale up our contact with door manufacturers and add very attractive products to the Door portfolio." He explains that this is the result of the close collaboration between the design engineers in Kalsdorf, the product managers in Leinfelden-Echterdingen and the Door Sales team. This was aided by the well-organised cooperation with other expert teams like Roto Aluvision or colleagues from Deventer.

Distribution of tasks creates added value

"The transfer of knowledge within the Roto Fenster- und Türtechnologie Group works really well, and our customers benefit from that too." The Door Sales experts support large door manufacturers directly on the one hand while, on the other hand, they act as advisors to colleagues in Roto regional sales internationally. The aim is for companies which produce windows and doors to have a single point of contact for their questions regarding any Roto products – and this contact will be a member of the sales team for their country. "From a customer's perspective, this is the best way to distribute tasks," explains Tom Vermeulen.

Dynamic development

Vermeulen, who boasts many years of experience in companies in the door hardware and door lock industry, is certain that very exciting developments lie in store: "We were able to set

ambitious aims from the very outset because our colleagues in the team have been working in the Door segment and at Roto for many years." The range of services and products has developed in a similarly dynamic fashion.

Variety and product quality

Door hinge versions and locks have been created to expand the existing product range and to meet the current needs of PVC and aluminium door manufacturers: efficient to process, requiring no maintenance, durable, slimline design, available in various surfaces. "The Solid product range now offers a huge variety of hinges for external doors made from all materials," highlights Dieter Manz.

He believes this is important because taste is subjective, so designers should have the freedom to choose. Manz grins and explains: "It's not only the door hinges which have to prove themselves to be 'resilient' – this is also required of Roto employees on occasion. Alongside the very best product quality, they have to offer solutions for unusual requirements."

Bespoke services

Vermeulen nods and gives examples of these requirements: "There have been manufacturers of PVC doors who wanted Roto to supply them with special packaging for door hinges which would be compatible with their storage systems. We delivered. Manufacturers of aluminium doors wanted us to provide them with applications of Solid B and Solid C hinges for their profiles. We delivered." He believes that this willingness to focus on customers, more than anything else, is what shapes the reputation Roto enjoys in the industry.

New impetus

So what does the near future hold? "First of all, new impetus for manufacturers of aluminium doors," explains Mr Vermeulen. The Door team caused quite a stir in the industry with the Solid C concealed door hinge. But there's more to come from the team. "We're keeping a very close eye on international trends in design, style, fabrication and automation. We are optimistic about the initial conversations we have had with customers about the new developments planned for 2023. The market seems to like what we have to offer."



Tom Vermeulen,
Head of Sales Door &
Door Innovation
Roto Frank Fenster-
und Türtechnologie
GmbH



Dieter Manz,
Head of Sales Door
for the DACH region,
Roto Frank Fenster- und
Türtechnologie GmbH



➤ **Overview of the Roto Door product range**

www.roto-frank.com/en/door

Gardengate, Portugal

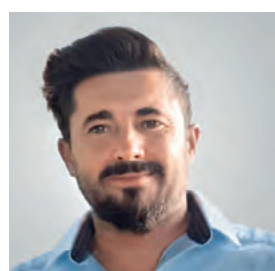
Getting started at last



Aluminium main door from Gardengate, equipped with Roto Solid C

■ **Users report** "The ease of installation of Solid C continues to impress us and in 2023 we would like to showcase some new models with a concealed hinge to revive our trade in premium aluminium doors. The coronavirus pandemic held us back for far too long. Then there were updates to French standards for main doors that we had to modify our designs to comply with, as we regularly produce doors for customers in France. At the Batimat industry trade show in 2022, it was clear to see that our new models and concealed door hinges were really on trend. We are now looking forward to finally achieving the success we know we are capable of."

www.gardengate.com.pt



Paulo Santos,
Head of Technology
and Products,
Gardengate

Centro Alum S.A., Spain

Selling premium products



Doors from Centro Alum's Renova Ocultec series offer comfort and security thanks to Roto hardware technology.

■ **Users report** "At present, around 20 per cent of the main doors we produce are equipped with Solid C. Sales of our Ocultec main door series with this concealed hinge doubled from 2019 to 2021 alone. But we would like to increase this figure even further, so we're showcasing top-of-the-range models at trade shows, for example. Once people see how this series differs from standard main doors with surface-mounted hinges, they will choose the better design. We're certain of this. We are already seeing a trend towards ever larger doors. It's no longer unusual to get requests for heights of 2500 mm and widths of 1200 mm. We can also equip these formats of doors with Solid C. This is one of our areas of expertise. What's more, our installers also appreciate the video created by Roto, explaining how to adjust a door using Solid C. If anything is unclear, they can simply take a quick look at it again on site using their mobile phone."

www.centroalum.es



David Acedo,
Technical Director,
Centro Alum S.A.

Kompotherm, Germany

Switching made easy

■ **Door** With its Black Edition, KOMPOtherm® Metallbautechnik Hartwig & Führer GmbH & Co. KG from Verl in North Rhine-Westphalia offers main entrance doors with an eye-catching design. However, the Roto Solid C door hinge, which the manufacturer switched its production to in the summer of 2022, remains hardly noticeable.



Solid C in a KOMPOtherm® Black Edition main door

The concealed door hinge comes with a black powder coating to fit in with the concept as a whole. It is hardly noticeable, even when the door is opened. The premium hinge is now available as an option for all of the manufacturer's aluminium doors: "Since July 2022, our customers have had the option of using the Solid C door hinge as an especially design-led solution for all of our door products. It is available for special-purpose doors as well as for our highly heat-insulating main door systems – whether inward or outward opening – and of course also for our apartment doors and back doors," reports Managing Director Oliver Führer.

Feedback from trade partners has been just as positive as the feedback received from within the company. "Our employees enjoy working with the hinge and say that it's extremely easy to install." Another compelling reason to switch to Solid C is that "there is a constantly growing trend towards security doors. The burglar inhibiting version in RC 2 is still the most popular option, although demand for RC 3 is growing. The ability to use the same hinge is obviously advantageous."

Roto made switching production over to Solid C especially easy thanks to thorough preparation and professional implementation of the entire project. "Any time there was a problem, a solution was found quickly and implemented pragmatically. Cooperation proved to be collaborative and particularly enjoyable from the very outset. Roto took our concerns, requests and objectives very seriously. We know how important this is." www.kompotherm.de



Oliver Führer, Managing Director of KOMPOtherm® Metallbautechnik Hartwig & Führer GmbH & Co. KG

Internorm, Austria

Roto Solid C for all aluminium doors

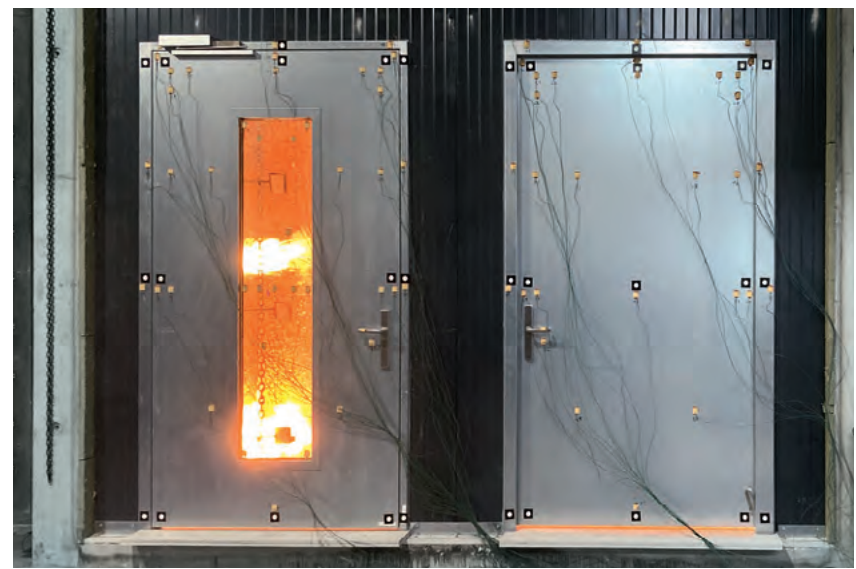
■ **Users report** Martin Weinrotter: "In 2017, Internorm decided to use Solid C as a concealed door hinge for the AT 400 and AT 410 premium main door lines in future. In July 2022, we received the 'Golden Door Hinge' award for equipping 35,000 doors with Solid C door hinges. Since the launch of the AT 500 / 510 / 520 / 530 and 540 door systems in March 2022, we are now able to install Solid C in all aluminium doors. The quality of the hinges is exceptional. The elegant appearance impressed us,

as well as the reliable functioning. Internorm installs black hinges which go perfectly with the black door rebate. The door leaf can be hinged and unhinged on the construction site without the need for tools, making work far simpler for the installation staff. There is the option of using the same hinges for inward and outward opening doors, which brings benefits in storage logistics and production. We see this as additional added value."

www.internorm.com



The "Golden Door Hinge" award for 35,000 processed Solid C door hinges is presented to Martin Weinrotter, Managing Director of Internorm (left), by Marcus Sander, CEO of Roto Frank Fenster- und Türtechnologie



Fire test for a steel door from BTS with Solid C concealed door hinge at the IBS Institute for Fire Protection Technology and Safety Research in Linz

BTS Brandschutz Technologie Systeme GmbH, Austria

Fire-protection doors with Roto Solid C

■ **Steel** For decades now, steel doors have played a major role in providing preventive fire protection in buildings. For BTS Brandschutz Technologie Systeme GmbH from the Austrian town of Attnang-Puchheim, the design of these life-saving building elements is almost as important as their reliable functioning.

BTS Managing Director Walter Degelsegger outlines the application areas of the fire-protection doors requested from his company: "There are applications in cleanrooms or labs where doors with very smooth surfaces are requested, which are extremely easy to clean thoroughly. And then there are rooms where the fire-protection door shouldn't look overly functional. Some customers want a solution that is visually appealing at the same time." Architects in particular tend to request these kinds of premium models. This is why BTS is working on fully integrating as many hardware components as possible into the door. A concealed door hinge is indispensable for this concept.

were properly filled. And I succeeded!" In the same way, he was always certain that it was possible to integrate concealed aluminium door hinges in a steel fire-protection door.

He was really impressed by Solid C from Roto. Heiko Straub, Head of the Aluvision Object Business, presented it to the team at BTS. "Solid C is very slimline, quick to install and easy to adjust on a construction site." From the very outset, BTS was therefore keen on the idea of equipping fire-protection doors with this hinge. Depending on the size and weight of the required steel door, Degelsegger would plan for four or five Solid C hinges. But now he has arranged for one fire-protection door with two hinges and one with three hinges to undergo a fire test. This was carried out in accordance with EN 1634 in the IBS Institute for Fire Protection Technology and Safety Research in Linz.

Fire test passed successfully

Both versions of the door passed the fire test successfully. "That came as no surprise to me," smiles Walter Degelsegger. He has overseen a good 400 fire tests in his life and is therefore able to predict test results very accurately. "When I began using aluminium as a material, the test institutes didn't want to accept me at all. At the time, people simply didn't believe me that it's always the structure as a whole and the mixture of materials that matter."

The new BTS steel door with the Solid C concealed door hinge is now in the showroom in Attnang-Puchheim because good design has to be put on show, as the businessman states. "Personally speaking, I'm very pleased that everything went to plan in the fire test with Solid C and that we are now able to use this sophisticated hinge."

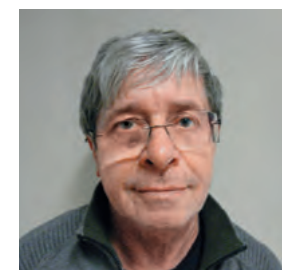
www.bts-feuerschutz.at



Low-maintenance thanks to smooth surface and Solid C concealed door hinge: a steel door with glass insert from BTS Brandschutz Technologie Systeme GmbH, based in the Austrian town of Attnang-Puchheim

Concealed door hinge for the premium lines

The 67-year-old has dedicated his entire working life to fire-protection gates and doors. He describes how there has never been a dull moment. "I entered the industry in the mid-80s with the intention of proving that fire-protection doors could be made from multi-chamber aluminium profiles provided that the chambers



Walter Degelsegger, Managing Director of BTS Brandschutz Technologie Systeme GmbH



➤ All information about the Roto Solid C concealed door hinge for aluminium main doors

www.roto-frank.com/en/solid-c

Installation made easy

The video shows step by step just how quick and easy it is to install, hinge and adjust the Solid C door hinge in the rebate of an inward or outward opening main door.



➤ Roto Solid C installation video

www.roto-frank.com/en/solid-c-installation



Roto Solid B | 318 P
butt hinge for PVC doors

Butt hinges

Butt hinges are becoming increasingly popular, with demand for them having reached a high level internationally. The latest hinges to be added to the Roto Solid B range – 218 P and 222 P (two-part with a diameter of 18 mm and 22 mm, respectively), and 318 P and 322 P (three-part with a diameter of 18 mm and 22 mm, respectively) – were developed especially for PVC external doors.

The Roto Solid B range includes the 224 A (two-part) and 324 A (three-part) clamp hinges for aluminium doors. Their clamping blocks are adapted to the system-specific groove on the aluminium profile. This is how we closely collaborate with system suppliers to produce hinges optimised for their profiles.

On all butt hinges, the adjustment mechanisms are fully integrated in the hinge roller. This means that no gap is formed between the leaf hinge and frame hinge when adjusting the door. Offset outlines are prevented. The continuous height, lateral and gasket compression adjustment makes adaptations particularly convenient. RC 2 or RC 3 solutions are possible depending on the version and design.

Roto Solid

The perfect hinge for any external door

■ **PVC | Timber | Aluminium** Although hinges are rarely the main factor when it comes to choosing a specific main entrance or back door, professionals know that their design has a decisive impact on the appearance of a door. This is why Roto offers more: more colours, more surfaces, more versions.

Optimised for their applications and manufactured from high-quality materials, Roto door hinges are characterised by exceptional performance characteristics. The 200,000 opening cycles achieved in accordance with DIN EN 1935 and a ten-year performance warranty confirm their reliable durability.



Roto Solid S | PS 27
screw-on hinge
for timber and
PVC doors



Roto Solid C | C7.140
concealed door
hinge for aluminium
doors



E-learning with Roto: in just 60 minutes, the “Door” e-learning module provides a concise, professional explanation of what sets a Roto product for a main door apart and which external doors it is suitable for. There’s no quicker way to get an overview of lockings, door hinges, hardware and thresholds from Roto. The self-learning module is available in Dutch, English, French, German, Hungarian, Italian, Polish, Romanian, Russian, Spanish, Turkish and Chinese. Any customers interested in using Roto e-learning should get in touch with their contact person in Roto Sales, who will be able to allocate personal login details. Simple Roto excellence also extends to this e-learning available from the Roto Campus.

Screw-on hinges

The Roto Solid S range includes screw-on hinges for all frame materials and any requirement. This allows many overlap heights to be covered and different security requirements to be met. Large adjustment distances enable custom adaptations on the hinge side that contribute towards the functionality and durability of the door as a whole.

A few examples

The proven PS 27 screw-on hinge for timber and PVC doors covers, for example, overlap heights from 14 to 26.5 mm. The 80 ATB and 120 ATB hinges are suitable for flush and recessed aluminium doors. The 117 H was designed specifically for the block profiles with negative overlap that are common in the Netherlands.



➔ **Overview of the Roto Solid door hinge range**

www.roto-frank.com/en/solid

Concealed door hinge

Large aluminium main doors are on-trend. Many end customers have been won over by their modern design, elegant appearance and durability. With the Roto Solid C concealed hinge, Roto offers a premium solution that can be used not only for inward opening doors but also for outward opening ones if required. The black version of the concealed hinge is a particularly popular choice for dark aluminium profiles. With this combination, not only is Roto Solid C concealed when the door is closed, it is hardly noticeable even when the door is open.

Wide variety of colours – ultimate protection against corrosion

Property owners would like to play a role in custom-designing their main entrance door in particular, down to the very smallest detail. Roto customers can meet this requirement with a wide variety of standard colours. And that’s not all – they can also order door hinges in many other RAL colours on request or uncoated for a custom surface treatment. Some models can also be anodised or electroplated. The corrosion protection on all door hinges conforms to DIN EN 1670 class 5, therefore meeting the most stringent requirements.

Roto Patio Inowa for timber windows

Industry professionals give top marks

■ **Event** Timber window manufacturers from Hungary were invited to learn about new developments in the Roto Patio Inowa tightly sealed sliding system and see for themselves how important components are produced in the Roto plant in Lövő. All of the attendees agreed that it was an interesting event and a good product.

Ernő Kocsis (Factory Manager and Managing Director) and Kornél Mayer (Head of Range Marketing for Southeast Europe) welcomed almost 40 representatives of the timber window industry over the course of two events. Together with his colleague Szabolcs Gosztola from the Application Engineering department, Kornél Mayer explained to the window professionals who travelled to the events how the hardware system for tightly sealed sliding elements has developed recently and what role it can play in timber window manufacturers' product ranges.



"Exceptionally good"

Zsolt Molnár, Managing Director of Nyugat Ablak from Szombathely, was impressed after the event: "Patio Inowa was presented in a very well-organised format. We were told about the technical details, as well as the features that make Patio Inowa unique for end users. I consider this sliding hardware to be exceptionally good. With this sliding and sealing system, Roto offers us a solution that improves our market position and that we will add to our product range as soon as we have the necessary routing tools. In my opinion, Roto is and will



Ernő Kocsis, Managing Director of Roto Elzett Verta Ltd. (left), and Kornél Mayer, Head of Range Marketing for Southeast Europe (top), introduced Hungarian timber window professionals to the world of Roto Patio Inowa over two days of events.

remain a leading hardware manufacturer. Patio Inowa is proof of this, just like the Roto NX Tilt&Turn hardware product range that we already use." www.nyugatablak.hu

Sound insulation growing in importance

Tamás Eszenyi, Operations Manager at PannonTherm Nyílászárók in Hajdúböszörmény, expects his company to experience a growing demand for timber sliding systems with Patio Inowa: "The system is a perfect match for the requests that we get from the market: large, easy-to-use sliding elements are popular for balcony doors. They should be very tightly sealed and, at the same time, remain fully functional and high-quality without any maintenance for many years thanks to their high level of corrosion protection. Tightly sealed systems are in demand in cities in particular because sound insulation is very important for living comfort there. We see this every day in the showroom at the factory site and in Budapest. Patio Inowa | 400 will help us to meet architects' and builders' requests for large sliding elements. And we can offer elements in RC 2 as an option. That's also important. My trip to Lövő and the work with Patio Inowa will pay off for PannonTherm. I'm sure of it." <https://pannontherm.eu>



Zsolt Molnár, Managing Director, Nyugat Ablak



Tamás Eszenyi, Operations Manager, PannonTherm, Nyílászárók

Versatile like no other

Roto Patio Inowa

■ **Timber | PVC | Aluminium** With the Patio Inowa | 400 hardware version, sliding elements up to a width of 3000 mm and a height of 3600 mm with a sash weight of up to 400 kg can be produced. Thanks to the construction on roller bearings, there is no need to lift the sash.

Patio Inowa | 200 for sash weights of up to 200 kg and Patio Inowa | 400 owe their tight sealing to the innovative closing movement of the sash perpendicular to the frame. It ensures ultimate sound and thermal insulation at any height and in any climate zone. Patio Inowa offers living comfort without draughts, even in installation situations with high wind loads. This is because the circumferential gasket and the active control of the locking points ensure absolutely sealed sash elements, even in bad weather conditions with storms and heavy rain.

Robust roller unit

Patio Inowa | 400 ensures that heavy sliding elements are easy to operate thanks to the robust roller unit with durable, smooth-running rollers. It has integrated brushes and allows for height adjustment of -1 to +3 mm on the espagnolette side. A key contributing factor in operating convenience is the rolling friction produced by the integrated linear ball bearing during the transverse movement of the sash. An additional increase in operating convenience is provided by retrofittable and combinable Soft functions for mechanically controlled, braked opening and closing.

Good design and burglary inhibition go hand in hand

With concealed technology, attractive components and cover caps, Patio Inowa plays an important role in good design. The same also applies to low thresholds that allow for an accessible transition in accordance with DIN 18040. Equipped with corresponding components, burglary inhibition can be achieved in accordance with RC 2. Furthermore, wired magnetic locking system contact elements can be added to the system and these monitor the opening and locking status of the sliding element in accordance with VdS class B.



➤ For more information about the intelligent hardware with concealed technology for tightly sealed sliding doors

www.roto-frank.com/en/patio-inowa

Around 40 representatives of the Hungarian timber window industry found out more about the Roto Patio Inowa tightly sealed sliding system in the Hungarian production plant in Lövő.

Pendor, Turkey

Individuality is the trump card

■ **PVC** “We are experiencing challenging times. People want a nice safe home now more than ever. They need premium windows for this, which they get from us.” These are the words of Kemal Aydın, who founded Pendor in 2020 in Istanbul. With 25 members of staff at present, he has been producing custom PVC windows to meet every requirement ever since.



Using the Patio Lift Lift&Slide hardware, Pendor manufactures PVC elements up to three metres in height. “This is why the demand for the 400 kg version of Patio Lift is growing month on month,” explains Managing Director Kemal Aydın.



Roto Patio Lift

Thanks to the minimal installation depth of its components, the Lift&Slide hardware is also ideal for Slim profiles. The product range includes versions for aluminium and PVC profiles with groove widths of 16, 18 and 22 mm. For this reason, and because of its compatibility with sash weights of up to 400 kg, Patio Lift is now one of the most versatile Lift&Slide hardware product ranges on the market.

- 2-in-1 roller unit for sash weights of 300 and 400 kg
- Roller unit components made from stainless steel, ball bearing rollers
- Extensive range of accessories
- Night ventilation for comfort without draughts
- Dampers integrated into the espagnolette as standard
- Corrosion protection class 5 in accordance with DIN EN 1670
- Stainless steel Plus roller unit for greatly increased corrosion rates
- RC 2-compatible



➤ **Roto Patio Lift: hardware for versatile use in Lift&Slide systems**

www.roto-frank.com/en/patio-lift

No compromises. Only the best will do. That is exactly what Kemal Aydın promises his customers. Choosing his industry partners was easy for him. “I’m pursuing a vision and looked for partners like Roto who offer a very wide range of products.” He wants to create something special that is fully tailored to each individual customer and space. Greater comfort, innovative functions and tight sealing for sound insulation and protection against heat. “People who live and work in the metropolis of Istanbul want a quiet and peaceful office and home to give them a break from the hustle and bustle outside and protect them against the sometimes extreme temperatures.”

Individually tailored to every customer and space

It goes without saying that selling modern building elements demands real commitment when it comes to advising architects and investors. But that is what motivates Kemal Aydın on a daily basis. Alongside the Roto NX Tilt&Turn hardware, Pendor also works with four Roto sliding systems: the Patio Alversa Parallel Sliding and Tilt&Slide hardware, the Patio Fold Fold&Slide hardware, the Patio Inowa Retract&Slide hardware and the Patio Lift Lift&Slide hardware. Pendor produces PVC elements up to a height of 3 m with this Lift&Slide hardware. “Our customers want

a lot of transparency and large glass surfaces. This is why the demand for the 400 kg version of Patio Lift is growing month on month at our company. And if an element with RC 2 is required, we can also produce this.”

In future, Kemal Aydın would like to push the night ventilation option more actively than before. Not many builders are aware of this, which is why we provide them with advice relating to this function. Then they soon recognise the benefits.

Economical and fault-free

The entrepreneur always keeps an eye on efficiency in production too. The company is only able to meet the demand for individuality and space-specific solutions in the long term when its production process is extremely efficient. “It goes without saying that we want to achieve economic success, which is why we appreciate the technical support we receive from Roto and the ease of installation of the hardware product ranges.” In the long term, the durability of the products and their reliable functioning prevents faults, and therefore customer service requests, on a daily basis – which also naturally improves efficiency. “I prefer to speak to my customers about new projects instead of problems with a window. Thanks to Roto, we don’t have to deal with this. Sliding systems in particular used to experience frequent technical faults. We guarantee that this is different with our large systems, for example with Patio Lift, and Pendor customers are grateful for this.”

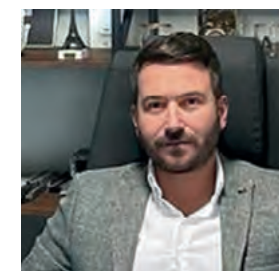
The future is digital

In future, what subjects could come up in meetings with architects and builders? Kemal Aydın is certain that topics which are relevant today will continue to be important in future: “The buildings of the future should ensure pleasant room temperatures at all times without any considerable energy requirement, while being secure and comfortable. We build with a long-term perspective, sustainably and stable in value.” Kemal Aydın believes that Pendor’s business relationship with Roto is also geared towards the long term. Roto can be contacted at all times and offers all-encompassing service. “We feel like we receive top-rate support and are elevated to the next level because our hardware partner never rests on their laurels. We share the vision of perfection. Product ranges are continuously developed, with Patio Lift being a good example of this. I also think it’s good that Roto is on board with digitalisation. After all, it is the future.”

www.pendor.com.tr



In major cities such as Istanbul, with its around 15.5 million inhabitants, sound insulation in buildings plays a key role when it comes to quality of life. It can be achieved thanks to a tightly sealed sliding system and Roto hardware technology. Tightly sealed sliding doors should, however, also protect against the sometimes extreme temperatures in the city on the Bosphorus, and help to dissipate energy by controlling the temperature of the room.



Kemal Aydın,
Managing Director,
Pendor



Carl F Groupco Ltd., United Kingdom

Roto sliding hardware for comfort and security

Tightly sealed when it matters: this restaurant in a holiday park in Beverley, East Yorkshire, is flooded with natural light and boasts three wide exits onto a patio. Total Window Services Ltd. from Hull produced the diagram C sliding systems with Roto Patio Inowa.



Images: Total window services Ltd., Hull (Yorkshire), UK

■ **Trade** British hardware dealer Carl F Groupco (CFG) is a long-standing partner of Roto. From its warehouses in Peterborough (England) and Cumbernauld (Scotland), the company supplies fabricators throughout the British Isles with window and door hardware from all over the world. Managing Director John Crittenden reports about customer feedback on Roto sliding hardware.



“Our customers can produce flexibly according to customer requirements with Inowa and Alversa.”

The central lockings that are used for Patio Alversa are the same ones that can be combined with Tilt&Turn hardware from Roto. Fabricators of NX only have to add a minimal number of additional parts from the Patio Alversa system to their inventory. However, CFG customers obviously wouldn't have to build up high stock levels anyway. They receive the parts they need quickly and based on their requirements from the state-of-the-art CFG distribution centre in Peterborough. CFG provides all-encompassing technical support for the hardware product ranges together with Roto.

www.carlfgroupco.co.uk

Sliding doors and windows are very popular in the United Kingdom nowadays. The country boasts around 1200 building element manufacturers who can produce sliding elements made from PVC, timber or aluminium. Within this group, some specialists who sell complete sliding elements to others have now truly made their mark. John Crittenden is sure that “whether a manufacturer or a seller, it is equally important for both that they meet customers' expectations when it comes to functionality, style and reliability.”

Intelligent design

Modern sliding systems are very in demand, especially for access to an outdoor patio, and the industry expert understands why. “The unpredictable British climate means that patio doors here are closed far more often than they are open. The large leaves and the impressive ratio of a large glass surface to minimal frame area meet Britons' need for light and transparency. Lastly, there are no vertical profiles to spoil the view.” Regardless of the frame material – sliding elements are an in-demand solution for saving space. They are now more and more frequently offered in small formats or used to divide rooms. This is why John Crittenden states:

“Modern sliding systems are hugely versatile.”

Patio Inowa on the up

And which type of hardware is especially in demand? “As one of the industry's largest dealers of Roto hardware, we are seeing a sharp increase in the demand for Patio Inowa,” reports the CFG Managing Director. “I think this hardware impresses our customers and end users in particular due to its outstanding sealing and the fact that it is remarkably easy to use. The option to significantly increase burglary protection is a welcome extra benefit.” Demand is continuously growing because Patio Inowa is available for sliding elements made from aluminium or PVC and, for example, is used in the smart-slide system from aluplast that is popular in the UK.

Stringent requirements for thermal insulation, accessibility and burglary protection are easy



➤ **Roto Patio Alversa: Universal hardware for minimum effort in Parallel Sliding and Tilt&Slide systems**

www.roto-frank.com/en/patio-alversa

to fulfil using components from Roto: “A sliding door with the tightly sealed Patio Inowa hardware can pass the rain and air permeability test in accordance with EN 13126-17 without any issues. The same is true of the British security test PAS 24. This makes this hardware one of the best solutions when a high level of air- or water-tightness or extra burglary protection is required.”

Corrosion-resistant

Like all Roto hardware, Patio Inowa even meets the most stringent requirements for corrosion resistance in accordance with class 5 as standard. As a result, this smart sliding hardware is ideal for elements that are installed in some of the many coastal regions across the British Isles. John Crittenden explains that the tightly sealed system has already proven successful in high-rise buildings where sliding doors offer access to an exposed balcony.

Smart sliding

CFG customers have described how end users specifically praise the operating convenience of the Inowa sliding system. “Our customers can produce large elements with a sash weight of up to 400 kg and benefit from the certainty of knowing that the sliding door is effortless for users to operate thanks to the Soft functions.” The integrated mechanism gently brakes the leaf shortly before it comes to a stop in the open or closed end position. “It goes without saying that this ensures very convenient yet safe handling and provides a little bit extra luxury, if you want to put it that way.” John Crittenden explains that the intelligent sliding hardware is a “real hit” with window manufacturers thanks to its incredibly simple installation too.

Roto Patio Alversa

Patio Alversa is another Roto sliding system that is popular among CFG customers. This

universal hardware for Parallel Sliding and Tilt&Slide elements is also available for all profile materials. “Tilting the leaf helps to subtly ventilate the interior – a feature that remains important to many end users.” John Crittenden offers the following praise for the hardware technology: the comfort tilt mode ensures that the leaf is pleasingly easy and reliable to control using the handle. “Another benefit of this hardware is that Patio Alversa complies with security standard PAS 24 when using night ventilation. Just like Patio Inowa, Patio Alversa is also simple and very efficient to install.” John Crittenden summarises:



John Crittenden,
Managing Director,
Carl F Groupco Ltd.



Product Manager Julie Warner has been working at Carl F Groupco Ltd. for more than 20 years and provides British window manufacturers with advice on all matters relating to Roto hardware.

One of the UK's largest hardware dealers, Carl F Groupco Ltd., supplies window manufacturers with Roto Patio Inowa and Patio Alversa sliding hardware, among other products, from its state-of-the-art warehouse in Peterborough in the east of England.



PaX AG, Germany

All-rounder: Roto NX for every system

■ **All materials** “Retailers and end customers think highly of the versatility of our designs and our installation variants in PVC and timber. This is why we want to increase efficiency without limiting our product range,” explains Andreas Kohl, Managing Director of PaX AG since 2017. The decision to choose Roto and the Roto NX Tilt&Turn hardware was “extremely conducive” to meeting this corporate objective.

As the Managing Director states, PaX AG is the German market leader for burglar-inhibiting windows and the provider with the largest number of approved installation variants. Andreas Kohl sums up the benefits: “Switching over to Roto NX allowed us to further improve the comfort, security and efficiency of the ‘PaXsecura’ system”. The number of identical parts has increased considerably without having to discontinue a single version from the range.

Within just a few weeks, the company’s four plants switched over from Tilt&Turn window production almost simultaneously in early 2022. The Technical Director, Konrad Schürer, sums up the outcome of the collaboration after one year: “And now we have standardised tests, an excellent standard of safety and the option to produce elements in RC 2 or RC 3 with little extra effort, across the entire range and beyond.” Roto prepared them for the switchover and supported them throughout the process in a committed and professional manner. “After eight or, at most, ten weeks, the most important tasks were completed at all sites and we had almost forgotten how challenging that period had been,” recalls Konrad Schürer.

Operating convenience even in RC 3

The hardware system has brought with it many functional improvements. Schürer gives a few examples: “With Roto NX, we have found a mushroom locking cam that fully meets our requirements and is also height adjustable. This means that it is now easy for our customers to respond to construction tolerances.” The cam also protects the window system against deformation while offering greater comfort. The adjustable NX lifting mishandling device improves the operating convenience of Tilt&Turn windows, even in RC 3. The concealed NX hinge side is perfectly tailored to the Roto Eifel TB aluminium threshold and can be used for all profile systems, regardless of the burglary inhibition. The technical director underlines:

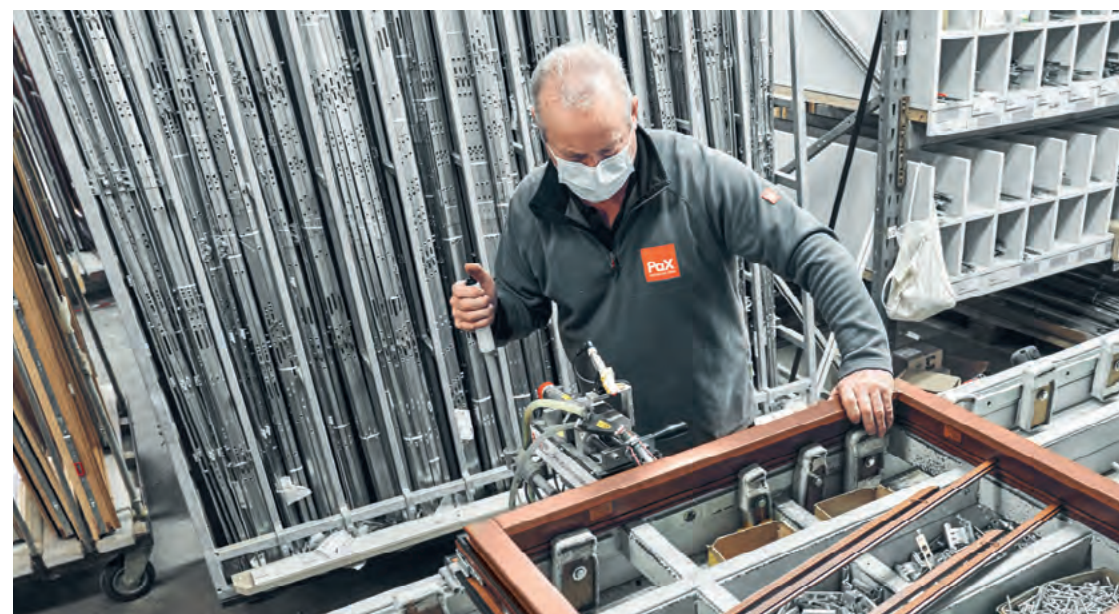
“Roto NX is clearly superior to other Tilt&Turn hardware in many areas.”



The PaXoptima plant in Vestenbergsgreuth produces timber and timber/aluminium windows for new buildings, renovations and protection of historical monuments.

Managing Director Andreas Kohl started working at PaX AG in 1995 in the Product Management department. This is why he, just like Konrad Schürer, knows virtually every single screw in a piece of hardware “almost by name”, he explains. They “immersed” themselves in Roto hardware technology before the switchover and, while doing so, they discovered some things to make security windows in particular even better. These are an important product segment for PaX AG. For example, now every window from the PaXsecura series, even really small ones, can be equipped with opening and locking monitoring in accordance with VdS class B or C on request, as the contact elements don’t need any additional space in the profile rebate. “We found what we needed in the Roto product range – products that meet even the most stringent of security requirements for windows yet with a very understated or historic design,” states Andreas Kohl.

Roto NX includes all hardware components required for a Tilt&Turn window, whether it has a modern design or a historical one. And all this in any security class. Engineer Konrad Schürer admits to being impressed: “Regardless of whether the hinge side is concealed or surface-mounted, all of the profile systems that we use have passed the tests for RC 2 with Roto hardware, while many have even passed the tests for RC 3.”



Seizing the moment

PaX AG reorganised its entire materials management system while switching over to Roto NX in early 2022, continues Schürer. Experts from the Roto Lean team and, of course, from the Roto data service provided support to the best of their abilities during the collaboration. Managing Director Kohl recalls: “After being in contact with employees at Roto just a few times and making the trip to Leinfeld, one thing was clear to us: Roto has the exact people and way of thinking that we’re looking for.” Just like Konrad Schürer, he feels like it is his responsibility to put PaX AG in the best possible position for handing it over to the next generation of dedicated employees and managers. With this in mind, it’s also important to choose the right partners.

“Over the next few years, companies like PaX will have to make rapid progress in areas including digitalisation. The only way to achieve this is with forward-looking customers and strong suppliers.” After signing the agreement with Roto and switching over to the Roto NX Tilt&Turn hardware, he feels good that he has taken a significant step towards achieving this aim. “Efficient production and high product quality remain important. But in my opinion, the viability of a company is also linked to whether our industry as a whole manages to convince architects, investors and builders of the benefits of premium building elements,” believes Mr Kohl. “We think that, with Roto together we can make excellent progress in all key areas for the future.”

Based on trust

This assertion is shared by Karsten Zeuner, the responsible Roto Sales Representative who supported PaX AG while the company switched over to NX, and Branko Beclin, Sales Manager at Roto Frank FTT Vertriebs-GmbH. “When you’re getting a window manufacturer ready to switch over to a different hardware product range, you naturally work very closely with them over a number of months,” underlines Karsten Zeuner. “You have to build up trust as you are both giving each other a very deep insight into your respective companies. But if you find really experienced and forward-looking experts, like in the case of PaX AG, then a special ‘spirit’ develops during this period.” Beclin is also certain that “the next few years will be very demanding for German companies, in particular due to the general economic conditions. This is why, especially at this precise moment, it is very important for window manufacturers to increase their efficiency, exploit their potential for digitalisation together with their suppliers, and improve their market position together with their dealers. At Roto, we are always honoured to be given the opportunity to support companies throughout this process.” www.pax.de



The photo shows (from right to left) Theresa Heuwind and Georg Dlugos, a long-standing PaX employee who is committed to sharing his knowledge in production in Vestenbergsgreuth.



↗ **Economical, secure, convenient, design-oriented: Roto NX at a glance**

www.rot-frank.com/en/roto-nx

Roto NX | Power Hinge

Large, heavy timber windows – naturally beautiful and secure

■ **Timber | Timber-aluminium** Timber construction material and its natural beauty are now more popular than ever. The same is true of large windows. With the Roto NX | Power Hinge hinge side, Roto ensures security and long-lasting quality for sash weights of 200 kg and more.



“Roto has the exact people and way of thinking that we’re looking for,” states PaX AG Managing Director Andreas Kohl, front right in the photo above. Next to him is Technical Director Konrad Schürer. At front left of the photo are Karsten Zeuner, Roto Sales Representative, and Branko Beclin, Sales Manager at Roto Frank FTT Vertriebs-GmbH.



Roto Lean: efficiently organised workplaces in the PaXoptima plant, which was switched over to Roto NX in early 2022, like the other four plants of PaX AG.



Large Turn-Only and Tilt&Turn windows made from timber and timber windows with aluminium facing formwork demand a great deal from hardware. A sash weighing 200 or 300 kg needs heavy-duty hardware with hinges designed to match. Depending on the location of the sash centre of mass, another challenge might present itself: Tilt&Turn windows and balcony doors may close inadvertently if their centre of mass is more than 33 mm above the sash overlap.

Anti-slam device – also for retrofitting
Windows should always be prevented from inadvertently closing, especially in public buildings like schools or nurseries, where timber windows are preferred in view of their sustainability credentials and natural look. This is why Roto offers an anti-slam device for use with the Roto NX | Power Hinge. It secures the sash in the tilt position and can also be retrofitted if required.

Installation, maintenance and operation instructions illustrate what the anti-slam device looks like and how it is installed, while a special drilling jig is available for use with it. The anti-slam device is designed for Tilt&Turn sashes with an enhanced opening width of 80 mm.

Clever design – modern look
Roto NX | Power Hinge limits the tilt depth to 80 mm, as beyond this distance, it would be disproportionately difficult to close very tall or heavy windows.



➤ **Roto NX | Power Hinge: aesthetic hinge solution for heavy, ceiling-height windows and balcony doors**

www.roto-frank.com/en/power-hinge

With a sash weight of 160 kg or more, the installation of a turn restrictor is mandatory; from 200 kg, a central hinge must be fitted. P and V cams are available for producing burglar-inhibiting windows and balcony doors.

The design of the robust hinge side impresses with its ultra slimline and premium appearance. It is produced with a silver powder-coated surface as standard. However, it can also be delivered in a RAL colour of the customer’s choice.

Best quality guaranteed
The Roto NX | Power Hinge was tested with Tilt&Turn sashes up to 200 kg and Turn-Only sashes up to 300 kg in accordance with EN 13126-8:2017. The hinge side passed the durability test in accordance with class H3 with 20,000 cycles. As per its QM 328 certification, the hardware can be used for sashes with a rebate width up to max. 1600 mm and a rebate height of max. 3000 mm.

Manufacturers of timber windows can also arrange for their elements with this hinge side to undergo all of the necessary tests in the International Technology Centre (ITC) in Leinfelden-Echterdingen. The Roto ITC is an accredited test centre and the certificates it issues are internationally recognised.

Tilt before turn
Roto NX | Power Hinge is also available in a TiltFirst version. This “tilt before turn” opening version has proven its worth many times over, especially in public buildings and where there are particular requirements to protect the users of the window, such as in authorities, hotels, schools, nurseries or retirement homes.

“We are expecting demand for our ‘Roto NX | Power Hinge’ hardware for large, heavy windows and balcony doors in our ‘Roto NX’ modular system to grow considerably,” explains Product Manager Andreas Eilmes. “This is because the demand for very large timber windows and balcony doors with triple glazing and, in some cases, with aluminium facing formwork requires us to rethink operating safety for these elements.”



Andreas Eilmes, Product Manager for Tilt&Turn, Roto Frank Fenster- und Türtechnologie GmbH

Facts and figures relating to the company

In 1989, PaX AG managed by Dr Fritz Struth became one of the first companies to start series production of PVC windows. The company began producing security windows the same year.

Series production of security windows tested in accordance with standards first began in 1995 at the Hermeskeil plant in Rhineland-Palatinate. Burglar-inhibiting windows with patented components have been sold under the brand name PaXsecura ever since.

After the reunification of Germany, PaX continued expanding the company by building a plant in Rositz, near Leipzig. A former sugar factory was converted into a modern production facility. The former industrial site was lovingly restored with a strict focus placed on preserving the building’s history. In 1995, PaX AG received the Historical Preservation Award from the state of Thuringia for the restoration.

In 1994, PaX purchased a timber window factory in Bad Lausick, Saxony. Since then, premium timber windows which are also suitable for projects subject to strict historical preservation regulations have been produced under the PaXclassic name.

Against the backdrop of the growing trend for timber windows, PaX AG acquired Optima in Vestenbergsgreuth, Bavaria, in 2002 to expand its activities in the sector of timber/aluminium windows in particular.

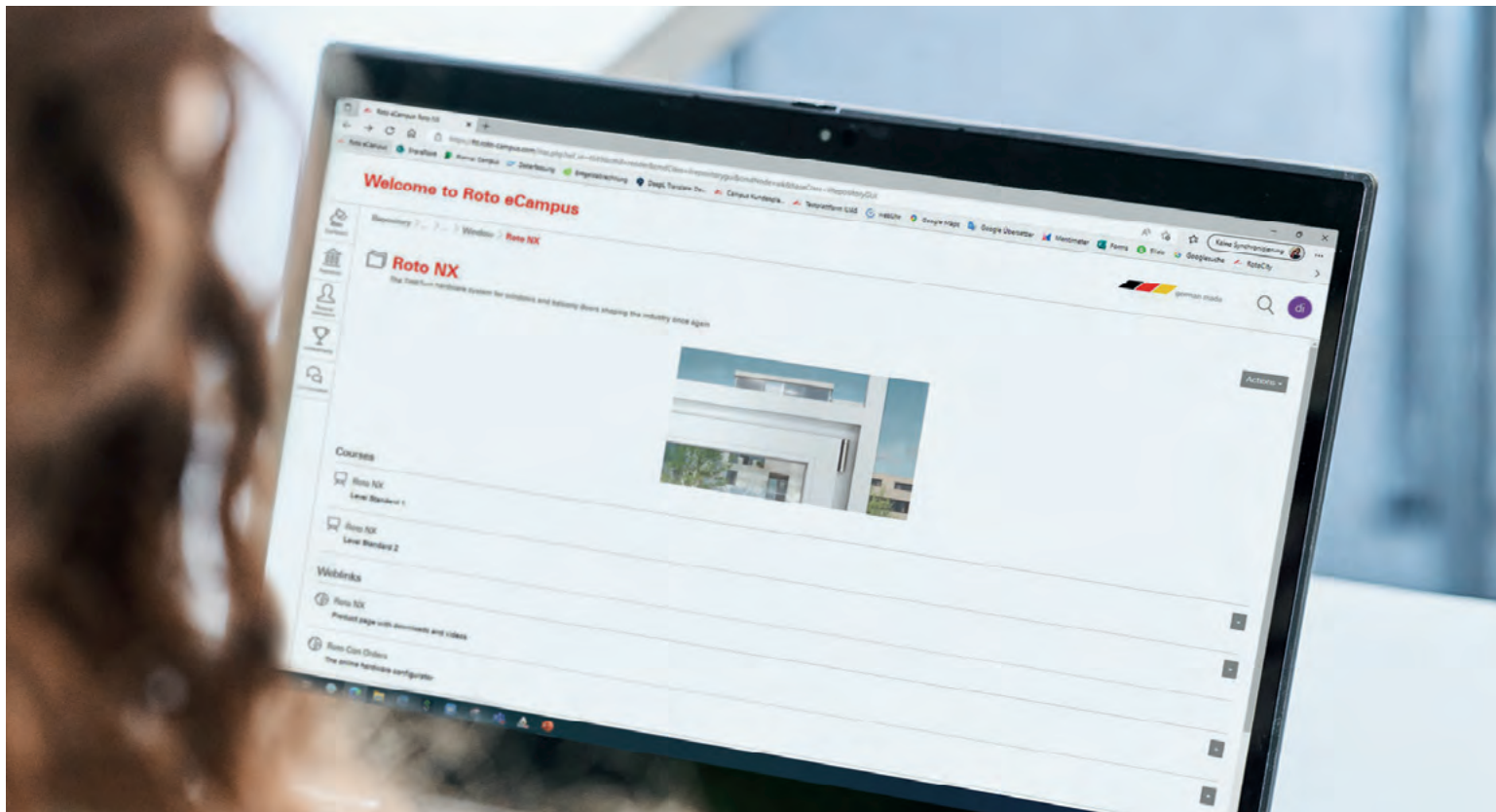
Corner hinge

Pivot rest

Sash stay set

Stay bearing





The Roto e-learning course available in 12 languages, with full audio narration and subtitles, communicates a basic understanding of Roto hardware technology, Deventer sealing profiles and the interactions between the different components.

Herwig Thonhauser, Head of the Roto Campus, Roto Frank Fenster- und Türtechnologie GmbH: "Our e-learning modules are created and designed by professionals in online didactics. The modules are available in the Roto eCampus."



E-learning for all The world speaks Roto's language

■ **Roto Campus** Roto employees have been using e-learning modules for further education and advanced training for more than 15 years now. Since 2020, the team in charge of this at the Roto Campus has been constantly developing new self-learning opportunities for customers too. Colleagues in retail or from building element development and manufacture use them as a simple way to increase their knowledge. Many modules are now available in 12 languages.

A key task of the Roto Campus and its 37 trainers is to give business partners and their staff the technical knowledge to use special products safely. This is accompanied by training sessions explaining the customer benefits of special hardware solutions and rehearsing sales scenarios for windows or doors with state-of-the-art technology.

Although the Roto Campus has many trainers, they cannot be everywhere at once, so self-learning modules are also available online. A basic understanding of Roto hardware systems is provided in a concise, professional format. All e-learning modules are created and designed by professionals in online didactics, and made available on the Roto eCampus customer platform.

Every user can choose the language they want

Herwig Thonhauser, Head of the Roto Campus, emphasises the importance of offering training in many languages: "It sets the Roto e-learning apart and is very important since our users are spread out all over the world, even if it creates more work when developing the modules." But in the same way that Roto Campus trainers can provide training in a number of languages and in therefore almost any market, the self-learning modules

also make learning as easy as possible for their users because the modules are available in so many languages.

Brief presentation of products

The most recent additions to the e-learning are modules which provide information about specific Roto products for certain building elements and thus give a good overview. This kind of introductory module is available for the topic of sliding systems, for example: What opening versions are there? What Roto hardware supports what opening type? What are the most important components in sliding hardware called? These questions, and many others, are answered in multiple languages that are spoken around the globe as a native language or first foreign language.

Product segments at a glance

What does the Roto Door product range actually include and how do the individual door hinges and locks differ from one another? In just 60 minutes, the "Door" e-learning module explains what sets each product apart and which external doors it is suitable for. There is no quicker or more interesting way to gain an overview of this product range.

There are also Roto Campus modules to provide concise information about hardware solutions for "Outward Opening" and "Casement & Awning" windows.

Herwig Thonhauser would like to recommend another module in particular: "In just 20 minutes, the 'Deventer Seals Level Standard 1' module gives a basic understanding of the role of sealing profiles in windows and doors. You only have to invest little more than 15 minutes to understand why it's so important for the hardware and gasket to be optimally coordinated. I think that's time well spent." The Deventer e-learning module

Roto Campus – the international academy for advanced training

The Roto Campus offers training courses for products and technology as well as communication for end user-oriented sales. Web-based e-learning sessions are offered, alongside attendance events at international Roto company sites as well as within a partner's company. These sessions are developed and held by professional trainers.

The Roto Campus team compiles web-based training courses tailored specially for country-specific and target group-specific requirements. Customers are also provided with advice for organising complex training programmes.

is also available in the Roto eCampus in 12 languages.

Knowledge always available

Many building element manufacturers, specialist dealers and installation companies have now set up company access to the Roto eCampus to provide their employees and trainees with training that meets their specific needs. The appropriate learning programme is easy to find, describes Herwig Thonhauser, because it is possible to access the system in 12 languages too.

"When access to the Roto eCampus is activated, our administrator saves the language that

a customer would like to use for it. This should make the e-learning platform as easy to understand as possible for the customer from the very outset." The access details are securely managed and protected against unauthorised access, emphasises Mr Thonhauser. "We operate according to the very strict European General Data Protection Regulation."

Learning any time, anywhere

Users have the option to pause as often as they like and navigate back and forth while working on an e-learning module. At the end of every learning module there are interactive exercises to test whether the relevant details and facts concerning the module topic have been properly absorbed and can be recalled. "Self-learning programmes should always end with this kind of self-assessment," states Herwig Thonhauser with conviction. The most important aspects of each training course are summarised and available to download in a PDF.

Get your login details now!

Any customers interested in using Roto e-learning should get in touch with their contact person in Roto sales, who will be able to allocate personal login details via a close-knit network of administrators. Thanks to a very simple user interface, Roto e-learning is also suitable for users who are less experienced in working on a computer. Simple Roto excellence also extends to this e-learning available from the Roto Campus.



➤ **How does the Roto e-learning work?**
This video lasting just two minutes explains how to use it.

www.roto-frank.com/en/video-e-learning

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