



WINDOW TECHNOLOGY  
DOOR TECHNOLOGY  
AUTOMATIC ENTRANCE SYSTEMS  
BUILDING MANAGEMENT SYSTEMS



INFORMATION FOR PLANNERS AND ARCHITECTS

## System solutions for escape and rescue routes

Securing technology for you



# Securing technology for you

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Those who wish to turn architectural visions into reality require the right technical solutions. Architects and planners therefore depend on the Gretsch-Unitas group of companies: as one of the international market leaders for window and door technology as well as automatic entrance and building management systems we are the competent partner for forward-thinking architecture and state-of-the-art technical systems – whether straightforward or complex. Our expertise is founded in the 100-year old tradition of our family-owned company, which has always stood for innovative power, progress and cost-effectiveness. We can therefore offer reliable and elegant one-stop solutions, even for complex and sophisticated escape and rescue route systems. In order to live up to the expectations of our principle "Securing technology for you" we aim to combine first-rate products with first-rate services which we would like to present in this technical bulletin.



kab GmbH Fellbach

The Gretsch-Unitas group of companies: a traditional family-owned company for more than 100 years



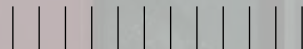
Security has a name: BKS is a part of the GU Group and one of the leading companies in the locking technology field

Securing technology for you



## On the safe side with the GU Group.

Peoples' lives depend on the quality of escape and rescue route systems. The GU Group takes this responsibility seriously: by delivering comprehensive escape door system solutions which go much further than just satisfying the relevant standards. This gives architects and planners certainty and peace of mind – from the design stage through to the finished building.





# Systematic escape route security

**1 Large-capacity revolving doors GGR and GRA-F**  
Impressive prelude for a public building: the GGR and GRA-F large-capacity revolving doors combine elegant optics with maximum escape route widths: without requiring any separate escape door. For more information see page 8.

**2 Escape route sliding door HM-F FT**  
The first sliding door also to be approved as an escape door in the locked condition: in nighttime mode the HM-F FT escape route sliding door becomes a swing door with escape door security. For more information see page 14.

**3 Electrically-locking EVT Touch Bar**  
Ideal for all modern escape doors: the electrically-locking EVT Touch Bar is an innovative locking system characterised by a reduction in the number of individual components and intuitive operation. For more information see page 20.



Escape and rescue route systems do not permit stand-alone solutions. Maximum security of these systems can only be ensured if all components have been harmonised individually with the building situations and work perfectly together. This is why the GU Group offers one-stop comprehensive solutions: from one-off components through to complex complete systems.

**4 Electrically-locking panic lock EVP**

Specially for 1-leaf emergency exit and panic doors: the electrically-locking panic lock EVP is a compact solution which combines a self-locking panic lock with electric escape door locking. For more information see page 26.

**5 Emergency exit device to EN 179**

Specially for areas not accessible to the public: the tested and approved unit comprising panic lock and hardware effortlessly satisfied the standard requirements of EN 179. For more information see page 30.



**6 Natural smoke extraction**

Important aspect of preventative fire safety concept: natural smoke and heat extraction systems conduct combustion gases, dangerous oxides and thermal energy into the open air. As certified system solutions they can be adapted precisely to the individual building situation thus ensuring that the escape and rescue routes remain smoke-free. For more information see page 34.

**7 GEMOS**

Control and monitor escape doors centrally: depending on the requirements of the building the system can be used to manage doors centrally or is seamlessly integrated into the overall building management. For more information see page 42.

## Type-tested revolving door with escape route function

For entrances that are sure to make an impression.

In large public buildings the role of revolving doors is to provide an imposing and elegant prelude. The GU Group combines elegant optics while maximising escape route widths: the GGR and GRA-F type-tested revolving doors are approved for use in escape and rescue routes.







**Elegant, energy-efficient and effective:** whether hotel, bank, insurance firm or airport – revolving doors provide public buildings with striking and draught-free entrances that are also suitable for heavy public traffic. Even better, with the fully automatic GRA-F and GGR escape doors there will be no additional escape doors that detract from the attractive architecture. The comprehensive solutions by the GU Group are approved for escape and rescue routes and also ensure secure closing outside the hours of business. Owing to the wide variety of revolving doors available from GU Group, highly individual entrance solutions are available to architects and planners. Irrespective of which version you choose, you can rely on Technical Control Board-compliant (TÜV) type-tested quality to DIN 18650 / EN 16005.



**GGR revolving door for large diameters – normal mode**

In normal mode the leaves are fixed by electromagnets, to prevent them opening accidentally if they are bumped or subject to wind loads. The leaves can be swung outwards to provide an opening in the summer, for ventilation purposes or to allow long objects to pass through.

**GRA-F revolving door for smaller diameters – normal mode**

The GRA-F is used for diameters smaller than 2.4 m. The folding mechanism of the turnstile construction allows the leaves to be repositioned to open up the building in the summer, for ventilation purposes or to allow longer objects to be passed through.



**GGR revolving door for large diameters – Escape situation**

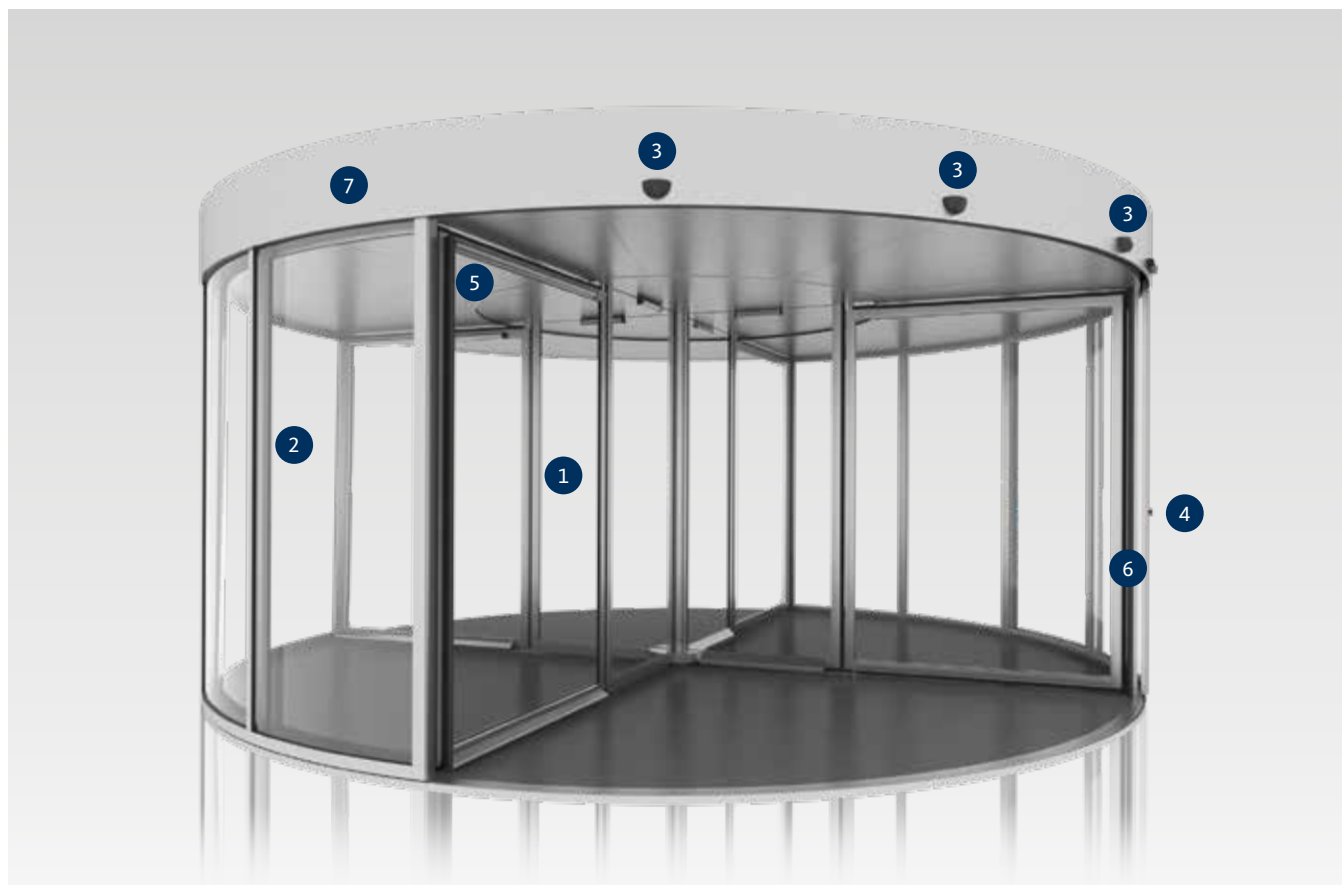
Irrespective of whether the door is a 3 or 4-leaf model: following the emergency release the leaves can easily be folded back to open the escape route. This allows a large number of people to reach the open air within a short space of time.

**GRA-F revolving door for smaller diameters – Escape situation**

The GRA-F also allows the building occupants to escape safely when the diameter of the revolving door is less than 2.4 m. Safe escape: the doors can be fully folded back thus ensuring that the frequently prescribed minimum width of 1 m is achieved.



# The comprehensive system for greater planning and design freedom



## Suggested components

- 1 Outwards-opening door leaf
- 2 Drum walls
- 3 Radar motion sensor
- 4 Emergency stop switch
- 5 Optical safety sensor and safety contact edge
- 6 Night shield
- 7 Canopy-cover

## Specifications

- Three or four-leaf versions available
- Width of escape route depends on diameter of revolving door  
GRA-F: 1000 – 1720 mm  
GGR: 1630 – 3420 mm
- Height of canopy-cover  
GRA-F: >350 mm  
GGR: >410 mm
- Large number of freely selectable surface and glass designs



### Sensors that maximise personal safety

Use of testable sensors as specified in the current standards DIN 18650 or EN 16005 ensures an extremely high level of safety for the users.



### Hinged leaf at GGR


The fixing of the leaf is released when triggered by the fire alarm system, power failure or the emergency switch on the revolving door: the leaves can then be folded back.



### Hinged leaf at GRA-F

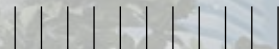
For entrances with smaller diameters: the leaf can be folded back completely which means that escape route widths of at least 1000 mm are possible with the standard revolving door GRA-F – even with a diameter as small as 2400 mm. The door leaf fixing is also released in this case by the emergency switch or a fire alarm system.

### Advantages at a glance

- Suitable for use in escape routes: eliminates the need for separate escape doors 
- Consultation, planning, manufacturing and assembly competence
- Type-tested by TÜV (technical inspection authority in Germany) to DIN 18650 and EN 16005
- Comprehensive range of revolving doors with 2400 – 6200 mm diameter for escape route widths 1000 – 3420 mm
- Higher degree of prefabrication, for short assembly times at the construction site

# How a sliding door becomes a swing door.

Sophisticated, elegant and barrier-free: sliding doors are the aesthetic solution for prestigious building entrances. When combined with the appropriate technical equipment they can be used in escape routes in day mode. Up till now, sliding doors were not approved as escape doors when locked in night mode. The escape route sliding door HM-F FT rises to the above challenge with an intelligent dual function: In night mode the sliding door becomes a swing door with escape door security.





**Satisfies guidelines and architectural requirements:** buildings such as hospitals, hotels and airports as well as residential care homes for the elderly and disabled must always provide an escape option in night mode. During the day the benefits of an automatic sliding door such as rapid opening should also be available. Fortunately the first sliding door also to be approved as an escape door when locked is now available from the GU Group: the escape route sliding door HM-F FT guarantees the availability of rescue routes and that the building is closed – all in one door element with no other escape door required. This gives architects and planners more freedom when designing prestigious entrances that must comply with the AutSchR, EltVTR, and also DIN 18650 and EN 16005.



**Automatic / Exit operation mode**

The movement sensors are active in Automatic or Exit operation mode. The door opens automatically when approached. Redundancy guarantees that the sliding door opens automatically in the escape direction.



**Off / Night operation mode**

The sliding door becomes a swing door with escape door security. The door is locked and the movement sensors are inactive – the door therefore no longer opens when approached. The sliding door is secured against being pushed open via the integrated sliding door locking system and against break-out by escape door strikes in the pivot hardware.



**Off / Night operation mode – authorised access**

The door can be unlocked by authorised persons via access control or push-buttons on the inside and accessed as a sliding door. Following access, the door locks automatically.



**Off / Night operation mode – emergency**

If the emergency push-button is pressed, or if triggered via the building control system, the escape door strikes are released. The side-hung panels can also be pushed open in the event of a power failure or in a panic situation.





# Functionality and aesthetics rolled into one



## Suggested components

- 1 Escape route sliding door drive HM-F
- 2 Radar motion sensor with safety light curtain to DIN 18650 and EN 16005
- 3 Hinged sliding panel
- 4 Escape door control system FTNT10
- 5 Key switch for authorised access / acknowledgement
- 6 Emergency push-button
- 7 Pushbutton for actuation in the Off / Night operation mode

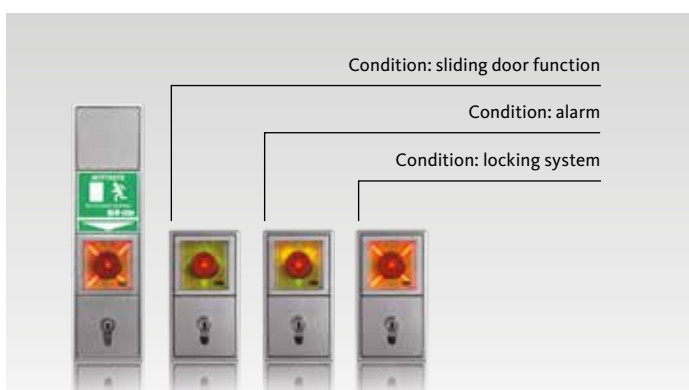
## Version

- Available as 1-leaf and 2-leaf version
- Overall width up to 5600 mm
- Escape route width, 1-leaf: passage width 850 – 1250 mm  
Escape route width, 2-leaf: passage width 1100 – 2500 mm  
Escape route height: max. passage width 3000 mm
- Installation on existing masonry / lintel, on frame profile system or self-supporting
- Glazed with 10 mm single glazing or 22 mm insulated toughened safety glass



### Hinged sliding panel

With type-tested break-out fixing: the sliding panels are fixed in automatic mode by an escape door strike in accordance with EltVTR (German directive governing electrical locking systems on doors in escape routes). The leaves can only be swung open once the emergency push-button has been pressed.



### FTNT10 escape door control system

The escape door control system FTNT10 with innovative lighting concept monitors the door and securely releases it in an emergency via the integrated emergency switch. Further components are the key switch ST10 for short-term release for authorised access and for acknowledgement, a push-button for door control in the Off / Night operation mode as well as an emergency push-button label.



### The alternative for day mode

If the escape route is only required in automatic mode during business hours, redundant escape route sliding doors without break-out function are used: the CM-F, EM-F and HM-F types can be locked if there is nobody in the building.

#### Advantages at a glance

##### HM-F FT – escape route also in the locked condition:



- Sliding door during the day, swing door with escape door security in nighttime mode
- No separate escape door required
- Complies with AutSchR, EltVTR, DIN 18650 and EN 16005
- Provides planning certainty as the consent of the building supervisory authority is not required in individual cases

Photo: EYE SCREAM Hansjörg Riedel

# Intuitive escape door control unit in Touch Bar.

Architecture is a discipline that is always evolving. As a source of ideas for architects and planners, the GU Group is always providing new opportunities in this respect: the electrically-locking EVT Touch Bar is an innovative locking system which is perfectly suited for all modern panic doors. The EVT combines panic hardware and escape door locking into one system thus reducing the number of individual components. The integrated LED indicator in the Touch Bar also makes intuitive operation possible.





**Fewer individual components, more operating comfort:** escape doors in public buildings such as concert halls and trade fairs, airports and hotels should only be used in emergencies. The electrically-locking EVT Touch Bar effectively prevents misuse. As the primary locking system it integrates the locking elements into the panic hardware thus reducing the number of individual components. Under safe conditions the door cannot be opened, if a hazardous situation arises it can be quickly and safely released via the emergency push-button of the escape door control system. An additional technical and aesthetic benefit is the integrated LED indicator that clearly signals the "locked" or "unlocked" status. This makes the EVT eminently suitable for all modern panic doors.



**Locked condition**

In the locked condition, the door is secured to prevent damage due to unauthorised opening attempts. The optional self-locking feature of the panic lock is established automatically by the insurance-compliant locking system.



**Escape situation**

In dangerous situations, the door can be released via the emergency push-button of the escape door control system FTNT by anyone at any time.



**Intuitive operation**

The integrated LED indicator lights up red or green to clearly signal the "locked" or "unlocked" status.



**Unobstructed escape route**

Easy opening, and therefore fast and safe escape from the building, also guaranteed with multi-point locking or heavy doors.



# Panic hardware and locking in one system



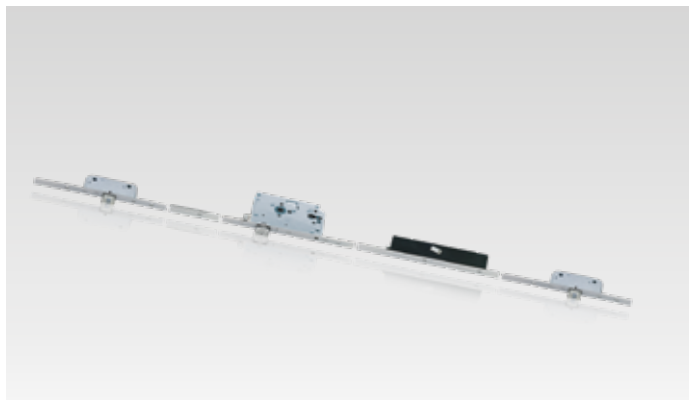
## Suggested components

- 1 Electrically-locking EVT Touch Bar
- 2 Escape door terminal FTNT10
- 3 Shoot-bolt lock 19 series
- 4 Multi-point locking SECURY 19, self-locking, with panic function (optionally B/C/E)
- 5 Overhead door closer OTS 736 SRI, slide rail system with integrated door leaf coordinator
- 6 Detachable cable duct

## Version

- Available for 1 and 2-leaf escape doors
- In the escape door package, the EVT Touch Bar is combined with the FTNT escape door control system and can be networked via the BKS NET door bus interface





### SECURY multi-point locking

More security and more burglar protection: courtesy of the SECURY multi-point locking system with additional locking elements in the upper and lower door area.



### Touch Bar

The lock is integrated into the Touch Bar so it cannot be operated in the secure condition. Additional locking elements, such as escape door strikes or magnetic locks, are not required. The EVT can also be combined with all other BKS panic locks.

### Advantages at a glance

- Integration of lock in the panic hardware
- Fast and secure opening of the door in escape situations
- Intuitive operation due to unique LED signalling



# The solution that saves space, time and costs.

The GU Group specially developed the electrically-locking panic lock EVP for 1-leaf emergency exit and panic doors. The combination of self-locking panic lock and electrical escape door locking is a cost-effective compact solution that can significantly reduce planning overheads and save time. The product does not detract from the appearance of the architecture and saves useable space due to the reduced number of system components and concealed installation.





## The logical compact solution

**Concealed installation for emphasis on aesthetics:** the electrically-locking panic lock EVP offers several benefits at once when planning and installing 1-leaf escape doors: the compact solution which combines self-locking panic lock and electrical escape door locking reduces the number of individual components and therefore represents a visually appealing solution. During installation, the wiring is routed exclusively in the door frame – additional cutouts outside the lock area are no longer required.



### Controlled use

The automatic latchbolt ensures that the door is securely locked – also in the event of a power failure. It is not necessary to close the door manually.



### Unlocked status

The escape door control system FTNT AP monitors the door. The door is securely released via the integrated emergency push-button.



### Escape situation

Once released, the door can be easily opened. This allows people to quickly flee the building.



### Suggested components

- 1 Electrically-locking panic lock EVP
- 2 Escape door control unit FTNT AP
- 3 Push bar
- 4 Overhead door closer OTS 736
- 5 Benefit: escape door strike with latch lock is not required



### Escape door control unit FTNT AP

In the escape door package, the EVP panic lock is combined with the escape door control unit FTNT AP and can be networked via the BKS-NET door bus interface. Featuring an innovative signalling concept and integrated emergency push-button, the FTNT AP monitors the door and releases it in emergencies – automatically or by manual control. Compared to other systems, FTNT AP is also especially compact.



### Electrically-locking panic lock EVP

The compact combination of self-locking panic lock and electrical escape door locking – approved for 1-leaf emergency exit doors to EN 179 and panic doors to EN 1125. Suitable for all BKS mortise locks in narrow stile, timber and steel doors. The panic lock is also available as multi-point lock to increase burglar protection.

### Advantages at a glance

- Self-locking: always securely locked
- Compact: reduces the number of system components
- Lock case with DIN dimensions: can be used in all situations, also with smoke and fire protection doors
- Optimum positioning of lock



# Sets standards, also with standard escape doors.

Areas that are not open to the public in private housing facilities, offices or classrooms in schools are to be equipped with emergency exit devices to EN 179. This standard prescribes that escape routes must be easily released. The tested and approved unit consisting of panic lock and hardware by the GU Group effortlessly satisfies the standard requirements.





## Escape door hardware according to EN 179

**Tested security:** in buildings or parts of buildings not accessible to the public, standard solutions for escape doors according to EN 179 are frequently adequate. However, the standard itself has rigorous security requirements. The lock, hardware and installation accessories must only be used if they have been tested as one unit. With a perfectly harmonised and approved combination of panic lock and hardware, the GU Group satisfies this demand and, in terms of security, goes far beyond the standard requirements.



### **System solution as standard**

The simplest system solution for escape doors is a door with a panic lock.



### **Security as standard**

Anybody can flee safely at any time: the panic lock also ensures even when the door is locked that the door can always be opened in the escape direction – with absolutely no key required.



### **Rich variety of versions as standard**

As market leader in the area of panic locks the GU Group has a wide variety of versions at its disposal and the right solution for every application – whether 1-leaf or 2-leaf door, whether self-locking, motor-driven as version with remote-controlled lock or as multi-point locking.





### Suggested components

- 1 WDL hardware with maintenance-free lever bearing
- 2 Overhead door closer OTS 735
- 3 BKS panic lock 21 series



### Self-locking panic locks

Security from the inside and outside – round the clock: the self-locking panic locks allow the door to be opened in the escape direction without a key. They also prevent unauthorised access against the escape direction.



### Overhead door closer (OTS 735, 2-leaf OTS 735 SRI)

The aesthetically sophisticated overhead door closers with slide rail are, thanks to their flexible adjustment options, the right solution for every leaf type, width and weight.

### Advantages at a glance

- Safe escape always guaranteed
- Lock, hardware and fixing accessories tested as unit acc. to EN 179
- Versatile owing to wide range of options
- Extremely compact overhead door closer, available in all colours and in stainless steel
- Simplified assembly and storage of overhead door closers owing to modular principle



# Ability to escape without restrictions.

Fire and smoke protection doors close automatically to prevent the spread of smoke and fire. During normal operation and in escape situations they must not cause an obstruction. The automatic swing-door drives of the GU Group satisfy both requirements: they guarantee that the doors close automatically while offering comfort and barrier freedom.





## Escape routes without obstacles

**Freedom of movement and escape route safety:** automatic closing is desirable with fire and smoke protection systems. However, a closed door always remains an obstruction. This can only be barrier-free if it can be easily opened. The GU Group's automatic swing door drives ensure secure closure yet allow comfortable access via the radar motion sensor, push-button or access control system. Approved panic locks and a push bar guarantee that an unobstructed escape route can always be made available. Entrance doors in the facade can also make use of the benefits of the swing door drive: when combined with multi-point locking, burglar protection and escape route safety are equally possible.



### **Closed door**

Fire and smoke protection doors divide buildings into fire protection zones. Despite this however, they are not barriers during normal operation.



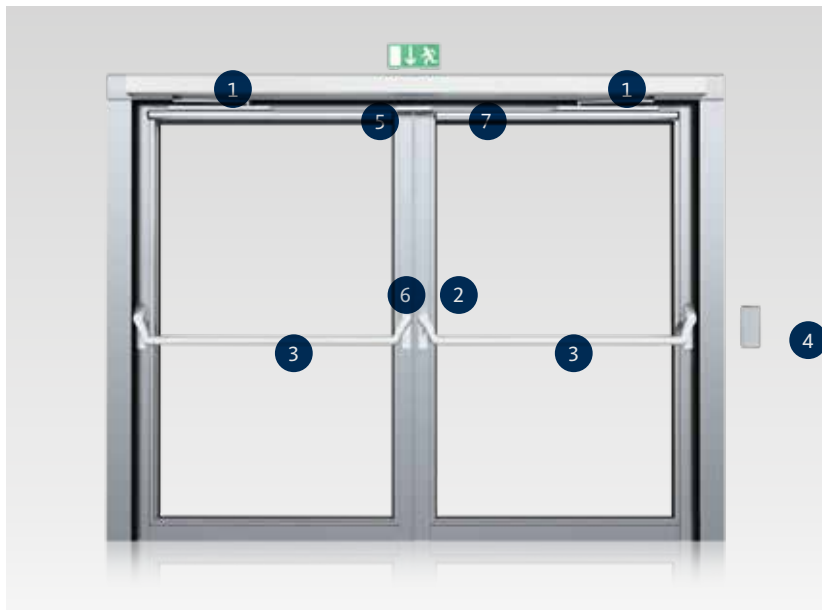
### **Automatic opening**

The automatic opening operation is triggered by the push-button, access control system or radar motion sensor. Safety sensors prevent the door leaves from bumping into passers by.



### **Escape situation**

In emergencies the panic lock can be opened via the push bar. The escape route is thus released quickly and securely.



### Suggested components

- 1 Swing door drive DTN 80
- 2 Motor-driven lock 19 series
- 3 Push bar
- 4 Flat push-button
- 5 Electric strike ET 8w
- 6 Shoot-bolt lock 19 series
- 7 Carrier bar



### Motor-driven lock 19 series

The 19 series motor-driven lock is a self-locking system with panic function and is ideally suited for use in fire protection, smoke protection and escape doors. Mechanical unlocking is possible at any time using a key and lever handle or push bar.



### The DTN 80 swing door drive

Fire and smoke protection doors must close securely and automatically in the event of a fire. However, a closed or difficult to open door is an obstacle. This is where swing door drives come into play. They open and close automatically, thus ensuring freedom of movement and safety. The DTN 80 swing-door drive has a patented double-spring system. The second spring assembly activates just before the door reaches closing position – in other words, exactly when a higher closing force is required. This means that the door is guaranteed to close quietly and completely, even under difficult construction conditions which could include draught, excessive pressure or a multi-point lock system.

### Advantages at a glance

- Automation of fire and smoke protection doors
- Outer doors with burglar protection can be automated
- Escape route safety is guaranteed
- All components as one-stop service



## The complete smoke and heat exhaust ventilation system as a one-stop service

### To ensure that smoke and heat also escape.

Secure escape doors are only one aspect of efficient escape and rescue route systems. Efficient smoke and heat exhaust ventilation systems are equally important – as fire and the associated build up of heat and smoke represents the greatest danger to persons and buildings. The GU Group offers complete smoke and heat exhaust ventilation systems as a one-stop service thus simplifying the planning and implementation according to the standards an integral part of the preventative fire protection concept for smoke-free escape and rescue routes.



## Tested and certified system solutions for smoke and heat exhaust ventilation

**Indispensable for preventative fire protection:** in the event of fire, smoke and heat exhaust ventilation systems remove combustion gases, dangerous oxides and thermal energy and discharge them into the open air. In order to do this, all system components must be in proper working order. The tested system solutions are precisely harmonised and adapted to the individual building situation. In addition to smoke extraction and ventilation solutions for stairwells, the GU Group also offers intelligent drive and control systems for large projects, such as sports halls, foyers and shopping centres. In this regard architects can rely on a comprehensive and competent planning service.



### **Smoke generation without smoke and heat exhaust ventilation**

If smoke and heat is not removed, the resulting accumulation of combustion gases and dangerous oxides put people's health severely at risk. In addition, an excessive build up of heat can block emergency exits and escape routes and in the worst case cause the building to collapse.



### **Smoke emission with smoke and heat exhaust ventilation**

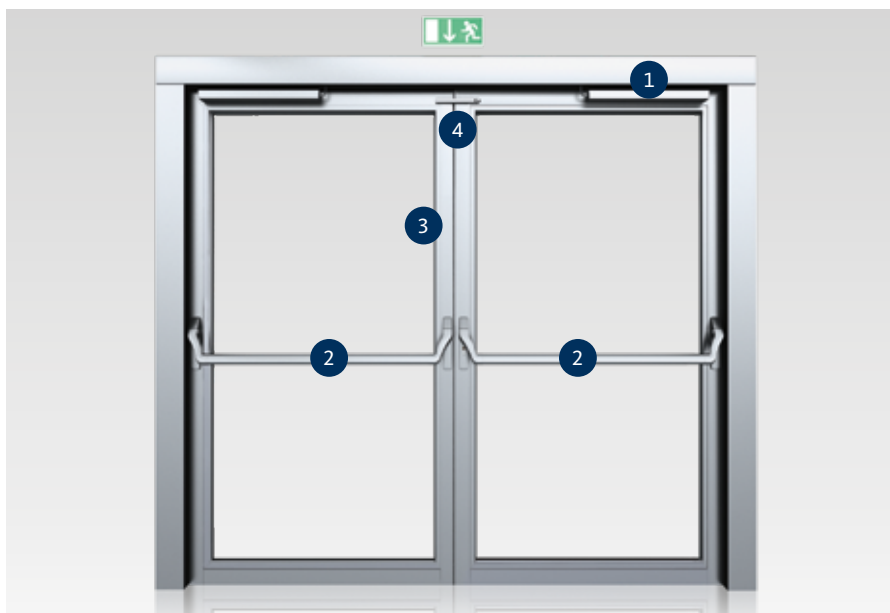
A smoke and heat exhaust ventilation system removes smoke and heat by drawing it upwards. A low-smoke layer forms above the floor through which fleeing people and rescue workers can move. This also reduces damage to the building by heat.



### **Controlled extraction**

The removal of smoke is based on the principle of thermal uplift: supply air openings in the wall and exhaust air openings in the upper part of the wall or ceiling area ensure that smoke is removed in a reliable controlled manner.





### Suggested components

- 1 Door drive ELTRAL TA 60
- 2 Push bar
- 3 SECURY 19 multi-point locking with emergency power buffering
- 4 Carrier bar



### RWA air supply – ELTRAL TA 60 door opening drive

To ensure reliable operation of the smoke and heat exhaust ventilation system: air can be supplied to the smoke and heat exhaust ventilation system via doors in entrance areas using the ELTRAL TA 60 door drive.



### Chain drives ELTRAL

Reliable opening and closing of tilt-only, pivot-hung and side-hung windows and rooflights in the event of fire and when ventilating on a daily basis: ELTRAL chain drives can be simply adapted to the profile geometry and combined with locking drives. This means that even large and heavy window elements can be moved easily.

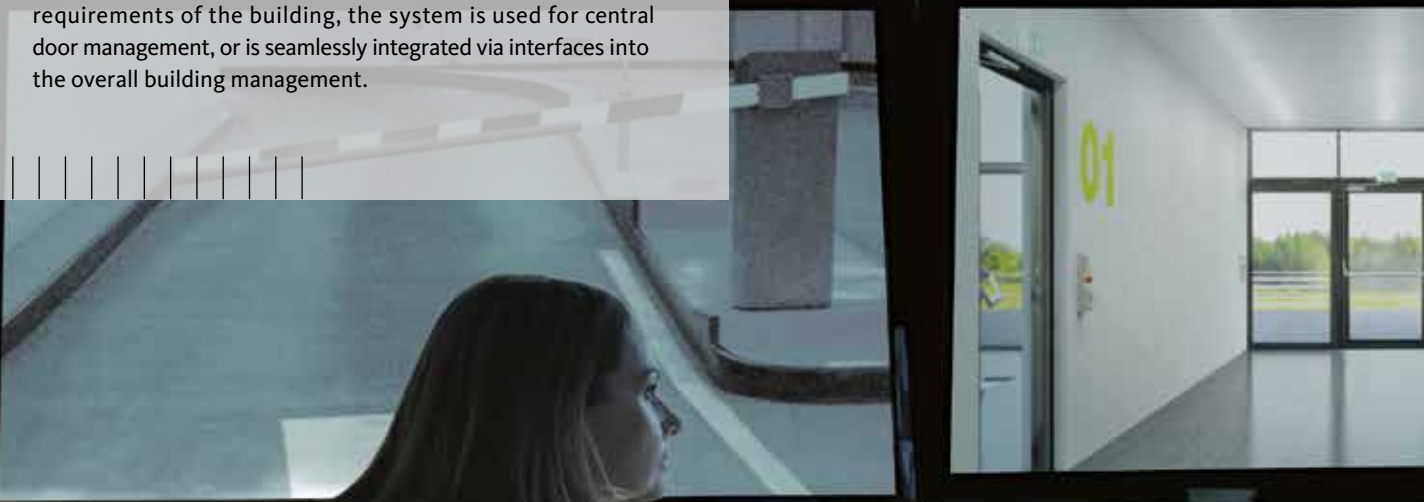
### Advantages at a glance

- Tested comprehensive solutions for maximum security
- Individual solutions for different building situations
- All-encompassing expert planning of the entire smoke and heat exhaust ventilation system



# Overview of entire system.

Escape and rescue routes are not independent systems. They are for example linked to fire alarm systems, access control systems or the building control system. This is why the GU Group developed the GEMOS system: tailored to the requirements of the building, the system is used for central door management, or is seamlessly integrated via interfaces into the overall building management.





# From central door management through to building management system

Centrally controlled, flexibly networked: escape door security and burglar protection, ventilation and fire protection, entrance, thoroughfare and exit: the tasks performed by doors are many and varied. With GEMOS, the GU Group ensures that these tasks can easily be managed and controlled. The management platform can be flexibly adapted to the building situation and therefore offers intelligent solutions from door management through to integration into the overall building management. The user-friendly interface also ensures straightforward and safe operation of complex safety-relevant facilities.



Bild: Getty Images



## Central escape door monitoring

All door statuses can be determined at a glance and managed in coordination with other systems such as fire alarm systems or access control – both individually or as a complete system.

## No additional software

All operating tasks are carried out via individually modified web interfaces in MS Internet Explorer or Mozilla Firefox. No additional software is therefore required at the workstations.

## Intuitive operation

The user-friendly interface ensures straightforward handling and makes statuses such as alarms, faults and messages clearly understandable.



**Appropriate to the situation**

Different operation modes can be selected in GEMOS for all building systems: they can for example be synchronously switched to day mode, night mode or alarm at the push of a button.

**Advantages at a glance**

- Central monitoring and control of escape doors
- Integration into building management possible
- Individually adapted to the size and purpose of the building
- Intelligent alarm management





# Systematic Service





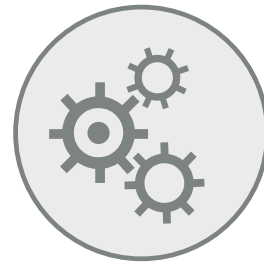
### Planning assistance

The basis for successful construction projects: the GU Group provides architects and planners with comprehensive support. In close collaboration with the customer cross-trade overall concepts are devised, that are individually tailored to the requirements of the building. These take into account the safety of the building and occupants and barrier-freedom, comfort, and aesthetics in equal measure.



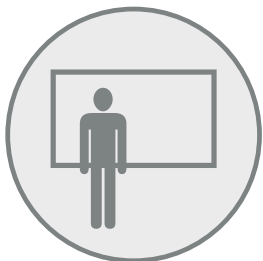
### Building project consulting

Simplifies everyday work: building project consulting assists architects and planners with project-specific drawings and door schedules, cable diagrams and tender specifications or conceptual designs with functional descriptions, for example. Well thought out and coordinated system solutions guarantee functionality and compliance with the required standards and directives.



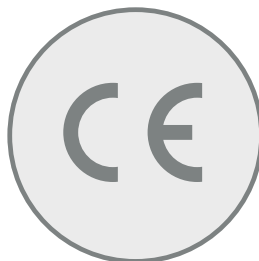
### Door Engineering

Step by step to the right door solution: when engineering doors, the GU Group developed an efficient method configuring individual doors. Cross-trade solutions are prepared based on experimental models. The documentation ensures maximum planning reliability based on clearly laid out door configuration lists.



### Seminars and training courses

Practical knowledge based on first hand experience: with around 160 events annually the GU Group offers an extremely wide range of seminars and training courses. The programme includes product innovations and their applications, current architectural trends and standards and directives. Several seminars and training courses are certified and recognised as advanced training courses by the chamber of architects and civil engineers in Germany.



### Licenses and CE

Maximum security as standard: the GU Group is a CE licensor for windows and patio doors and can undertake the CE certification on your behalf thus saving you time and effort in your day-to-day business.



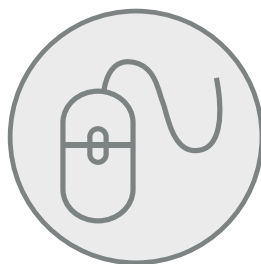
### configUurator

The right products in the right quantity: the practical configUurator is an online platform where parts lists and hardware sets can be precisely determined. Based on the specifications for the particular project, a technically correct parts list is generated within seconds. The data is determined based on current conditions and fundamental technical principles.



### **AusschreibungsManager for tenders**

Comprehensive, legally sound and technically up-to-date: with the AusschreibungsManager, the GU Group is offering architects and planners a convenient and effective online tool that allows them to effortlessly compile technical specifications and complete tender specifications – for all products of the GU Group.



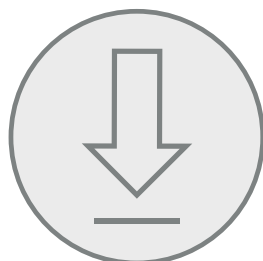
### **Customer Information System**

Available at the click of a mouse: the Customer Information System (CIS) is an ordering and information system for all the GU Group's products. Customers can use the online platform 24 hours a day 7 days a week to access important information: from preparing a quotation through to performing an availability check in real time, from placing the order to tracking the order.



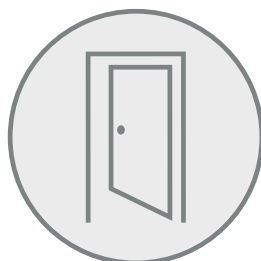
### **MasterKeySystem**

The key to simplified planning and ordering: the MasterKeySystem is an internet-based planning and ordering platform for master key systems. Whether a new facility or extension of an existing facility: the user-friendly interface with a large number of useful functions lends assistance when preparing the entire master key system and ensures smooth handling of the order.



### **Free download**

To make planning easier: a wide range of information on the products and applications is available to download from the company website to the local hard drive quickly, conveniently and free of charge: from product documents and installation drawings to Declarations of Performance through to software solutions.



### **Provision of samples**

Not just convincing for builders: quality and functionality are best experienced live on-site. The GU Group therefore organises the provision of samples for the project from start to finish and can also present different versions and functions if required. As an alternative, the GU Group offers visits to reference projects worldwide.



A product on its own is not a solution. The right security, function and cost-effectiveness can only be achieved with the right planning and by ensuring correct application. It is even more crucial with escape and rescue systems to have a reliable partner to hand who is conversant with the current standards and directives and can provide all-round support from the outset. The GU Group therefore also applies the systematic thought processes demonstrated in its product range to its service offering. Close interlinking of one-to-one expert advice, free online support and a comprehensive programme of technical seminars aims to make the day-to-day work of architects and planners easier.



Photo: Getty Images

Opening, closing, moving: expert assistance on all aspects of the all-encompassing product range of the GU Group

Vorsprung mit System



## Standards and guidelines at a glance

**Standard-compliant solutions for escape and rescue route systems:** in all types of buildings the rescue of human life is a very high priority. Examples in history as well as the more recent past demonstrate that it is right and important to do so. To ensure persons can escape with and without assistance, a large number of regulations, standards and specifications have been drawn up in recent years. They help implement the requirements reliably in practise – using systems that have been tested in accordance with the standards and provide a verifiable guarantee of escape through interaction of the individual products. In addition to the increasing internationalisation of these requirements reflected for example by European standards and regulations, it is still necessary to take the day-to-day requirements in relation to comfort, access frequencies, burglary resistance, fire protection, etc. into account. Admittedly, this is not always easy.

Our innovative state-of-the-art product systems can offer you maximum planning reliability. Our unique selling points in terms of functionality and design also give you a large amount of design freedom. We have compiled a brief synopsis which summarises the core messages and most important requirements of the existing regulations and standards. The most important standards and ordinances of the many that exist are listed here.

In Germany, fundamental building legislation requirements are described in the Model Building Code (MBO). The requirements of building legislation are specified in the state building codes (LBO) and supplementary special building regulations, e.g. for kindergartens, working and business premises, administrative buildings and meeting places.

### **The most important requirements focus on the following aspects:**

- How must it be possible to open doors in rescue routes?
- In which direction must doors open in rescue routes?
- How wide and high must doors in rescue routes be?

The standards to be observed in Germany are specified by the DIBt (German Institute for Building Technology) as national notified body. In addition, since 1 July 2013 the launch of harmonised building products onto the market and the requirements to be met by the Declaration of Performance and the CE marking must be in accordance with the European Construction Products Regulation (CPR).

**The new Construction Products Regulation (CPR)  
CE marking redefined –  
on the safe side with the GU Group**



In July 2013, the new Construction Products Regulation (CPR) superseded the Construction Products Directive (CPD) which existed since 1989. Construction products brought onto the market after 1 July 2013 must satisfy the requirements of the European Construction Products Regulation (CPR). This change does not affect products that were already on the market at the time this regulation came into force.

Construction Products Regulation (CPR) 2013, Europe-wide binding uniform specifications

The CPR regulates the launch of building products on the market to ensure that structures are designed and constructed so as not to endanger persons or goods or damage the environment. To achieve these objectives, the regulation precisely defines important characteristics of construction products in harmonised standards. A Declaration of Performance must be prepared for products covered by a harmonised standard.

In contrast to the previous Construction Products Directive, the implementation of which was governed by national laws, the legal form now chosen was the ordinance which demands legal validity directly in all European member states. As a consequence, the CE marking is implemented Europe-wide in accordance with uniform requirements which avoids discrepancies arising as a result of national regulations. This further promotes, increases transparency and creates more uniform structures Europe-wide in relation to the free movement of goods and the unrestricted use of construction products.

The Declaration of Performance (DoP) is the central document via which the manufacturer of the building product assumes responsibility for conformity of his products with the declared performances. It is the basis for the CE marking and must be available for each building product. The CE mark on the building product signals compliance of the product with the declared performance. All Declarations of Performance for GU Group building products are available to download as "DoP" from [www.g-u.com](http://www.g-u.com):

[www.g-u.com/service/bauproduktenverordnung.html](http://www.g-u.com/service/bauproduktenverordnung.html)

When the CPR came into force, a market monitoring was introduced throughout Europe. In Germany this has been implemented by the German Institute of Building Technology (DIBt). In the event of contraventions, fines and/or custodial sentences may be imposed. In the Gretsche-Unitas group of companies, the CPR covers products which are used in escape and rescue routes or with fire and smoke protection requirements. The corresponding products and product groups are identified in all catalogues by our pictograph. This means you can see at a glance that the product is CPR-compliant. The products in our extensive range are designed to meet rigorous demands and deliver performance, reliability and longevity and are harmonised with one another. The versatility of the product range offers many benefits. When you opt for our products you can expect certified outstanding quality at all times in accordance with DIN EN ISO 9001.

**Windows and outside doors without smoke  
and fire protection requirements regulated by  
DIN EN 14 351-1**

This explicitly demands the CE declaration "Capability for release" of a door in the rescue route. To ensure this requirement is met, emergency exit / panic door locking systems must be used in accordance with EN 179 / EN 1125. It must be demonstrably ensured that these values can be reliably complied with. This purpose is also served by the external monitoring of "Capability for release" among other things during production of the door at the manufacturing plant. When an emergency exit or panic door is used, the entire interaction of door leaf, door frame and hardware components as well as the planning-relevant "individual factors" arising from the relevant installation situation must be taken into account. Specific performance characteristics in relation to door as a whole in the rescue route are ensured by the harmonised building product "Outer door without smoke and fire protection".

**Doors in rescue routes  
EN 179 / EN 1125**



From the safety standpoint, all doors in rescue routes are escape doors. They must be identified accordingly and equipped with panic exit devices in accordance with the European standards. The lock, hardware and fixing accessories are tested together and must only be used as one tested unit. In addition to the CE marking, this unit must also be identified by a classification code.

Emergency exit devices to EN 179 are intended for buildings or parts of buildings that are not accessible to the public and whose occupants are familiar with the function of the escape doors. They are used in all locations where the possibility of public traffic can be excluded.

Panic exit devices to EN 1125 are used in public buildings or buildings where the occupants must also be able to operate escape doors safely in emergencies without instruction even if they are not familiar with the function of the escape doors. The aim is to be able to flee safely with minimum effort and without prior knowledge of the panic exit device. Panic exit devices must also unlock safely if pressure (preload) is applied to the door (maximum 220 N with a pressure of 1000 N on the door).

## German directive governing electrical locking systems on doors in escape routes (EltVTR)

- EltVTürRettWegRL, German directive governing electrical locking systems on doors in escape routes (EltVTR); version: 1997-12, edition: 1997-12. Published in: Mitt DIBt (1998).
- EltVTürRettWegRL BB, German directive governing electrical locking systems on doors in escape routes (EltVTR); version: 1997-12, edition: 1999-01-05. Published in: ABI BB (1999).

The German directive governing electrical locking systems on doors in escape routes (EltVTR) regulates the requirements of the building regulations that apply when manufacturing and testing systems of this kind. The most important requirements of this directive are:

- The system consists of at least a control unit, an electric strike operating according to the closed-circuit principle and an emergency push-button.
- The interaction of the components must be tested.
- The electrical locking system is always installed in addition to the mechanical locks in a door (not facing the normal lock striker plate).
- The emergency push-button must be equipped with an illuminated mushroom button and must satisfy the requirements for emergency devices.
- It must also be possible to activate the electric strike when preloading is present.
- This activation must not be delayed.
- The status of the system must be displayed in the direct vicinity of the door: red LED when locked, green LED when released.

## German directive governing automatic sliding doors in rescue routes (AutSchR) (December 1997)

The German directive governing automatic sliding doors in rescue routes (AutSchR) describes the requirements of the building regulations for automatic sliding doors in rescue routes and appears in part 1 of the list of building rules A of the DIBt. It describes 2 different functional principles:

1. The sliding panels can be swung open in every position at max. 220 N.
  2. Sliding doors without hinged door leaves must open automatically when they are approached. This is ensured by single fault security or redundancy.
- The door opens on time in the escape direction when approached due to activation via wide-area radar motion sensor.
  - Escape route release without deliberate request (radar field at least 1.5 m in front of the door).
  - If the door is locked and the radar motion sensor is therefore inactive, there is no escape route.

## Function of revolving doors in escape routes DIN 18650

The function of automatic sliding doors in rescue routes is described in DIN 18650 or the new corresponding European standard DIN EN 16005 and also in the AutSchR (German directive governing automatic sliding doors in rescue routes). The function of revolving doors in escape routes is also described.

It must be possible to swing open the leaves of revolving doors. The smallest clear passage width at the narrowest point in the construction must be measured.

**Preventative fire protection:  
smoke extraction to DIN 18232-2**

Preventative fire protection describes all measures that prevent the break out and/or propagation of fire by flames or smoke and how it is possible to save people and facilitate effective firefighting work by keeping rescue routes smoke free.

According to the state building codes (stairwells) and the national standard DIN 18232-2, natural smoke and heat exhaust ventilation systems (NRWA) are required.

This standard constitutes the basis for the dimensioning and installation of natural smoke extracts and smoke extraction systems. Furthermore, it defines the tasks (to remove smoke and heat from the building) and purpose of a smoke and heat exhaust ventilation system.

**DIN 18040 Barrier free construction**



Barrier-free should not be equated with "disability-friendly" and should instead be understood in the sense of universal design.

This means that every person of any age should be able to move as comfortably and safely as possible at any time. The 18040 standard also takes restrictions such as the carrying of a pushchair or bulky luggage and walking on crutches into account. Barrier free construction thus improves the usability of a building – and therefore also the quality of life – irrespective of age and health. This means that barrier free construction is not just a social responsibility, it also makes a significant contribution to safeguarding the future of the building and therefore protecting the investment in the long term. Barrier-freedom is becoming a basic requirement for buildings and products that satisfy these requirements will establish themselves on the market.

In DIN 18040, the requirements for public buildings and the requirements for private apartments and houses are defined in parts 1 and 2 respectively. This essentially concerns dimensional require-

ments, threshold heights, hardware (lever sets), the operational forces required to open and close doors and windows and the requirements and regulations for automatic door systems and drives.

The requirements of the standard are defined as protection objectives and their implementation is therefore subject to a certain amount of interpretation.

**EN 1627 sets out the provisions for burglar inhibition of doors and assigns these to 6 burglar resistance classes**



This also classifies emergency exit or panic doors in their overall system such as the door leaf, door frame, hardware components and also the installation in the building.

The challenge faced when planning these doors is to reconcile the escape door requirements of EN 179 and EN 1125, i.e. door not locked from the inside, with the increased burglar inhibition requirements of EN 1627.

The GU SECURY 19, SECURY 21 and SECURY Automatic Panik multi-point locking systems, and the BKS panic locks of the 18, 19 and 21 series in particular have already demonstrated their burglar-inhibiting properties in this regard many times during tests.



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