



# TECHNO

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## gramm



**CONVINCING  
MACO**

**BAU 2015**

Hall B4  
Stand 528





**Dear business partners and friends of our company,**

at the end of this year I would like to take the opportunity to address you with some very personal words.

I took over the company from my father 43 years ago and look back with gratitude on its development up to the present day. It is no exaggeration to count MACO among the leading international manufacturers of building hardware products. This success is due in part to technical know-how and the application of economic sense. But it also depends fundamentally on the enthusiastic commitment of our employees and from your satisfaction and loyalty in relation to our company. At this point, I would like to thank you for your cooperation in the past years.

My family and I see it as our responsibility toward our employees and yourselves to ensure MACO has a successful future. For this reason, we have created the conditions for this during the past year. MACO is and shall remain a family company. You know MACO today as a group comprising three Aus-

trian production plants, a Russian assembly plant and 16 international sales subsidiaries.

My family have now additionally founded MACO Holding, in order to enable participation in the strategic direction of the MACO Group and its divisions. The management of this holding company will be undertaken by family members. I am delighted that my daughters, Ms. Susanne Margreiter-Mayer and Ms. Barbara Stöckl have taken on this responsibility. The holding company will be responsible for, among other things, making important decisions about major investments, the introduction of new businesses, appointments to top management positions and the fundamental positioning of the Group. It will also act as a consultant and coach for the directors of the operating companies and thereby ensure that MACO lives up to the values of a family-run business. I will continue to support the development of the company concomitantly, however, I plan to increasingly withdraw from operative management. My family and the

MACO management team, consisting of the managing directors and executives are leading the group of companies for the benefit of all stakeholders involved with foresight and economic sensitivity. The above mentioned adjustments means that MACO is well prepared for the coming decades, and is able to offer you the values and economic support of a healthy, long-established family business.

With best regards from Salzburg

  
Yours sincerely, DI Ernst Mayer

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Scan the QR code and read  
TECHNOgram mobile on  
iPhone and iPad!



I hope we have succeeded once again in providing you with an interesting read in this edition of TECHNOgram.

As a preview of the coming year, I would like to invite you to visit our booth at BAU 2015 in Munich. Our consultants and product managers are looking forward to introducing you to the advantages of our hardware solutions for your customer's windows and doors. A overview of our trade fair exhibition can be found on the following pages. This customer magazine also helps you to become more famil-

iar with our technical catalogue TOM, deals with the topic of proper ventilation in the winter months, introduces the options provided by operation analysis and reveals some of the successes of the firm Fenster Rachinger GmbH.

On behalf of all MACO staff, I wish you, your families and your workforce a peaceful Christmas, a relaxing new year and a happy 2015. We are looking forward to the com-

ing year and many more successful years together with you.

  
Dipl.-Kfm. Jürgen Pratschke  
Managing Director





# Benefit-oriented product solutions to current construction and housing needs

**Building hardware translates into convincing user benefits – At the Munich BAU trade fair we offer you several corrosion-resistant surface-treated hardware products which will meet the needs of your customers in terms of barrier-free ease of use, energy efficiency, safety and design.**

## FUNCTIONAL GUARANTEE

These fittings are powerful problem solvers for both new and refurbishment construction projects. In terms of product quality, you get a performance guarantee of ten years for MULTI turn and turn&tilt hardware, RAIL SYSTEMS sliding door hardware and PROTECT door locks, as well as a 12 year performance guarantee for EMOTION window handles.

## INTEGRATED VENTILATION

Good indoor air quality therefore becomes a decisive factor for well-being and health. At the same

time, it also protects the structure of the building. Intelligent ventilation systems are more popular than ever, as airtight building envelopes require increasingly powerful solutions. MACO has focused on the most obvious option for ventilation: the window itself. The MACO window rebate valve ensures a minimum air exchange for moisture protection according to DIN 1946-6. You can see the window rebate valve in action at BAU 2015.

## ADDED VALUE BUILT IN

The associated hardware is complemented by various additional services. TOM, MACO's Technical Online Catalogue is an interactive tool which enables you to quickly identify the hardware you need. Operational analysis and the ability to test windows directly at MACO are also examples of our well-balanced range of services. You can access it via your MACO consultant and the Customer Portal extranet with log-in access. It

is designed as a one-stop shop for all market partners.

## CONSISTENTLY LASTING AND EFFECTIVE

As a premium provider for building hardware MACO has made a strong commitment to the provisos of assured quality and sustainability. The MACO group is consistently orientated to the three measures of sustainability. This is expressed by the management systems according to ISO 9001 (quality), ISO 14001 (environment) and BS OHSAS 18001 (occupational safety / health). MACO is a member of the German Sustainable Building Council (DGNB).

Our consultants and product managers are looking forward to speaking with you to at BAU in Munich. Try out the hardware, ask questions and experience the convincing benefits for meetings with building owners, designers and architects, all clearly explained with the trade fair units.

**Welcome to our trade fair stand 528 in Hall B4.**







Current residential building trends are characterised by clean lines and the absence of superfluous elements. If we apply these trends to the window industry, flush surfaces, concealed fittings and slim frames are required. MACO consistently focuses its product development in this manner.

The subtly elegant appearance of **MULTI MATIC** hardware is reflected by its slim lines, linear depressions on the faceplates and the uniform surface finish. Rounded edges on the striker plates and sash lifter serve to lend the hardware its soft outline. Cover caps in various colours and visible pivot posts and scissor stay hinges in

RAL colours match the frames perfectly.

The hinge-side **MULTI POWER** represents highest design aesthetics. Fully concealed fittings and flush design merge to create a timeless, elegant window design.

With all the advantages of a movable glass front and deliberately narrow framing which blends into the background, the **RAIL SYSTEMS** equipped lift and slide door is a genuine design element in any room. The effect of the maximum glass surface with minimal framing from 76 mm window view width is further enhanced by frameless fixed glazing.



# Convincing in operating convenience and barrier-free design



Door lock MACO PROTECT Z-TA  
Comfort with motor





# Convincing in design

**MACO hardware technology enables windows and doors to be opened and closed conveniently, securely and quietly. The functionally sophisticated turn&tilt, tilt, lift and slide doors as well as the lock technology ensures that the interior space is available for everyone, completely unassisted – regardless of age, size and physical condition.**

The sash lifter with integrated mis-handling device is standard in this **MULTI MATIC** hardware system. It prevents faulty switching to the tilt position, ensures proper closing of the window sash and relieves the scissor stay when the window is closed.

**E-hardware** enables the user to determine their individual comfort

level. These windows can now be tilted and closed either by means of an electric motor or conventionally by hand at any time and from any position. The twin control option makes E-hardware the ideal comfort solution for homes and commercial buildings.

Regardless of the installation height of the skylight window, the user is able to move the unit by means of the **skylight window hardware** from the usual operating height. This is because the entire skylight window element is controlled by the handle on the subjacent turn-only window.

Automatic door locking without the need for a key is offered by door locks **PROTECT Z-TA Automatic** and **Comfort**. The comfort version

features a motorised door lock that can be opened keylessly. The Z-TA Comfort motor is controlled using the MACO's openDoor access control system.

**Final position and gear damper RAIL SYSTEMS** provide controlled, braked sash closing and soft sliding back of the hand lever. This protects the building structure, reduces noise and prevents the risk of injury when up to 400 kg sash components are moved.

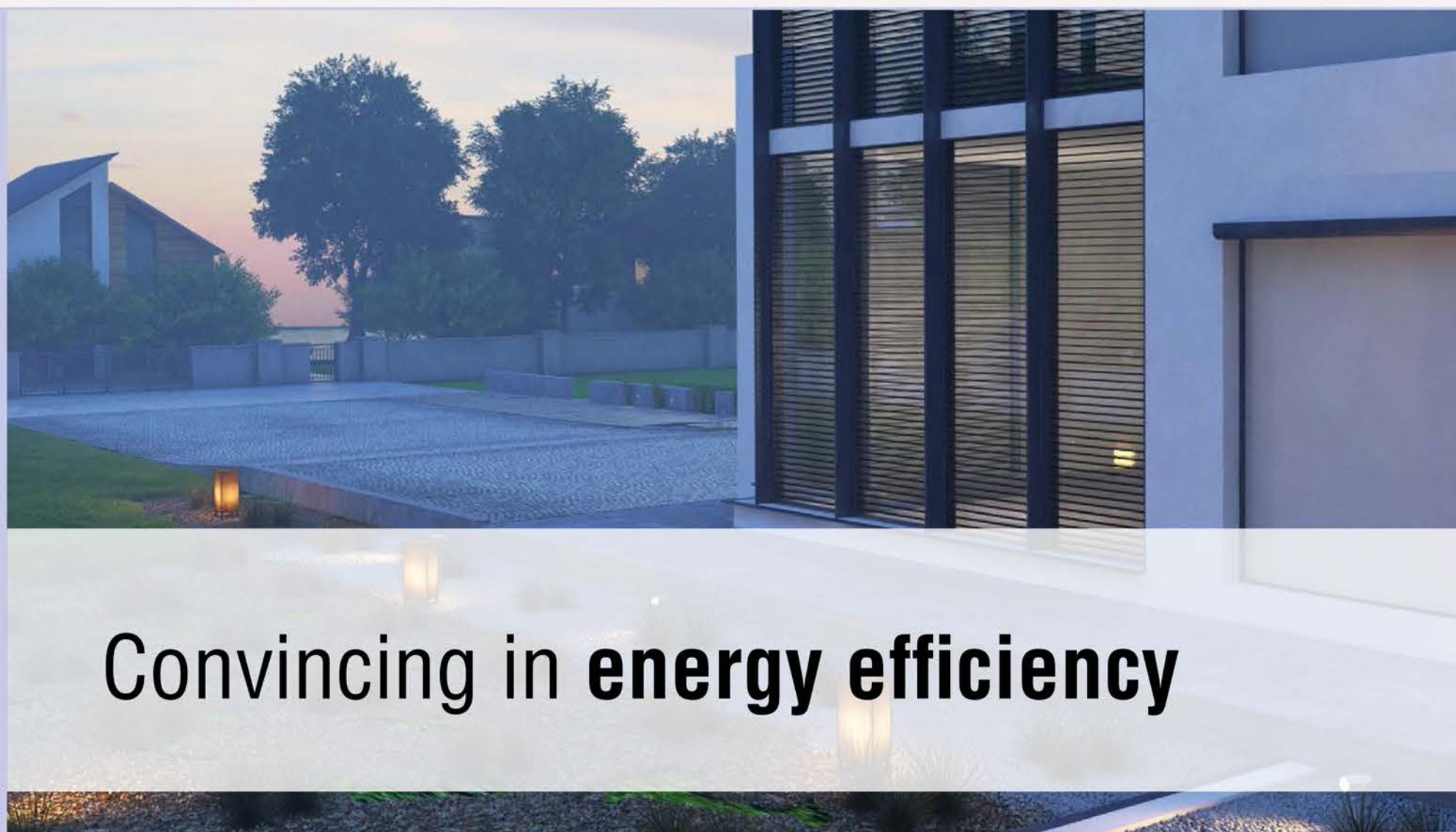
**MULTI-comfort hardware** enables tilting and closing of the sash without the user pulling or pushing. All the hard work is done by the comfort scissor stay. The horizontal handle on the lower sash frame with extended handle body increases the leverage ef-

fect and can be used even when sitting.

All its edges are rounded off to make them foot-friendly, and the 20-mm flat **TRANSIT threshold** is a DIN 18040-1 compliant manufactured design. This ensures unhindered access to inside and outside worlds for people who have restricted mobility.

The **RAIL SYSTEM tread threshold** completes the GRP threshold with a flat bottom track. Together, these three components ensure barrier-free floor accessibility suitable for lift-slide solutions.





# Convincing in **energy efficiency**

Burglary-inhibiting technology is one of the key functional requirements of windows and doors. The longer a building element can thwart a burglary attempt, the safer an apartment or house is and the more secure its residents will feel. The key term for security is mechanical burglary resistance. MACO is specialised in the development and manufacture of burglar-inhibiting hardware.

The **MULTI MATIC hardware system** allows the execution of various security levels according to standardised burglary protection as specified in EN 1627 - 1630. Window manufacturers using the MACO system test RC 2 N and RC 2 as licensees can utilise all MACO hinge systems for all approved applications in the system matrix. This includes all hinge systems for timber and PVC in the MACO MULTI MATIC hardware range.

The **RAIL SYSTEM steel hook gear** is similar to a multi-point locking system for front doors. When the door closes, steel hooks

engage into the frame-sided flush striker plates, thus providing high mechanical protection against burglary. Depending on the individual element equipment, the RC-2 capability of lift-slide solution is guaranteed.

The standardised resistance of three minutes for a locked single-sash door against tools such as screwdrivers, pliers and wedges has been verified for the cylinder-operated **3-latch door lock MACO PROTECT Z-TF** with steel bolts and multifunction latches. The Z-TF ensures burglary resistance according to class 2 RC / RC 2 N.



Door lock  
MACO PROTECT Z-TF



Today's energy-saving, multi-glazed elements are inevitably heavier than the single-glazed, simply-framed lightweights from the 1960s to late 1980s. In terms of movement and fastening technology, this presents a weighty challenge to be mastered by the MACO hardware.

The fully concealed design of the hinge-side **MULTI POWER** and its high sash loading capacity of up to 150 kg achieve optimal thermal insulation. The hardware is protected in the rebate area and as a result, it does not come into contact with the ambient indoor air. Thus, thermal bridges are excluded. Gaps in seals and condensation are also now a thing of the past.

The flush-mounted **MULTI MAMMUT** handles heavyweight tilt and turn formats up to a sash weight of 180 kg and impressive areas of 3.6 square metres.

The corrosion and chemical resistant **RAIL SYSTEM GRP floor threshold** is floor-insulated for effective protection against cold. The multi-chamber PVC body of the **gasket track** provides an optimal thermal barrier.



Pivot post  
MACO MULTI POWER

Unique on the market:  
No more open guide tracks



Pivot post  
MACO MULTI MAMMUT



# Convincing in security



Lost in a forest of building hardware?

**TOM** Navigate easily to your  
building hardware goal



**You wanted a centre lock and are stuck with a scissor stay? You were looking for window handle and have stumbled on a roller track? If your hardware catalogue resembles a dark, opaque forest, it's time to try TOM: the MACO Technical Online Catalogue. This catalogue is designed to always get you on the right track – directly to the hardware you are looking for!**

TOM is not a bunch of PDF files. TOM is an interactive platform with article tables, data sheets, drawings, clickable hardware combinations and prices (market dependent). As a finishing touch, you can even order the desired item directly via the order platform.

## A CLEAR, VIRTUAL SPACE

The MACO Technical Online Catalogue forms a part of the MACO Extranet Customer Portal, a reserved area to discover, browse and research. TOM is fundamentally different from traditional cat-

alogues which simply copy information to the internal page by page. Conventional PDF catalogues can only be viewed. TOM makes it possible to click on a component in an exploded drawing to start a search for key words, to jump to the menu from one section to another, or even download CAD drawings and product data sheets. And above all: to make your purchases.

The "add to cart" button can be activated on request for MACO customers. However, access to technical drawings and data sheets is available to all users for free after registration. Please contact your MACO consultant. He will be delighted to assist you in registering for TOM.

## MANY WAYS - ONE OBJECTIVE

Similarly to navigation on streets, there are several ways to get to your desired goal in TOM. The traditional method allows you to click on an image on the left border which features a browsing menu containing the product lines. There you can scroll down to table level.

In addition, TOM offers three other alternatives.

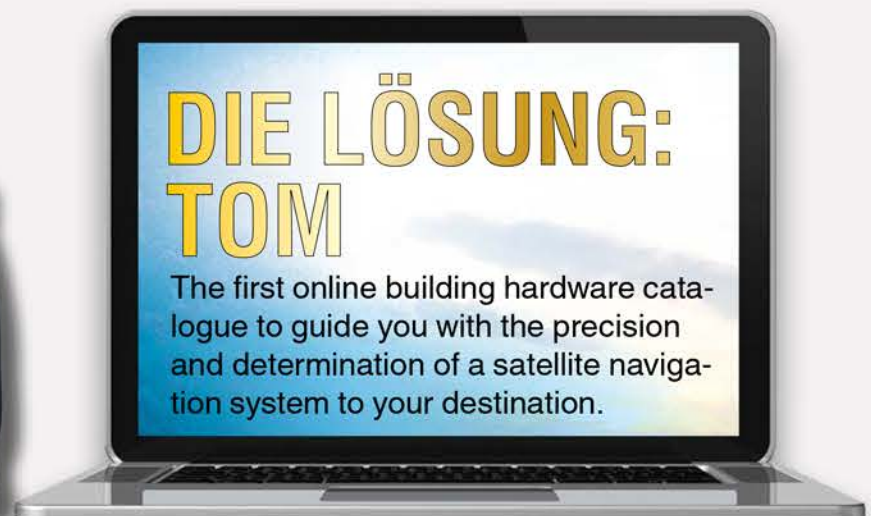


## THE CHALLENGE

Pages filled with codes in which you could quickly become disoriented.

## THE GOAL

Finding the perfect match for your window or door hardware – or technical data for a particular item.





## SEARCH FILTER

While surfing by product line, with a component's function in mind, the search can be focused with a filter matrix to provide a logical grouping of parts. For example, you can search for all required components to make a 150kg tilt&turn window with concealed hardware

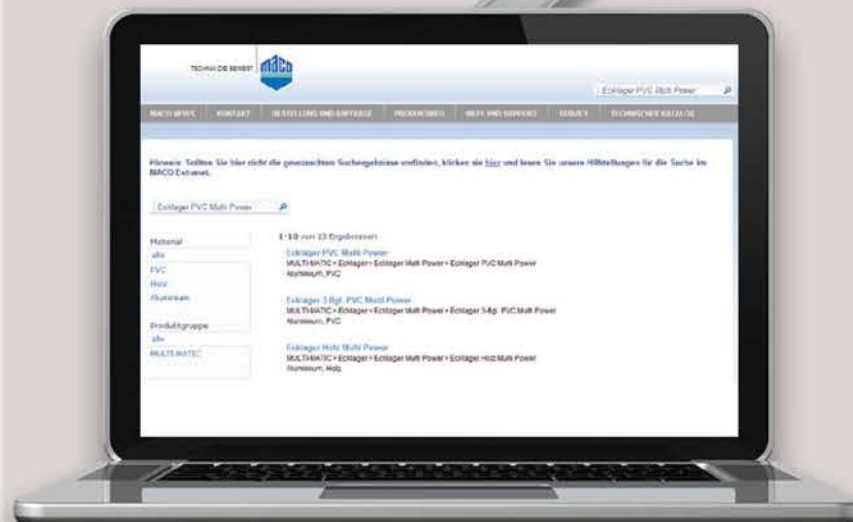
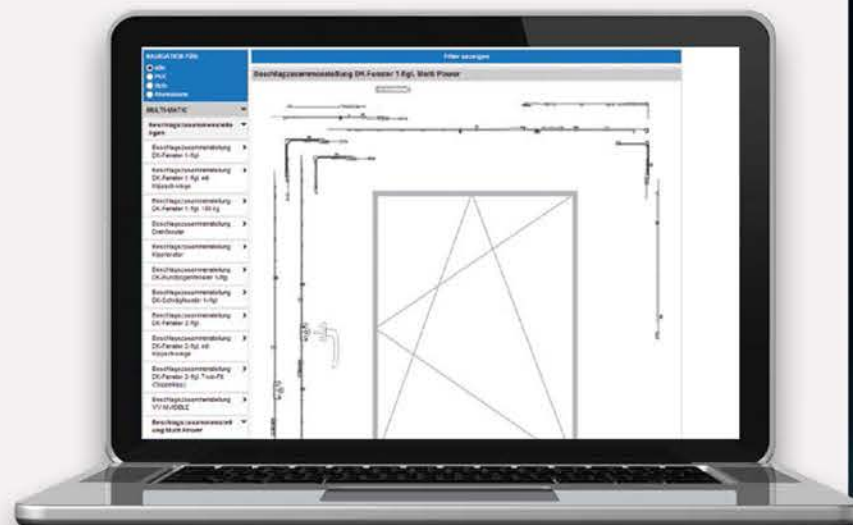
components. Then add the product line MULTIMATIC in the blue box to use application filters and click on MULTI POWER. Then the products range is reduced to all articles of this hardware range - including matching accessories such as cover caps, jigs, assembly tools, etc.



## VISUAL ARTICLE SEARCHING

Interactive hardware combinations in the form of a clickable exploded view make it easy to find your matching hardware components. Currently, the MULTIMATIC product range is available. The exploded view enables all components to be visualised for the

manufacture of a given window form. Clicking on one of these components, such as scissor stays or corner elements, immediately displays the corresponding product group. You can easily select the right component based on the features in the product table.



## FULL TEXT SEARCH

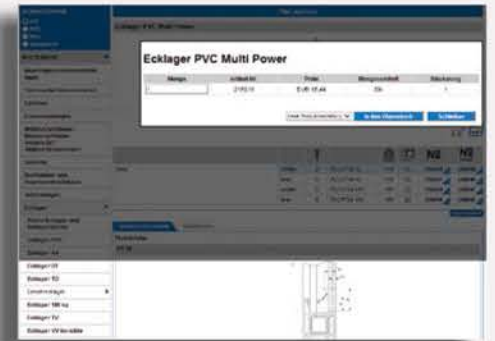
Arbitrary searching is now finally possible via the full text search. Just enter the name of the component or item number into the search field and press Enter. Since there may be many pages relat-

ing to the searched term, we recommend that you refine your search by adding more detailed information, for example, you can also enter the item number and the component name, for example: 201733 drive gear.

## At a glance

- TOM is a web-based application. The only application requirement is a functioning internet connection and login data.
- TOM serves as a quick reference for technical product information and enables easy selection of all components required for the respective window or door variant.
- TOM provides all technical information online and makes it available around the clock; for download or printout.
- TOM enables direct online ordering.
- TOM features a simplified search filter, clickable hardware combinations and full text search.
- TOM provides far more information than a printed catalogue: dimensioned article drawings, 6-sided view in 1:1 scale as DXF drawing, technical data sheets, drilling-hole patterns, assembly and setting information, and much more.
- TOM doesn't require local installation on a workstation.
- TOM will soon be available offline as a free app for Windows 8.1 tablets.





## FAR MORE THAN "MERELY PRINTED"

Simply being able to search is not the only advantage of the online catalogue. Although it doesn't require physical space, TOM contains much more information than any printed catalogue. You have everything at hand without having to contact your MACO consultant!

## DATA – ALWAYS UP-TO-DATE

All of the information contained in TOM is always up to date. This is a significant advantage over printed versions, where the product information contained and innovations always refer to the past year. In contrast, TOM continuously provides updated data.

## AFTER SALES SUPPORT

TOM is not only useful in terms of article selection. The online catalogue also provides installation information and maintenance instructions.

## TECHNICAL DATA SHEET

All information is not only available online. Thanks to our clearly laid-out Download Matrix, you can optionally download the article data sheet or a tabular data sheet (all items of a certain item group) and print it out in convenient A4 format. In this way, you can conveniently create your individual printed version of TOM. As a personal reference, your print edition exclusively and consistently contains only the range of items you need. If your data changes, you can easily remove the printed sheet from your folder and replace it with the current version.

The product data sheet summarises all important technical information for the selected items, for example:

- General product characteristics (dimensions, applications, etc.)
- Position information for screws and locking pins
- External overall dimensions
- Drilling-hole patterns
- Punch templates
- Assembly and disassembly information
- Use and installation of accessories
- Matching jigs
- Settings
- Maintenance instructions

## ARTICLE PRICING

The catalogue also serves as a price list. Click on "+" to display the price of the item, under consideration of the individual custom-

er's purchasing conditions (not available in all markets).

## DISCOVERED AND PURCHASED

TOM also makes it possible to directly place orders with MACO. Any number of items can be placed in the cart from a pop-up screen in the online catalogue. To order, click the "+" next to the item number and enter the required order amount. What could be easier?

## FURTHER INFORMATION

Please contact your MACO consultant. He would be delighted to introduce you to the MACO Technical Online Catalogue and answer your questions relating to TOM – your interactive navigation system for MACO hardware.



## DOWNLOAD DRAWINGS

Your production staff need a dimensioned article drawing showing the permissible cut area? your product planning department needs a DXF drawing at a scale of 1:1 for inputting into a CAD project? Nothing could be easier: Simply download all required drawings from TOM!

Currently, technical details are available for all articles of the tilt&turn product line MULTIMATIC. In the first half of 2015, the PROTECT door lock and RAIL SYSTEMS sliding hardware product groups will become available. Subsequently, RUSTICO shutter fittings and ESPAGS espagnolettes for outward opening windows will be added.







Operations analysis and optimisation of production

## Neutral questioning - do differently - **be better**

**Respondents frequently cite the immense pressure on prices as a problem of internationalised market dynamics. Many are aware that quality and the speed of products and services are decisive in the success or failure of their company. Inevitably, the question arises as to how the company needs to be organised in order to compete successfully with other manufacturers.**

Answering this question requires time and a neutral, industry-experienced viewpoint from the outside. MACO has created "the window manufacture optimiser" as a co-operation partner for business analysis and optimisation for manufacturing window companies, especially for the purpose of providing its processing partners with a neutral, supplier-independent viewpoint.

### **OBJECTIVE: LOWERING OF COSTS**

The objective of the consultancy in this case is consistent and rapid

cost reduction for the window company, combined with a fundamental change to internal corporate processes. When window prices leave little room for manoeuvre, it is vital to check the cost of their production - so that enough remains to run the business profitably.

Experience shows that even small, unremarkable-looking measures can have great optimisation potential. Think in terms of shortening routes in your production or the amount of stored materials which remain untouched for weeks

and months at a time.

The operational analysis enables you to align to different priorities. The consultancy service is fully independent of MACO - ensuring you neutrality and objectivity.

### **FIVE CONCEPT TICKETS**

Ask your MACO consultant about the range of operation analysis and production optimisation services available. Five conceptual tickets are available with their own key areas of analysis.



**HARDWARE**

The objective is to optimise the cooperation between you and MACO as your hardware vendor. This is where independence and neutrality of the consulting cooperation partner is especially evident. The starting point is your own requirements and needs in terms of the hardware.

In addition to hardware-related production steps, such as frame and sash assembly, warehouse logistics and workstation assembly, also key data maintenance, ordering and complaint processes are analysed. Factory production control, documentation and finalising meetings between you and MACO serve to round off the primary "hardware" concept.

CONCEPT TICKET

**GROWTH**

The objective is an optimisation concept that enables up to ten percent more turnover with the same staffing level and without additional investments in machinery. In order to do so, among other things, business processes, workstations, bottlenecks and downtimes are intensively analysed and employees are actively involved. Depending on the size of the company, the analysis can take four to ten days. The fully developed optimisation completes the primary concept.

CONCEPT TICKET

**MATERIAL EFFICIENCY**

Efficiency reserves can be revealed in terms of the use of materials. The flow of material is reviewed from incoming goods through to delivery to the customer. Production processes and the production environment are examined to uncover material wastage and losses, for example. A workshop serves to integrate staff and make them aware of the issues and mutually develop new ideas.

CONCEPT TICKET

**INTEGRATED BUSINESS OPTIMISATION**

The three-day analysis offers you an integrated approach to optimisation. It describes and documents any identified weaknesses within your company, using images and videos, if necessary, highlighting their causes and explaining possible countermeasures. In doing so, the influence of these measures is illustrated for other divisions. It indicates your annual cost, revenue and/or capacity benefits. Also quality and delivery performance improvements are taken into consideration. The one-day analysis already offers you the status quo without a derivative action plan.

CONCEPT TICKET

**INVESTMENT**

This consulting activity serves to focus on bottleneck analysis and the machine park. The examination considers which measures and/or financial commitment will lead to what benefit or added value.

CONCEPT TICKET

**YOUR ADVANTAGES****NEUTRAL FOCUS**

Your self-defined requirements and needs are the primary focus.

**TIME-FREE**

You and your managers rarely have enough time to deal with matters of optimisation calmly and completely detached from the daily business. However, this time is necessary for the analysis and implementation of the derived measures.

**UNBIASED**

Operational analysis questions the processes in your company and takes nothing for granted. The justification "it's always been like that" is not sufficient as a response. Beneficial, cost-saving changes have to be consciously sought and analysed.

**COST AND PROCESS ORIENTED**

Activities that do not contribute to value, such as time and material wastage, recurring errors and incorrect processes are highlighted.

**MUTUAL**

Experience shows that optimisation does not usually fail due to the lack of ideas, but in their vigorous implementation. The management consultants implement the adopted measures together with your staff and provide guidance for as long as you wish.

**PERMANENT**

An annual "Sustainability Check" serves to verify whether your company is still on course. This check is an additional "optional" service.





Fenster RACHINGER: Regional premium provider with a full range of products for new construction and refurbishment

# Window expertise made in Bavaria

Two years ago, Fenster Rachinger GmbH in Franconian Bieswang near Pappenheim celebrated its 100th anniversary. Founded in 1912 as a traditional construction, furniture and carpenter's shop, the firm specialised in timber window manufacturing in the 1960s. Since 1970, Fenster Rachinger has been fully dedicated to window construction. Wolfgang Schmidt took over the running of the company at the time of its relocation to the local industrial estate in 1991. Since then, he has been leading the company in its fourth generation.

The employer of approximately 60 employees is well established in the national park region of Altmühlta. With a full range of products for new and refurbishment

construction projects, Fenster Rachinger is consistently focused on the Free State and promotes its products with the slogan "Made in Bavaria".

### DEALER FOCUS

The sales focus is on the state-wide dealer business. The company generates about 60 percent of its sales in this way. The more than 160 dealers are supported by three field service employees. The success-oriented window manufacturer intentionally distances itself from the contract business, particularly with regard to its dealer customers. "An ongoing support of dealers with simultaneous contract business is not an option, in my opinion."

### ...WITH SYSTEM

The fact that the quality of its service partners is important is also

indicated by their annual Partner Day. In addition to technology, particular focus is placed on marketing topics such as motivation, sales training, showroom design and sales documentation, as well as various organisational workshops. Schmidt also supports dealer partners in terms of approaching end customers by way of preparing attractive retail brochures and by "little things with great results" such as the window maintenance sets he gives his dealers for each order. These are "very well received by the customer, a point which is confirmed by dealers time and again".

Wolfgang Schmidt is assisted by his wife Christine Schilberg-Schmidt. The specialist in Germanic and American studies worked as a journalist prior to their time at Rachinger. She has super-

vised the company's promotional materials in addition to dealer marketing since taking over the reins.

### DIRECT BUSINESS

Fenster Rachinger also organises two information days for private clients subsequently to the dealer's Partner Day. These 'open days' are held on the premises in Bieswang, as is the partner day. A varied program for the whole family is offered, in addition to product information and a great deal of visual material in both the two-storey showroom as well as in the two workshops.

40 percent of Rachinger's sales come from the retail business, which is concentrated in the counties of Weißenburg-Gunzenhausen, Eichstätt and Donau-Ries.





Wolfgang Schmidt is leading the company in its fourth generation, supported by his wife Christine Schilberg-Schmidt.

The company employs three field staff, four installation teams with two technicians each and service staff for the retail business.

The ambitious manufacturer transports its goods with its own fleet of vehicles. However, the matter of transport regularly proves to be a hindrance. Wolfgang Schmidt: "Our district of Weißenburg-Gunzenhausen does not have its own motorway exit. Lorries need about an hour to get onto the motorway. This is a clear disadvantage of the location. On the other hand, it is of course extremely pleasant for us to live in the Altmühltal nature park."

#### A FINE SENSE FOR CUSTOMER NEEDS

Wolfgang Schmidt believes in fostering proximity to customers - both

in terms of dealers as well as private buyers. "I know all my dealer-customers personally. Anyone can call me directly. Close contact to our customers is important", he says of his credo. In the same way, the retail business has a very special meaning for him. "Our retail customers tell us what functionality they need and what they really want in their own homes. This knowledge is extremely important for us to develop our products. This brings us closer to the market. For this reason, I can be sure that the products the dealers offer will sell well."

#### FULL RANGE WITH OWN PRODUCTION

Fenster Rachinger's product range covers the entire spectrum for new construction and refurbishment, including windows, balcony doors,

special elements such as lift and slide doors and powder coated insect screens manufactured in-house and front doors, as well as third party timber and aluminium shutters and blinds. Shutters can also be supplied fully assembled to the customer by the factory. "Our core business is and remains windows, for which offer all frame materials as a full service provider", emphasizes Schmidt as the central focus of the industrial manufacturing company with craftsmanship background.

#### TIMBER-ALUMINIUM WINDOWS

"Our passion is timber-aluminium windows," describes the wood engineering specialist during a tour through the production facilities for the "premium products of our window production". Eleven systems are available, complemented

by three timber profile variations for the interior side window design. Materials include spruce, meranti, larch and oak. The aluminium shells are manufactured in their own aluminium department, and can be supplied welded on request. The colour scheme can of course be supplied in any RAL colour. In terms of care and durability of timber-aluminium windows, it is the aluminium front profile that makes the element a premium product, according to Schmidt.

The craftsmanship of his woodworkers is especially evident in windows for listed buildings. These include period windows as well as any custom forms. The so-called 'farmhouse window' with the doubled lower frame and inserted iron rods has become one of Rachinger's latest specialities.





### A GLANCE INTO THE FUTURE

For the coming years, the 50-year-old Wolfgang Schmidt has more ambitious plans. For example, changes are planned for the surface treatment department and the woodworking plant. For this reason, trained staff is essential, also in the future, which is why training constitutes an important concern for him. But in this area, the matter of the location also arises for a second time. "Our region is rural. But large industries such as the Ingolstadt car manufacturers and

the Gutmann works in Weißenburg also draw experts from our industry. This makes it increasingly difficult to find good people - apprentices as well as employees - here in the National Park "However, "we have deep roots here and intend to remain. From Bavaria for Bavaria - this is how it should stay", says Wolfgang Schmidt with conviction.



With its own fleet ...



... and eight technicians supervise his Rachinger private clients.



Insect screens from their own production round off the range.



With around 12,000 units per year, Rachinger makes almost four times as many timber-aluminium windows as pure timber. When one adds some 4,000 windows to this, the segment makes up an estimated 50 percent of Rachinger's production volume. Overall, about 30,000 window units are manufactured per annum. Since 1995, this includes PVC windows from its own production.

### PVC WINDOWS

As recently as 1994, PVC windows were purchased in. Finally, in 1995 Rachinger itself began to manufacture PVC windows. The decision was justified due to the dealer alignment. Wolfgang Schmidt explains: "Back then many of our dealers were purchasing PVC windows from various suppliers. But actually they wanted all the windows from a single source. Therefore, our dealers gave us the confidence that our own Rachinger PVC windows would take off in a short period of time. We also had the quality of the PVC windows

under control and were no longer dependent on third parties."

### INDUSTRIAL ALIGNMENT

The generally growing market success of PVC windows during the 1990s prompted the company to invest in its first machining centre in 1998. The system switchover to Gealan in 2002 gave Rachinger's PVC window sales additional impetus. As a result, the owning family again invested strongly. Between 2008 and 2010 a total of three million euros flowed into the construction of a high-bay warehouse for over 110 pallet spaces, a Schirmer machining centre and an Urban welding and cleaning line with destacking facilities. The 18,000 sqm premises now includes 5,500 square meters of production and warehouse space. Thanks to the precautionary purchase of another 15,000 square meters of plant area "we can relax and expand", summarises Schmidt.

The premium products among Rachinger's PVC windows are the thermal comfort windows with overlap gasket and thermal-premium windows with centre seals. Both systems have 83 mm depth. However, standard systems with 74 mm are always in high demand. At 35 percent, the volume of coloured PVC windows is relatively high. Ten percent are patterned and 25 percent on coloured acrylic surfaces.

### GROWTH IN TIMBER SEGMENT

The wood technology engineer is delighted that sales of timber and timber-aluminium windows is developing strongly, primarily in the new sales areas in Upper and Lower Bavaria since 2012. Schmidt therefore plans to expand production in the timber window segment. Above all, he intends to advance the automation of surface treatment by the use of new application methods.

Respect for the natural material of timber is also expressed in terms of recycling. Since 2014, Fenster Rachinger has provided heating for the entire operation - including the PVC ovens - with a low-emissions and low particulate matter wood heating system of the latest generation.

### QUALITY IS DECISIVE

Structurally, the company has big plans for the future. For Schmidt it is clear that the organisational structures have to be matched to the planned growth. Finally, the sales performance should be further increased. However, it is the consistent quality of the products that facilitates this progression, according to Schmidt. This is ensured by way of "high-quality suppliers. We are constantly trying to work with market leaders. This applies to profiles and glass as well as to the hardware. For this reason, all of our hardware has been supplied by MACO since 1994".





The aluminium shells are manufactured in their own aluminium department, and can be supplied welded on request.



From the beginning, equals in partnership: Wolfgang Schmidt (right) and Roland Lutz, Sales Manager MACO Germany.



Eleven timber-aluminium systems are available.

## STRENGTH IN HARDWARE

The cooperation between the family-run companies Rachinger and MACO began with RUSTICO shutter hardware. Soon after, their technical experts were also interested in the MACO tilt&turn hardware. "The strengths of the hardware, particularly for timber windows were unsurpassed", says Schmidt looking back.

## CONSISTENTLY MACO MULTI MATIC

In the meantime, MACO MULTI turn&tilt hardware also has become one of the leading systems for PVC windows. Rachinger and MACO have taken this path together. "The adjustability of the hardware, staggered backset espagnolettes, arched gear, self-closing shootbolts, mishandling devices, mushroom cams: These are the details which make the hardware so valuable for us", says Schmidt. Convinced of the hardware system, he changed his production in 2010 from MULTI

TREND to MULTI MATIC. In addition to hardware functionality, the main reason for the change was a new processing centre which enables the striker plates to be automatically set and screwed into the frame components. Although MULTI MATIC is ideal for automated production, the sashes are currently still fitted by hand at Rachinger.

Fenster Rachinger offers burglar-proof solutions in different security levels and also optionally fabricates the hinge side MULTI POWER up to 150 kg sash weight in a fully concealed version. Also the MAMMUT, offering up to 180 kg sash weight, forms part of the hardware range. The window range is rounded off with the MACO window handle line HARMONY. On request, tilt&turn windows can be completed by the MACO threshold TRANSIT.

## "AVAILABILITY AND QUALITY ARE RIGHT."

"MACO has developed its territory into northern Bavaria, together with Rachinger" said Schmidt, for which a further aspect of the hardware technology is just as crucial as the two decades of cooperation: "As always, much depends on the people. I've known our current MACO consultant for 25 years. He keeps to what he says and I know I can rely on him as well as my hardware suppliers. If we need anything, MACO is there. Whether in terms of consulting or hardware, the availability and quality is right".

<http://www.rachinger.de>



**MACO window rebate valves**

- Enhanced natural ventilation for reliable exchange of air for moisture protection according to DIN 1946-6
- Aerodynamic draught-free operation
- Can be activated / deactivated at any time
- Install or upgrade with little effort
- No additional milling on window

Out with moisture and in with the fresh air – even in winter!

# PROPER VENTILATION DESPITE COLD WINTER WEATHER

**Ventilating properly in winter prevents mould damage, improves the indoor air quality by means of the inflowing oxygen and reduces heating costs. Good to know: The minimum ventilation for moisture protection according to DIN 1946-6 is ensured by the MACO window rebate valve, even in winter.**

## AIRTIGHT BUILDING ENVELOPES NEED A NEW WAY OF THINKING

Older pre-existing properties are often not perfectly sealed. Thereby walls inevitably cool. Specific problem areas are old windows and doors. Saving energy means replacing obsolete components for modern windows and doors. However, in doing so, the ventilation situation must be adapted to the

match the change. This is because in addition to protection against loss of heat energy to the outside, making a building "airtight" also means that humidity can no longer automatically escape "through the cracks". Because windows, doors and refurbished building envelopes are sealed, the matter of ventilation and moisture management has to be rethought and carefully managed.

## DON'T PERMANENTLY TILT

Ventilation must be carried out regularly and properly during the wintertime in order to prevent poor air quality, moisture and mould. However, keeping windows permanently tilted is a waste of energy and can damage the window reveal and surrounding masonry.

This is because these areas will cool down unnecessarily.

## USER INDEPENDENT VENTILATION

User-independent ventilation via the window provides the easiest and most effective solution for removal of moisture for residents, for the benefit of the building structure. This is because they consistently ensure the required air exchange – even when the window is closed, which is preferable, especially in the absence of residents.

## PERMANENT MINIMUM VENTILATION PROTECTS AGAINST MOISTURE DAMAGE

The MACO window rebate valve enables residual moisture created by utilisation of the living space to

be reliably removed without user intervention and continuously renewed by fresh air from the outside. The permanent minimum ventilation for moisture protection according to DIN 1946-6 is thereby guaranteed. In addition, the window rebate valve also stops excessive cold, dry outside air from flowing in, thanks to its aerodynamic mode of operation. The window rebate valve can be installed into the rebate area without additional milling in just a few simple steps at any time.

## MIXED DOUBLE

Even in winter, the principal applies in terms of the removal of moisture: the faster the better. Therefore it is necessary to carefully avoid moisture build-up in the home as a precaution, even in win-





Additionally recommended in winter:  
Airing 3 times a day

December  
January  
February

4 to 6  
minutes

November  
March

8 to 10  
minutes

ter. Steady, constant airing by means of the window rebate valve enables the exchange of indoor air and removes excess moisture.

**The MACO window rebate valve provides optimal and constant minimum ventilation for moisture protection in the absence of residents and by manual ventilation with fully open windows when the building is occupied.**

#### PROPER VENTILATION IS SIMPLE

If the window is only tilted, the building cools, however, used indoor air and fresh outside air is not properly exchanged. To completely exchange the air, it is recommended to additionally air the rooms when residents are at home. It is recommended to ventilate at

least three times a day for five to eight minutes.

During the airing process, the thermostat should be regulated down to a "minimum level" to save on heating costs. However, rooms generally should not be cooled below 20 degrees, as warm air can hold more moisture.

#### WELL-KNOWN PHENOMENON: MOISTURE FORMATION ON WINDOWS

The risk of interstitial condensation is an increased in the cold season. This condensation arises especially at the cold corners of the window pane, which collects as fog and water droplets on the pane. This condensation water formation is more clearly observed after showering and cooking, but

also in the morning on bedroom windows. The cause is a well-known physical principle: The surface temperature has fallen below the dew point.

Moisture always forms first where it is most damp and cold. In older homes, this often means outmoded windows, whereas in modern buildings, it's often the corners of exterior walls. The reason for this, however, is always incorrect ventilation. This leads to unwanted ventilation in non-modernised buildings with excessive air exchange – wind whistles through the cracks while cooling down the entire wall surface. On the other hand, refurbishment can lead to the complete opposite situation. Wall areas remain warm but the resulting moisture is removed in-

adequately. An effective remedy is offered by retrofitting the MACO window rebate valve. And don't forget: wipe up visible condensation regularly.



# Digression Heating

## HEAT UNUSED SPACE TO MINIMUM LEVEL

Rooms should be heated as evenly as possible, even when the apartment is empty. Therefore, it is advisable to never turn heating off completely. The assumption that heating costs can be saved when the heating is switched off, is a fallacy. This is because the increased energy used for re-heating must be considered for completely cooled-out rooms. We recommend a baseline temperature of at least 16 to 17 degrees. The optimal room temperature can be quickly restored with much less energy from this temperature range. In addition, the uniform heating of unused rooms also avoid high costs resulting from frost damage.

However, the popular antifreeze setting found on many radiators does not provide sufficient protection against pipe freezing in the event of extremely cold weather. In case of damage, individuals may even lose out on any insurance if negligence can be proven.

## LOWER TEMPERATURE WHEN ABSENT

Just as important as the heating of the rooms to a baseline temperature is the lowering of heating during periods of absence and at night. After all, this saves on heating costs. Again, however, the following applies: The temperature may not drop below 16 degrees. Otherwise the apartment will cool down too much and the energy required to heat it up again wipes out your savings. Reduce by a few degrees by all means. But don't completely turn off the heating.

## DO NOT OBSTRUCT RADIATORS

Radiators and windows should not be permanently covered by floor length, heavy curtains. Even bulky pieces of furniture should not block the radiator area. Both hinder heat and air circulation in the room. As a result, only the area behind the heater is efficiently heated. In the long-term this can result in a temperature difference that promotes the formation of mould.

## UNHEALTHY OVER HEATING

Even if above average warm living rooms may evoke thoughts of wealth and luxury, we now know that over heating can have a negative impact on health. This is because higher temperatures also lead to excessively dry indoor air. The mucous membranes of the mouth and throat, as well as the skin and eye conjunctiva can dry out. However, this remains a matter for the resident's own preference. Temperatures between 18 degrees in the kitchen, 20 to 22 degrees in the living area and even above 23 degrees in the bathroom are feel-good decisions. The rooms can be heated individually and independently from the perception of the users.



The quickest way to get ventilation information: Scan the QR code to obtain more information on the topic of ventilation as well as contact options for the MACO ventilation competence centre.



#### BASE CONNECTIONS SOLVED TO PERFECTION

The optimal thermal insulation at the bottom of each lift & slide solution can be attained by the combination of the MACO GRP threshold and MACO Fiber-Therm insertable insulating profiles. The profile features highly insulating material properties and ensures the perfect base connection thanks to extremely resilient plastic foam.

#### THE SPECIAL TRICK WHEN INSTALLING

The insertable insulating profiles and threshold can be easily fitted to each other. Any commercially available countersunk self-tapping screws can be used to fasten the two components. Bonding the insertable insulating profiles and threshold is equally straightforward. Installation could hardly be easier.

#### PRESSURE AND FRACTURE RESISTANT

Its innovative macro-structure achieves compressive strength values far in excess of conventional light-weight and insulating materials. MACO Fiber-Therm insulating profiles provide excellent ductile properties despite their high rigidity. Any unevenness in the foundation is compensated without damage. For example, small stones can be pressed locally into the material without breaking the component.

Excellent thermal insulation in the floor area.

# And heating energy remains Inside the room.

MACO Fiber-Therm insulating profile with MACO GRP threshold including insert profiles.



## MACO RAIL-SYSTEMS

## New sealing plate with drainage opening

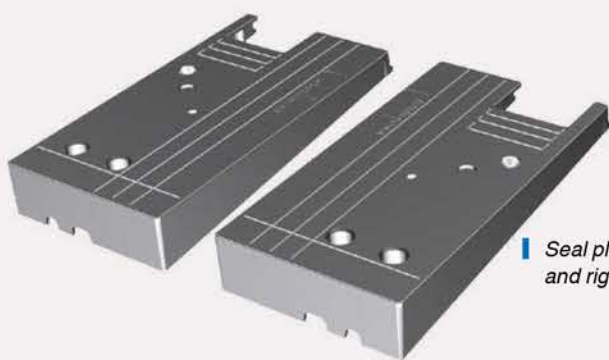
The greatest possible level of airtightness is an important quality criterion for users of lift & slide doors. Vulnerabilities are often found in areas where active and fixed sashes meet or where fixed glazing joins. Sealing plates and rails are usually used in order to prevent cold and moisture penetration into the interior of the room.

Storms and high winds can enhance the effect of the incident rain so that water accumulates in the bottom threshold area and can no longer drain. As a result, wind can push the accumulated water over the seal plate and into the living area. Ugly water marks on the floor are frequently silent witnesses of this vulnerability.

The new MACO PVC seal plate with integrated drainage holes prevents the ingress of rainwater. The

water runs through the openings in the seal plate, flows over the underlying GRP threshold and subsequently drains into the surrounding soil area.

The seal plate with drainage is available in two versions for left and right-side opening lift & slide doors in standard lengths of 99 mm, 115 mm and 155 mm. They can also be used with frameless fixed glazing and can also be shortened in both width and length. Mounting is as simple as any conventional seal plate. In addition, a suitable adhesive foam rubber sheet (cellular rubber) is applied to the seal plate. This deforms to balance the pressure load of the door, thus ensuring even better weatherproofing.



Seal plate with drainage holes for left and right-sided lift & slide doors

## MACO education

## Salzburg's best teaching programme 2014

As part of a competition initiated by the Salzburg Chamber of Commerce, "Are you g'scheit", MACO was nominated in the large enterprise category in early November this year to "Salzburg's best teaching programme 2014". As already recognised by the seal of "State-recognised training company", the quality of MACO's education and exemplary commitment to its apprenticeship scheme has once again been recognised.

MACO has been providing training in technical professions and construction for some 50 years. To date, a total of 359 apprentices have begun their professional careers at MACO in Austria, with 10% women taking part. They completed their apprenticeships for the most part with very good or good results. The fact that half of the former apprentices are still within the



company underlines the qualities of the employer.

The training is provided with its own set of machinery and is equipped with modern metal working machines, computer-aided milling machines and lathes, as well as programming stations for CNC and CAM training. The attached fleet of machinery offers optimal conditions for a solid education with practice-oriented relevance. Parallel to the dual training in vocational schools and the teaching program, the apprentices are given regular workshops to support their learning. Cross-departmental group and project work, professional trainers to support learning for final examinations and performance bonuses for outstanding performances round off the curriculum.



## MACO QUALITY

## Optimised font height for product names on labels

Fonts have been improved to enable better readability of labels for product names and amounts of item numbers, including quantity and unit. The overall size of the labels has been reduced by 25 percent in order to prevent sticking around corners with the same

height and equally wide cardboard. This was achieved by reducing the label dimensions and optimising the space distribution of the print and lowering the height of the EAN and lot codes. This information is still legible.

The before-and-after figure illustrates the changes mentioned (images not to scale). The new labels will be successively applied to boxes for newly ordered goods.





MACO PROTECT G-TA

MACO international – France

## Roadshow 2014 & "Artibat" trade fair participation

In September, MACO Ferrures SARL held its PROTECT Roadshow in Mouzeil and La Chapelle-de-Guinchay.



The events in Château de Cop-Choux and Château des Broyers offered participants an opportunity to see various front doors equipped with MACO PROTECT door locks and put the door lock technology through its paces in an exclusive ambience.



The featured products included motorised unlocking PROTECT Z-TA Comfort with day setting and access control system, openDoor, the cylinder actuated Z-TS module for various sash rebates between 1650 and 3100 mm and PROTECT G-TA door locks. The G-TA with automatic door lock was especially developed for the French market and offers door manufacturers a 3 in 1 solution with handle operated door lock and balcony door lock in a single product.

The door lock range was also one of the MACO exhibition highlights at the 65.00 square metres of exhibition space at "Artibat". This year about 40,000 enthusiasts visited the regional construction trade fair in the West of France. For MACO it was the third participation. In addition to the PROTECT door locks, the exhibition from 22 to 24 Octo-

ber in Rennes featured the turn&tilt line MULTIMATIC with fully concealed hinge side MULTI POWER and the lift-slide fittings RAIL SYSTEM with steel hook mechanism, narrow frame friezes and frameless fixed glazed windows.



As an innovative solution for window control, MACO-E hardware was included in "Le Guide des Nouveautés". The brochure summarises 80 selected innovations at "Artibat" 2014 as chosen by an expert jury. The jury made up of architects, engineers, craftsmen and specialist journalists were impressed by the alternating control the electric hardware. E-hardware enables tilting and closing, either by means of an electric motor or conventionally by hand at any time and from any position. This means the user is able to determine their individual comfort level.



MACO international – new markets

## Successful trade fair participation at "Fenestration China" 2014

With around 60,000 visitors in 2014, Fenestration China in Beijing is the major international trade fair for windows, doors, roof windows and facade engineering, component assembly and unit construction. 480 companies took part from 6 to 8 November 2014 in a total of 70,000 square meters of exhibition space in order to demonstrate their latest products. In its 12th edition, Asia's largest fair for the window and door industry demonstrated energy-efficient, sustainable and innovative solutions at the centre. This is a focus that can serve hardware specialist MACO well with its diverse range of products.

Focussing on product lines MULTIMATIC turn only and turn&tilt hardware and RAIL SYSTEMS sliding fittings, MACO exhibited

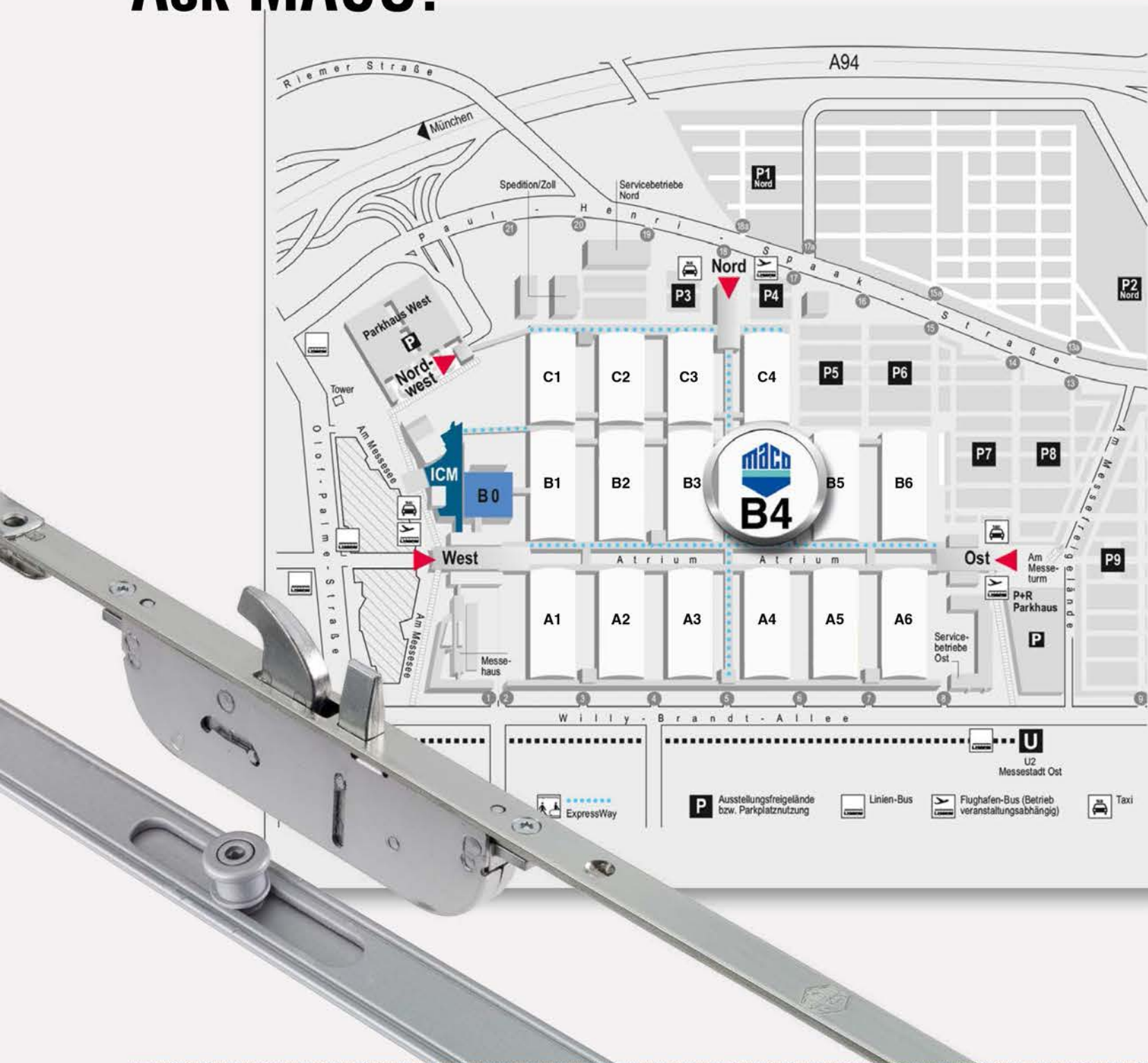
on a 300 sqm booth to a broad audience. The visitors were particularly impressed by MACO's barrier-free accessibility solutions for windows and their large-scale elements. Windows equipped with MACO-Comfort hardware can be operated by the handle at the bottom sash for overhead windows, even when seated. Likewise, special solutions such as TWIN-FIT hardware, which optionally enables single or double tilting for double sash windows, and the fully concealed hinge side MULTI POWER generated great interest. They stand for innovation, quality and high solution competence in construction hardware.



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**Benefit-oriented product solutions**  
for the current construction and housing  
needs of your customers can be obtained  
at Hall B4, Stand 528  
Don't ask just anybody.  
**Ask MACO.**



#### IMPRESSUM

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#### TECHNOLOGY IN MOTION

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