Garage door systems and hinged doors
Project hinged doors and frames
Industrial door systems
Docking and logistics systems

novoferm

Intelligent Door Solutions

NEW
NOVOFIRE GLASS SYSTEM GLAZING

FIRE AND SMOKE PROTECTION CLOSURES IN PROFILE FRAME CONSTRUCTIONS

DOOR AND WALL ELEMENTS
FOR TRANSPARENT STRUCTURES

www.novoferm.com

ROOM EXPERIENCES MADE OF GLASS AND METAL

Profile frame constructions from Novoferm create spatial experiences made of glass and metal. Available in either aluminum or steel, they provide generous glass surfaces for the transparent structures that are particularly sought-after in the interior. Contemporary architecture is thus given a very special touch. From Novoferm.

MORE POSSIBILITIES, FEWER LIMITS

Fire protection requirements are best fulfilled if the building structures provided for this purpose also have a certain level of design. And so we know that architects and building owners want broadly based programmes, especially in commercial construction, in which the individual design elements are coordinated with each other. With the profile frame series shown here, we have created a universal system that meets exactly these requirements in the field of doors and glazing. Here are the most important facts: Space-enclosing wall elements with muntins are permitted in unlimited widths. The height of smoke protection wall elements can also be chosen at will. For fire protection wall elements, the maximum height approved by the building authorities is 3,500, 4,000 or 5,000 mm, depending on the type. We follow a contemporary architectural trend with our "stainless steel finish" surface. You will find further details and the complete technical data for the individual designs on the following pages.

CONTENT

NOVOFIRE® ALUMINIUM SYSTEMS FOR DOORS AND WALLS

NovoFire® aluminium profile frame systems are made for modern commercial construction. With elegant surfaces, timeless design and numerous variants, they offer the ambitious architect and planner almost unlimited possibilities for the design of transparent fire and smoke protection closures in the interior. Single and double-leaf doors with fanlights and side panels can be combined in a variety of ways.

NovoFire® systems are particularly stable with their profile wall thickness of 4 mm and have an extremely compact design with only one centrally anchored fire protection core. This results in a uniform face width of 150 mm for all versions. By popular request, the "anodized aluminium" surface in stainless steel look is available in the programme.

SYSTEM DESCRIPTION

Aluminium door element made of single-chamber hollow profiles. The door is tested as a smoke protection door using an automatically lowerable floor seal according to DIN 18095. Face width of frame and leaf 150 mm, plinth height 98-238 mm, basic depth 74 mm (T30) or 90 mm (T90). The leaf dimension of the inactive leaf must not be less than 500 mm for double-leaf doors. Elements prepared for assembly.

FITTINGS

One-latch lock, prepared for profile cylinder, lever handle sets with oval rosette in aluminum, stainless steel or plastic possible. The inactive leaf is held via the top locking device with a rebate drive deadbolt, alternatively anti-panic function according to DIN EN 179 or DIN EN 1125 possible. Top slide door closer according to DIN EN 1154, integrated door closing systems for RS and T30, swing door drive according to DIN 18263 / DIN 18650.

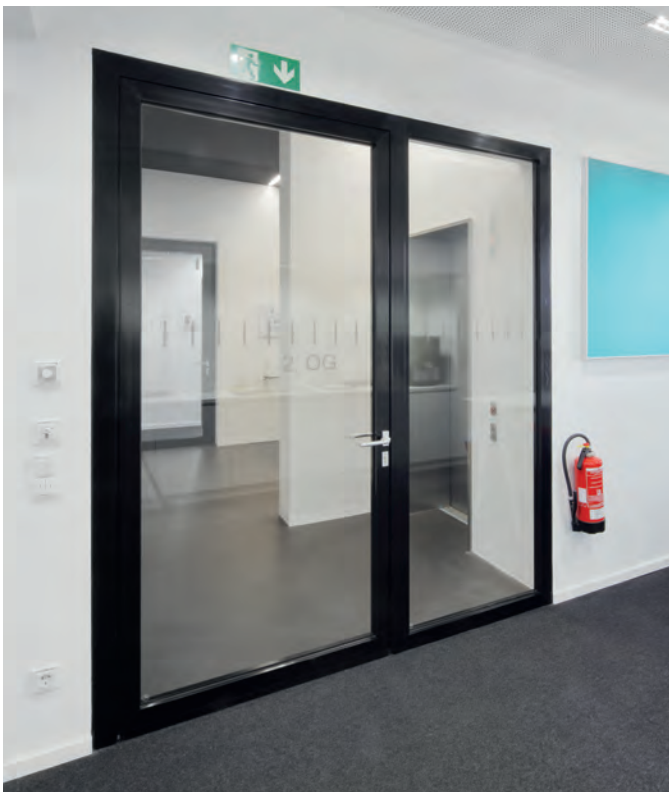
HINGES

Two 2-part aluminium screw-on hinges per leaf, adjustable in three dimensions; 3 hinges are required if the door is designed with a swing door drive. On request, roller hinges are also available instead of screw-on hinges.

SURFACE

Standard: Powder-coated, finally lacquered, silk gloss (RAL Classic of your choice)

Optional: anodized, stainless steel look, powder-coated in wood decor, NCS colours



GLAZING

Safety glass VSG or ESG. Glazing variants and panel fillings, profiles with glazing rebate on one side and glazing beads on the opposite side of the hinge, dry glazing with EPDM seals.

FIXED GLAZING

Flush mounted connections to the door, alternatively stand-alone possible, either bevelled or T-connections. The frame uprights must pass through the entire height of the fire-resistant glazing without joints.

ADVANTAGES AT A GLANCE

- ✓ Smoke tightness according to DIN 18095
- ✓ Fire resistance classes T30 / F30 or T90 / F90 according to DIN 4102
- ✓ Burglar resistance according to DIN EN V1627 for T30 doors in classes RC1 or RC 2, optionally also RC 3
- ✓ Single or double-leaf smoke / fire doors can be combined with fixed elements in any muntin arrangement up to 4.0 m (F90) or 5.0 m (F30) height
- ✓ Overhead door closers, electric strikes or even anti-panic functions according to DIN EN 179 or DIN EN 1125 can be integrated
- ✓ All systems have the same appearance and doors, side panels and fanlights can be combined as required
- ✓ Frame and door profile are flush with each other
- ✓ Numerous application possibilities and maximum design freedom
- ✓ As an option, time-delayed, lowerable floor seals can be installed to prevent pressure build-up in small rooms or for the air lock function

Picture: Goldbach Kirchner

NOVOFIRE® GLASS 30/ALU MAXIMUM TRANSPARENCY WITH FIRE PROTECTION THAT YOU CANNOT SEE

The NovoFire® Glass fire protection all-glass system guarantees maximum light transmission and transparency from room to room. No vertical profiles are required, the individual panes are only connected to each other by minimal silicone joints. The fire protection glass used fulfills safety characteristics on both sides and guarantees UV stability without additional panes.

NovoFire® Glass has been developed as a design-oriented partition wall system for a fire resistance duration of 30 minutes. Generous glass dimensions with panes of 1,800 x 3,500 mm can be realized in the interior. In addition, NovoFire® Glass can be combined with the proven and stable NovoFire Alu door system and thus offers a wide range of design and application options.

SYSTEM DESCRIPTION

The frame material consists of an aluminium single-chamber hollow profile, filled with a centrally anchored Novoferm fire protection core. The profiles have a wall thickness of 4 mm. This results in a very stable and compact construction.

- Frame face width: 75 mm
- Profile depth: 74 mm
- Compatible with NovoFire® T30 doors
- Optimum transparency due to vertical silicone joints of 4 mm

FIRE PROTECTION GLASS

- The fire protection glass used has the fire resistance class F30 (EI30)
- Characteristics as safety glass according to DIN 1249 /1259 due to ESG combination on both sides
- The glass is UV-stable on both sides
- Almost unlimited surface designs can be carried out, e.g. screen printing, satin finishing, sandblasting
- Glass dimensions 1,500 x 3,000 mm in portrait or landscape format, glass thickness ≥ 23mm
- Glass dimensions 1,500 x 3,500 mm in vertical or horizontal format, glass thickness ≥ 28mm to 60 mm

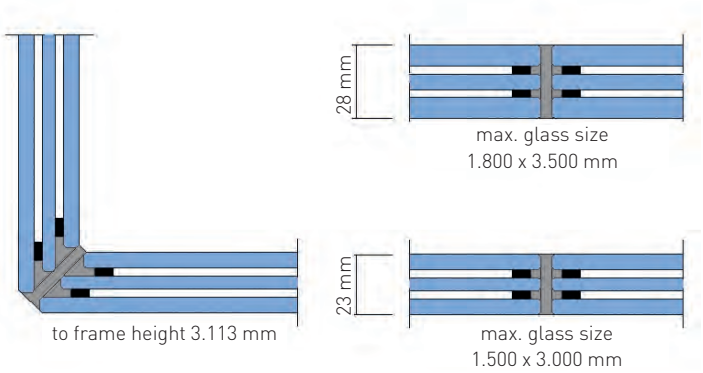
CORNER CONNECTION

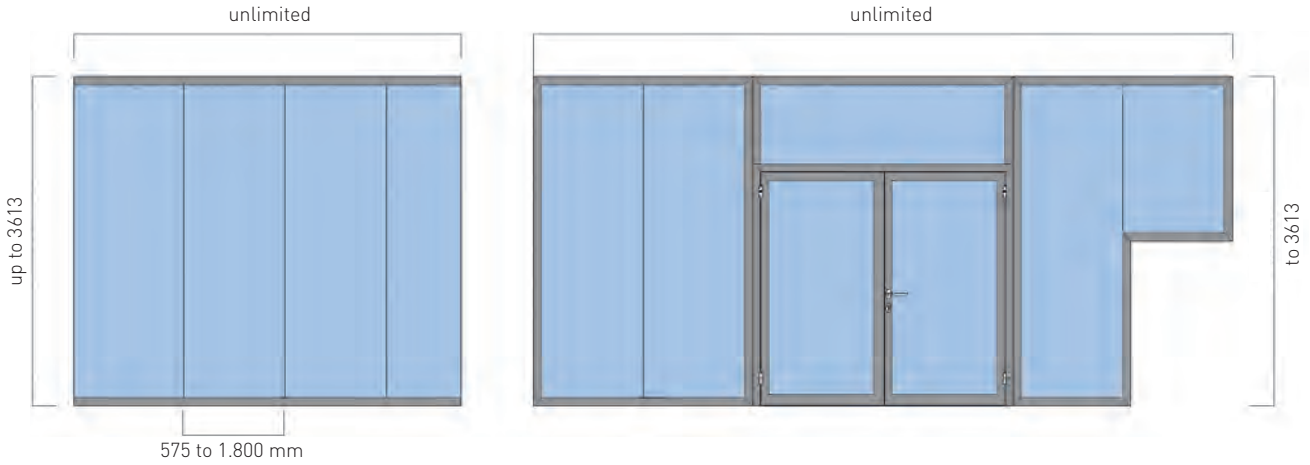
NovoFire® Glass can be designed with 90° corners relative to the floor plan and up to a glass pane height of 3,000 mm. In the corner area NovoFire® Glass does not require corner posts, the glass joint is made with mitered glass panes. This results in a visually attractive joint pattern.

SURFACE FRAME PROFILE

Standard: Powder-coated, final varnish, silk gloss (RAL Classic of your choice)

Optional: Anodized, stainless steel look, powder-coated in wood decor, NCS colours





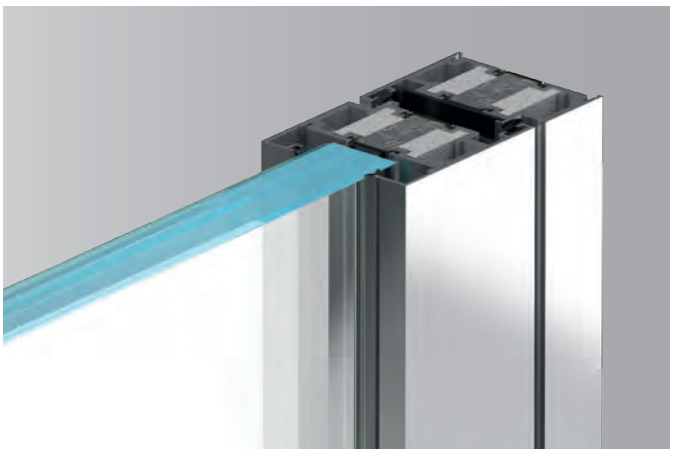
ADVANTAGES AT A GLANCE

- ✓ Large glass formats open up a multitude of application and design possibilities
- ✓ Approved with the combination of the NovoFire door system
- ✓ No corner profile required for 90° glass joint
- ✓ Safety glass through double-sided ESG combinations according to DIN 1249 / 1259
- ✓ UV-resistant from both sides
- ✓ Low risk of breakage due to the ESG combination during installation, optional laminated safety glass possible
- ✓ Easy alignment of the silicone joint of only 4 mm due to self-adhesive foaming tapes on the glass edges
- ✓ Insensitive to moisture due to a stable edge seal made of elastic polysulphite sealant

STANDARD SMOKE PROTECTION

NOVOFIRE® THERMO ALUMINIUM PROTECTION DOOR – OUTSIDE

The system is based on stable NovoFire® hollow profiles with a wall thickness of 4 mm and a construction depth of 90 mm, also suitable for generous clear passage dimensions. The 30-minute fire resistance time and highly heat-insulating properties of the construction are guaranteed by the application of a fire protection insulator developed by Novoferm. The combination of equipment components allows the realization of made-to-measure requirements for building security.



FITTINGS
Maximum flexibility and compatibility for fittings and accessories. Components can be selected according to the application. The sturdy two-part screw-on belts are available in different colours: E6/ EV1 = standard, RAL of choice and in stainless steel look.

DESIGN
Solid frame-wing combination with 4 mm wall thickness. High insulation in case of fire EI130 C5.

THRESHOLD
The barrier-free threshold variant with 19 mm installation height and concealed fastening ensures an optically smooth transition from outside to inside and can be used in old and new buildings thanks to a special base profile.

PROFILPROFILE DIMENSIONS
The profile dimensions are uniform in appearance to the NovoFire fire and smoke protection system.

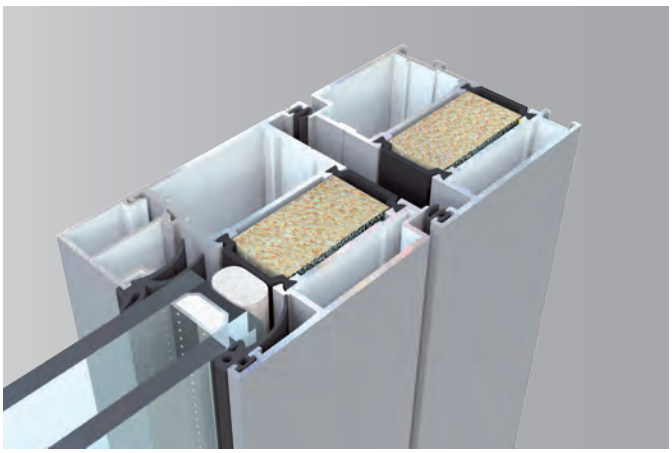
Profile depth:	90 mm
Profile face width:	150 mm
Door frame incl. door leaf Door plinth:	98 mm

ADVANTAGES AT A GLANCE

- ✓ Thermally separated profile system
- ✓ Construction according to DIN EN ISO 10077-1 with a heat transfer coefficient of UD = 1,7 – 2,2 W/m²K
- ✓ Solid aluminium profiles with 4 mm wall thickness
- ✓ Barrier-free threshold variant
- ✓ Unobtrusive glazing gaskets
- ✓ Variety of colours, surfaces and fillings
- ✓ Completing the Novoferm door program for delivery "from one source"
- ✓ Fire protection according to DIN 16034
- ✓ Smoke protection according to DIN 16034-1

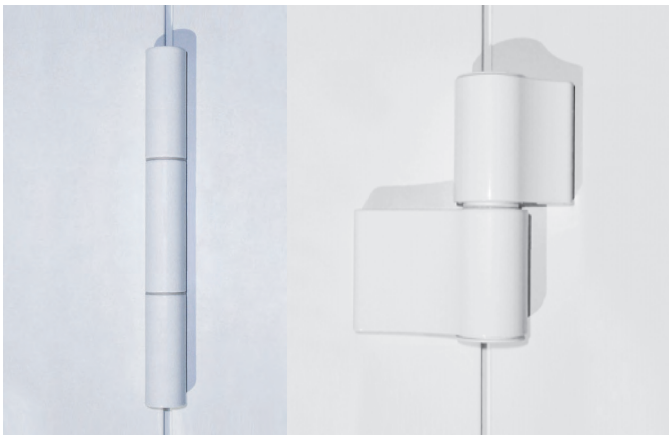
ALUMINIUM EXTERIOR DOOR SAVING ENERGY IS NOT A SECONDARY ISSUE

The aluminium exterior door is a solid profile system for highly thermally insulated door systems at side and rear entrance areas in industrial, commercial and administration buildings. It thus also covers secondary areas and complements the rest of the Novoferm door range in an advantageous way. Furthermore, the exterior door convinces with good technical properties, excellent U*f* values and numerous design options.



FITTINGS
Suitable for the installation of all commercially available fittings. Several door hinge variants are available, from the stable screw-on hinge to completely concealed door hinges and roller hinges in aluminium or stainless steel.

DESIGN
Stable frame-sash combination with 2 mm wall thickness. Sash profiles can optionally be equipped with sliding insulating bars to reduce the bimetal effect.



THRESHOLD
The barrier-free threshold variant with 19 mm installation height and concealed fixing ensures an optically smooth transition from outside to inside and can be used in old and new buildings thanks to a special base profile.

PROFILE DIMENSIONS
The profiles or profile dimensions given below are minimum requirements. However, it is possible that reinforced profiles may be used for structural reasons.

Profile construction depths:

Blind frame, sash bars, transom	75 mm
Wing frame (door)	75 mm

Profile face widths, door:
(Uniform with the NovoFire® fire protection system)

Door frame incl. door leaf	149 mm
Pedestal	150 mm

ADVANTAGES AT A GLANCE

- ✓ Thermally separated 3-chamber system
- ✓ Construction according to DIN EN ISO 10077-2 with a heat transfer coefficient of U_f = 1,3 – 1,9 W/m²K
- ✓ Solid aluminium profiles with 2 mm wall thickness
- ✓ Burglar protection up to RC 3 possible
- ✓ Barrier-free threshold variant
- ✓ Unobtrusive glazing gaskets
- ✓ Versatile in terms of colour, surfaces and fillings
- ✓ Completing the Novoferm door program for delivery "from one source"

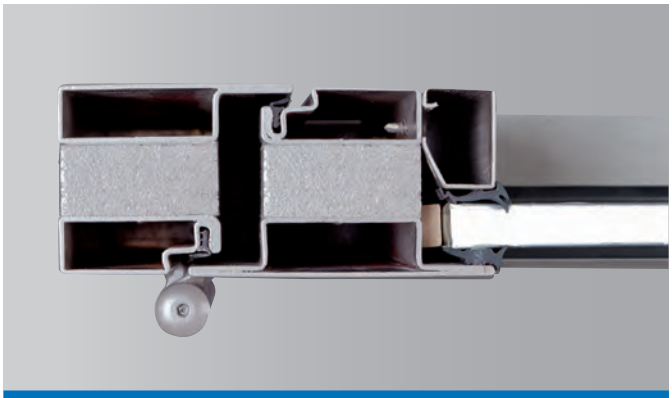
OPTIONALLY ALSO IN STAINLESS STEEL

NOVOFERM STEEL PROFILE FRAME SYSTEMS INTERNAL AND EXTERNAL SECURITY AND COMFORT

Novoferm profile frame systems made of steel are ideal components for safe and at the same time aesthetically demanding applications in the field of smoke and fire protection closures. The static properties of the basic material allow for unrivalled filigree structures with elegant, narrow face widths.

In addition to "Presto RS" for smoke protection and "Fuego light" for fire protection applications – both designed for indoor use – we also offer "Unico", a profile construction for the construction of exterior door systems. The special feature: With its innovative thermal separation, which works completely without plastic, this system is fully recyclable.

Optionally available roller belts are welded on and thus ensure special stability and good design



Closed profiles underline the high manufacturing quality

SYSTEM DESCRIPTION
"PRESTO" AND "FUEGO LIGHT"*
Door element made of galvanised precision steel tubes. The door is tested as a smoke protection door, using an automatically lowerable floor seal according to DIN 18095. Face width of frame and leaf 130 mm, plinth height 50, 70 – 420 mm, basic depth 50 mm. The leaf dimension of the inactive leaf must not be less than 500 mm for double-leaf doors. Elements prepared for push-through or welded assembly.

FITTINGS
Latch lock, prepared for profile cylinder and lever handle set with oval rosette in aluminium – stainless steel or plastic possible. Inactive leaf held as standard by the top locking of the active leaf, alternatively anti-panic function according to DIN EN 179 or DIN EN 1125 possible. Overhead door closer according to DIN EN 1154, e.g. GEZE TS 5000 / Dorma TS 93, integrated door closing systems (GEZE Boxer / Dorma ITS 96), swing door drive according to DIN 18263 / DIN 18650.

HINGES
Two 2-part steel weld-on hinges per leaf, adjustable in three dimensions; we recommend three hinges if the door is designed with a swing door drive. Other hinge variants such as screw-on hinges, roller hinges, integrated hinges possible.

SURFACE
Powder-coated, primed RAL 9002 (grey-white) or alternatively painted to finish (RAL Classic of your choice).

GLAZING
Safety glass VSG or ESG. Glazing variants and panel fillings, profiles with glazing rebate on one side and glazing beads on the opposite side of the hinge, dry glazing with EPDM seals.

FIXED GLAZING
Flush-mounted connections to the door, alternatively stand-alone possible, either bevelled or T-connections. The frame uprights must run unjointed over the entire height of the fixed glazing.

ADVANTAGES AT A GLANCE

- ✓ Smoke resistance according to DIN 18095
- ✓ Fire resistance classes T30 / F30 or T90 / F90 according to DIN 4102
- ✓ Burglar resistance according to DIN EN V1627 up to RC 3, in special versions
- ✓ Single or double-leaf smoke / fire doors can be combined with fixed elements in any muntin arrangement up to 4.0 m (F90) or 5.0 m (F30) height
- ✓ Overhead door closers, electric strikes or even anti-panic functions according to DIN EN 179 or DIN EN 1125 can be integrated
- ✓ Security needs are fulfilled professionally
- ✓ High technical functionality
- ✓ High resistance to extreme continuous stress in heavily frequented areas such as railway stations or airports

* System description "Unico" see page 27

TUBULAR FRAME DOORS WITH SPECIAL EQUIPMENT MAKE THE SMOKE AND FIRE PROTECTION FINISH MORE BEAUTIFUL

Tested smoke and fire protection is the basis, but special equipment characterizes the design. This is exactly what makes NovoFire® the series of many possibilities. Whether wood decor and haptic or tinted glass in various colors with an individual configuration the system can be integrated into any architectural concept.

FITTINGS

Latch lock, prepared for profile cylinder, lever handle or lever handle set with oval rosette in aluminium – stainless steel or plastic possible. Inactive leaf held as standard by the top locking of the active leaf, alternatively anti-panic function according to DIN EN 179 or DIN EN 1125 possible.

DESIGN WITH INNOVATIVE ELEMENTS

NovoFire® tubular frame doors offer planners and building owners the very best conditions for a skillful interplay of shapes, surfaces and materials. For example with a wood decor, which with its structured surface is almost indistinguishable from real wood.

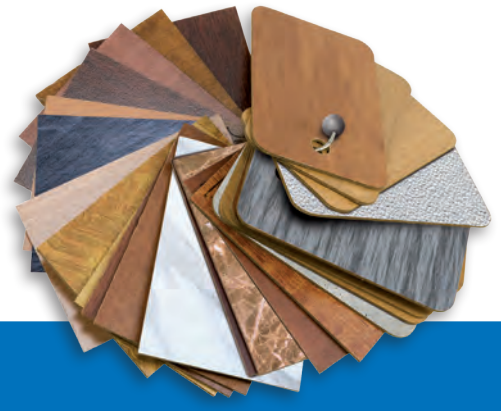
Further decors in metallic look and tinted glazing open up highly individual solutions in the spectrum between technical cool and natural noble.

HINGES

Only two 3-part roller hinges per leaf up to a door height of 2.50 m, adjustable in two dimensions; if the door is equipped with a swing door drive, we recommend three hinges. Other hinge variants such as screw-on hinges (three-dimensionally adjustable) are possible.

ATTRACTIVE SURFACES

- Anodized aluminium, stainless steel look or powder-coated finish (RAL Classic of your choice)
- Steel powder-coated, primed in RAL 9002 (grey white) or optionally with a final coat of paint (RAL Classic of your choice)
- Decorative looks and haptic of natural materials such as e.g. wood.

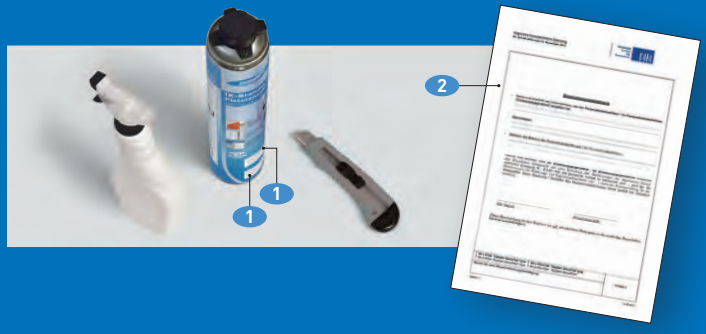


ADVANTAGES AT A GLANCE

- ✓ Single and double leaf door elements possible
- ✓ Available in the fire classes RS, T30 and T90, tested according to DIN EN 1634-1 and DIN 4102
- ✓ Doors are tested as smoke protection doors using an automatically lowerable floor seal according to DIN EN 1634-3 and DIN 18095
- ✓ Screw-on belts and roller belts for RS, T30 and also T90
- ✓ All versions have a uniformly equal face width of 150 mm
- ✓ Elements are delivered prepared for assembly

QUICK INSTALLATION OF DOORS WITH NOVOFERM FIRE PROTECTION FOAM

With Novoferm's fire protection foam, profiles and frames in metal construction and drywall construction can be backfilled much faster and cleaner. The usual previous knowledge for the installation of fire protection doors is completely sufficient for this. Documentation of the installation in conformity with the approval is very simple. For this purpose there are easily removable self-adhesive labels 1 on the foam box, which are simply stuck onto the certificate of conformity 2 and contain all the necessary information. There is no simpler, cleaner and quicker way to install fire doors today.



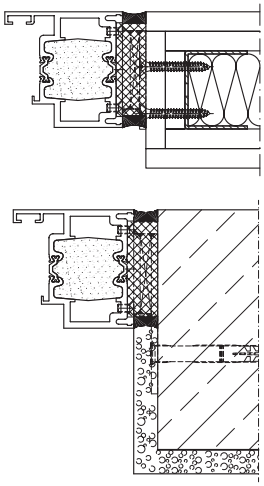
It's that simple:
Moisten the space in between ...

... Fill with fire protection foam ...

... Remove excess foam after drying ...

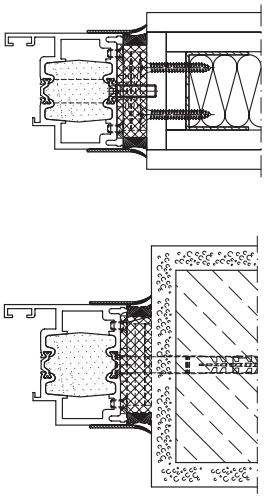
... Cover joint.

INSTALLATION IN CONCRETE, MASONRY AND ASSEMBLY WALLS



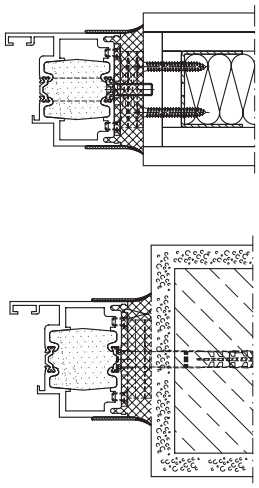
FLUSH T30 AND SMOKEPROOF

Free choice of two mounting methods:
- Through-fixing
- Welded-on assembly



T30 AND SMOKEPROOF WITH BAR

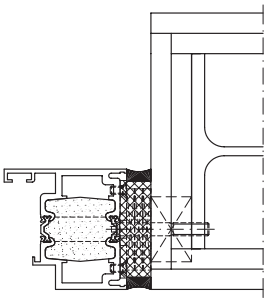
Free choice of two mounting methods:
- Through-fixing
- Welded-on assembly



T30 WITH BAR

Free choice of two mounting methods:
- Through-fixing
- Welded-on assembly

INSTALLATION ON CLADDED STEEL COLUMNS



FLUSH T30 AND SMOKEPROOF

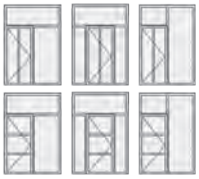
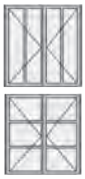
Free choice of two mounting methods:
- Through-fixing
- Welded-on assembly

ADVANTAGES AT A GLANCE

- ✓ Fire protection foam for profile frame backfill for single and double-leaf tubular frame doors
- ✓ Size range: single-leaf up to 1,563 x 3,000 mm; double-leaf up to 3,000 x 3,000 mm including side and top panels as T-elements according to approval
- ✓ Corresponds to the door types NovoFire® T30-1/-2-(RS)
- ✓ Approval no. Z-6.20.1845, tested according to the criteria of EN 1634-1, approved according to DIN 4102-5
- ✓ Smoke protection doors "System NovoFire® RS-1/2" according to AbP P-120003623-10 can be backfilled with PU or fire protection foam in all wall types (not shown)

Always seal on both sides for smoke proof version.

RS-1-DOOR, RS-2-DOOR, FIXED GLAZING "SYSTEM NOVOFIRE®"

	Resistance class Type designation			Smoke protection			
				NovoFire® Alu RS-1	NovoFire® RS-1 Combi door	NovoFire® RS-2	NovoFire® RS-Door with fixed glazing
Model	Doors and fixed elements with glazing						
	Doors can be combined with fixed elements, in any bar arrangement						
	Vertical sash bar per leaf or horizontal sash bar per leaf			1 2	1 2	1 2	arbitrary
Elements	Bevels			–	–	–	•
	Round arches			–	–	–	–
	Recesses			–	–	–	•
	Angle			–	–	–	–
	Extensions			•	•	•	•
Size	Shell dimension	width	min. – max.	624 – 1.834*	No constraints	1.500 – 3.270*	unlimited
		height	min. – max.	1.750 – 3.135*	No constraints	1.755 – 3.135*	max. 5.015[1)2)]
	Outer frame dimension	width	min. – max.	604 – 1.804*	621 – 1.821*	1.470 – 3.240*	unlimited
		height	min. – max.	1.740 – 3.120*	1.749 – 3.129*	1.740 – 3.120*	max. 5.000[1)2)]
	Clear passage with 180° opening	width	min. – max.	454 – 1.414	454 – 1.414	1.320 – 2.850	–
		height	min. – max.	1.665 – 2.925	1.665 – 2.925	1.665 – 2.925	–
Door leaf	Building depth			74	74	74	74
	View			150	159	150	75
	Plinth height			98 – 238	98 – 238	98 – 238	75 – 225
	Transom profile			98	98	98	98
	Adhesive rung			20 – 140	20 – 140	20 – 140	20 – 140
Walls	Masonry			≥ 115	≥ 115	≥ 115	≥ 115
	Concrete			≥ 100	≥ 100	≥ 100	≥ 100
	Aerated concrete block or plan blocks			≥ 175	≥ 175	≥ 175	≥ 175
	Aerated concrete slabs			≥ 150	≥ 150	≥ 150	≥ 150
	Stud walls – transoms and studs made of steel			≥ 95	≥ 95	≥ 95	≥ 95
	Stud walls – transoms and studs made of wood			≥ 105	≥ 105	≥ 105	≥ 105
	Cladded and uncladded steel component			•	•	•	•
	Cladded wooden component			•	•	•	•
	Combination door / glazing			•	•	•	•
	Z-frame			–	–	–	–
Fillings	Glazing VSG or ESG			1.302 x 2.782	1.302 x 2.782	1.302 x 2.782	•
	Panel			•	•	•	•
	Glass / Panel			•	•	•	•
	Glass insert	Wet glazing		•	•	•	•
		Dry glazing		•	•	•	•
Design variants	with skylight and side panel			•	•	•	•
	with skylight			•	•	•	•
	with side panel			•	•	•	•
	Smoke protection door according to DIN 18095 and DIN EN 1634 – Part 3			•	•	•	•
	Sound insulation version maximum $R_{w,P}$ ($R_{w,R}$)			42 (37)	–	42 (37)	–
	Burglar resistance[3)]			–	–	–	–
	Heat transmission Uf			–	–	–	–
	Test certificate/approval numbers			P-1200003623-10	P-1200003623-10	P-1200003623-10	P-1200003623-10
	Tested according to			DIN 4102 and DIN EN 1634			

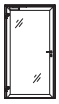
• possible – not possible
* incl. frame widening of the door left, right and in the height of 120 mm
1) according to static requirements
2) Installation of the RS-1 door or RS-2 door in the fixed glazing: We recommend a stiffening tube on the left and right of the frame profile of the fixed glazing.
H < 3,500 without stiffening tube, H < 4,000 with aluminium tube 80 x 50 x 4, H < 4,500 with aluminium tube 100 x 50 x 4, H < 5,000 with aluminium tube 120 x 50 x 4
3) Based on the "NovoFire® T30 system" possible
All dimensions in mm, RAM = outer frame dimension

T30-1-DOOR, T30-2-DOOR, F30 FIRE-RESISTANT GLAZING "SYSTEM NOVOFIRE®"

	Resistance class Type designation		T30 / F30 NovoFire® Alu T30-1	 NovoFire® T30-1 Combi door	 NovoFire® Alu T30-2	 NovoFire® F30 with T30
Model	Doors and fixed elements with glazing					
	Doors can be combined with fixed elements, in any bar arrangement					
	Vertical sash bar per leaf or horizontal sash bar per leaf		1 2	1 2	1 2	arbitrary
Elements	Bevels		–	–	–	•
	Round arches		–	–	–	–
	Recesses		–	–	–	–
	Angle		–	–	–	–
	Extensions		•	•	•	•
Size	Shell dimension	width min. – max.	–	811 – 3.312*	1.500 – 3.270*	unlimited
		height min. – max.	1.750 – 3.135*	1.915 – 3.820*	1.755 – 3.135*	max. 5.015[1] [2]
	Outer frame dimension	width min. – max.	604 – 1.803*	765 – 3.470*	1.470 – 3.240*	unlimited
		height min. – max.	1.740 – 3.120*	1.900 – 3.485*	1.740 – 3.120*	max. 5.000[1] [2]
	Clear passage with 180° opening	width min. – max.	453 – 1.412	453 – 1.412	1.319 – 2.849	–
		height min. – max.	1.665 – 2.925	1.665 – 2.625	1.665 – 2.925	–
Door leaf	Building depth		74	74	74	74
	View		150	159	150	75
	Plinth height		98 – 238	98 – 238	98 – 238	75 – 225
	Transom profile		98	98	98	98
	Adhesive rung		20 – 140	20 – 140	20 – 140	20 – 140
Walls	Masonry		≥ 115	≥ 115	≥ 115	≥ 115
	Concrete		≥ 100	≥ 100	≥ 100	≥ 100
	Aerated concrete block or plan blocks		≥ 175	≥ 175	≥ 175	≥ 175
	Aerated concrete slabs		≥ 150	≥ 150	≥ 150	≥ 150
	Stud walls – transoms and studs made of steel		≥ 95	≥ 95	≥ 95	≥ 95
	Stud walls – transoms and studs made of wood		–	–	–	–
	Cladded and uncladded steel component		•	•	•	•
	Cladded wooden component		•	•	•	•
	Combination door / glazing		•	•	•	•
	Z-frame		–	–	–	–
Fillings	Contraflam 30 – 1 / Contraflam 30 – V6 (Contraflam 30 – V22) / Contraflam 30 – V24 (Contraflam 30 – V26) / Contraflam 30 IGU	max. width x height	1.302 x 2.782 939 x 3.000 2.345 x 1.219			2.200 x 1.400 2.345 x 1.219 1.500 x 3.000
	Pyrostop Typ 30 – 1 / Pyrostop Typ 30 – 10 / Pyrostop Typ 30 – 2 / Pyrostop Typ 30 – 20 / +P2A, P4A, P6B / Pyrostop 30 – 1.Iso / Pyrostop 30 – 2.Iso	max. width x height	1.400 x 2.577 2.929 x 924			2.929 x 924 1.400 x 2.577
	Promaglas 30, Typ 1 / Promaglas 30, Typ 2 / Promaglas 30, Typ 20		1.302 x 2.782			1.302 x 2.782 2.782 x 924
	Panel		•	•	•	•
	Glass / Panel		•	•	•	•
	Glass insert	Wet glazing	•	•	•	•
		Dry glazing	•	•	•	•
Design variants	with skylight and side panel		•	•	•	•
	with skylight		•	•	•	•
	with side panel		•	•	•	•
	Smoke protection door according to DIN 18.095 and DIN EN 1.634 – Part 3 (in combination with DIN 4.102)		•	•	•	•
	Sound insulation version maximum $R_{w,P}$ ($R_{w,R}$)		40 (35)	–	40 (35)	–
	Burglar resistance		RC 1 – 3	RC 1 – 3	–	–
	Heat transmission Uf		–	–	–	–
	Test certificate/approval numbers		Z-6.20 – 1.845	Z-6.20 – 1.845 Z-19.14 – 1.769	Z-6.20 – 1.845	Z-19.14 – 1.769
	Tested according to		DIN 4.102 and DIN EN 1.634			

• possible – not possible
* incl. frame widening of the door left, right and in the height of 120 mm
1) according to static requirements
2) Installation of the RS-1 door or RS-2 door in the fixed glazing: We recommend a stiffening tube on the left and right of the frame profile of the fixed glazing.
H < 3,500 without stiffening tube, H < 4,000 with aluminium tube 80 x 50 x 4, H < 4,500 with aluminium tube 100 x 50 x 4, H < 5,000 with aluminium tube 120 x 50 x 4
3) Based on the "NovoFire® T30 system" possible
All dimensions in mm, RAM = outer frame dimension

EI30-1-DOOR AND EI30-2-DOOR, "SYSTEM NOVOFIRE® THERMO" ACC. TO EN16034

Model	Resistance class Type designation		$EI_1 30\ S_{200}$ C5 NovoFire® Thermo 1-wing		$EI_1 30\ S_{200}$ C5 NovoFire® Thermo 2-wing	
	Doors and fixed elements with glazing					
Elements	Bevels		–		–	
	Round arches		–		–	
	Recesses		–		–	
	Angle		–		–	
	Extensions		•		•	
Size	Shell dimension (Larger dimensions possible by using frame variants)	width min. – max.	720 – 1.440		1.420 – 2.840	
		height min. – max.	1.960 – 2.620		1.960 – 2.620	
	Outer frame dimension (Larger dimensions possible by using frame variants)	width min. – max.	700 – 1.400		1.400 – 2.800	
		height min. – max.	1.950 – 2.600		1.950 – 2.600	
	Clear passage with 180° opening	width min. – max.	550 – 1.250		1.270 – 2.650	
		height min. – max.	1.875 – 2.525		1.875 – 2.525	
Door leaf	Building depth		90		90	
	View		150		150	
	Plinth height		98		98	
	Adhesive rung		20 – 140		20 – 140	
Walls	Masonry		≥ 180		≥ 180	
	Concrete		≥ 180		≥ 180	
	Aerated concrete blocks or plan blocks		≥ 180		≥ 180	
	Poroton bricks		≥ 250		≥ 250	
Technical specification			Inward opening	Outward opening	Inward opening	Outward opening
	Air permeability according to DIN EN 12207		Class 3	Class 2	Class 3	Class 3
	Water tightness against driving rain according to DIN EN 12208		Class 3A	Class 4A	Class 3A	Class 4A
	Wind load resistance according to DIN EN 12210		C2/ B2	C2/ B2	C3/ B3	C3/ B3
	Operating forces according to DIN EN 12217		Class 2	Class 2	Class 2	Class 2
	Smoke tightness according to DIN EN 16034-1		S_{200}	S_{200}	S_{200}	S_{200}
Fillings	Polflam 30/ SZR16 + arg/ 6 mm ESG (Ug = 1.1 W/ m²K)		1.138 x 2.382		1.202 x 2.382	
	Test certificate/approval numbers		Tested according to EN 1634 CE marking according to EN 16034		Tested according to EN 1634 CE marking according to EN 16034	

1-WINGED NOVOFIRE® THERMO — HEAT TRANSMISSION COEFFICIENT U_D [W/M²K]

width in mm

height in mm	Basic dimensions	700	800	900	1.000	1.100	1.200	1.300	1.400
	1.800	2,2	2,1	2,0	2,0	1,9	1,9	1,8	1,8
	1.900	2,2	2,1	2,0	1,9	1,9	1,9	1,8	1,8
	2.000	2,2	2,1	2,0	1,9	1,9	1,8	1,8	1,8
	2.100	2,2	2,1	2,0	1,9	1,9	1,8	1,8	1,8
	2.200	2,2	2,1	2,0	1,9	1,9	1,8	1,8	1,8
	2.300	2,1	2,0	2,0	1,9	1,9	1,8	1,8	1,8
	2.400	2,1	2,0	2,0	1,9	1,9	1,8	1,8	1,7
	2.500	2,1	2,0	2,0	1,9	1,8	1,8	1,8	1,7
	2.600	2,1	2,0	2,0	1,9	1,8	1,8	1,8	1,7

2-WINGED NOVOFIRE® THERMO — HEAT TRANSMISSION COEFFICIENT U_D [W/M²K]

width in mm

height in mm	Basic dimensions	1.500	1.600	1.700	1.800	1.900	2.000	2.100	2.200	2.300	2.400	2.500	2.600	2.700	2.800
	1.800	2,0	2,0	1,9	1,9	1,9	1,9	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,7
	1.900	2,0	2,0	1,9	1,9	1,9	1,9	1,8	1,8	1,8	1,8	1,8	1,8	1,7	1,7
	2.000	2,0	1,9	1,9	1,9	1,9	1,8	1,8	1,8	1,8	1,8	1,8	1,7	1,7	1,7
	2.100	2,0	1,9	1,9	1,9	1,9	1,8	1,8	1,8	1,8	1,8	1,7	1,7	1,7	1,7
	2.200	2,0	1,9	1,9	1,9	1,8	1,8	1,8	1,8	1,8	1,7	1,7	1,7	1,7	1,7
	2.300	2,0	1,9	1,9	1,9	1,8	1,8	1,8	1,8	1,8	1,7	1,7	1,7	1,7	1,7
	2.400	2,0	1,9	1,9	1,9	1,8	1,8	1,8	1,8	1,7	1,7	1,7	1,7	1,7	1,7
	2.500	2,0	1,9	1,9	1,9	1,8	1,8	1,8	1,8	1,7	1,7	1,7	1,7	1,7	1,7
	2.600	2,0	1,9	1,9	1,8	1,8	1,8	1,8	1,8	1,7	1,7	1,7	1,7	1,7	1,7

All dimensions in mm. • possible – not possible

T90-1-DOOR, T90-2-DOOR, F90 FIRE RESISTANT GLAZING "SYSTEM NOVOFIRE®" (EI60-1-DOOR, EI60-2-DOOR, EI60-FIREPROOF GLAZING "SYSTEM NOVOFIRE®")

	Resistance class Type designation		T90 / F90 (EI60) NovoFire® Alu T90-1 (EI60-1)	 NovoFire® Alu T90-2 (EI60-2)	 NovoFire® F90 with T90 (EI60)
Model	Doors and fixed elements with glazing				
	Doors can be combined with fixed elements, in any bar arrangement				
	Vertical sash bar per leaf or horizontal sash bar per leaf		1 2	1 2	arbitrary
Elements	Bevels		–	–	•
	Round arches		–	–	–
	Recesses		–	–	–
	Angle		–	–	–
	Extensions		•	•	•
Size	Shell dimension	width min. – max.	624 – 1.811*	1.500 – 2.911*	unlimited
		height min. – max.	1.750 – 2.705*	1.750 – 2.705*	max. 4.015[1] [2]
	Outer frame dimension	width min. – max.	604 – 1.791*	1.470 – 2.891*	unlimited
		height min. – max.	1.740 – 2.695*	1.740 – 2.695*	max. 4.000[1] [2]
	Clear passage with 180° opening	width min. – max.	454 – 1.400	1.320 – 2.500	–
		height min. – max.	1.665 – 2.500	1.665 – 2.500	–
Door leaf	Building depth		90	90	90
	View		150	150	75
	Plinth height		98 – 238	98 – 238	75 – 225
	Transom profile		98	98	98
	Adhesive rung		20 – 140	20 – 140	20 – 140
Walls	Masonry		≥ 175	≥ 175	≥ 175
	Concrete		≥ 140	≥ 140	≥ 140
	Aerated concrete block or plan blocks		≥ 200	≥ 200	≥ 200
	Aerated concrete slabs		≥ 175	≥ 175	≥ 175
	Stud walls – transoms and studs made of steel		≥ 100	≥ 100	≥ 100
	Stud walls – transoms and studs made of wood		–	–	–
	Cladded and uncladded steel component		•	•	•
	Cladded wooden component		–	–	–
	Combination door / glazing		•	•	•
	Z-frame		–	–	–
Fillings	Contraflam 90	width x height max.	1.208 x 2.261	1.208 x 2.261	1.400 x 2.400 2.200 x 1.400
		height min. – max.	2.347 x 939		
		height (with skylight)	939 x 2.413		
	Pyrostop Typ 90-1	width x height	≤ 1.208 x ≤ 2.261	≤ 1.208 x ≤ 2.261	1.400 x 2.400 2.200 x 1.400
		height min. – max	≤ 2,44 m²	≤ 2,44 m²	
		height (with skylight)	2.347 x 939		
		width min. – max.	939 x 2.413		
	Pyrostop Typ 90-2	width x height	≤ 1.208 x ≤ 2.261	≤ 1.208 x ≤ 2.261	1.400 x 2.400 2.200 x 1.400
		width min. – max.	≤ 2,44 m²	≤ 2,44 m²	
		height min. – max	2.347 x 939		
		height (with skylight)	939 x 2.413		
	Panel		•	•	•
	Glass / Panel		•	•	•
	Glass insert	Wet glazing	•	•	•
		Dry glazing	•	•	•
Design variants	with skylight and side panel		•	•	•
	with skylight		•	•	•
	with side panel		•	•	•
	Smoke protection door according to DIN 18.095 and DIN EN 1.634 – Part 3 (in combination with DIN 4.102		•	•	•
	Sound insulation version maximum $R_{w,P}$ ($R_{w,R}$)		42 (37)	42 (37)	–
	Burglar resistance		–	–	–
	Heat transmission Uf		–	–	–
	Test certificate/approval numbers		Z-6.20-1836 (EI60/ EN 16034)	Z-6.20-1836 (EI60/ EN 16034)	Z-19.14-1771 (EI60/ EN 16034)
	Tested according to		DIN 4102 and DIN EN 1634		

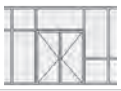
• possible – not possible

* incl. frame widening of the door left, right and in the height of 120 mm

1) according to static requirements 2) Installation of the RS-1 door or RS-2 door in the fixed glazing: We recommend a stiffening tube on the left and right side of the frame profile of the fixed glazing. H ≤ 3.500 without stiffening tube, H ≤ 4.000 with aluminium tube 80 x 50 x 4, H ≤ 4.500 with aluminium tube 100 x 50 x 4, H ≤ 5.000 with aluminium tube 120 x 50 x 4

All dimensions in mm, RAM = outer frame dimension

HEAT INSULATED EXTERNAL ALUMINIUM FINISHES, WITH LARGE AREA GLAZING

	Resistance class Type designation		Thermally-insulated exterior seals 1-wing door	 2-wing door	 Thermally insulated
Model	Doors and fixed elements with glazing				
	Doors can be combined with fixed elements, in any bar arrangement				
	Vertical sash bar per leaf or horizontal sash bar per leaf		1 2	1 2	arbitrary
Elements	Bevels		–	–	•
	Round arches		–	–	•
	Recesses		–	–	–
	Angle		–	–	•
	Extensions		•	•	•
Size	Shell dimension	width min. – max.	625 – 1.450	1.500 – 2.400	unlimited
		height min. – max.	1.750 – 2.505	1.740 – 2.400	5.000[1]
	Outer frame dimension[3]	width min. – max.	605 – 1.425	1.470 – 2.395	unlimited
		height min. – max.	1.740 – 2.495	1.740 – 2.385	5.000[1]
	Clear passage with 180° opening	width min. – max.	461 – 1.281	1.322 – 2.247	–
		height min. – max.	1.668 – 2.417	1.668 – 2.313	–
Door leaf	Building depth		75	75	75
	View		149	149	74
	Plinth height		152	152	176
	Transom profile		76 – 96	76 – 96	76 – 96
	Adhesive rung		20 – 140	20 – 140	20 – 140
Walls	Masonry		•	•	•
	Concrete		•	•	•
	Aerated concrete block or plan blocks		•	•	•
	Aerated concrete slabs		•	•	•
	Stud walls – transoms and studs made of steel		•	•	•
	Cladded and uncladded steel component		•	•	•
	Cladded wooden component		•	•	•
	Combination door / glazing		•	•	•
	Z-frame		–	–	–
Fillings	Glazing thickness [4]		24 – 52 mm		
	Panel		•	•	•
	Glass / Panel		•	•	•
	Glass insert	Wet glazing	–	–	–
		Dry glazing	•	•	•
Design variants	with skylight and side panel		•	•	•
	with skylight		•	•	•
	with side panel		•	•	•
	Joint permeability Class		4	4	4
	Water tightness against driving rain Class		up to 6A	up to 6 A	–
	Sound insulation		40 dB	40 dB	40 dB
	Burglar resistance		WK 2	WK 2	–
	Heat transmission Uf		1,3 – 1,9 W/m²K	1,3 – 1,9 W/m²K	1,3 – 1,9 W/m²K
	CE identification according to EN 14351-1		•	•	•
	Tested according to		DIN 4102 and DIN EN 1634		

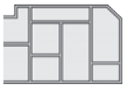
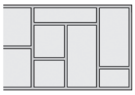
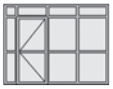
• possible – not possible
1) according to static requirements 2) no facade, no turn/tilt windows
3) Other sizes possible 4) All commercially available lenses are available
All dimensions in mm, RAM = outer frame dimension

GLAZING WITHOUT SASH BARS, “SYSTEM NOVOFIRE® GLASS 30”

	Resistance class Type designation		F30 NovoFire® Glass 30/23	 NovoFire® Glass 30/28
Model	Fixed elements			
	Fixed elements can be combined with doors			
Elements	Bevels		–	–
	Round arches		–	–
	Recesses		•	•
	Corner formation in relation to the floor plan		90°	–
	Extensions		•	•
Size	Shell dimension	width	unlimited	unlimited
		height max.	3.350 incl. enlargement	3.850 incl. enlargement
	Outer frame dimension	width	unlimited	unlimited
		height min. – max.	3.113	3.613
	Pane size	width min. – max.	575 – 1.500	575 – 1.800
		height max.	3.000	3.500
Frame	Building depth		75	75
	Face width of frame profile		75	75
	Butt joint width		4 ± 1	4 ± 1
	Adhesive rung / Transom profile		not required	not required
Walls	Masonry		•	•
	Concrete		•	•
	Aerated concrete block or plan blocks		•	•
	Aerated concrete slabs		•	•
	Stud walls only lateral		•	•
	cladded steel component		•	•
	cladded wooden component		•	•
	Combination door / glazing		•	•
Fillings	Glazing thickness		23 – 28	23 – 60
	Glass		•	•
	Glass insert	Wet glazing	•	•
		Dry glazing	•	•
Combination with doors	NovoFire T30-1 u. T30-1 RS Approval: Z-6.20-1845 always with top locking		•	•
	NovoFire T30-2 u. T30-2 RS Approval: Z-6.20-1845 Active and inactive leaves with top locking			
	Test certificate/approval numbers		Z-19.14-2392	Z-19.14-2392
	Tested according to		DIN 4102	

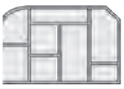
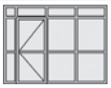
• possible – not possible All dimensions in mm

RS-1-DOOR, RS-2-DOOR, FIXED GLAZING "FORSTER PRESTO"

	Resistance class Type designation		Smoke protection Presto RS-1	 Presto RS-2	 Presto Glazing wall	G30 Presto G30
Model	Doors and fixed elements with glazing					
	Doors can be combined with fixed elements, in any bar arrangement					
	Vertical sash bar per leaf or horizontal sash bar per leaf		1 2	1 2	1 2	arbitrary
Elements	Bevels		–	–	•	–
	Round arches		–	–	•	–
	Recesses		–	–	•	–
	Angle		–	–	•	–
	Extensions		•	•	•	–
Size	Shell dimension	width min. – max.	610 – 1.570	1.610 – 2.970	unlimited[1]	unlimited[1]
		height min. – max.	1.745 – 3.085	1.745 – 3.085	unlimited[1]	3.515
		Höhe (mit Oberlicht)	unlimited[1]	unlimited[1]	–	–
	Outer frame dimension	width min. – max.	580 – 1.540	1.580 – 2.940	unlimited[1]	unlimited[1]
		height min. – max.	1.730 – 3.070	1.730 – 3.070	unlimited[1]	3.500
		Höhe (mit Oberlicht)	unlimited[1]	unlimited[1]	–	–
	Clear passage with 180° opening	width min. – max.	440 – 1.400	1.440 – 2.800	–	–
		height min. – max.	1.660 – 3.000	1.660 – 3.000	–	–
Door leaf	Building depth		50	50	50	50
	View		130	130 / 150	70 / 90	70 / 90
	Plinth height		70, 90, 140 – 440	70, 90, 140 – 440	70, 90, 140 – 440	70, 90
	Transom profile		90	90	90	90
	Adhesive rung		30, 50 (up to 400)	30, 50 (up to 400)	30, 50 (up to 400)	–
Walls	Masonry		≥ 115	≥ 115	≥ 115	≥ 115
	Concrete		≥ 100	≥ 100	≥ 100	≥ 100
	Aerated concrete block or plan blocks		≥ 150	≥ 150	≥ 150	–
	Aerated concrete slabs		≥ 150	≥ 150	≥ 150	–
	Stud walls – transoms and studs made of steel		≥ 100	≥ 100	≥ 100	≥ 100
	Stud walls – transoms and studs made of wood		≥ 100	≥ 100	≥ 100	≥ 100
	Cladded steel component		•	•	•	•
	Cladded wooden component		•	•	•	–
	Combination door / glazing		•	•	•	–
	Z-frame		•	•	–	–
Fillings	Glass thickness ≥ 5 mm max. width x height		Door size	Door size	unlimited[1]	–
	G30 glass of your choice max. width x height		•	•	•	1.000 x 2.000 2.000 x 1.000
	Pyran S (G30) max. width x height		•	•	•	1.000 x 2.000 2.000 x 1.000
	Panel		•	•	•	–
	Glass / Panel		•	•	•	–
	Glass insert	Wet glazing	•	•	•	•
		Dry glazing	•	•	•	–
Design variants	with skylight and side panel		unlimited[1]	unlimited[1]	–	–
	with skylight		unlimited[1]	unlimited[1]	–	–
	with side panel		unlimited[1]	unlimited[1]	–	–
	Smoke protection door according to DIN 18.095 and DIN EN 1.634 – Part 3 (in combination with DIN 4.102)		•	•	•	–
	Sound insulation version maximum $R_{w,P}$ ($R_{w,R}$)		–	–	–	–
	Burglar resistance		–	–	–	–
	Heat transmission Uf		–	–	–	–
	Test certificate/approval numbers		P12000403-01	P12000403-02	–	Z-19.14-508
	Tested according to		DIN 4102 and DIN EN 1634			

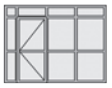
• possible – not possible
1) according to static requirements
All dimensions in mm, RAM = outer frame dimension

T30-1-DOOR, T30-2-DOOR, FIXED GLAZING F30 "FORSTER FUEGO LIGHT T30 / F30"

	Resistance class Type designation		T30 / F30 Fuego light T30-1	 Fuego light T30-2	 Fuego light F30
Model	Doors and fixed elements with glazing				
	Doors can be combined with fixed elements, in any bar arrangement				
	Vertical sash bar per leaf or horizontal sash bar per leaf		2 5	2 5	arbitrary
Elements	Bevels		–	–	•
	Round arches		–	–	•
	Recesses		–	–	–
	Angle		–	–	•
	Extensions		•	•	•
Size	Shell dimension	width min. – max.	680 – 2.216	1.380 – 3.450	unlimited[1]
		height min. – max.	1.715 – 3.510	1.715 – 3.330	4.515
		height (with skylight)	1.815 – 4.530	1.715 – 4.510	–
	Outer frame dimension[3]	width min. – max.	660 – 2.196	1.360 – 3.430	unlimited[1]
		height min. – max.	1.705 – 3.500	1.705 – 3.300	4.500
		height (with skylight)	1.805 – 4.500	1.705 – 4.500	–
	Clear passage with 180° opening	width min. – max.	560 – 1.596	1.260 – 2.830	–
		height min. – max.	1.655 – 3.335	1.655 – 3.000	–
Door leaf	Building depth		65	65	65
	View		130	130/150	70/90
	Plinth height		90, 140 – 340	90, 140 – 340	90, 140 – 340
	Transom profile		90	90	90
	Adhesive rung		30, 50 (up to 200)	30, 50 (up to 200)	30, 50 (up to 200)
Walls	Masonry		≥ 1.15[2]	≥ 1.15[2]	≥ 115
	Concrete		≥ 1.00[3]	≥ 1.00[3]	≥ 100
	Aerated concrete block or plan blocks		≥ 1.50[4]	≥ 1.50[4]	≥ 150
	Aerated concrete slabs		≥ 1.50[4]	≥ 1.50[4]	≥ 150
	Stud walls – transoms and studs made of steel		≥ 1.00[5]	≥ 1.00[5]	≥ 100
	Stud walls – transoms and studs made of wood		–	–	–
	Cladded steel component		•	•	•
	Cladded wooden component		–	–	–
	Combination door / glazing		•	•	•
	Z-frame		•	•	–
Fillings	Pyrostop 30-1x max. width x height		1.400 x 2.400 2.400 x 1.400	1.401 x 2.400 2.400 x 1.400	1.402 x 2.400 2.400 x 1.400
	Pyrostop 30-2x; 30-101 max. width x height		1.400 x 2.864	1.401 x 2.864	1.402 x 2.864
	Panel, max. width x height		1.400 x 2.400	1.401 x 2.400	1.402 x 2.400
	Glass/Panel		•	•	•
	Glass insert	Wet glazing	•	•	•
		Dry glazing	•	•	•
Design variants	with skylight and side panel		•	•	–
	with skylight		•	•	–
	with side panel		•	•	–
	Smoke protection door according to DIN 18.095 and DIN EN 1.634 – Part 3 (in combination with DIN 4.102)		•	•	–
	Sound insulation version maximum $R_{w,P}$ ($R_{w,R}$)		–	–	–
	Burglar resistance		–	–	–
	Heat transmission Uf		–	–	–
	Test certificate/approval numbers		Z-6.20-1873	Z-6.20-1873	Z-19.14-1382
	Tested according to		DIN 4102 and DIN EN 1634		

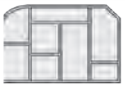
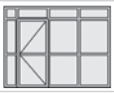
• possible – not possible
1) according to static requirements 2) up to RAM 4,500 x 3,500 with fanlight and side panel, for masonry ≥ 240 Height = 4,500 only with fanlight
3) up to RAM 4,500 x 3,500 with fanlight and side panel, for concrete ≥ 140 Height = 4,500 only with fanlight
4) up to RAM 2.970 x 3.070 with / without skylight and side panel, for cellular concrete ≥ 175 RAM = 2.970 x 3.500, ≥ 200 RAM = 4.500 x 3.500 and height = 4.500 only with skylight
5) up to height 3.500 with UA-profile, up to height 4.500 with 50 x 50 x 3 steel hollow profile
All dimensions in mm, RAM = outer frame dimension

T90-1-DOOR, T90-2-DOOR, FIXED GLAZING F90 "FORSTER FUEGO LIGHT T90 / F90"

	Resistance class Type designation		T90 / F90 Fuego light T90-1	 Fuego light T90-2	 Fuego light F90
Model	Doors and fixed elements with glazing				
	Doors can be combined with fixed elements, in any bar arrangement				
	Vertical sash bar per leaf or horizontal sash bar per leaf		1 2	1 2	arbitrary
Elements	Bevels		–	–	•
	Round arches		–	–	•
	Recesses		–	–	•
	Angle		–	–	•
	Extensions		•	•	•
Size	Shell dimension	width min. – max.	740 – 1.620	1.440 – 3.050	unlimited[1]
		height min. – max.	1.745 – 3.250	1.745 – 2.850	4.020
		height (with skylight)	1.845 – 4.020	1.855 – 4.020	–
	Outer frame dimension[3]	width min. – max.	700 – 1.590	1.400 – 3.030	unlimited[1]
		height min. – max.	1.725 – 3.230	1.725 – 2.840	4.000
		height (with skylight)	1.845 – 4.000	1.845 – 4.000	–
	Clear passage with 180° opening	width min. – max.	560 – 1.450	1.260 – 2.350	–
		height min. – max.	1.655 – 2.890	1.665 – 2.500	–
Door leaf	Building depth		70	65	65
	View		130	130 / 150	70 / 90
	Plinth height		90, 140 – 340	90, 140 – 340	90, 140 – 340
	Transom profile		90	90	90
	Adhesive rung		30, 50 (up to 200)	30, 50 (up to 200)	30, 50 (up to 200)
Walls	Masonry		≥ 1.75[2]	≥ 1.75[2]	≥ 175[2]
	Concrete		≥ 1.40[3]	≥ 1.40[3]	≥ 140[3]
	Aerated concrete block or plan blocks		≥ 2.40[3]	≥ 2.40[3]	≥ 240[3]
	Aerated concrete slabs		≥ 2.40[3]	≥ 2.40[3]	≥ 240[3]
	Stud walls – transoms and studs made of steel		≥ 1.00[3] [4]	≥ 1.00[4]	≥ 100[4]
	Stud walls – transoms and studs made of wood		–	–	–
	Cladded steel component		•	•	•
	Cladded wooden component		–	–	–
	Combination door / glazing		•	•	•
	Z-frame		–	–	–
Fillings	Pyrostop 90-102 max. width x height		1.304 x 2.364 2.364 x 1.304	1.304 x 2.364 2.364 x 1.304	1.350 x 2.800 2.350 x 1.400
	Panel, max. width x height		1.064 x 2.184	1.064 x 2.184	1.305 x 2.185
	Glass / Panel		•	•	•
	Glass insert	Wet glazing	•	•	•
		Dry glazing	–	–	–
Design variants	with skylight and side panel		•	•	–
	with skylight		•	•	–
	with side panel		•	•	–
	Smoke protection door according to DIN 18.095 and DIN EN 1.634 – Part 3 (in combination with DIN 4.102)		•	•	–
	Sound insulation version maximum $R_{w,P}$ ($R_{w,R}$)		-	-	–
	Burglar resistance		-	-	–
	Heat transmission Uf		–	–	–
	Test certificate/approval numbers		Z-6.20-1881	Z-6.20-1881	Z-19.14-1973
	Tested according to		DIN 4102 and DIN EN 1634		

• possible – not possible
1) according to static requirements 2) up to RAM 2,400 x 2,600 with skylight and side panel, for masonry ≥ 240 RAM up to 4,500 x 3,500, up to height 4,000 only with skylight
3) up to RAM 4.500 x 3.500 with fanlight and side panel, up to height = 4.000 only with fanlight 4) Hollow steel profile min. 50 x 50 x 4 required
All dimensions in mm, RAM = frame outer dimensions

HEAT-INSULATED EXTERNAL STEEL FINISHES, WITH LARGE AREA GLAZING

	Resistance class Type designation		Thermally-insulated exterior seals 1-wing door	2-wing door	Glazing[2] thermally insulated
Model	Doors and fixed elements with glazing				
	Doors can be combined with fixed elements, in any bar arrangement				
	Vertical sash bar per leaf or horizontal sash bar per leaf		1 2	1 2	arbitrary
Elements	Bevels		–	–	•
	Round arches		–	–	•
	Recesses		–	–	•
	Angle		–	–	•
	Extensions		•	•	•
Size	Shell dimension	width min. – max.	6.300 – 1.530	1.500 – 2.400	unlimited[1]
		height min. – max.	1.765 – 3.015	1.740 – 2.400	5.000[1]
	Outer frame dimension[3]	width min. – max.	600 – 1.500	1.400 – 3.000	unlimited[1]
		height min. – max.	1.750 – 3.000	1.750 – 3.000	5.000[1]
	Clear passage with 180° opening	width min. – max.	460 – 1.360	1.260 – 2.860	–
		height min. – max.	1.680 – 2.930	1.680 – 2.930	–
Door leaf	Building depth		65	65	65
	View		130	130 / 150	70 / 90
	Plinth height		70, 90, 140 – 340	70, 90, 140 – 340	70, 90, 140 – 340
	Transom profile		90	90	90
	Adhesive rung		30, 50 (up to 400)	30, 50 (up to 400)	30, 50 (up to 400)
Walls	Masonry		•	•	•
	Concrete		•	•	•
	Aerated concrete block or plan blocks		•	•	•
	Aerated concrete slabs		•	•	•
	stud walls		•	•	•
	cladded steel component		•	•	•
	Cladded wooden component		•	•	•
	Combination door / glazing		•	•	•
	Z-frame		–	–	–
Fillings	Glazing thickness[4]		20 – 54mm		
	Panel		•	•	•
	Glass / Panel		•	•	•
	Glass insert	Wet glazing	–	–	–
		Dry glazing	•	•	•
Design variants	with skylight and side panel		•	•	•
	with skylight		•	•	•
	with side panel		•	•	•
	Joint permeability Class		4	4	4
	Driving rain resistance Class		up to 5A	up to 5A	–
	Sound insulation		47 dB	47 dB	47 dB
	Burglar resistance		WK 1-3	WK 1-3	–
	Heat transmission Uf		> 1,4 – 1,9 W/m²K	> 1,4 – 1,9 W/m²K	> 1,4 – 1,9 W/m²K
	CE marking according to EN 14351-1		•	•	•
	Tested according to		DIN 4102 and DIN EN 1634		

• possible – not possible
1) according to static requirements 2) no facade, no turn/tilt windows
3) Other sizes possible 4) All commercially available lenses are available
All dimensions in mm, RAM = outer frame dimension

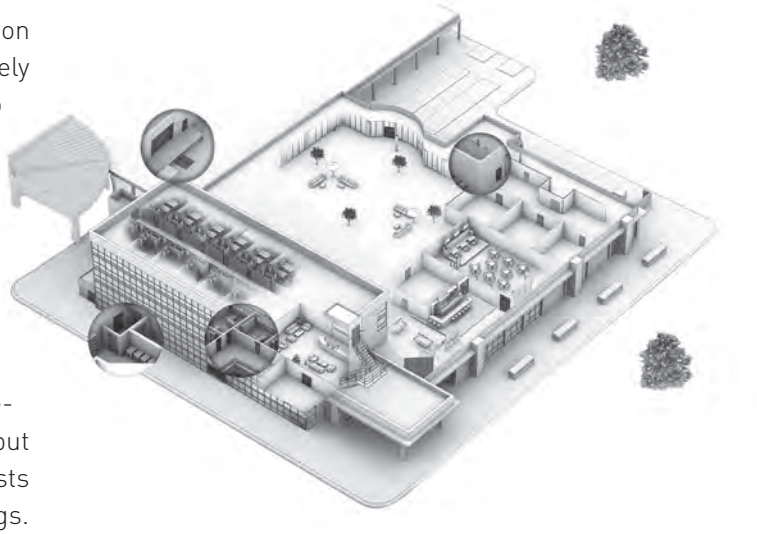
SYSTEM DESCRIPTION "UNICO"

The basic profiles are made of 100% recyclable steel and do not contain plastic insulators – which is different from conventional insulated systems. Due to this supporting structure geometry, the constructions achieve the best static values and can easily keep up with the insulation values of insulated profile series commonly used today.

SOLUTIONS & REFERENCES

HOTEL BUILDINGS

In hotels, the focus of building planning is not only on the working practice but also on comfort and a homely atmosphere for the guests. With doors, it is important to master the balancing act between a warm welcome and a recognizably high security concept. In addition, the guest usually has only limited knowledge of the location. The right door technology takes account of both: the need for separation and security as well as self-explanatory routing and easy orientation.

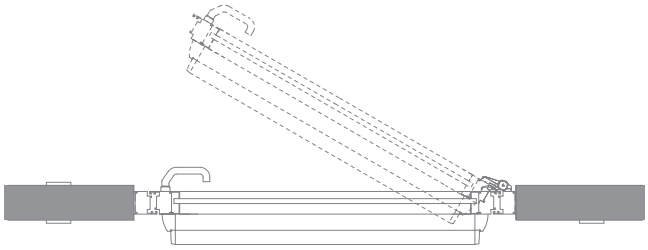


For hotels, access via the garage is also common. Therefore, this way must fulfill a representative purpose, but also meet the requirements of safety and usability. Guests arriving and departing transport suitcases and bags. An automatic opening and closing of the doors should therefore be part of the standard. Via various devices, such as card readers or keypads, access to the hotel can be controlled easily and safely. By installing panic locks and panic bars, every door can be used as an escape route.

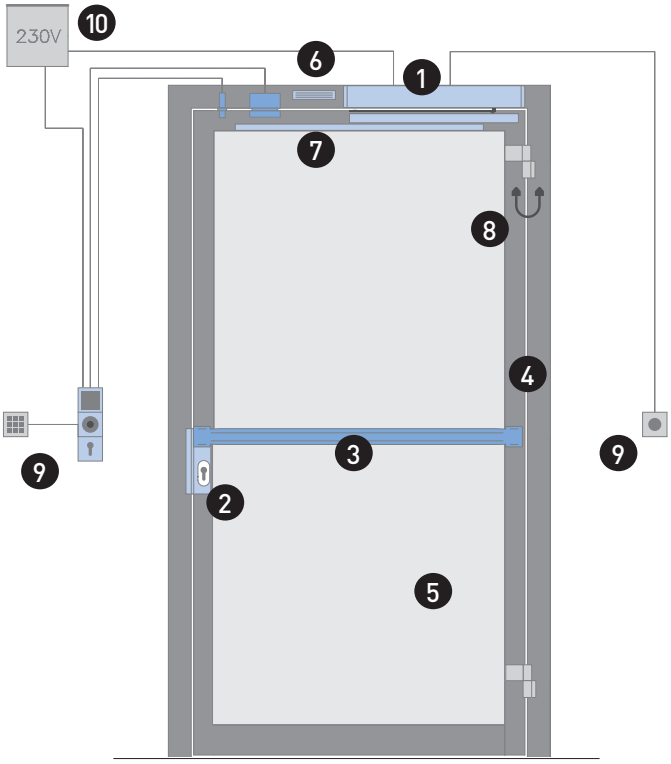
SOLUTION EXAMPLE
SEMI-PUBLIC UNDERGROUND CAR PARK IN HOTEL

Door type: tubular frame door with swing door operator, suitable as an escape route, barrier-free, fire and smoke protection

The door can always be opened via the panic bar handle.



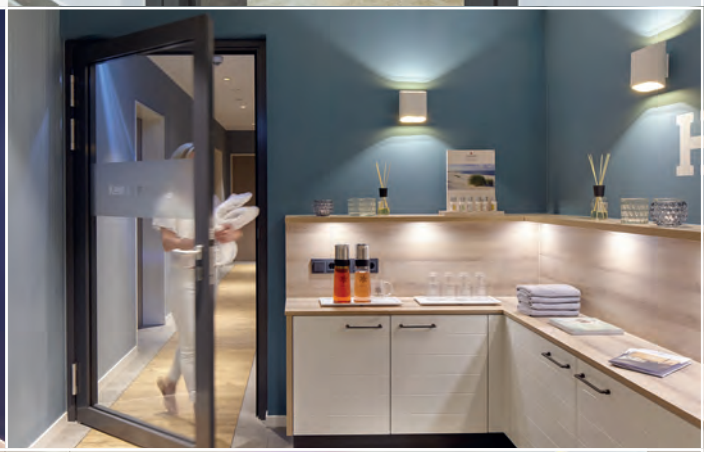
1. Single-wing rotary wing drive
2. Anti-panic lock
3. Panic push bar
4. Magnetic contact
5. Holding magnet
6. Smoke detector
7. Sensor bar
8. Cable junction
9. Control of the door
   - Keypad
   - Escape control terminal
   - Proximity sensor for automatic opening control
10. Control system



ABSTRACT FROM OUR REFERENCE LIST

HOTELS

Lighthouse Hotel & Spa, Büsum
Holiday Inn Hotel am Alando Palais, Osnabrück
Klosterhof – Alpine Hideaway & Spa, Bayerisch Gmain
Hotel Schwabinger Wahrheit, München
Soller Business Hotel, Halbergmoos
Panorama Hotel, Waldenburg
Küstenperle Strandhotel & Spa, Büsum
Hotel Krønasår – Europa Park, Rust
Adina Apartment Hotel, Leipzig
the niu Timber Hotel, Esslingen
Steigenberger Hotel, München
BMW-Hotel, München
HARBR. hotel Heilbronn
Hotel Schelf, Büsum
URBAN LOFT, Köln
Motel One, Bonn
Motel One, Berlin




RECEPTION

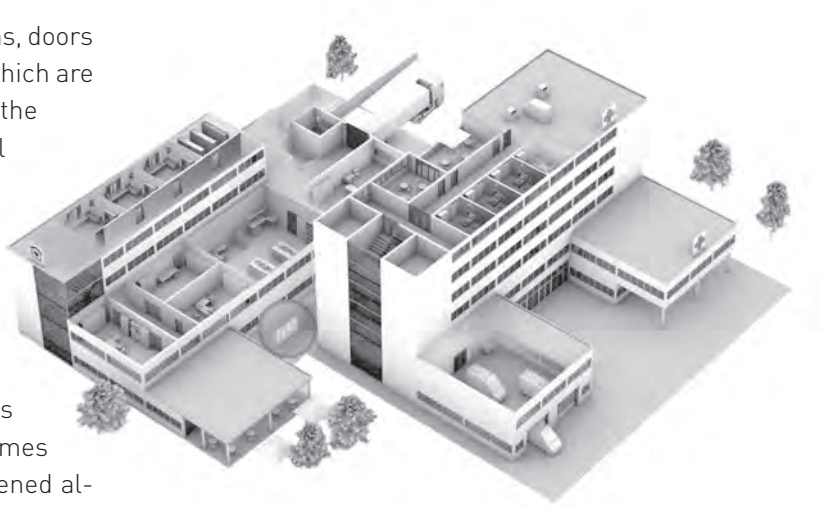

Herzlich willkommen im
Klosterhof


HOTEL

SOLUTIONS & REFERENCES

HEALTH CARE

In hospitals, nursing homes and similar institutions, doors have to meet a variety of requirements, some of which are contradictory. In addition to barrier-free access, the focus is on security and access control as well as building management. As a rule, double-leaf doors are used here, which can be controlled very variably by automatic swing door drives. They thus offer great comfort for the users and at the same time a high degree of security.

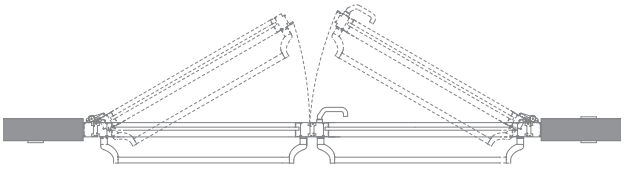


Double-leaf ward doors are advanced door systems in which large masses have to be moved, sometimes in close cycles. During the day, the doors are opened almost non-stop by patients, nursing staff, visitors or for bed transport. At night, access should be controllable for individual groups of people. The demands as panic and escape routes are also high, as in an emergency case, it may be necessary to evacuate people with physical and mental disabilities. This is the reason for the high demands on barrier-free access: the door must be safe and at the same time easy to open.

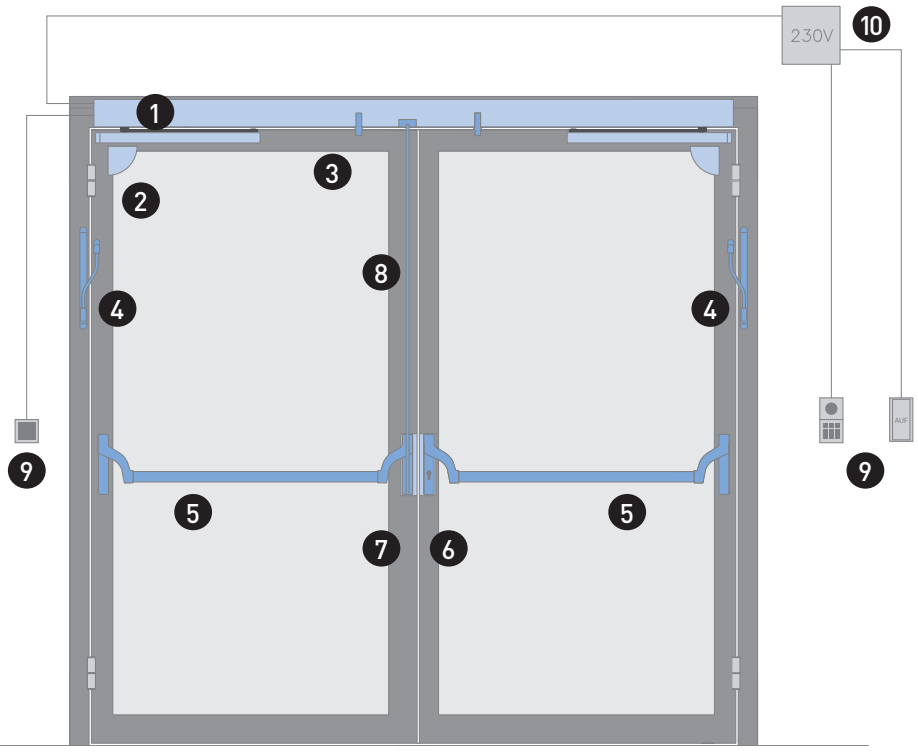
SOLUTION EXAMPLE
HOSPITAL WARD DOOR

Door type: Tubular frame door with swing door operator, monitored with day alarm, suitable for escape routes, barrier-free, fire and smoke protection.

The door can always be opened via the panic bar handle, an alarm is triggered when the door is locked.



1. Door Drive
2. Flatscan for securing the closing edges
3. Magnetic contacts
4. Cable transitions
5. Panic bar handle
6. Anti-panic lock
7. Counter box with E-opener
8. Espagnolette with E-opener on the latch bolt
9. Control of the door
   - Door closing button
   - Keypad / card reader
   - Large Area Scanner
   - Ceiling Radar
10. Control



ABSTRACT FROM OUR REFERENCE LIST

HEALTH CARE

Charité Universitätsmedizin Berlin
University Hospital Hamburg-Eppendorf
TRIANGULUM T2 Medical Centre, Gelnhausen
Gesundheitszentrum Godesberger Allee, Bonn
Medical Supply Centre Walsrode
CANDIS® Medical Centre II, Regensburg
Agaplesion Bethesda Klinikum Ulm
St. Josefs Hospital Wiesbaden
Klinikum Dritter Orden, München
Sana Klinik, München-Sendling
Asklepios Kliniken Hamburg
MedicalCube Rosenheim


Brandschutztür
geschlossen halten


sana


Kein Zugang

SOLUTIONS & REFERENCES

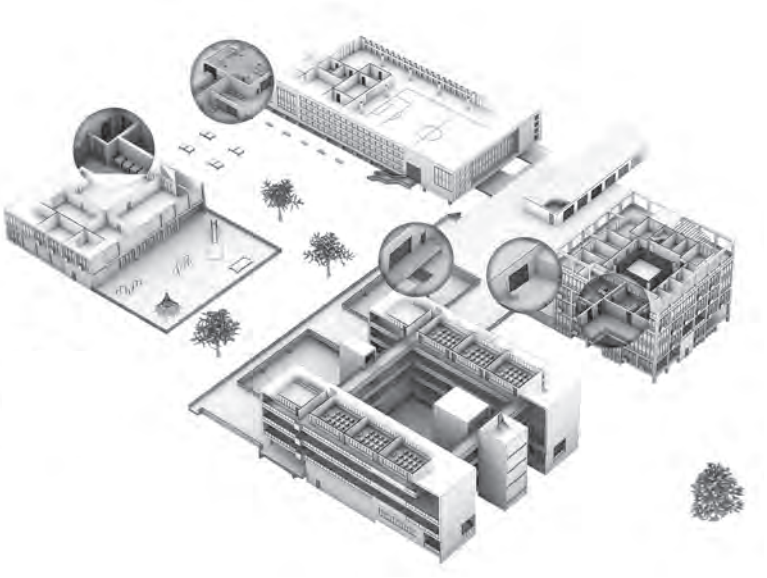
DAY CARE CENTRES & EDUCATION

High demands are rightly placed on the doors of schools and child day-care centers. These facilities must enjoy special protection. The demands on safety, accessibility and robustness of the doors are high.

Let's look at the entrance door of day-care centers, for example. On the one hand, children must never be able to leave the facility unnoticed while it is in operation; on the other hand, in an emergency, escape for all without outside help must be ensured.

There are various possible solutions for this. On the one hand, the door can be equipped with two lever handles and a one-hand door guard. Or you can choose a lever handle in combination with a panic bar with electrical pre-alarm. In this case, the locks are mechanically connected to each other via a connecting rod.

In daily use, the door is opened via the top door handle (mounting height approx. 1.50 m), which is only accessible



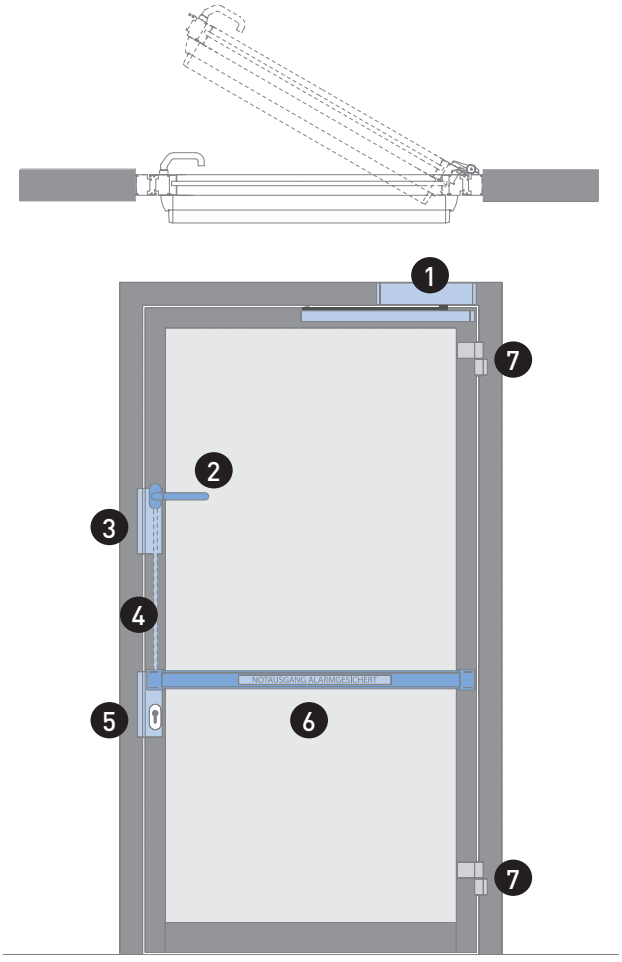
to adults. This enables passage without triggering a signal that would signal unauthorized leaving. In case of panic – children can open the door using the bottom lever handle or the panic bar – an alarm sounds.

SOLUTION EXAMPLE
DOOR TO SECURE DAY CARE CENTRES

Door type: Tubular frame door with overhead door closer, monitored with day alarm, suitable for escape routes, barrier-free, fire and smoke protection

The door can always be opened via the panic bar handle, an alarm is triggered when the door is locked.

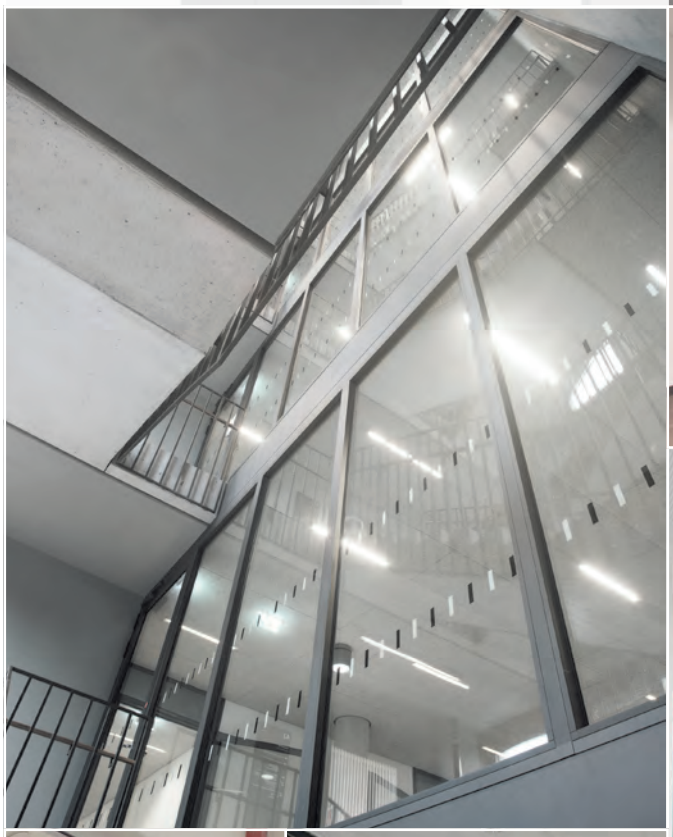
1. Upper door closer
2. Lever handle (1,50 m)
3. Deflection lock
4. Connecting rod
5. Anti-panic mortise lock
6. Gfs e-Bar on 900 mm as door guard
7. Door hinges



ABSTRACT FROM OUR REFERENCE LIST

DAY CARE CENTRES & EDUCATION

Day Care Centre "Treasure Island", Erlenbach
ahfs Christian District School Hamburg-Bergedorf
State Fire Brigade School, Würzburg
Vocational School St. Pauli, Hamburg
Catholic High School Aachen
Music School of the City of Aachen
element-i Education House Karlsruhe
AVZ University of Siegen
University of Applied Sciences Bielefeld

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Library

SOLUTIONS & REFERENCES

OFFICE & ADMINISTRATION

Employees spend a large part of their day in the office or in administrative buildings, and in many cases customers are also welcomed. Therefore, both the design and functionality of the passageways in these buildings are particularly important. Door systems control, among other things, access rights and can play an important role in orientation in the building if they are designed with professional competence. Last but not least, fire protection must be taken into account when planning doors in order to protect human life as well as material assets in the building.

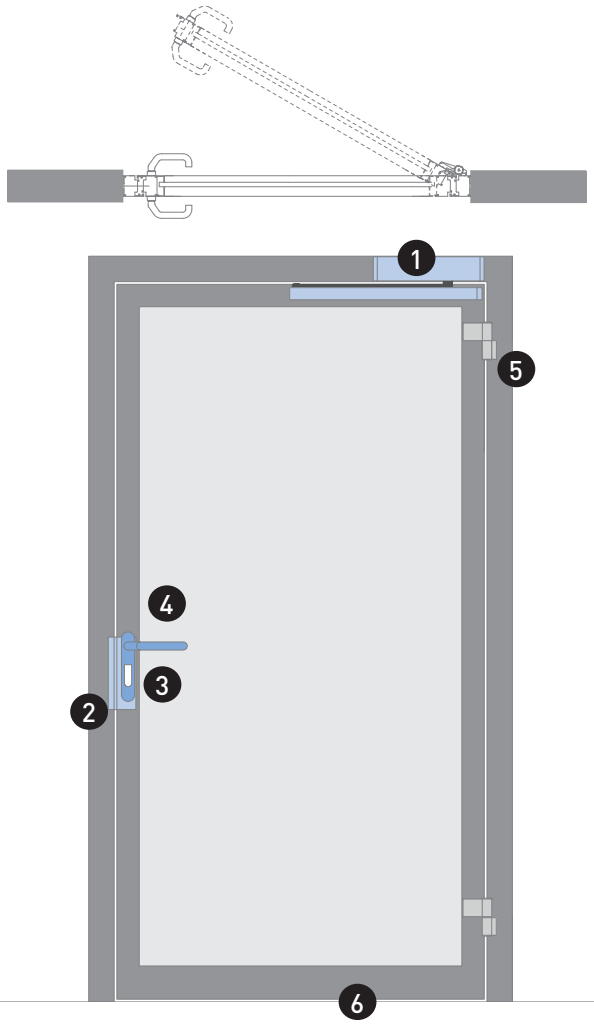
Modern office architecture is oriented towards the user and his requirements for a motivating environment. Atmosphere and a good design of the working, communication and recreational areas contribute considerably to the well-being and performance of the employees.

For example, a uniform appearance of the building elements conveys a feeling of structure and belonging. Flush design ensures that doors are of high quality down to the smallest detail. Transparent room dividers and generous glass surfaces support mobile work processes and promote communication. The skillful selection of colours and surfaces also creates stimulating or rather calming moods, depending on requirements. In this context, good design and a pleasant atmosphere are considered success factors in networked working environments with increasingly agile and multifunctional structures.

SOLUTION EXAMPLE
SECURED DOOR IN THE OFFICE

Door type: Tubular frame door with overhead door closer, emergency exit, fire and smoke protection

Equipped with a digital locking system
to control access authorization.



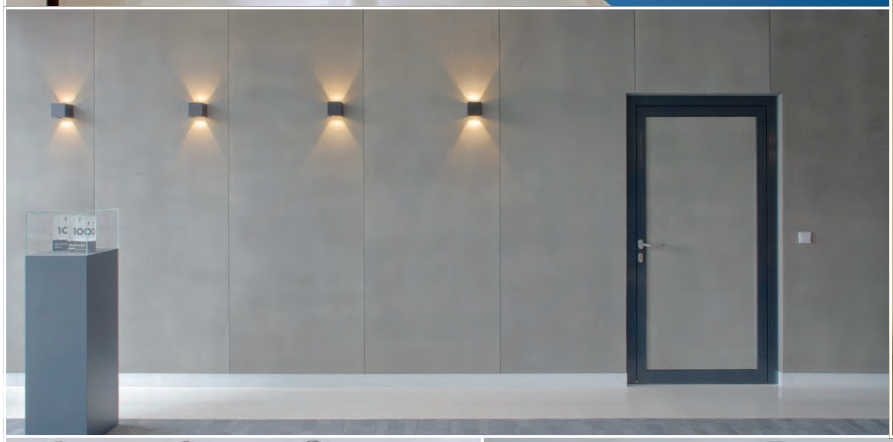
1. Upper door close
2. Anti-panic lock
3. Digital locking system
4. Door handle according to EN 1179
5. Door hinges
6. Lowerable floor seal for smoke and sound insulation

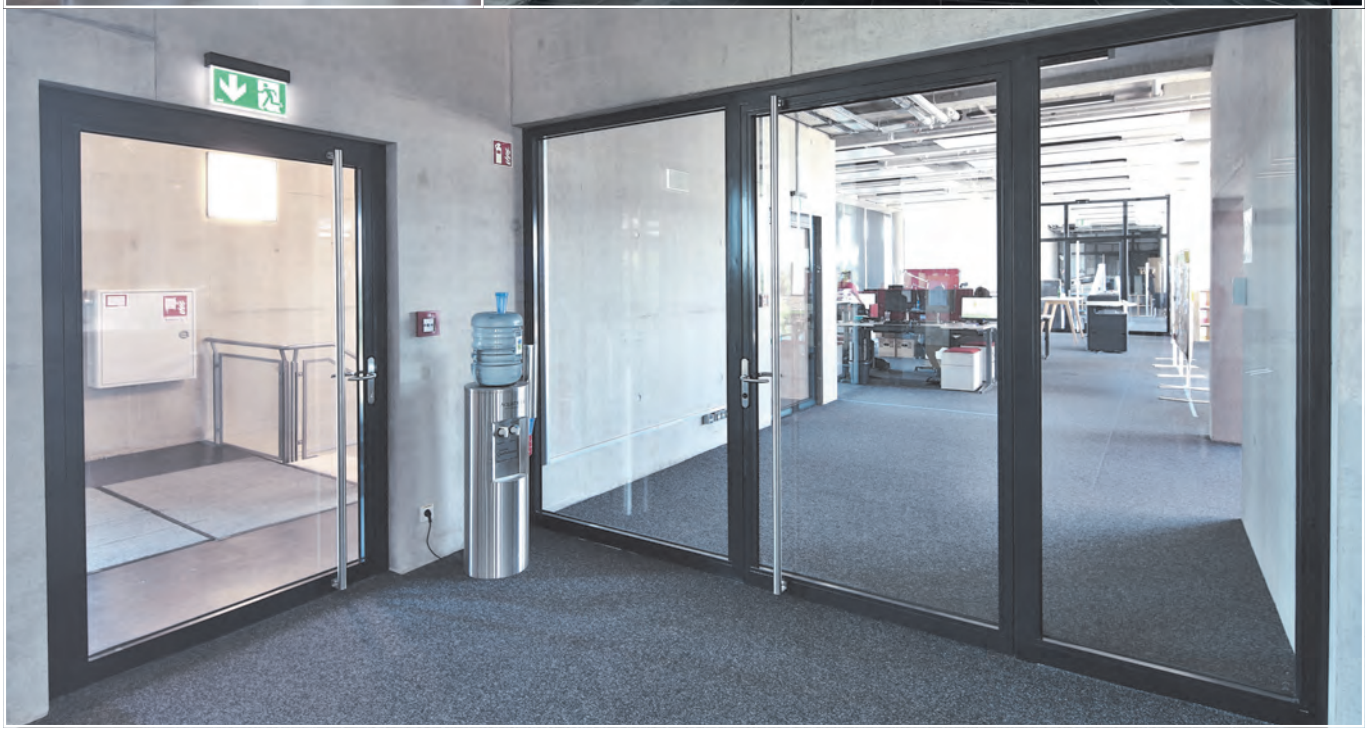
ABSTRACT FROM OUR REFERENCE LIST

OFFICE & ADMINISTRATION

FMO – Funke Media Office, Essen
Office building SHIFT, Düsseldorf
Solarlux Campus, Melle
Saint-Gobain Head Office Central Europe, Aachen
ONE Goetheplaza, Frankfurt am Main
Swarovski Campus, Wattens, Österreich
Philippe Patek, Genf, Schweiz
maincubes one, Offenbach am Main
Hafenpark Quartier, Frankfurt am Main
Head Office RheinEnergie, Köln
Olympus Campus, Hamburg
Puma, Herzogenaurach
Haribo, Grafschaft
Hansgrohe, Schiltach
Trivago, Düsseldorf


HEUXING KÜHN LÜER WOJTEK

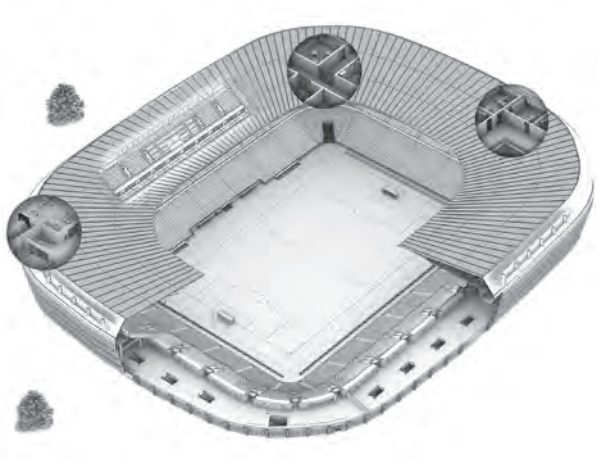




SOLUTIONS & REFERENCES

SPORTSSTADIUMS

Stadiums are more than just venues for sporting events. Everything is possible in the structural oval. They are multi-functional facilities for major events. Mass events like football matches or concerts are of great social, cultural and economic importance. Modern stadiums have a capacity for tens of thousands of people and an infrastructure that can serve all the inhabitants of a medium-sized city. Their building structure is just as complex, consisting of parking spaces and garages, entrance, waiting and media areas, stairs, stands, lounges, technical and catering facilities. Numerous regulations apply in the event of fire, technical or economic hazards. Details are regulated, among other things, by the extensive building and operating regulations of the Ordinance on Places of Assembly.



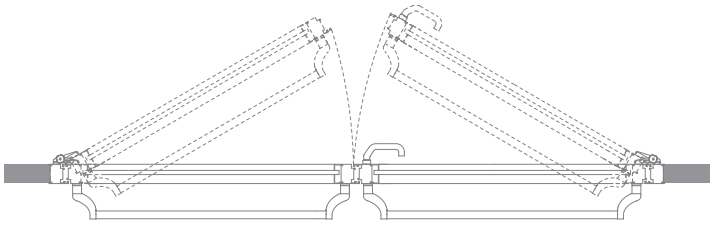
Dense crowds of people or unforeseen events such as a fire or technical defects can trigger panic situations which must be countered by structural precautions. Among other measures, emergency exit locks according to DIN EN 179 and panic door locks according to the EN 1125 standard ensure smooth evacuation in an emergency. Escape routes must be easy to reach and designed in such a way that people can leave a building quickly and safely.

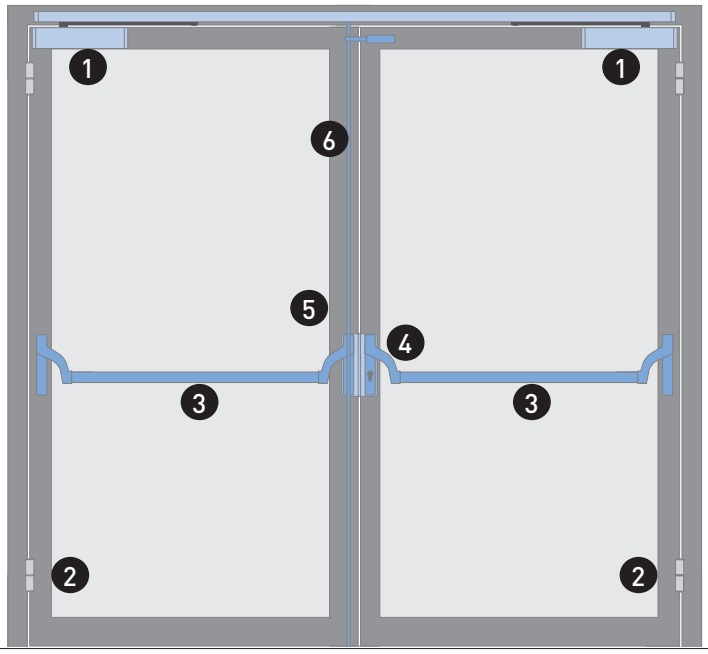
In addition, transparent room closures and large glass elements in the VIP and visitor areas should allow a good view of the pitch and ensure the well-being of guests through spacious spatial experiences. Wherever possible and the building regulations permit, the use of transparent building elements improves the atmosphere.

SOLUTION EXAMPLE
ESCAPE DOOR TO SEPARATE OPEN STADIUM AREAS

Door type: tubular frame door suitable for escape routes, barrier-free, fire and smoke protection.

The door can always be opened via the panic bar handle.



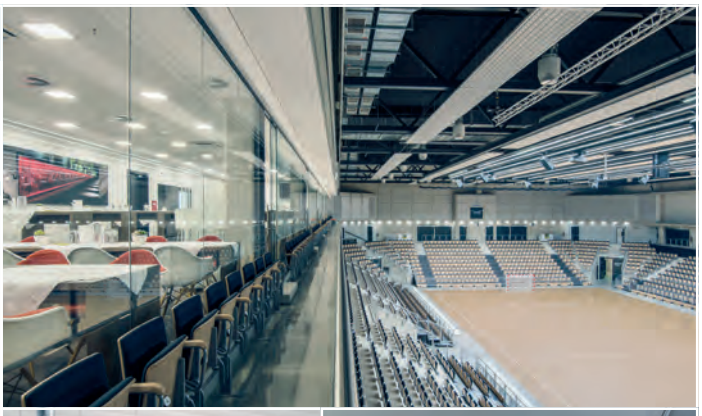


1. Overhead door closer with a lock Sequence control and electromechanical Locking device
2. Roller belts
3. Panic bar handle
4. Anti-panic lock
5. Anti-panic counter box
6. Shoot bolt rod

ABSTRACT FROM OUR REFERENCE LIST

SPORT STADIUMS

Vaudoise Aréna, Lausanne (CH)
Emsland Arena, Lingen (Ems)
ISS Dome, Düsseldorf
Astana Stadium, Astans (KAZ)



FOR US, THINKING FURTHER AHEAD IS PARTICULARLY LOGICAL WHEN IT COMES TO CERTIFIED ENVIRONMENTAL PROTECTION – WITH MANY ADVANTAGES FOR ARCHITECTS AND PLANNERS

QUALITY IS ALWAYS SUSTAINABLE

That's why our detailed look is not limited to the areas behind our own door – We also look to the future and, in addition to technology, we focus in particular on the environment. The results are sophisticated and environmentally oriented products that originate from our development departments close to production

EXCELLENT PRODUCTS – ALSO UNDER ENVIRONMENTAL ASPECTS

Many of our products are sustainable – including, for example, multi-functional steel doors, tubular frame doors made of aluminium/steel, fire-resistant sliding doors and industrial roller doors. Not only the environment but also our partners benefit from the proof we have provided by awarding certificates. This is why architects and planners can include these products in the ecological assessment of buildings over their entire life cycle.

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