

# Roto Inside

Issue no. 44

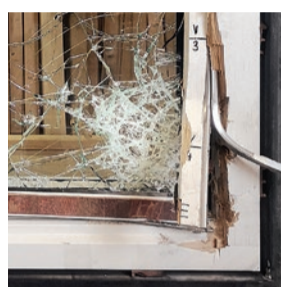
Roto Window and Door Technology customer and partner information

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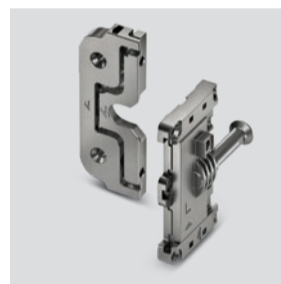
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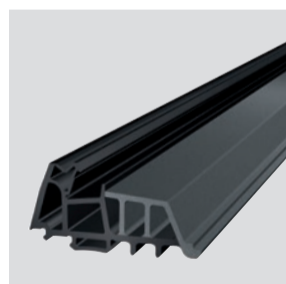
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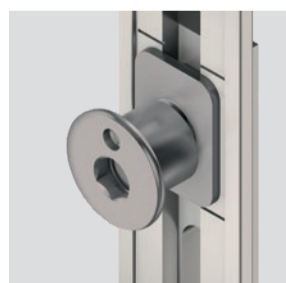
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Four variants in one system  
**Roto Patio Alversa: Minimal. Universal.**

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Roto NX: always the right decision  
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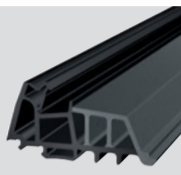



The clampable butt hinge for fast installation  
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Economical production thanks to networked product segments

## Systems expertise yields customer benefits



**Within the system Product pairing and a system concept are key elements of the Roto strategy.**

As such, the Roto NX hardware system is designed as a modular system within the holistic concept of a platform. This compatibility means that you, as a fabricator using the previous generation Roto NT, can easily convert to the new hardware generation at any time.

**Economical through compatibility**

This system concept extends much further. Components of the Roto NX modular system are also used to manufacture individual sliding solutions. As all these product ranges are compatible, every window production process is sure to be economical. And there's more: the modular concept gives you freedom to turn your ideas into reality with a manageable number of items.

The networked product strategy also extends to the Roto Door range. The three product groups – multipoint lockings, thresholds and main door hinges – are consistently interlinked.

**Economical through fewer items**

Simple and quick assembly during production is facilitated by a consistent reduction in the number of items.

It has been possible to reduce the number of items in the Roto NX range thanks to the extensive use of uniform parts that can be used on both the left and the right side of a door, such as stay bearings and pivot rests or stay guides, for example. The disconnection of the faceplate and gearbox or lock casing in the EasyMix system with screw-free installation is a further example. All this results in reduced storage and logistics expenditure for Roto customers.

One example of how the Roto Sliding product segment has been optimised is the Roto Patio Inowa parallel retraction sliding system. The number of screws required in all Inowa assemblies has been reduced from six to four. This means that the control unit, centre closer and roller unit can now be installed even faster.

Thanks to the modular system design of the Roto Patio Alversa, one Tilt&Slide and three Parallel Sliding solutions can be produced on a single production line. The production of sliding doors could not be more economical.

**Economical through reliability**

Economic efficiency also has to translate into long-term reliability of the hardware. That is why hardware components from the production process are subjected to regular testing by organisations such as the International Technology Centre (ITC), the accredited test centre

in Leinfelden-Echterdingen. The advantage to you as a window and door manufacturer: regular testing guarantees the reliable functionality of the hardware for your end customers.

**Fast, on schedule, fault-free**

And therefore reliable – this is what manufacturers expect their hardware suppliers to deliver. And that's exactly what Roto provides, thanks to its Logistics Service Centre in Leinfelden. The highly dynamic picking of small quantities is characteristic of the Service Centre, which has a floor area of around 25,000 m<sup>2</sup>. Large quantities of vastly different finished products can be stored there, and orders containing a wide range of different items can be processed quickly, as needed. Driverless transport systems, automatic storage and retrieval systems and state-of-the-art materials handling technology transport pallets and containers. The logistics is ideally suited to the changing ordering patterns of a large number of customers.

**Pairing up for maximum performance**

The reliable interaction between hardware and gaskets is also very important. These influence the performance of windows and doors fundamentally and directly. Therefore, whenever possible, the hardware configuration and Deventer sealing profiles are jointly tailored to customer- and product-specific requirements in FTT's performance package. This also means a huge increase in reliability for Roto customers.

Another high-performance combination is the Tilt&Turn hardware and the Roto Sil Level 6 surface. Thanks to its innovative coating technology with a microcrystalline structure, the surface guarantees special durability – confirmed, amongst other factors, by the durability testing of Turn-Only and Tilt&Turn hardware components in accordance with DIN EN 13126 Part 8. The surface is used for connection components subject to high stress such as rivets, bolts or sliding elements, where it provides corrosion protection that goes beyond the standard.

**Smart Home ready**

Need a way to check the window status at any time? Roto Com-Tec is the solution. Users can use a smartphone, for example, to check whether their windows are open or closed, as the Roto Com-Tec Sensor identifies the window status and communicates this via an app.

**Ultimate reliability**

Roto caters for all opening types and frame materials worldwide. The performance of the hardware technology is verified by certifications. The networked systems can be fabricated efficiently and offer end users numerous advantages. Roto Window and Door Technology therefore lays the perfect foundations for your success, in terms of both your customers and the market environment.

## In conversation



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

### Roto Inside: The Corona pandemic continues to dictate everyday life and global economic activity. How is Roto Fenster- und Türtechnologie responding?

**Marcus Sander:** Starting in China, we responded to the situation very early on throughout FTT, and introduced measures at all sites to protect our employees and business partners but also to keep operations up and running.

Being able to respond on the spot, however, means being prepared to define courses of action and implement these throughout the organisation before we find ourselves in an emergency scenario. In our group of companies, this has been ensured by means of integrated crisis management. Thanks to this, we were actually able to respond very quickly and very efficiently to the present circumstances. In addition to clearly defined rules regarding behaviour, access and hygiene, an important factor has also been a flexible approach to the way we work. Since March, for example, a split office has been introduced at many sites worldwide. This means staggering the presence of individual employees or teams at their primary place of work and combining this with mobile working.

In order to maintain an up-to-date assessment of the situation for our employees and the possible effects on our business, the central Roto FTT planning department receives a daily status report from all FTT sites throughout the world.

The challenge here, of course, is to continue to fulfil our duties to our customers, partners and employees and to maintain good working relationships despite the present difficulties. Thanks to modern-day technologies, we are able to do this very well.

As a medium-sized company, we act with sound judgement and maintain a fair relationship with partners and suppliers. Over the past few months, we have remained a reliable partner to our customers throughout the world. We will make every possible effort to continue to be a reliable partner in the coming months.

I would like to take this opportunity to thank all of our employees worldwide for their mindful behaviour, their mutual respect and their brave determination during these times. I am proud of the professionalism and consideration with which we have handled this situation thus far, and with which we will continue to do so. Without exception, the situation has been dealt with responsibly by all, and with a true sense of community and compassion. This will make Roto Fenster- und Türtechnologie a stronger company, both now and in the future.

### Roto Inside: Has there been a learning effect during this extremely challenging situation – or even because of it?

**Marcus Sander:** Yes. I can see this happening, but not only in our company. We are all thinking about the digital opportunities available to us and, perhaps for the first time, fully realising the potential of this technology. We are now being somewhat forced to adopt digital working methods and maybe even use digital channels we have until now been unfamiliar with.

Roto too must and is increasingly considering ways in which it can now deliver products to customers by digital means. This is an exciting challenge that we at Roto are happy to embrace. Customer focus has always been at the heart of our company.

### Roto Inside: Can you describe one of the company's strengths that would have really shone out at Fensterbau Frontale 2020?

**Marcus Sander:** In addition to the excellent team our Roto employees have proven themselves to be in the last few weeks, our product and systems expertise is one of our key strengths. The components of our product groups are all closely interlinked with one another. This means that Roto customers can cover several, if not all, of their product segments with Roto solutions. Hardware components can also be used for various opening types. This means that we can provide maximum support for our customers throughout their production processes and help them ensure optimum economic efficiency.

This edition of our customer magazine illustrates this and reflects the topics we were planning to showcase at the Frontale 2020 trade fair. These include our Roto NX Tilt&Turn hardware product range, the numerous benefits of our Roto Patio Inowa and Roto Patio Alversa sliding systems, the integration of our product groups into door technology, the sealing expertise of FTT member Deventer and, last but not least, Smart Home ready with Roto Com-Tec.

I am confident that we can continue to offer our customers and partners the best possible support with our enhanced efforts and product services. I would like to thank all of our readers for their interest in our customer magazine and wish everyone continued health, strength and optimism.



## Now also available for outward opening main doors Roto Solid C

■ **Door** Thanks to the concealed door hinge, manufacturers of aluminium doors are presented with a particularly attractive system for high-quality entrance doors for houses and flats in the premium segment. Outward opening doors can now be fitted with this hinge with immediate effect. Users receive a performance warranty of 10 years.

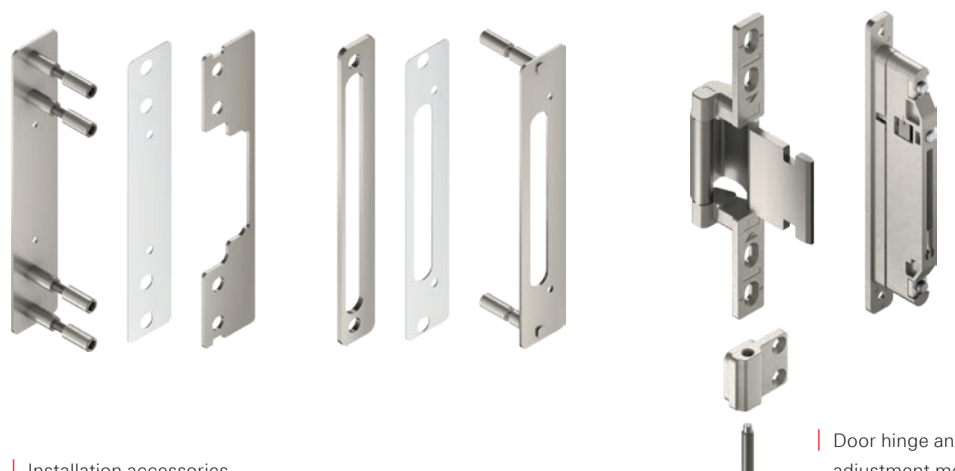
Builders are increasingly showing a preference for state-of-the-art, large aluminium entrance doors with sleek outlines. The Roto Solid C concealed door hinge is keeping pace with this trend as well as the growing requirements for efficient burglary protection and durability. It reliably ensures that even doors weighing 140 kg are easy both to open to an angle of up to 110°, and to close. The door hinge also supports the burglar inhibiting design of entrance doors in accordance with RC 2.

### Profile-adaptable

Roto Solid C is suitable for use in many conventional profiles as standard. Additional installation accessories and a different height adjustment module are needed for an outward opening door in contrast to an inward opening door. The door hinge is available in the colours silver and black. The surface of all components satisfies the most stringent corrosion resistance requirements in accordance with DIN EN 1670 Class 5.

### Easy to clean and low-maintenance

Thanks to the concealed mechanism, an aluminium door equipped with Roto Solid C is extremely easy and convenient to clean. The uninterrupted gasket level minimises heat losses. The self-lubricating bush in the door hinge means that no door maintenance is required. The durability of the Roto Solid C concealed door hinge in the outward opening variant has been tested in accordance with DIN EN 1191 and has proven itself effortlessly, even over 200,000 cycles.



| Installation accessories

| Door hinge and height adjustment module



➔ Product information for the Roto Solid C concealed door hinge

[www.roto-frank.com/en/roto-solid-c](http://www.roto-frank.com/en/roto-solid-c)

## Deventer: for flawless windows

# Customised TPE sealing profiles

■ **Sealing profiles** The function-specific interaction between hardware and sealing profiles influences the performance of windows and doors directly. Within the Roto service partnership, the hardware configuration and the Deventer sealing profile system are adapted to the specific requirements of window or door design.

Three exciting developments from Deventer for well-known system suppliers are examples of this.

### Excellent thermal insulation for aluminium windows

The SP 5961a frame sealing profile was developed for a European aluminium system supplier. As a TPE sealing profile with foamed sections, it offers a significantly higher thermal insulation value than an EPDM sealing profile. For ease of installation without the need for additional lubricants, the profile base features a sliding coating.

Thanks to the customised shaping, the window system boasts optimum sealing and a high level of operating convenience. The welded corners of the profile remain functionally reliable in the long term. It can also be ordered from Deventer as a complete, true-to-size welded frame.

Deventer TPE profiles are also fully recyclable – an especially important feature for many aluminium window manufacturers and a growing number of building projects. A corresponding Cradle to Cradle certificate has also been issued.

### High-tech gasket for all-glass systems

“Ready-made” gaskets are often not sufficient to fulfil special customer requirements. System manufacturer Gealan placed great demands on sealing when developing its all-glass system Kubus. During the development process, the decision was made not to place any gaskets on the frame. At the same time, the company introduced the requirement that the different functions of glass and frame stop gaskets should be integrated into one gasket cross-section so as to use just one sealing profile when manufacturing the window. Since the

glazing concept for the system does not include classic glazing beads, it had to be possible to attach the gasket securely to the finished window element once glazing was complete. It quickly became clear that this ambitious project would require the expertise of a sealing professional.

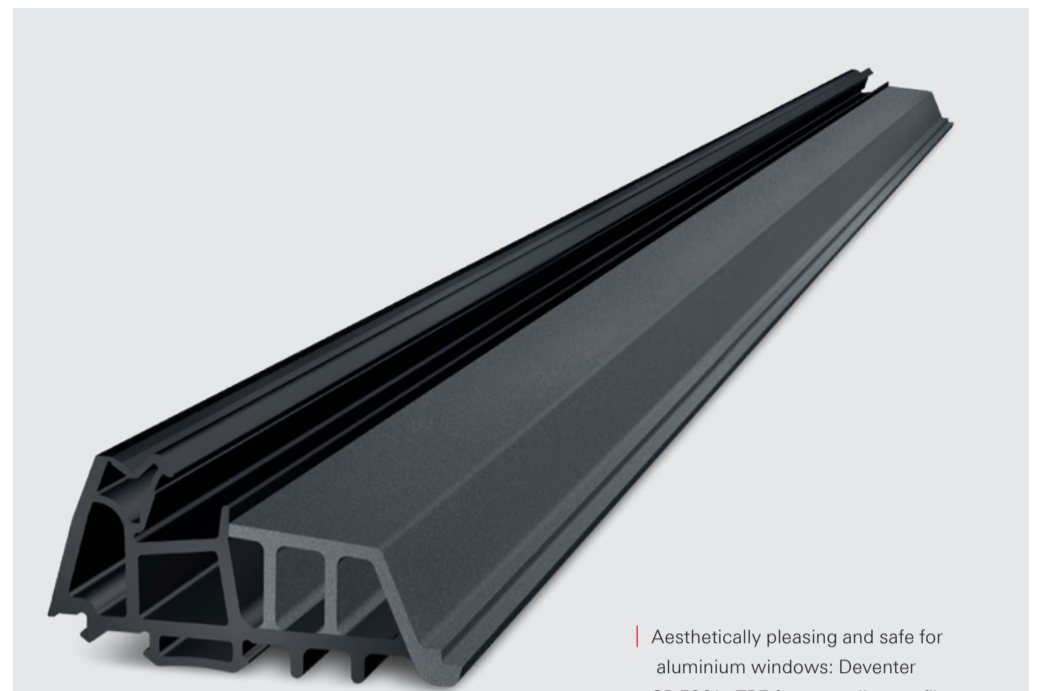
The solution offered by Deventer is a high-tech gasket, which can be attached in the sash frame using a catch developed jointly by the two companies. Adhesive tape, which is attached to the gasket at the factory, secures the SP 7447 K sealing profile to the glass in the form of a stop gasket and glazing gasket. A material core made from TPE foam that is integrated into the gasket cross-section also ensures consistent gasket compression and gap size.

Numerous successful tests have confirmed the high performance of the gasket developed by Deventer. The Kubus window system is achieving top marks when it comes to driving rain impermeability, wind load and air permeability. It also offers excellent operating convenience.

The large hollow chamber in the profile enables high tolerance compensation. The foamed section in this hollow chamber optimises the thermal properties. Defined bending points ensure minimum build-up of closing pressure and gentle closing characteristics. A further advantage that enables the economical manufacturing of the sealing level and fast installation: the Deventer SP 7447 K sealing profile can be notched very simply using modified notching scissors for good corner design.

### Finely tuned sealing system for timber / aluminium windows

Various Deventer sealing profiles support the concept of the new Mira Contur CTS window from Gutmann. The S 7758 central and overlap gasket is used as the sealing profile for both levels, thereby saving storage space. The VES 3-1210 floating mullion end piece for sealing the transition between sash and frame provides further sealing and corrosion protection. An easy to position and process internal glazing gasket with butt joint is used to fit the pane



Aesthetically pleasing and safe for aluminium windows: Deventer SP 5961a TPE frame sealing profile with foamed sections for excellent thermal insulation values  
Photo: Deventer Profile GmbH

### Flexibility with TPE profiles

TPE sealing profiles have proven the ideal basis for many Tilt&Turn windows when it comes to fulfilling a wide range of different requirements for design and user-friendliness. They have several advantages over profiles made from elastomers:

- since the raw materials can be modified, TPE sealing profiles can be precisely tailored to the application in question;
- since TPE materials can be combined with themselves and with other suitable polymers, there are numerous coextrusion possibilities such as hard / soft combinations.
- TPE profiles also offer window manufacturers a huge degree of flexibility when it comes to colour matching with their products. Thanks to a range of colour tones, the gaskets perfectly complement the sash and frame profiles. Even transparent TPE materials are possible.

of glass (S 7634). The external silicone glazing gasket with silicone foam head (DS 7354) is characterised by maximum weather resistance. The S 7604 G sealing profile with sliding-coated base is used between the aluminium cladding and frame to enable easy installation and safe rear latching. The S 7702 sealing profile prevents the ingress of moisture at the connection to the window sill. It can be easily attached and securely positioned.

The sealing lip of the central and overlap gasket has been specially adapted to the installation geometry. The thin wall thicknesses and minimum build-up of closing pressure improve the user-friendliness of the window. The soft base lip of the sealing profile and its rigid back make installation easier. Deventer can also supply a compatible processing tool for optimum corner formation. The colour of the glazing gasket is matched to the TPE central and overlap gasket.

### The Deventer Group

With factories in Germany, the Netherlands, Poland and Russia, Deventer has been part of the Roto Group since 2016 and belongs to the Roto Frank Fenster- und Türtechnologie GmbH group of companies.

In addition to a wide range of standard constructions, the sealing specialist has more than 4000 products in its portfolio, which have been developed in accordance with customer- and market-specific requirements. The company is a specialist in high-quality sealing profiles made from TPE and silicone. These can be notched, glued or welded in the corners and therefore ensure very good corner formation.

Deventer's stock programme contains over 500 different items, which can be ordered in quantities from just one box. The inventory holding of three to four million running metres ensures products are available instantly.



Adhesive tape, which is attached at the factory, secures the SP 7447 K sealing profile to the glass in the form of a stop gasket and glazing gasket. A large hollow chamber enables high tolerance compensation. Image: Gealan Fenster-Systeme GmbH



Strong team: six sealing profiles from Deventer support the sealing properties, operating convenience and design of the new “Mira Contur CTS” window from Gutmann. Image: Gutmann Bausysteme GmbH



## Roto NX: always the right decision

# The future starts now

■ **New from Roto** Large, heavy, highly insulating window sashes, special shapes, extreme weather conditions, increasing security requirements or user-friendly home automation – Roto NX makes it easy to manufacture windows as economically as possible in accordance with specific customer requirements.

### Top of its class: the new V locking cam

In contrast to other conventional solutions, the key important component for sealing and burglary inhibition is not designed as a rolling cam. The new V locking cam of the Roto NX achieves a level of stability designed for optimum burglary inhibition thanks to the minimal cam movement, guidance across the entire surface and support across the entire surface of the faceplate.

#### Permanently tight and safe

Height and gasket compression are adjusted at the same time. The precise height adjustment is controlled by the integrated fine-pitch thread. The V locking cam, coated with the further developed Roto Sil Level 6 surface for maximum corrosion protection, runs into the security striker. Here the sash is pressed against the frame via the gasket, thereby ensuring a high and even gasket compression. The hinge side supports this effect, whereby the window itself remains tightly closed, even

under prolonged wind load. Burglary attempts on the window element are made more difficult thanks to the resistance class of the window element, as the V locking cam engages behind the security striker. This and the robust design ensures maximum burglary inhibition.

#### Adaptable to rebate-clearances

The V locking cam enables faster installation of the window element, as it absorbs more rebate-clearance tolerances without any adjustments having to be made. The advantage: building elements can be installed quickly, even in challenging installation situations. These time savings are also facilitated by the fact that, in addition to the special tool formerly used, a standard commercial 4 mm hex key can now also be used for adjustment – a standard tool used by every window installer to adjust numerous other hardware components such as pivot rests or stay arms. The hex key is also used to adjust the P and E locking cams.





Roto NX stay arm and stay bearing

### Almost limitless format variety – ready for home automation

With its load bearing capacity of 150 kg, the hinge side T is ideally designed for large, heavy timber windows with any glazing. A sash rebate height of up to 2800 mm also makes virtually any balcony door format possible. Stay bearings and pivot rests guarantee increased stability of the hardware against traction and twisting. The night ventilation function is integrated into the stay arm as standard.

#### A true sense of style

The hinge side T also demonstrates its full capability in the renovation of old buildings, as it can be used for angled and arched windows. The latter are fitted with a laterally adjustable stay bearing.

#### Robust

The hinge side Power Hinge with integrated anti-slam device for a rebate depth of 30 mm controls a Tilt&Turn sash for up to 200 kg and a Turn-Only sash for up to 300 kg in weight.

#### Quick installation

The one-piece connecting rod of the Plus lever-operated espagnolette causes a connecting-rod movement that is synchronous with the lever. This results in the uniform position of the strikers of the first and second opening sash, which require just one jig. The lever-

operated espagnolette is delivered in the turn position with the operating lever almost in the 180° position, which makes it much quicker to crop and assemble in the sash.

#### For Smart Home windows

The battery-operated Roto Com-Tec sensor transmits the window status wirelessly to a smartphone or tablet via an app. It can be screwed into virtually any single- and double-sashed timber and PVC window in such a way that it is concealed, and without the need for a jig, by simply inserting and securing it directly into the corner drive of the hardware.

Signal transmission takes place on the basis of the manufacturer-independent wireless protocol EnOcean. The encrypted data transfer and the long battery runtime ensure the security and durability of the three sensor designs: Basic, Comfort and Comfort S. They can also be integrated into existing Smart Home systems.

Window manufacturers use the Control Unit to install and test the respective Com-Tec sensor directly within their production processes. The automatic calibration algorithm enables fast commissioning.



Roto NX TiltSafe security striker

### TiltSafe security on tilted windows

TiltSafe can be combined with the Roto NX hinge sides P 130 and P 150 for PVC as well as T 150 for timber. The use of standard components in the sash allows a TiltSafe window to be manufactured on the standard production line.

#### Secure ventilation

The reliable TiltSafe burglary inhibition in accordance with RC 2 is made possible by three Roto NX security strikers for tilt ventilation in combination with the V locking cam, a lockable window handle and drilling protection. The tilt depth of 65 mm with a large ventilation cross-section ensures a high air exchange rate.

The interaction of the new V locking cam in combination with hardened steel strikers achieves RC 3 when the window is closed. Corded contact elements that monitor the locking status of the window further enhance burglary protection.

#### Concealed

The Designo TiltSafe combines the security hardware components of the Roto NX modular system with the aesthetic features of the completely concealed Roto NT Designo window hardware. The result: an invisible hinge side on the closed window with burglar inhibiting security in accordance with RC 2 when the window sash is tilted.

#### Smart Home ready

The concealed Roto E-Tec Drive tilt-opening and locking drive can be easily installed in a TiltSafe window and integrated into the home automation system.

The drive can also be combined with the Roto Com-Tec Comfort and Comfort S sensors. These identify the position of the window sash as "TiltSafe" so that no alarm is triggered in this secured tilt position despite the window being opened.

Regardless of the electronic control, the security features of the TiltSafe window in accordance with RC 2 remain completely intact.



Efficiency



Security



Comfort



Design



➤ Economical, safe, convenient, design-oriented: Roto NX at a glance

[www.roto-nx.roto-frank.com/en](http://www.roto-nx.roto-frank.com/en)

## HeKa Herzog GmbH, Germany

# Up to date with Roto NX

■ **PVC** Continuously seeking out new and better solutions. This is the strategy adopted by the HeKa Group. Another project with long-term partner Roto: the market launch of Roto NX TiltSafe, offering secure tilt ventilation up to resistance class RC 2.

At HeKa this is known as KippSi locking and is marketed both to the new window sector and for the retrofitting of windows with Roto NX hardware. HeKa has been working with Roto for around 40 years. This partnership is continuously evolving and, in July 2019, resulted in the switch to the Roto NX Tilt&Turn hardware system. As Managing Partner, Hans-Dieter Herzog was personally involved in the change-over process, which he described as running "without a single hitch".

### Production with Roto NX

Herzog considers Roto NX to be a particularly innovative Tilt&Turn hardware system. The possibilities for automation, the ease of processing and installation, the high load capacity, the operating convenience and reliable hardware functions as well as "well selected highlights" are the main strengths of the new system, explains HeKa Sales Director Andreas Heilig. "We have now been using Roto NX in our production processes for several months and feel very well-equipped to meet the requirements of the future."

### Innovations emerge

The HeKa factories in Graben-Neudorf and Löbnitz both switched in parallel. This process went extremely smoothly at both sites. According to Herzog, the uniform hinge side P with its high load bearing capacity and aesthetic design made the decision to switch over very easy. The mechanical balcony door bullet catch, the lifting mishandling device that can be automatically screwed in and the VT espagnolette from the Roto NX range have been welcome additions to HeKa production processes.

A further advantage is the added comfort for end users. The particularly smooth-running closing characteristics thanks to the staggered taper action and the night ventilation integrated as standard for an optimum room climate are both very attractive features for window users and, above all, demonstrable advantages, according to Herzog. The novel TiltSafe function is also an impressive selling point thanks to its burglary inhibition in accordance with RC 2 on windows that are tilted open up to 65 mm.



For training professionals in the HeKa Academy: the "Roto NX sample box"

### Peace of mind with KippSi

"Our windows with KippSi locking offer tangible advantages when it comes to burglary protection and give customers the peace of mind that tilted windows remain secure even at night or when they are away from home," smiles HeKa Sales Director Andreas Heilig. In Graben-Neudorf, KippSi is being demonstrated on hands-on sample windows and corners in the showroom. The new locking system is of course also featured in the main HeKa brochure. While the Sales and Showroom team demon-

strate the benefits of the secure tilt ventilation to customers, HeKa is already investing in press advertising to raise KippSi's profile. This year, employees of specialist trade partners will also undergo training in the "HeKa Academy" on how to use the in-house planning software as well as marketing aids to launch an exclusive and comprehensive service package onto the market. New solutions such as KippSi play an important role here of course, reports Heilig.

[www.heka.de](http://www.heka.de)

### 60 years of HeKa Herzog GmbH Great prospects for the anniversary year

Family company HeKa, which was founded in 1960, is today managed by Hans-Dieter Herzog and his sister Marietta Heil. The company produces windows, main entrance doors, sliding door systems and roller shutters made from PVC and aluminium at its sites in Graben-Neudorf and Löbnitz. The medium-sized business currently has around 250 employees.

"The founding location of Graben-Neudorf lies in a tri-border area," explains Sales Director Andreas Heilig. "We are therefore a European company in the truest sense of the word." HeKa's export share is continuously increasing. When it comes to its activities beyond German borders, HeKa benefits from the strong international presence of its industry partner Roto. "The extensive expertise regarding country-specific product trends within the Roto organisation helps us develop efficient solutions that are tailored precisely to the needs of the market and technically proven."

### Full service for production and development

During the development of new products, HeKa makes full use of Roto capacities in the accredited ITC test centre in Leinfelden-Echterdingen. HeKa also regularly takes advantage of the services offered by the Roto Lean consultation and service package in order to optimise its own production processes. By offering individual consultation on production optimisation, as well as sending out trainers to lead joint training workshops and sales meetings, Roto provides real added value, emphasises Managing Director Hans-Dieter Herzog.



Certified partnership: HeKa Managing Director Hans-Dieter Herzog, HeKa Production Manager Necmettin Kara, HeKa Sales Director Andreas Heilig and Roto Key Account Manager Uli Teubner (from left to right)



Consultation on the KippSi locking using a HeKa sample corner

Hans Timm Fensterbau, Germany

# Timber windows, timber / aluminium windows and doors in RC 4



Element from Hans Timm Fensterbau GmbH following the RC 4 test. Bastian Timm is satisfied: "The security components from Roto helped us make an extensive range of timber windows fit for the RC 4 tests. The tests were passed on the first attempt."

Photo: Hans Timm Fensterbau

## Resistance class RC 4

In accordance with DIN EN 1627-30, burglar inhibiting windows with resistance class RC 4 must be able to withstand the forces used by an experienced burglar using aggressive sawing and striking tools such as an axe, crowbar, hammer, pick or cordless drill. The test is passed if the window can withstand all break-in attempts for a minimum of ten minutes.

Private individuals also want to feel safe and secure at home; Hans Timm Fensterbau also offers windows up to a resistance class of RC 4 in a modern design

Photo: Hans Timm Fensterbau

**Timber** "We want to produce timber windows and timber / aluminium windows in accordance with resistance class RC 4." The team at Hans Timm Fensterbau, based in Berlin, set itself this challenge in 2019. The success of the project was not least thanks to security components from Roto.

In buildings with stringent security requirements, such as governmental departments or exclusive private households, extremely effective mechanical burglary protection is required on windows and doors, according to Managing Director Bastian Timm. The same also applies if the design of windows must be in keeping with historical styles and the specifications for listed buildings. In order to meet demand in the field of high security for buildings, the team at Timm decided to extend its already extensive expertise in burglar inhibiting window design and to develop a complete RC 4 range.

### Expertise combined

A newly formed team of experts developed the first sample elements during the summer months of 2019. They used security components designed in-house at Timm Fensterbau and components from the Roto modular system such as security mushroom locking cams, steel security strikers, lockable window handles and drilling protection.

### Target achieved

Bastian Timm and his family are extremely proud: "With the successful expansion of our RC 4 range, we have clearly demonstrated our extensive expertise in the field of high security for buildings. We are particularly thrilled to have successfully tested all opening versions in a record time of six months. Thanks to the fact that we are now able to cover the entire bandwidth with elements of all opening versions,

we are perfectly prepared for the increasing demand for security solutions." Following four successful test series on windows, doors also finally passed the tests for resistance class RC 4 in December 2019. Again, various Roto components were used.

Volker Fitschen, Managing Director for Central Europe at Roto Frank Window and Door Technology, is more than satisfied: "Roto has extensive expertise and many years of experience in the configuration of hardware for effective mechanical burglary protection. But even we don't submit products for RC 4 tests every day. We are proud that our security components played a role in ensuring all window elements from Hans Timm Fensterbau passed the demanding tests on the first attempt. A great success."

### Next step: special formats

This year, the Berlin window specialist is again focussing on security. The next item on the agenda is the testing of special formats, such as pitched and arched windows as well as Lift&Slide systems, in RC 4. The knowledge gained in 2019 will also be channelled into the company's retrofitting business.

www.timm-fensterbau.de

### Hans Timm Fensterbau GmbH & Co. KG

In 1957, Berlin company Hans Timm Fensterbau GmbH & Co. KG was founded by Hans Timm, and it remains a fully family-owned company. Today, production takes place at three sites in Berlin-Marienfelde across a production area of 14,400 m<sup>2</sup>, using state-of-the-art CNC technology. The company also offers an extraordinarily large range of windows made from timber, timber / aluminium, aluminium and steel.



This building on the Wilhelmstraße in Berlin is used by the German Bundestag. Hans Timm Fensterbau provided the timber windows in resistance classes RC 3 and RC 4.

Photo: Hans Timm Fensterbau



Specialising in windows with maximum burglary protection (from left to right in the photo): Detlef Timm (legal project management), Bastian Timm (purchasing, sales, strategy, product development), Jonas Swiatek (certification, digitalisation, technical project management) and Bernd Timm (technical project management)

Photo: Hans Timm Fensterbau



innovation | no water | no air

# Roto Patio Inowa: intelligent and tightly sealed

■ **Sliding** In addition to its excellent sealing properties, the sliding system, which can be ordered worldwide, is characterised by its format variety. This ranges from small sliding windows in a kitchenette to room-height sliding elements in all frame materials.

As a result of continuous product development, the “brains” of the Roto Patio family is now available with even more innovations.

## Smooth automatic retraction of the sash

With the new, low-maintenance Roto SoftClose function, the sash is gently braked, automatically pulled shut and closed. The user locks the sash by turning the handle lever. As a universal solution, Roto SoftClose can be installed in PVC, timber, timber-aluminium and aluminium frame materials and, in the same way as the Inowa application range, can be used in diagrams A, A', C, C', K and K'.

The Roto SoftClose function is installed in PVC and aluminium sliding elements on the espagnolette side at the top of the sash without the need for routing work. For timber frame material, profile-specific routing work may be required. The activator, which does not depend on the specific profile, acts as a counterpart and is positioned at the top of the frame, in the guide track. The position of the locking points remains unchanged; the burglar inhibiting properties remain completely intact. No new evidence of testing is required. The SoftClose function is installed using the drilling jigs provided.

## Even more economical in production

As well as using components from the Tilt&Turn modular system, manufacturers can now enjoy

even more savings: the number of screws required in all Inowa assemblies has been reduced from six to four. This means that the control unit, centre closer and roller unit can now be installed even faster.

These time savings, noticeable from the first Inowa hardware set, are further extended by another installation innovation: the centre fixing is released by simply screwing the components into the element. Previously, fitters had to operate the lever handle several times; this new solution therefore saves a significant amount of time, which will pay huge dividends in the long term.



Up to four active locking points in the mullion enhance the excellent sealing properties of the Roto Patio Inowa.

## Three USPs

The key operational characteristics of the Roto Patio Inowa sliding system are the special

closing movement of the sash perpendicular to the frame profile, the circumferential gasket and the active locking points in the mullion. All locking points are actuated via the handle. The system can run both on the inside and on the outside. The enhanced threshold designed in accordance with DIN 18040 enables accessibility for timber and timber-aluminium solutions.

## Concealed

The concealed hardware technology enables particularly slimline frame profiles to be produced. The hardware components neither protrude into the opening nor are they visible on the sash. With a possible frame external width of 3000 mm and frame external height of up to 2600 mm, room-height glazing can be installed. This floods rooms with daylight and creates a transparent facade design.

## Tightly sealed

The circumferential lockings ensure an even, high gasket compression. The sealing of the elements can be flexibly reinforced even further via individually extendable locking points and aluminium claddings placed in front, even in high-rise buildings. In properties and regions with extreme weather situations, the hardware technology delivers the highest grade of sealing and meets the requirements of air permeability class 4 (DIN EN 1026/12207) and driving rain impermeability class 9A (DIN EN 1027/12208).

The impressive sealing closure also provides optimum insulation, which in turn reduces heating or cooling costs, depending on the time of year. A further advantage is the noise and sound insulation, which is particularly important for buildings located close to roads or airports.

## Reliable burglary inhibition

The efficient quartet of mechanical components from the Tilt&Turn modular system has also been proven to provide RC 2 security in accordance with DIN EN 1627, even on parallel retraction sliding doors. In addition to the special Inowa strikers in the mullion, the V locking cams hook securely into the security strikers screwed into place around the frame when the sash is closed, thereby preventing quick jemmyming. Thanks to the lockable lever handle, the hardware cannot be either moved or unlocked from the outside. The drilling protection, which is invisible from the outside and is installed in the groove, prevents the espagnolette from being drilled out.

## Easy to handle

The innovative closing movement perpendicular to the frame profile means it is not necessary to lift the sash. As the entire structure is mounted on rollers, the sashes are extremely easy to move, with the high-quality material pairing preventing any annoying scraping noises. The smooth-running rollers also enable practically effortless and frictionless opening, sliding and closing of the elements, which can weigh up to 250 kg. Easy handling is also reinforced by straightforward handle operation and the smooth automatic retraction of the sash into the frame.

## Soon to become even weightier

Alongside users' enthusiasm for convenient handling, excellent sealing properties and burglar inhibiting security, the demand for an increase in sash weight is also growing. Roto Patio Inowa is working on meeting this demand. You can soon look forward to a new dimension of sliding!

At home all over the world: Roto Patio Inowa with almost unlimited format variety



OknoPlus, Poland

# Innovation prize with Roto Patio Inowa



■ **PVC** The “Morlite Vision” parallel retraction sliding system developed by window manufacturer OknoPlus, based in Krakow, was awarded “Innovation of the Year 2019” at the Warsaw Build trade fair. **Wacław Figiel, Founder and Managing Director of the company, is expecting demand to increase significantly this year.**

“The Roto Patio Inowa became the first hardware on the market with a sliding system which is easy and intuitive to operate, thanks to its active sash. This fascinated us immediately,” reflects the experienced window producer. At the same time, the hardware enables the very tightly sealed, insulating systems required for energy-efficient buildings to be produced.

**Smooth-running, even with heavy glazing**  
As the entire hardware is mounted on rollers, even very heavy sashes slide easily. “Locking requires minimal effort as the sash is gently retracted into the frame by turning the handle.” The closing movement is smooth and even and, with its active locking points, the hardware ensures a high gasket compression around the entire circumference of the sealing level. Figiel explains,

**“The system therefore remains tightly sealed, even in the event of a storm or heavy rain.”**

With “Morlite Vision”, OknoPlus offers its customers a parallel retraction sliding system, which, in addition to excellent thermal insulation properties, also provides good sound insulation and high burglary protection as standard.

**“The sliding door is completely intuitive to operate.”**

Even children can operate the “Morlite Vision”; when the handle is pointing down, the sash is closed in the same way as a classic Turn-Only window. When the handle is pointing up, the sash can slide and the sliding door can be opened. Visits by fitters to repair sliding systems as a result of incorrect operation of solutions with a complicated operating sequence are now a thing of the past with the new system.

**Successful presentation**

At the trade fair in Warsaw, OknoPlus presented a “Morlite Vision” system with two pieces of functional glass. The sliding sash contained heating glass, and the passive sash featured Priva Lite active glass, which can be adjusted from transparent to non-transparent using electrical controls. It was almost certainly the modern design of the system, however, that helped it to win “Innovation of the Year 2019”.

**“Our new system perfectly harnesses the strengths of profile and hardware.”**

For “Morlite Vision”, OknoPlus uses the straight, slimline profile of the Gealan Smoovio system. “Roto Patio Inowa can even be used in an extremely delicate on-trend profile such as this. All of the hardware technology remains concealed inside the profile.” The appearance of the sliding element is therefore also attracting customers who place great emphasis on design.

The Managing Director is confident: “Our new ‘Morlite Vision’ is impressive both visually and technically and is set to replace Parallel Tilt&Slide doors in future. As our collaboration with Roto has got off to such a good start, the future looks bright. The quality of the services and deliveries provided by our new partner is just as high as the quality of the hardware.”  
[www.oknoplus.de](http://www.oknoplus.de)



Wacław Figiel,  
Founder and Managing  
Director of  
OknoPlus

Newly introduced: the new parallel retraction sliding system from OknoPlus with Roto Patio Inowa

“Morlite Vision” was awarded Innovation of the Year 2019 at the Warsaw Build trade fair



➤ **Roto Patio Inowa: find out more about the intelligent hardware with hidden technology for tightly sealed parallel retraction sliding doors**

[www.roto-frank.com/en/roto-patio-inowa/](http://www.roto-frank.com/en/roto-patio-inowa/)

## Four variants in one system

# Roto Patio Alversa: Minimal. Universal.

■ **Sliding** Thanks to the modular design of the system, one Tilt&Slide and three Parallel Sliding solutions, including different ventilation functions, can be produced on a single production line – from a sash weight of 160 to 200 kg in all frame materials for large constructions up to a maximum sash rebate width of 2000 mm and sash rebate height of 2700 mm.

### Economical

This is possible in all four variants thanks to the use of the universal central locking system from the Roto NX and Roto AL Tilt&Turn ranges, the modular design of the sliding system, for example in the case of track sets and strikers, and the universal handle. This means that many of the same parts can be used. To produce the different variants, only a few components need to be changed over on the production line: economical production par excellence!

### Secure

Reliable burglary inhibition in accordance with RC 2, which is a feature of all four variants, is ensured by up to four security mushroom locking cams on the espagnolette. The technology is supplemented by locking components positioned all around the frame. Where there are increased requirements for security, electronic components from the Roto E-Tec Control range can additionally be used. The sensors of the magnetic locking and opening monitoring system (MVS) are integrated into the striker. Like all the other security components mentioned, they remain invisible.

### Smart Home ready

Roto Patio Alversa can be digitally extended to include Roto Com-Tec. Its sensors detect any manipulation of the sliding element and can also warn homeowners via Push message depending on the Smart Home system used. The Roto Com-Tec Comfort and Comfort S sensors identify the position of the closed sliding sash as secured. The long-term reliability of the sensors is ensured by their concealed and therefore wear-resistant positioning in the corner drive.

### Intuitive

The sash elements of the three Parallel Sliding solutions are operated via a 200-mm-long lever handle in the same operating sequence as Tilt&Turn windows. This sequence is intuitive and therefore extremely user-friendly! As well as air exchange via the sliding position, the Roto Patio Alversa | KS offers a choice between one night and two tilt ventilation variants of the three Parallel Sliding solutions.

The sliding sashes are moved by roller units on ball bearings to ensure low noise and extremely low wear. The integrated anti-jemmy protection on all roller units stops the sliding element from jumping out of the track, even if any minor mistakes are made during installation.

### Night ventilation:

#### Roto Patio Alversa | PS

The Parallel Sliding system can be provided with optional night ventilation that cannot be seen from outside. The key components of this RC 2 burglar inhibiting solution with night ventilation are special strikers.



Smart Home ready: a sensor from the Roto Com-Tec range that can be integrated into the corner drive of all four Alversa sliding versions indicates the opening status of the sliding sash.

### Tilt ventilation with tilt lock-in position:

#### Roto Patio Alversa | PS Air

Sashes with an external glass centre of mass are reliably secured in the tilt position by means of a tilt lock-in position. The tilt lock-in position is integrated into the sliding scissor stay of the sliding sash and prevents the element from inadvertently slamming shut – even in windy conditions. Increasingly, double and triple glazing sits very far out in the profile, to create deep profiles with the highest possible ratio of glass to profile on the visible surface. If the sash is retracted in the parallel position, the tilt lock-in position simply is run over. It is only activated in the tilt position.

### Tilt ventilation with tilt assistance:

#### Roto Patio Alversa | PS Air Com

Turning the handle lever tilts the sash automatically. It is not necessary to manually push against the sash. The spring-mounted tilt assistance element integrated in the sliding scissor stay decreases the torque at the handle lever during tilting of the sash controlled by the hardware. With this, even large and heavy sliding doors with a weight of up to 200 kg can be operated effortlessly.



Lock-in function on the Roto Patio Alversa

Tilt assistance on the Roto Patio Alversa

Striker for night ventilation on the Roto Patio Alversa



Comprehensive information on the Roto Patio Alversa Parallel Sliding and Tilt&Slide system

[www.roto-frank.com/en/roto-patio-alversa](http://www.roto-frank.com/en/roto-patio-alversa)



## Wako SA, Luxembourg

# Positive experiences with Roto Patio Alversa

■ **Sliding** At its PVC window factory in Redange, around 30 km northwest of Luxembourg City, Wako SA has been manufacturing Parallel Sliding and Tilt&Slide doors with Roto Patio Alversa since 2018. The management has found this experience very positive.

In 2019, Wako produced around 900 sliding systems for carpenters in Luxembourg, France, Belgium and Switzerland. The introduction of the Roto Patio Alversa Parallel Sliding and Tilt&Slide system made the production of these sliding elements significantly more efficient. Production Manager Michel Muller explains the reason for this:

**“The modular design of Roto Patio Alversa enables us to produce the Roto Patio Alversa | KS and Roto Patio Alversa | PS Air Com on a single production line.”**

Both variants are very popular among Wako customers due to their operating safety. The Roto Patio Alversa | PS Air Com Parallel Sliding variant is currently setting standards in the market when it comes to comfort, says Sales Manager Laurent Bai. Turning the handle tilts the sash automatically. It is not necessary to manually push against the sash. This means that even large and heavy sliding doors with a weight of up to 200 kg can be operated effortlessly, intuitively and correctly. It just works. Laurent Bai is impressed:

**“With Roto Patio Alversa, we are putting an end to customer prejudices regarding Tilt&Slide systems. This system is really well thought-out.”**

Distributors of Wako systems have been enthusiastic about innovative components such as the additional tilt assistance element developed by Roto from the outset. “We therefore made the decision to install the tilt assistance element in the sliding scissor stays of the Roto Patio Alversa | PS Air Com Tilt&Slide systems as standard,” explains Purchasing Manager Joachim Delchevalerie.

### High level of operating convenience thanks to tilt assistance

This component designed to provide extra convenience makes heavy sashes easier to operate, as the torque at the handle is reduced during tilting controlled by the hardware. “As the tilt assistance also reduces wear to the entire system, many of our customers see this component as their opportunity to enhance their own image with durable, low-maintenance solutions,” says Sales Manager Laurent Bai.

### Self-locking bogies

Since changing over to the Parallel Sliding and Tilt&Slide system from Roto, Wako has received practically no complaints, reports Laurent Bai. Fitters and end customers alike benefit from the self-locking bogies.

**“Roto Patio Alversa provides greater security for end users because the sliding element is no longer able to jump off the track during use.”**

Should the fitter forget to manually activate the anti-jemmy device after installing the sliding element, the self-locking bogies reduce the risk of negative customer feedback.

### Appreciated by users

Many buyers are impressed by the tight sealing of the elements and the concealed night ventilation, reports Bai. Actually, the different ventilation variants are an important selling point.



From left to right in the photo: Laurent Bai (Sales Manager), Jean-Yves Duchesne (IT Support), Michel Muller (Production Manager), Catherine Marche (Marketing Manager), Joachim Delchevalerie (Purchasing Manager)

“Users can vary the air exchange rate by deciding for themselves how far the element should open.”

### On course for growth

“The demand for sliding systems will continue to grow in our markets,” the Wako Sales Manager believes. “We are therefore regularly addressing the subjects of efficiency

and excellence, specifically in sliding system production,” adds Purchasing Manager Joachim Delchevalerie. “We try to work as proactively as Roto,” emphasises Production Manager Michel Muller. “We know how important this is. By regularly exchanging thoughts and ideas with our hardware suppliers, we improve a little every time.”

[www.wako.lu](http://www.wako.lu)

Roto Patio Alversa bogie with integrated bogie safety mechanism



## The clampable butt hinge for fast installation

# Roto Solid B | 130 R



Clampable butt hinge: Roto Solid B | 130 R for aluminium doors with a sash weight of up to 120 kg

Roto Solid B | 130 R has been designed for inward and outward opening main doors, back doors and balcony doors and can be used on DIN left and DIN right.



The clamping for the Roto Solid B | 130 R has been optimised for many profile systems with a 15/20 Euro-groove.

■ **New at Roto** The version of the **Roto Solid B | 130 R two-part clampable butt hinge for aluminium doors which is available now is especially easy to install with few tools. The application range covers profiles with a Euro-groove 15/20.**

Roto Solid B | 130 R has been designed for aluminium inward and outward opening main doors, back doors and balcony doors with a sash weight of up to 120 kg. Escape doors can also be manufactured with the new version of this butt hinge. The clamping has been optimised for a large number of profile systems.

Good for storage: Roto Solid B | 130 R can be used on DIN left and DIN right. The new door hinge fits in many door and window profiles with an overlap, meaning that it can also be used to produce back doors or patio doors with window profiles.

### Simple and efficient

Like the installation of window hardware from the Roto AL range, the Roto Solid B | 130 R frame bearing is simply moved in and clamped. The sash-side clamping support-strip of the butt hinge is screwed into the sash using self-tapping screws. The sash hinge itself is then fitted to the clamping support-strip using metric screws, which again is similar to the clamping in operation step 2. All screws and pins for securing the components for the sash are secured as standard with hexalobular socket drive with a drilling diameter of 5 mm. This also makes production simpler and more efficient.

### Easy to install and low-maintenance

High-quality, self-lubricating PVC bearing bushes and axis pins made from rust-resistant or stainless steel ensure a long service life without requiring any maintenance. Adjustment when installing the door is simplified by the lateral adjustment of Roto Solid B | 130 R with an adjustment range of  $\pm 1.5$  mm. Accurate positioning can still be achieved even if there is just one fitter present.

### Variety of surfaces

The new butt hinge is available powder-coated as standard in the colours RAL 9016 Traffic white, RAL 9005 Jet black, RAL 8019 Grey brown, silver and anodised silver. Coatings in different RAL colours and other anodised surfaces or untreated hinges to be coated by the window and door manufacturer are available upon request.

### Roto Solid: strong hold for any door

Roto Solid offers a huge range of door hinges, from concealed through to surface-mounted. Affordable series are available for back doors and lightweight main doors. We also offer series for extremely heavy and frequently used main entrance doors. Tailored to specific applications and made from high-quality materials, Roto Solid door hinges offer outstanding performance characteristics and high durability.

### Roto Solid B | 130 R

- CE-tested, class 13
- adjustment range: lateral adjustment  $\pm 1.5$  mm
- can be used on DIN left / DIN right
- clamped frame components / screwed-in sash components
- high-quality, self-lubricating PVC bushings mean zero maintenance

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➔ **Product information about the Roto Solid B | 130 R**

[www.roto-frank.com/en/roto-solid-b](http://www.roto-frank.com/en/roto-solid-b)