



# TECHNO

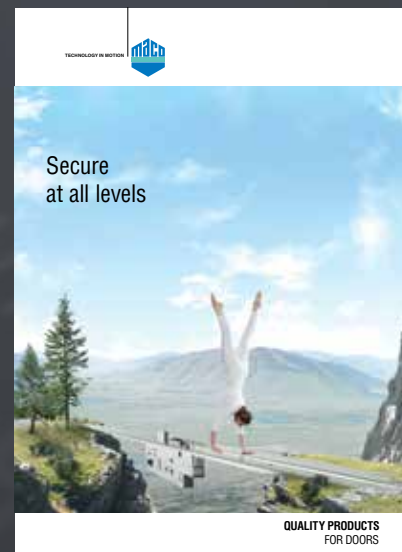
MARCH 2014 | EDITION 1 | YEAR 22 | CURRENT NO. 72

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Unmistakably MACO

# Don't ask just anybody.



**Welcome to Hall 1 where approximately 1,000 m<sup>2</sup> of building hardware expertise is available to touch and try out! We are covering everything for you in Nuremberg, including pure hardware technology with high design standards as well as age-independent control and convenience, through to implemented design-based accessibility options. And always incorporating convincing arguments for your discussions with builders, designers and architects.**

#### **AWARENESS OF THE LATEST TRENDS**

Energy conservation and accessibility have long been global issues, which include every area of life. We utilise our innovative strength to focus on access options for human habitats – windows and doors. Because energy is something well worth preserving. Here users feel the comfort value of energy-optimised window sashes and large

surface elements, which can be operated easily. Here they feel safe when doors and windows can be locked tightly and quietly. Here people use functionally designed MACO architectural hardware in order to live their daily lives with ease.

#### **DEMAND-ORIENTED**

You will see a variety of hardware innovations and enhancements in the door locks and slide, tilt & turn hardware product groups. Heat retaining and burglar-proof to RC 3, surface treated and extremely corrosion-resistant with TRICOAT-PLUS, optimised for a drastic item reduction in your inventory and significantly reduced costs in production and management.

Don't forget to check out the 5-meter lift & slide element. It demonstrates our new steel hook mechanism with flush strike plates in combination with narrow frame frieze and ground-flush fixed glazing. You can test for yourself the

resilience of our extreme corrosion-inhibiting TRICOAT PLUS hardware at the stand. We will also demonstrate the aerodynamic mode of action of our patented ventilation solution for humidity protection.

#### **CUSTOMER-FOCUSSED**

Our hardware portfolio is accompanied by a wide range of services. The focus clearly remains on achieving the greatest individual added value for you. These include, among other things, our Technical Online Catalogue MACO (TOM) and standards testing according to international standards in notified areas, which you can now pass directly at MACO. An interesting development has also been undertaken by our data service MACOWin 2.0 by means of a pool-file. Our customer portal is being developed into a one-stop shop for all MACO market partners.

Our newly designed product documentation for the industry's

leading trade fair clearly reflects our benefit-centred approach. The brand-specific manuals illustrate processor and end user advantages at a glance. We provide product solutions to customer requirements - specific talking points for your retail business. So don't ask just anybody. Ask MACO.

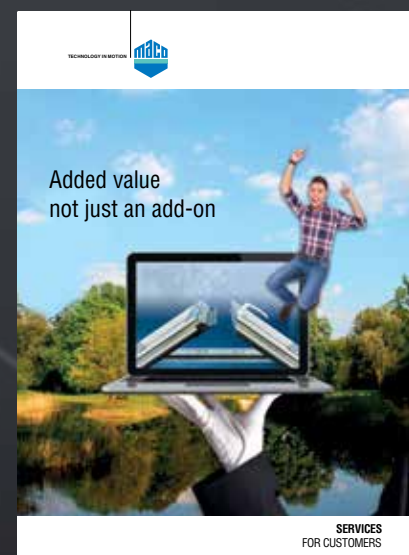
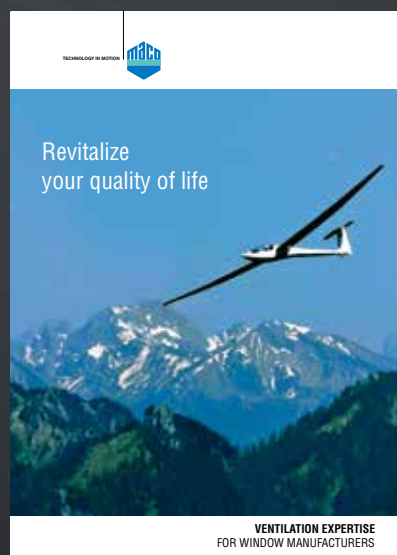
#### **POWERFUL DIALOGUE**

Around 100 consultants and MACO product managers in Nuremberg are looking forward to talking with you. Feel free to try out the hardware, ask questions and tell us your requirements.

#### **UNMISTAKABLY MACO**

The following pages detail more information about the value offered by MACO, in terms of both products and services.

We look forward to your visit.



Product solutions to customer needs for windows and doors

# Just ask MACO!





Quality products for doors

# Secure at all levels

MACO-PROTECT door locks on front doors, flat entrance doors and side entrances make forced entry a difficult job thanks to its key features, e.g. i.S. security roller pins, steel bolts, steel hooked latches and combinations of steel hooks and bolts. Optimised acoustic and thermal protection with appropriately adjustable gasket compression completes the lock-related properties. Depending on the version and requirements, security components such as the hook-bolt

combination can be used to provide resistance up to Resistance Class RC3. Door elements made of timber, PVC and aluminium complement the multi-point door lock range. They are available in the MACO surfaces *Silver*, TRI-COAT-PLUS and RAL powder coating. All door locks have been tested for long-term performance. The door lock range is complemented by the aesthetically designed strike plates and strike plate rails.





## ACCESS CONTROL SYSTEMS openDoor

- Function partner of the Z-TA Comfort
- 3 door leaf-integrated solutions: Transponder-Plus, Code, Touch
- Pre-assembled cable
- Standardised installation dimensions: Doors can be pre-aligned
- Elongated hole fastenings
- Straightforward, quick auto-test functions enable testing in the workshop



## Z-TA WITH DAY SETTING

- To be used on both Z-TA locks:
- 3-latch door lock Z-TA Automatic with automatic self-lock system and 3-latch door lock Z-TA Comfort with motorised unlocking
- Day setting can be retrofitted
- Easy activation and deactivation

## SYSTEM PROTECT MODULE

- G-TS handle-actuated door lock and the Z-TS cylinder-actuated door lock in MODULE system
- Flexible in height from 1650 to 3100 mm
- Same lock casing positioning with variable upper locking point
- Uniform case milling
- Easy lengthening or shortening options
- For single-sash and double-sash doors
- Available in Silver-look, TRICOAT-PLUS and RAL powder coat finishes

## ADDITIONAL SOLUTIONS

- Cylinder-actuated 3-latch lock Z-TF
- Handle-actuated door lock G-TA Automatic
- Handle and alternating-action composite door lock C-TS
- Cylinder-actuated mortise lock Z-RS
- Top hat
- Strikers
- French casement drive-gear
- Finger operated door shootbolt





Quality fittings for sliding doors

# Barrier-free panorama



## MACO RAIL-SYSTEMS



With MACO RAIL-SYSTEMS: the guide rail is flush at the top of lift and slide doors

With MACO RAIL-SYSTEMS: Steel hook gear, flush-closing striker, single piece striker plate. When sash is open, the locking hooks are fully retracted into the L&S-wing via the handle position.



With MACO RAIL SYSTEMS: slim frame mouldings on lift and slide doors

MACO RAIL SYSTEMS enable manufacturers to take advantage of an entire range from a single source, optimised for maximum end user benefit and best possible handling during assembly and installation. The full range of products includes gears, rollers, sealing profiles, thresholds, frame covers and lift & slide handles. The hardware has an excellent reputation throughout the industry with regard to its energy-efficient design and its fulfilment of passive house standards. A guarantee for this is the GRP ground sill, whose low heat transfer coefficient makes thermal separation superfluous.

Doormanufacturerscanequipsash units up to 400 kg weight in RC 2 barrier-free design, depending on the individual element equipment.

### LIFT & SLIDE HARDWARE

- Up to 400 kg in wood, wood/aluminium and PVC
- Multiple sash levels Independent of length and width
- Thermally isolated threshold system (GRP threshold)
- Rollers equipped with brushes and additional roller with patented suspension system

### NEW

- Slim frame mouldings
- Frameless fixed glazing
- Steel hook mechanism
- Gear damper
- Sealing profile
- Guide rail flush at the top
- GPR threshold 240 mm
- Tread plate
- Rhapsody lift & slide handle

### PARALLEL STOP SLIDE HARDWARE

- Up to 200 kg in wood, wood/aluminium and PVC
- Smooth, all-round venting due to parallel sash stop
- Parallel stop position barely noticeable from the outside
- Scissors design in a parallelogram geometry with integrated damper
- Rollers with integrated spring mechanism and brush system

### SLIDE & TILT HARDWARE

- Up to 200 kg in wood, wood/aluminium and PVC
- Three versions: SKB-S, SKB-SE, SKB-Z
- Rollers with brush system

With MACO RAIL SYSTEMS: frameless fixed glazing on lift and slide doors



MACO MULTI



Quality fittings for windows

# Secure solutions for every requirement

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System concept MULTI MATIC

The MULTIMATIC hardware line impresses window manufacturers with variable opening, multiple window functions and optimised production options, through to fully automatic production. The basic equipment for each set is comprised of the central lock, i.S.-safety rolling cams and the sash lifter. They are supplied as standard equipment for the basic MATIC hardware. Additional MATIC items are then combined with them, according to the desired additional functions of the window manufacturer. The compatible hardware components can be flexibly applied to all special shapes. The MULTIMATIC system concept is rounded off by means of individual logistics solutions for the fitting site and the MACO WIN 2.0 software solution.

#### SYSTEM CONCEPT MULTI MATIC

- Profile open and individual horizontal pivot post
- Standard safety sealed
- Reduced parts and retrofittable
- Wide choice of colours and surface-hardened
- Extremely corrosion-inhibiting TRICOAT PLUS hardware
- Sophisticated logistics concept for packaging

#### HEAVY DUTY HARDWARE

- Enhanced performance, fully covered MACO MULTI POWER up to 150 kg Sash weight
- Horizontal pivot post and scissor stay hinge up to 160 kg sash weight (double pot)
- Enhanced performance MACO MULTI MAMMUT up to 180 kg Sash weight

#### CUSTOM SOLUTIONS

- Skylight window with handle-controlled convenience opening
- Push & turn window handle
- Double tilt windows
- Integrated intermediate drives Negative backset 6 mm
- Composite hardware for aluminium cladding
- Hardware for custom shapes

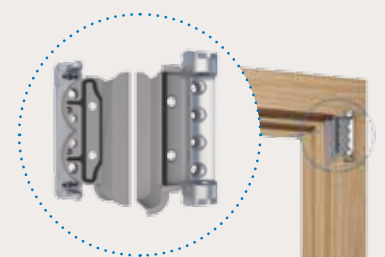
#### SECURITY

- i.S.-locking system
- i.S. security roller cams
- Burglary resistance up to RC 3
- Lock monitoring

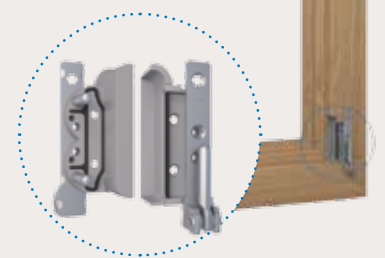
#### ACCESSIBILITY AND ENERGY CONSERVATION

- Motorised hardware
- High-comfort fittings
- Thresholds for wood and PVC elements

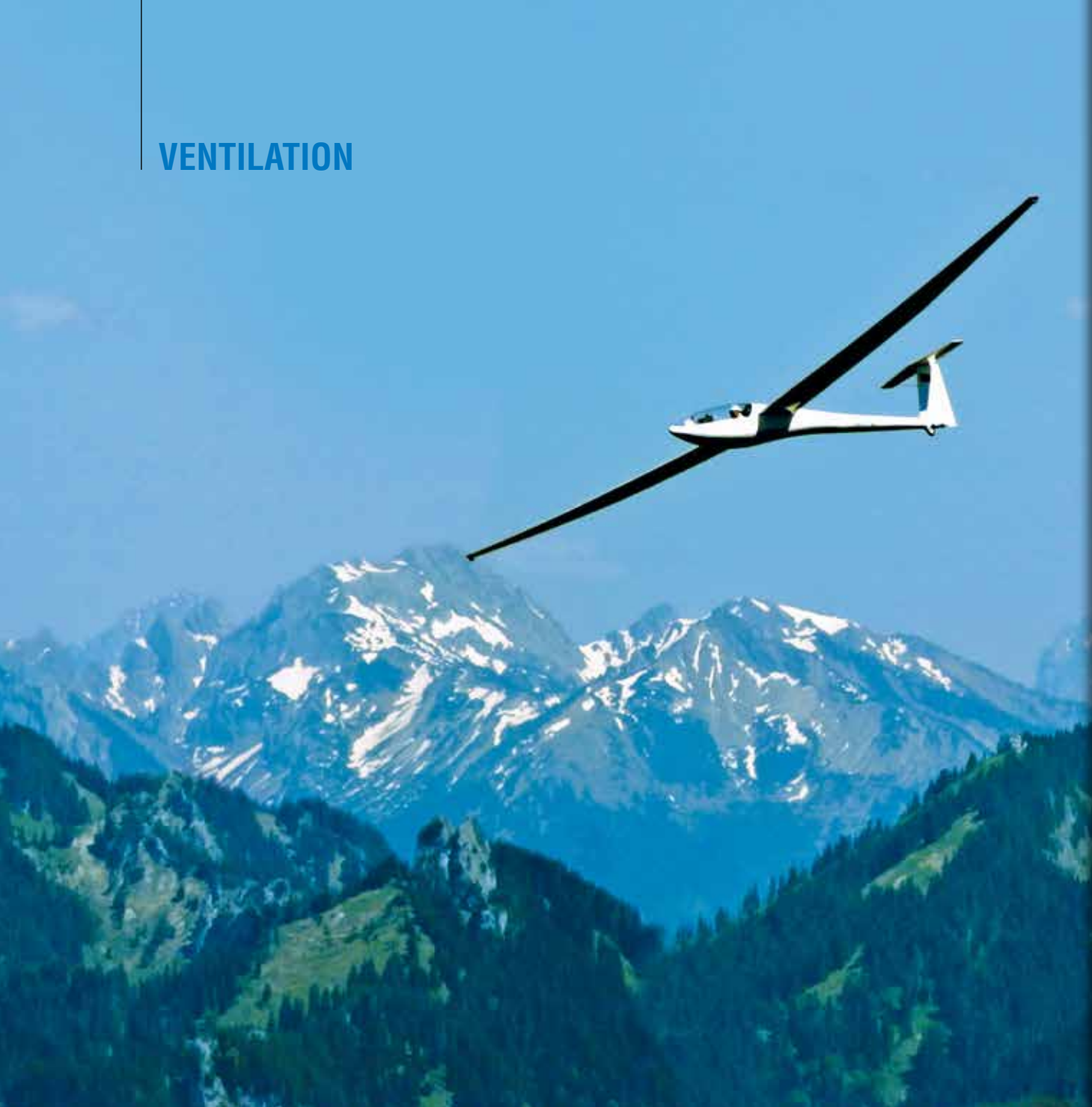
#### DOUBLE TOP 160 KG FOR TIMBER WINDOWS



Thermally insulated scissor stay hinge with sealing lip



Thermally insulated pivot post with sealing lip



Quality air - comfortable climate

# Moisture protection

People can survive for up to four days without water. Without air, however, only a few minutes. The daily intake of solid and liquid food is about 2 kg. The average daily consumption of air, however, is far higher, at 15 to 100 kg. Many are not aware of the special properties of air and the fact that it is one of our most important provisions.

Do you know the feeling? You are working in an enclosed space, surrounded by unpleasant odours, with stuffy and overheated air. Breathing becomes difficult and concentration decreases. Your first thought might be this is caused by poor sleep or the weather. In most cases, however, quite different reasons are to blame.

### WELL-BEING IS REFLECTED BY AIR QUALITY

We spend about 90 percent of our time indoors, at home, in public facilities such as kindergartens, schools or at the workplace. The quality of indoor air is always an essential factor that affects our well-being and can even be a health hazard. Whether we really feel comfortable in enclosed spaces depends largely on indoor air factors such as the air-humidity, temperature, CO<sub>2</sub>-level, radon exposure and the negative air ion concentration (polarised air particles). There are also various other sources of pollution such as mould spores, vapours and cigarette smoke.

Those who are exposed to poor air on a regular basis or permanently, may risk serious health issues. For

this reason, it is therefore important to prevent the development of mould, allergens and odours. However, opening the window to briefly ventilate the room does not solve the problem, even though an initial and important first step has been taken to improve the quality of the air.

### TEMPERATURE AND HUMIDITY

The quality of the indoor climate depends on temperature and humidity. The comfort zone is between 19 and 24°C and in the range of 40 to 60% relative humidity. At temperatures below 17°C or above 24°C, we begin to feel uncomfortable.

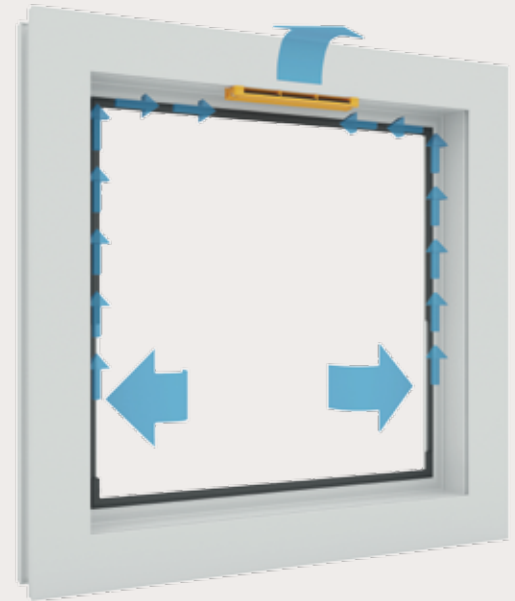
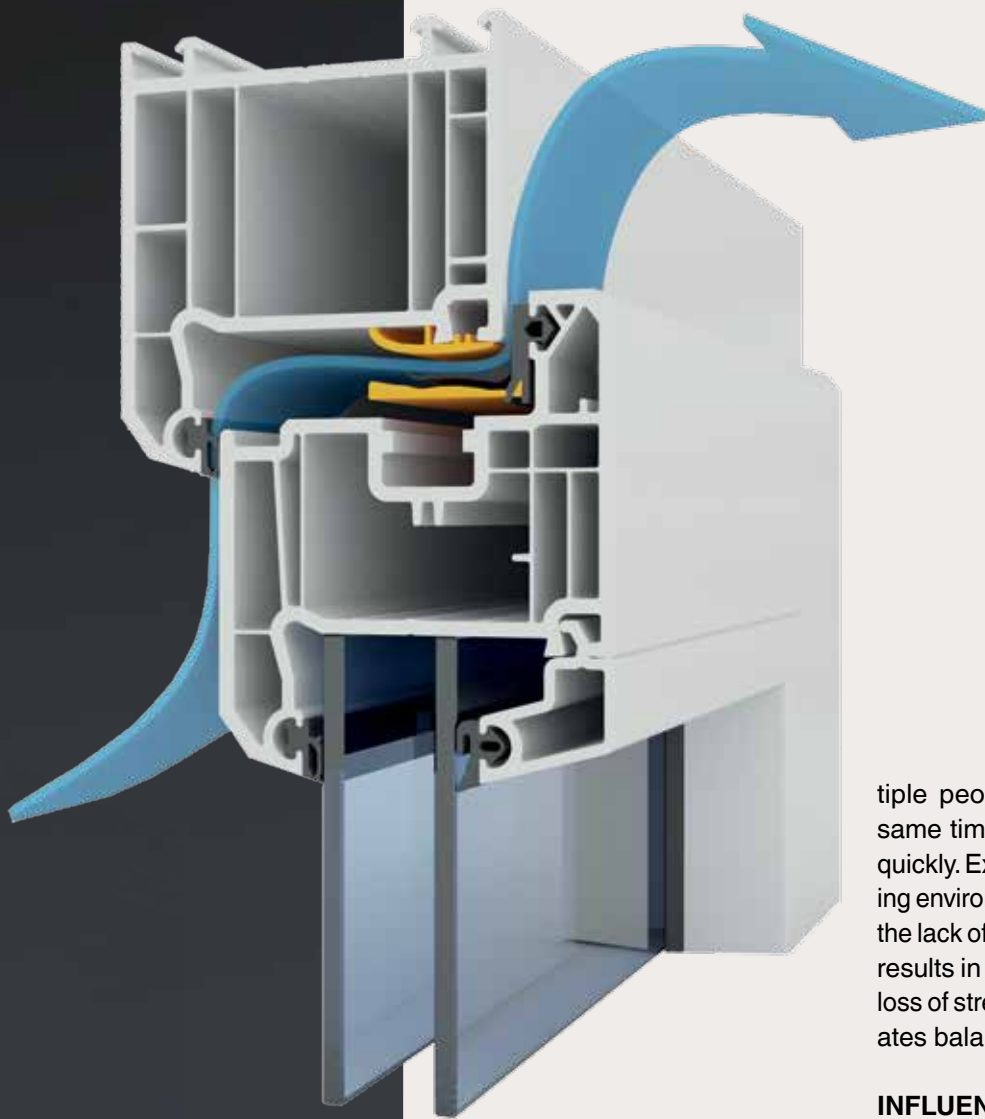
Especially in winter, it is important that all rooms are adequately and

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## VENTILATION



multiple people are present at the same time, oxygen is consumed quickly. Exhaled CO<sub>2</sub> loads the living environment. Humans perceive the lack of oxygen as stuffy air. This results in fatigue, headaches and loss of strength. Regular airing creates balance in this respect.

### INFLUENCE FACTOR CONSTRUCTION MATERIALS

Construction materials can have a positive effect with the ability to absorb moisture and pollutants to a certain saturation level. Glass and uncoated metals usually do not pollute the indoor air. In addition, natural products should be used increasingly in construction. These generally exhibit enhanced technical and sustainable benefits. However, even natural products can combine with partially polluted emission factors. Natural paints as well as wood materials are particularly noteworthy in this respect.

Large-scale synthetic products, adhesives and other chemicals or synthetic fibre carpets create an unnatural environment in which the indoor air can be heavily loaded with particulate matter and vapour from the contents.

### AIRTIGHT BUILDING ENVELOPE

Lifestyles and life-circumstances are changing constantly. Hardly anyone who has a job can ventilate their apartment every two to three hours manually. In addition, buildings must be built and renovated in an energy efficient manner. Modern homes are designed to be 'air tight'. In consequence, the humidity in the rooms can no longer be discharged.

### VENTILATION FOR MOISTURE PROTECTION

These recent developments have been taken into account by the

German Institute for Standardisation, who have defined a new, additional ventilation level: Ventilation for moisture protection according to DIN EN 1946-6 must ensure a minimum air exchange for moisture removal irrespective of the user. This enables moisture damage to be avoided, which can also lead to health risks resulting from the formation of mould and fungi. In this context one also speaks of "sick building syndrome".

This development requires new approaches, primarily to greatly improve the indoor air and the home living environment. For this reason, MACO provides integrated solutions for windows to ensure user-independent minimum ventilation.

#### MACO solution

- Effective air circulation for moisture protection
- Can be retrofitted with just a few simple steps
- Without additional milling work on the window
- Patented product based on aerodynamic principles
- Can be activated / deactivated at any time

#### Benefits

- Natural ventilation based on patented principle
- Improved health for residents
- Preserves the value of property
- Carefree package

Learn more about fresh air, pleasant climates and moisture protection using user-independent window ventilation at the MACO Ventilation Info Point in Hall 1 / Stand 347.

correctly heated and ventilated. Control options include thermo/hygrometers, which should constantly move towards the comfort zone. Insufficient humidity leads to irritation of the mucous membranes and respiratory tract. Excessively cold and moist air encourages mould growth in the long term.

### ODOURS

Common smells from the kitchen tend to settle intensively on various materials. Although most odours do not cause lasting, serious health problems, they can often be unpleasant after cooling.

Stench tends to cause a feeling of uneasiness. This is also recognised by the courts. Continuous, third-party odours can be judicially adjudged as a cause for a reduction in rent. In other words, such odour-induced discomfort does not have to be simply accepted by the tenant. He can lawfully sue for its elimination. However, odours and pollution are never completely avoidable, because all people inevitably secrete perspiration and odour during the day. The affected areas should be well ventilated in order that odours can dissipate.

### OXYGEN

In order to create optimal living conditions, the air which we breathe must also contain sufficient oxygen in addition to having the right temperature and humidity. Especially in homes where mul-



Services for customers

# Added value instead of by-products

As a premium construction hardware supplier, we support our processing partners in the windows and doors market in terms of ensuring commercial success. Innovation is the most important factor for our sustained success. We recognise market requirements quickly, develop practical product solutions and apply direct consultancy and support services to bring you forward in the market. Each processor has his own personal contact at MACO. We embody customer focus - at all times of the day in the vicinity of our processors. Fast, prompt delivery is ensured in Europe and worldwide via an electronic data interchange connection to the MACO logistics centre and individual warehouses at our international locations. MACO's global sales and dealer network enables us to meet demand in all our target markets.

Don't ask just anybody. Ask MACO.





### MACO TEST CENTRE

- Standards tests in notified area
- Joints and water tightness against heavy rainfall
- Burglary protection



Weather test rig for air and water tightness / wind resistance



### TOM – TECHNICAL ONLINE CATALOGUE MACO

- User friendly navigation with search and filter functions
- Clear product structures
- Selection of material and installation situations
- Interactive hardware compilation by the respective user
- Continuous automatic updating of the hardware data and customised product data sheets
- Download matrix for drawings and data sheets
- Zoom function for technical drawings

### CUSTOMER PORTAL

- Processor-specific
- Available 24 hours a day, 7 days a week
- All technical information and documents in one place
- Ordering platform including order, invoice and delivery note overview
- Remote assistance, complaint notification
- Services such as courses and events at a glance
- Personal MACO contact stored

### MACOWin 2.0

- Easy management of all MACO hardware versions
- Easy creation of orders
- Management of price lists and conditions
- Export function to 12 window construction programs
- Single and multi user
- Link to the MACO (TOM) technical catalogue

### TOM OFFLINE APP

- Optimised for use on Windows 8.1 tablets
- Most important TOM data available offline
- Item filter
- Data updated when an Internet connection is available
- Barcode scan function

### SUSTAINABILITY

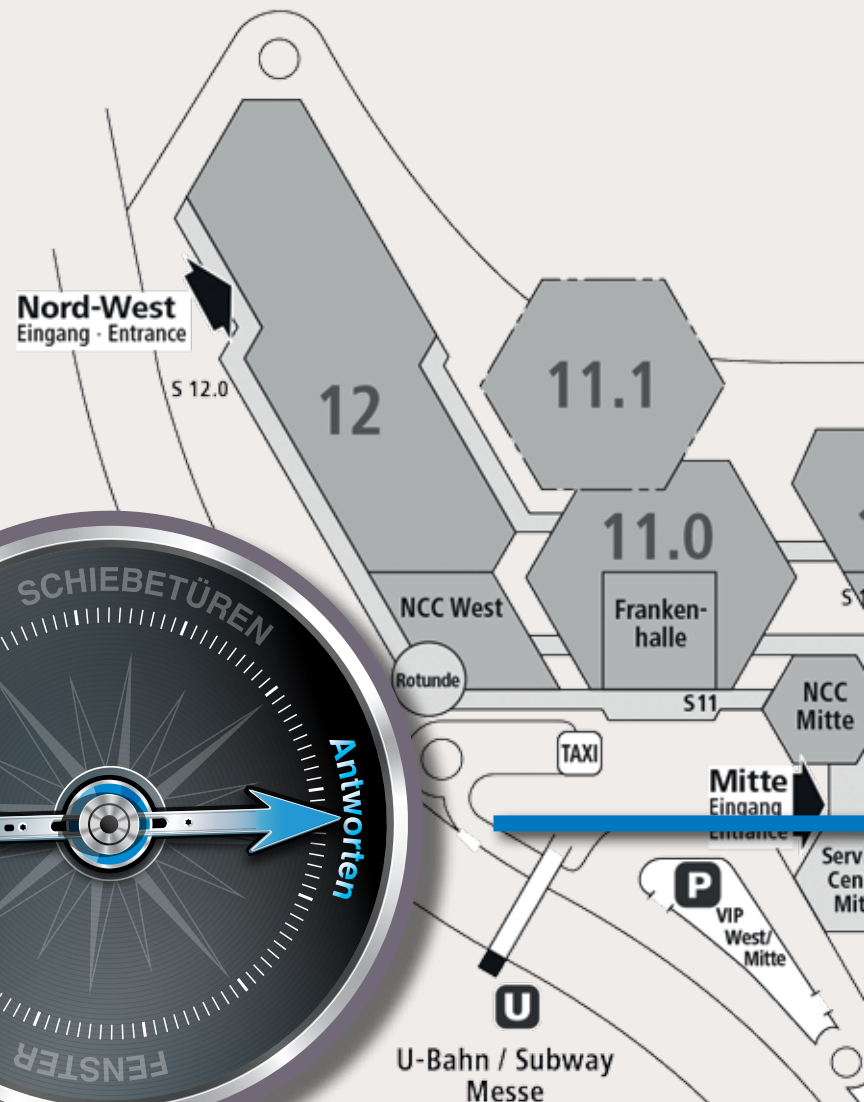
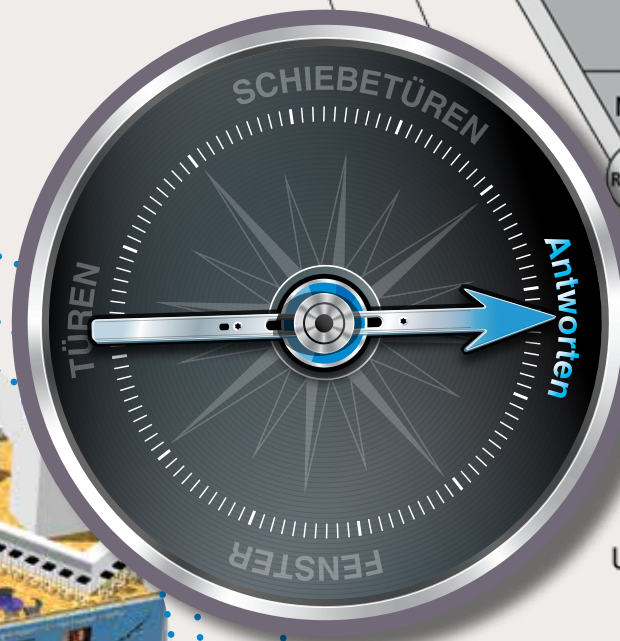
- Balanced environmental, social and economic aspects
- Three certified management systems: ISO 14001 (environment), BS OHSAS 18001 (occupational safety / health), ISO 9001 (quality)
- Strategic cornerstones "sustainable and environmentally compatible business"
- Members of the German Sustainable Building Council
- MACO environmental product declarations
- Material changes and recycling
- Climate alliance operation
- Professional training



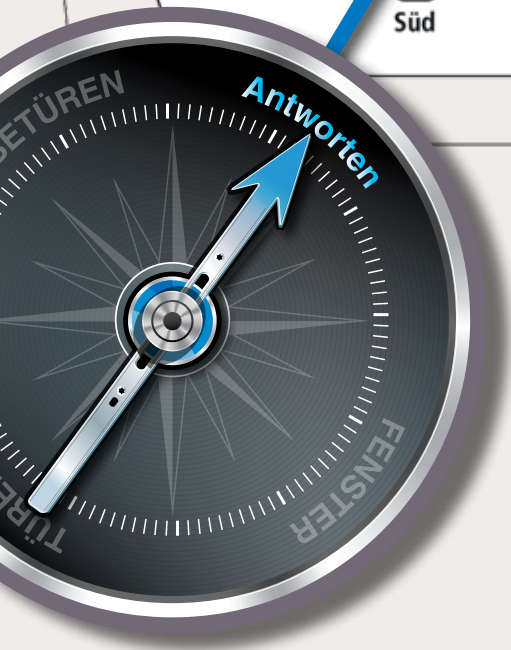
# The quickest way to find us. **Hall 1 / Stand 347**

fensterbau/frontale 2014  
26 – 29 March  
Nuremberg

Your requirements – our answers.  
We look forward to your visit!







SCHIEBETÜR  
TÜREN

#### IMPRESSUM

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#### TECHNOLOGY IN MOTION

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