Fire- and smokeproof seals in profile frame structures

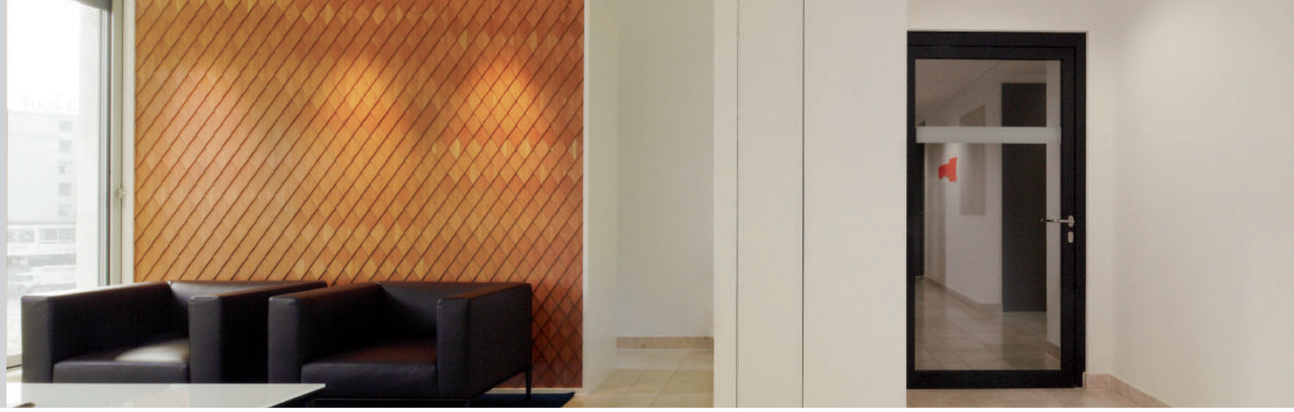
Door and wall units for transparent structures

Institut Bauen und Umwelt e.V.

novoferm

Interior design highlights made of glass and metal

Profile frame structures made by Novoferm create interior design highlights made of glass and metal. In a choice of aluminium or steel, and combined with spacious glazing elements, they create the transparent structures that are so sought after, especially in building interiors. They also add a very special touch to contemporary architecture. Made by Novoferm.



Contents

Enhanced possibilities, fewer restrictions

Fire protection requirements are best met when the requisite structural elements also feature a certain design sophistication. We know that architects and property owners want a broadly diversified programme, especially in construction projects, that features individual elements with matching designs.The ranges of profile frames shown here constitute a universal system that we have created to meet exactly these requirements in respect of doors and glazing. Here are the most important facts: Partitioning wall elements with sash bars are available in whatever width you require. No height restrictions apply for smokeproof wall elements, either. For fireproof wall units, the height is limited by building laws to a maximum 3500, 4000 or 5000 mm - depending on the type. In line with contemporary trends in architecture, our range now features a new surface: “Stainless steel finish”. You will find more details, together with the complete technical specifications for the individual models, on the following pages.

NovoFire® aluminium systems for doors and walls

NovoFire® aluminium profile frames are the perfect solution for modern property construction. With their elegant surface finishes, timeless design and numerous models, they offer virtually limitless possibilities for ambitious architects and planners when designing transparent fireproof and smokeproof seals in building interiors. Single and double leaf doors with fanlights and side parts offer numerous versatile combination options. NovoFire® systems are particularly stable thanks to the profile wall thickness of 4 mm, and extremely compact thanks to the single fire resistant core that is anchored to the centre of the profile. This produces a uniform visible width of 150 mm for all models. Following numerous requests, an "anodized aluminium" surface finish that looks like stainless steel has been added to the range.

System description

Aluminium door unit made of single chamber hollow profiles.In combination with an automatically lowerable floor seal, this door is tested for smoke protection in accordance with DIN 18095. Visible width of frame and leaf: 150 mm, pedestal height: 98 - 238 mm, installation depth: 74 mm (T30) or 90 mm (T90). The inactive leaf on a double door unit must not be less than 500 mm. The units are pre-assembled for installation.

Hardware

Mortice lock, pre-assembled for profile cylinder, handle or knob-lever sets with oval rosette plates in aluminium, stainless steel or plastic. The inactive leaf is fixed by a rebate retracting bolt at the top. A panic function that complies with EN 179 or EN 1125 is also possible as an alternative. Slide channel overhead door closer as per EN 1154, e.g. GEZE TS 5000/Dorma TS 93, integrated door closing systems (Dorma ITS 96) for RS and T30, swing door operator as per DIN 18263 / DIN 18650.

Hinges

Two 2-part aluminium screw-on hinges on each leaf, three-dimensionally adjustable; we recommend the use of three hinges on doors with swing door operator. Roller hinges are available instead of screw-on hinges on request.

Surface finish

Anodized, stainless steel finish or powder coated
(RAL Classic of choice).

Glazing

Laminated (LSG) or tempered (ESG) safety glass. Glazing options and panel fillings, profiles with one-sided glass rebate and glass holding strips on the opposite side of the hinges, dry glazing with EPDM seals.

Fixed glazing

Surface flush connection to the door, stand-alone versions are also possible, slanted versions or T connections are optionally available. The frame bars must be unbutted over the entire height of the fireproof glazing.

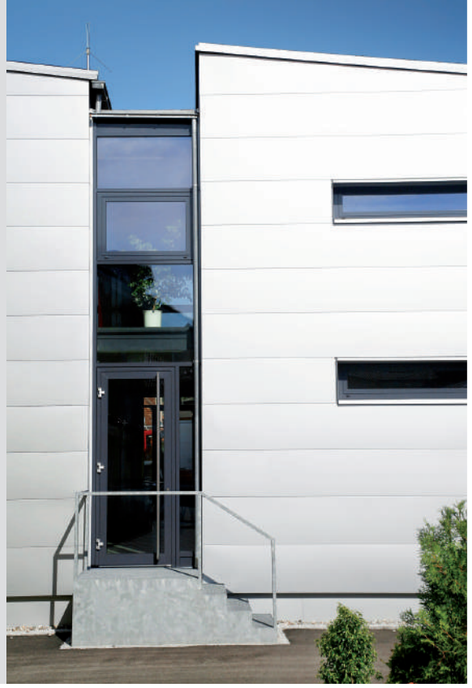
PLUS

NovoFire® aluminium systems
The advantages at a glance

- Smoke leakage characteristics as per DIN 18095
- Fire resistance classes T30/F30 or T90/F90 as per DIN 4102
- Burglar resistance as per EN V1627 for T30 doors in classes RC 1 or RC 2, optionally also available in RC 3
- Single or double leaf smokeproof/fire resistant doors can be combined with fixed elements with any sash bar spacing up to 4.0 m (F90) or 5.0 m (F30) in height
- Overhead door closer, electric opener or panic functions as per EN 179 or EN 1125 can be integrated
- All of the systems are identical in appearance, and the doors, side parts and fanlights can be combined at will
- Flush fitting frame and door profiles
- Numerous possible applications and maximum scope for design

Aluminium exterior door - big on energy efficiency

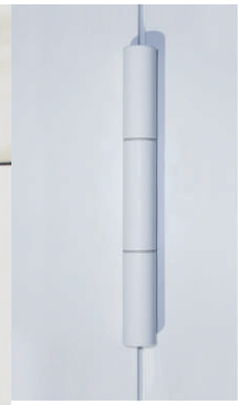
The aluminium exterior door is a stable profile system for highly insulated door systems on side and rear entrance areas in industrial, commercial and administrative buildings. Equally, it also provides cover for ancillary areas and is an excellent complement to the Novoferm door range. This exterior door also has impressively good technical features, excellent U*f* performance and numerous design options.

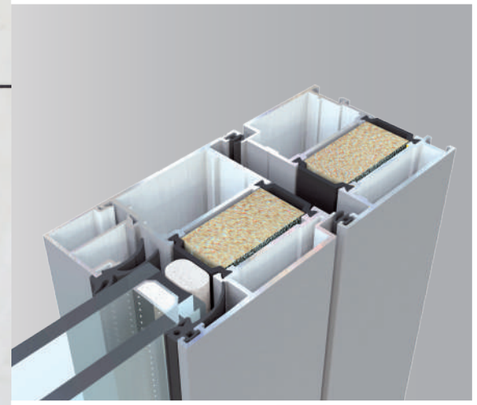


PLUS

Aluminium exterior door: The advantages at a glance

- Thermally separated 3-chamber system
- Design complies with EN ISO 10077-2 with a heat transfer coefficient of U*f* = 1.3 -1.9 W/m²K
- Sturdy aluminium profiles with a wall thickness of 2 mm
- Burglar resistance up to RC 2 possible
- Barrier-free sill variant
- Unobtrusive glazing seals
- Vast range of colour schemes, surface finishes and fillings
- Rounds off the Novoferm door range for one-stop supply





Hardware

Suitable for mounting all commercially available hardware. A wide variety of door hinges is available, ranging from a sturdy screw-on hinge to completely concealed door hinges to roller hinges in aluminium or stainless steel.

Design

Stable frame-leaf combination with a wall thickness of 2 mm. Leaf profiles can optionally be equipped with sliding insulation bars to minimize the bimetallic effect.

Door sill

The barrier-free sill variant with an installation height of 19 mm and concealed fastening creates a visually smooth transition from the outside to the 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. Reinforced profiles may be used to enhance structural stability.

Profile installation depths:

Panel frame, sash bars, extra strips .75 mm

Leaf frame (door).....75 mm

Profile visible widths, door:

(Consistent with NovoFire® fire protection system)

Door frame including door leaf .....149 mm

Door pedestal .....150 mm

Technical features

- Joint permeability class 4
- Driving rain up to class 6A
- Glazing 24 - 52 mm
- Barrier-free sill
- Burglar resistance RC2
- U*f* = 1.3 -1.9 W/(m²K)

Novoferm profile frame systems made of steel for safety and comfort both inside and out

Novoferm steel profile frame systems are the perfect solution for safe, and at the same time aesthetically sophisticated, smokeproof and fireproof seal applications. The structural characteristics of the base material allow structures that are unparalleled in terms of their filigree appearance.
In addition to the "Presto RS" system for smoke protection and the "Fuego light" system for fire protection applications in building interiors, we also offer a variant named "Unico" for use in exterior door systems. And the best thing about it: this system is fully recyclable thanks to its innovative thermal separation which does not contain any plastic.

PLUS

Steel profile frame systems: The advantages at a glance

- Smoke leakage characteristics as per DIN 18095
- Fire resistance classes T30/F30 or T90/F90 as per DIN 4102
- Burglar resistance as per EN V1627 up to RC 3, for certain versions
- Single or double leaf smokeproof/fire resistant doors can be combined with fixed elements with any sash bar spacing up to 4.0 m (F90) or 5.0 m (F30) in height
- Overhead door closer, electric opener or panic functions as per EN 179 or EN 1125 can be integrated
- Need for security is professionally satisfied
- High technical functionality
- Excellent ability to withstand extreme continuous stress in areas with high volumes of traffic, such as railway stations or airports

Optionally available roller hinges are welded on and create special stability and a good design

Closed profiles emphasize the superb production quality.

System description: "Presto" and "Fuego light"*

Door unit made of galvanized precision steel tubes. In combination with an automatically lowerable floor seal, this door is tested for smoke protection in accordance with DIN 18095. Visible width of frame and leaf 130 mm, pedestal height 50, 70-420 mm, installation depth 50 mm. The inactive leaf on a double door unit must not be less than 500 mm. The units are pre-assembled for push-through or weld-on installation.

Hardware

Mortice lock, pre-assembled for profile cylinder, handle or knob-lever sets with oval rosette plates in aluminium, stainless steel or plastic. The inactive leaf is fixed by the upper latch on the active leaf. A panic function that complies with EN 179 or EN 1125 is also possible as an alternative. Slide channel overhead door closer as per EN 1154, e.g. GEZE TS 5000/Dorma TS 93, integrated door closing systems (GEZE Boxer/Dorma ITS 96), swing door operator as per DIN 18263/DIN 18650.

Hinges

Two 2-part steel weld-on hinges on each leaf, three-dimensionally adjustable; we recommend the use of three hinges on doors with swing door operator. Further hinge options, such as screw-on, roller or integrated hinges, are possible.

Surface finish

Powder coated, primed with RAL 9002 (grey white), optional topcoat of paint (RAL Classic of choice).

Glazing

Laminated (LSG) or tempered (ESG) safety glass. Glazing options and panel fillings, profiles with one-sided glass rebate and glass holding strips on the opposite side of the hinges, dry glazing with EPDM seals.

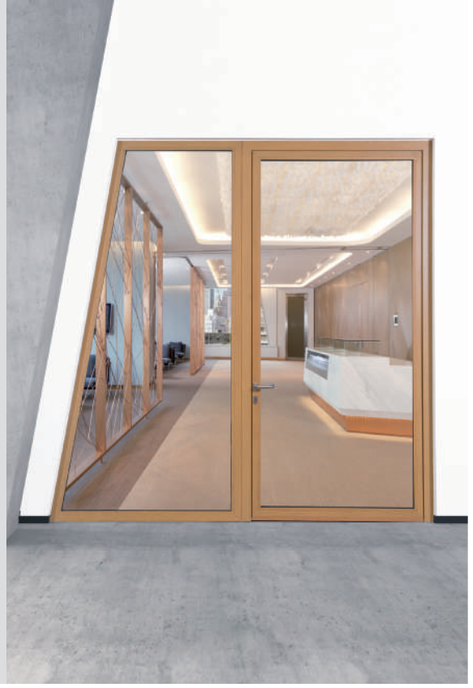
Fixed glazing

Surface flush connection to the door, stand-alone versions are also possible, slanted versions or T connections are optionally available. The frame bars must be unbutted over the entire height of the fixed glazing.

*For "Unico" system description, see page 21

Tubular frame doors with special features enhance the appearance of smoke- and fireproof seals

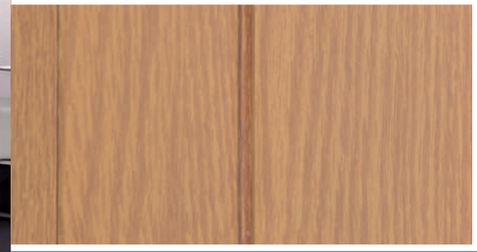
Tested for smoke- and fireproofing as the basis, but enhanced with special features. This is what makes NovoFire® a series that offers a huge range of options. Wood decor or wood feel, tinted glass in a choice of colours - individual configurations enable the system to blend in with any architectural design.



PLUS

Tubular frame doors in attractive variants: The advantages at a glance

- Single and double leaf door units possible
- Available in fire classes RS, T30 and T90, tested to EN 1634-1 and DIN 4102
- In combination with an automatically lowerable floor seal, these doors are tested for smoke protection in accordance with EN 1634-3 and DIN 18095
- Screw-on hinges and roller hinges for RS, T30 as well as T90
- All models have the same visible width of 150 mm
- Units are delivered ready for installation



Hardware

Mortice lock, pre-assembled for profile cylinder, handle or knob-lever sets with oval rosette plates in aluminium, stainless steel or plastic. The inactive leaf is fixed by the upper latch on the active leaf. A panic function that complies with EN 179 or EN 1125 is also possible as an alternative.

Hinges

Only two 3-part roller hinges on each leaf up to a door height of 2.50 m, two-dimensionally adjustable; we recommend the use of three hinges on doors with swing door operator. Further hinge options, such as screw-on hinges (three-dimensionally adjustable), are possible.

Design incorporating innovative elements

NovoFire® tubular frame doors offer planners and property owners huge scope for cleverly combining shapes, surfaces and materials. Wood decor, for example, has a textured surface finish that is virtually indistinguishable from real wood. Further metallic decors and tinted glazing offer huge scope for individual designs ranging from cool tech to naturally elegant.

Attractive surface finishes

- Anodized aluminium, stainless steel finish or powder coated (RAL Classic of choice).
- Powder coated steel, primed with RAL 9002 (grey white), optional topcoat of paint (RAL Classic of choice).
- Decors, e.g. wood, that look and feel like natural materials

Install doors quickly with Novoferm fire protection foam

Profiles and frames used in metal and drywall construction can be backfilled much more quickly and cleanly with Novoferm fire protection foam. The usual previous experience with installing fire resistant doors is entirely sufficient.

Documenting approval-compliant installation is unbelievably easy. The foam can features self-adhesive labels for this purpose (1), which are easy to detach and are simply stuck onto the confirmation of conformity. (2) They contain all the necessary information. There is no easier, cleaner or faster way to install fire resistant doors today.

It´s as easy as this:
Wet cavity ...

... fill with fire protection foam...

... remove excess foam once dry...

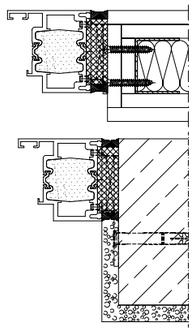
...cover joint.

PLUS

Tubular frame doors: The advantages at a glance

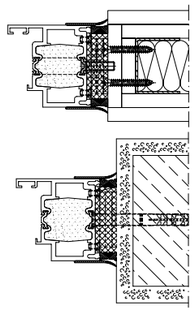
- Fire protection foam for backfilling profiles on tubular frame doors with one or two leaves
- Size range: 1 leaf up to 1563 x 3000 mm; 2 leaf up to 3000 x 3000 mm incl. sides and tops as T units as per approval
- Equivalent to NovoFire® T30-1/-2-(RS) door types
- Approval no. Z-6.20.1845, tested to EN 1634-1 criteria, approved as per DIN 4102-5
- NovoFire® RS-1/2 system smokeproof doors as per GTC P-120003623-10 can be backfilled with PU or fire protection foam in all types of walls (not illustrated)

Installation in concrete, masonry and installation walls



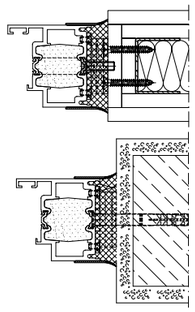
T30 flush and smokeproof
Unrestricted choice between two installation methods:
- Push-through installation
- Weld-on installation

Smokeproof doors must always be sealed on both sides



T30 and smokeproof with battens
Unrestricted choice between two installation methods:
- Push-through installation
- Weld-on installation

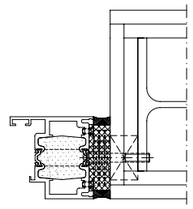
Smokeproof doors must always be sealed on both sides



T30 with battens
Unrestricted choice between two installation methods:
- Push-through installation
- Weld-on installation

Smokeproof doors must always be sealed on both sides

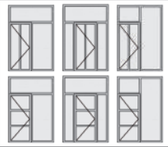
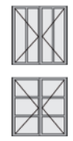
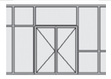
Installation on cladded steel supports



T30 flush and smokeproof
Unrestricted choice between two installation methods:
- Push-through installation
- Weld-on installation

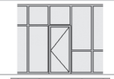
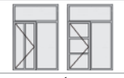
Smokeproof doors must always be sealed on both sides

RS-1 door, RS-2 door, NovoFire® system fixed glazing

	Resistance class		Smoke protection			
	Type		NovoFire® Alu RS-1	NovoFire® RS-1 combination door	NovoFire® RS-2	NovoFire® RS door with fixed glazing
Models	Doors and fixed units with glazing					
	Doors can be combined with fixed units, in any sash bar spacing					
	Vertical sash bars on each leaf or horizontal sash bars on each leaf		1 2	1 2	1 2	any
Element design	Slants		-	-	-	•
	Arches		-	-	-	-
	Recesses		-	-	-	•
	Angle		-	-	-	-
	Widening		•	•	•	•
Sizes	Unfinished dimensions	Width min. – max.	624 - 1834*	n. a.	1500 - 3270*	unlimited
		Height min. – max.	1750 - 3135*	n. a.	1755 - 3135*	max. 5015[1)2)]
	Outer frame dimensions	Width min. – max.	604 - 1804*	621 - 1821*	1470 - 3240*	unlimited
		Height min. – max.	1740 - 3120*	1749 - 3129*	1740 - 3120*	max. 5000[1)2)]
	Clear passage when opened 180°	Width min. – max.	454 - 1414	454 - 1414	1320 - 2850	-
		Height min. – max.	1665 - 2925	1665 - 2925	1665 - 2925	-
Door panel	Installation depth		74	74	74	74
	View		150	159	150	75
	Pedestal height		98 - 238	98 - 238	98 - 238	75 - 225
	Transom profile		98	98	98	98
	Glued sash bar		20 - 140	20 - 140	20 - 140	20 - 140
Walls	Masonry		≥ 115	≥ 115	≥ 115	≥ 115
	Concrete		≥ 100	≥ 100	≥ 100	≥ 100
	Foam mortar or precision blocks		≥ 175	≥ 175	≥ 175	≥ 175
	Foam mortar slabs		≥ 150	≥ 150	≥ 150	≥ 150
	Partition walls, steel bolts and studs		≥ 95	≥ 95	≥ 95	≥ 95
	Partition walls, wood bolts and studs		≥ 105	≥ 105	≥ 105	≥ 105
	Steel structure cladded/uncladded		•	•	•	•
	Wood structure cladded		•	•	•	•
	Door / glazing combination		•	•	•	•
	Z-frames		-	-	-	-
Fillers	Glazing LSG or ESG		1302 x 2782	1302 x 2782	1302 x 2782	•
	Panel		•	•	•	•
	Glass / panelling		•	•	•	•
	Glass	Wet glazing	•	•	•	•
		Dry glazing	•	•	•	•
Design variants	with fanlight and side part		•	•	•	•
	with fanlight		•	•	•	•
	with side part		•	•	•	•
	Smokeproof door as per DIN 18095 and EN 1634 Part 3		•	•	•	•
	Sound insulation max. $R_{w,P}$ ($R_{w,R}$)		42 (37)	-	42 (37)	-
	Burglar resistance[3)]		-	-	-	-
	Heat transfer Uf		-	-	-	-
	Test certificate/registration numbers		P-1200003623-10	P-1200003623-10	P-1200003623-10	P-1200003623-10
	Tested to		DIN 4102 and EN 1634			

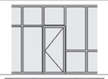
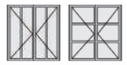
• possible – not possible
* Incl. 120 mm wider door frame on the left, right and at the top
[1)] As stipulated for structural stability
[2)] Installation of the RS-1 door or RS-2 door in the fixed glazing: We recommend a stiffening tube on the left and right of the frame profile of the fixed glazing.
H ≤ 3500 without stiffening tube, H ≤ 4000 with Al tube 80 x 50 x 4, H ≤ 4500 with Al tube 100 x 50 x 4, H ≤ 5000 with Al tube 120 x 50 x 4
[3)] Can be based on the NovoFire® T30 system
All sizes in mm, RAM = Outer frame dimensions

T30-1 door, T30-2 door, NovoFire® system fire resistant glazing

	Resistance class		T30 / F30			
	Type		NovoFire® Alu T30-1	NovoFire® T30-1 combination door	NovoFire® Alu T30-2	NovoFire® F30 with T30
Models	Doors and fixed units with glazing					
	Doors can be combined with fixed units, in any sash bar spacing					
	Vertical sash bars on each leaf or horizontal sash bars on each leaf		1 2	1 2	1 2	any
Element design	Slants		-	-	-	•
	Arches		-	-	-	-
	Recesses		-	-	-	-
	Angle		-	-	-	-
	Widening		•	•	•	•
Sizes	Unfinished dimensions	Width min. – max.	634 - 1834*	811 - 3312*	1500 - 3270*	unlimited
		Height min. – max.	1750 - 3135*	1915 - 3820*	1755 - 3135*	max. 5015[1) 2)]
	Outer frame dimensions	Width min. – max.	604 - 1804*	781 - 3282*	1470 - 3240*	unlimited
		Height min. – max.	1740 - 3120*	1900 - 3805*	1740 - 3120*	max. 5000[1) 2)]
	Clear passage when opened 180°	Width min. – max.	454 - 1414	454 - 1414	1320 - 2850	-
		Height min. – max.	1665 - 2925	1665 - 2616	1665 - 2925	-
Door panel	Installation depth		74	74	74	74
	View		150	159	150	75
	Pedestal height		98 - 238	98 - 238	98 - 238	75 - 225
	Transom profile		98	98	98	98
	Glued sash bar		20 - 140	20 - 140	20 - 140	20 - 140
Walls	Masonry		≥ 115	≥ 115	≥ 115	≥ 115
	Concrete		≥ 100	≥ 100	≥ 100	≥ 100
	Foam mortar or precision blocks		≥ 175	≥ 175	≥ 175	≥ 175
	Foam mortar slabs		≥ 150	≥ 150	≥ 150	≥ 150
	Partition walls, steel bolts and studs		≥ 95	≥ 95	≥ 95	≥ 95
	Partition walls, wood bolts and studs		-	-	-	-
	Steel structure cladded		•	•	•	•
	Wood structure cladded		•	•	•	•
	Door / glazing combination		•	•	•	•
	Z-frames		-	-	-	-
Fillers	Contraflam 30 - 1 / Contraflam 30 - V6 (Contraflam 30 - V22) / Contraflam 30 - V24 (Contraflam 30 - V26) / Contraflam 30 IGU Max. width x height		1302 x 2782 939 x 3000 2345 x 1219			2200 x 1400 2345 x 1219 1500 x 3000
	Pyrostop type 30 - 1 / Pyrostop type 30 - 10/ Pyrostop type 30 - 2 / Pyrostop type 30-20/ + P2A, P4A, P6B / Pyrostop 30 - 1.Iso / Pyrostop 30 - 2.Iso Max. width x height		1400 x 2577 2929 x 924			2929 x 924 1400 x 2577
	Promaglas 30, type 1 / Promaglas 30, type 2 / Promaglas 30, type 20		1302 x 2782			1302 x 2782 2782 x 924
	Panel		•	•	•	•
	Glass / panelling		•	•	•	•
	Glass	Wet glazing	•	•	•	•
		Dry glazing	•	•	•	•
Design variants	with fanlight and side part		•	•	•	•
	with fanlight		•	•	•	•
	with side part		•	•	•	•
	Smokeproof door as per DIN 18095 and EN 1634 - Part 3 (in combination with DIN 4102)		•	•	•	•
	Sound insulation max. $R_{w,P}$ ($R_{w,R}$)		40 (35)	-	40 (35)	-
	Burglar resistance		WK 1-3	WK 1-3	-	-
	Heat transfer Uf		-	-	-	-
	Test certificate/registration numbers		Z-6.20-1845	Z-6.20-1845 Z-19.14-1769	Z-6.20-1845	Z-19.14-1769
	Tested to		DIN 4102 and EN 1634			

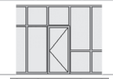
• possible – not possible
* Incl. 120 mm wider door frame on the left, right and at the top
[1)] As stipulated for structural stability
[2)] Installation of the RS-1 door or RS-2 door in the fixed glazing: We recommend a stiffening tube on the left and right of the frame profile of the fixed glazing.
H ≤ 3500 without stiffening tube, H ≤ 4000 with Al tube 80 x 50 x 4, H ≤ 4500 with Al tube 100 x 50 x 4, H ≤ 5000 with Al tube 120 x 50 x 4
All sizes in mm, RAM = Outer frame dimensions

T90-1 door, T90-2 door, NovoFire® system F90 fire resistant glazing (EI60-1 door, EI60-2 door, NovoFire® system EI60 fire resistant glazing)

	Resistance class		T90 / F90 (EI60)		
	Type		NovoFire® Alu T90-1 (EI60-1)	NovoFire® Alu T90-2 (EI60-2)	NovoFire® F90 with T90 (EI60)
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units, in any sash bar spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf		1 2	1 2	any
Element design	Slants		-	-	•
	Arches		-	-	-
	Recesses		-	-	-
	Angle		-	-	-
	Widening		•	•	•
Sizes	Unfinished dimensions	Width min. – max.	624 - 1834*	1500 - 2730*	unlimited
		Height min. – max.	1750 - 2610*	1750 - 2610*	max. 4015[1] [2]
	Outer frame dimensions	Width min. – max.	604 - 1710*	1470 - 2700*	unlimited
		Height min. – max.	1740 - 2600*	1740 - 2600*	max. 4000[1] [2]
	Clear passage when opened 180°	Width min. – max.	454 - 1320	1320 - 2310	-
		Height min. – max.	1665 - 2405	1665 - 2405	-
Door panel	Installation depth		90	90	90
	View		150	150	75
	Pedestal height		98 - 238	98 - 238	75 - 225
	Transom profile		98	98	98
	Glued sash bar		20 - 140	20 - 140	20 - 140
Walls	Masonry		≥ 175	≥ 175	≥ 175
	Concrete		≥ 140	≥ 140	≥ 140
	Foam mortar or precision blocks		≥ 200	≥ 200	≥ 200
	Foam mortar slabs		≥ 175	≥ 175	≥ 175
	Partition walls, steel bolts and studs		≥ 100	≥ 100	≥ 100
	Partition walls, wood bolts and studs		-	-	-
	Steel structure cladded		•	•	•
	Wood structure cladded		-	-	-
	Door / glazing combination		•	•	•
	Z-frames		-	-	-
Fillers	Contraflam 90	Max. width x height	1208 x 2261	1208 x 2261	1400 x 2400 2200 x 1400
		Fanlight	2347 x 939		
		Side part	939 x 2413		
	Pyrostop type 90-1	Width x Height	≤ 1208 x ≤ 2261	≤ 1208 x ≤ 2261	1400 x 2400 2200 x 1400
		Total area	≤ 2,44 m²	≤ 2,44 m²	
		Fanlight	2347 x 939		
		Side part	939 x 2413		
	Pyrostop type 90-2	Width x Height	≤ 1208 x ≤ 2261	≤ 1208 x ≤ 2261	1400 x 2400 2200 x 1400
		Total area	≤ 2,44 m²	≤ 2,44 m²	
		Fanlight	2347 x 939		
		Side part	939 x 2413		
	Panel		•	•	•
	Glass / panelling		•	•	•
	Glass	Wet glazing	•	•	•
		Dry glazing	•	•	•
Design variants	with fanlight and side part		•	•	•
	with fanlight		•	•	•
	with side part		•	•	•
	Smokeproof door as per DIN 18095 and EN 1634 - Part 3 (in combination with DIN 4102)		•	•	•
	Sound insulation max. $R_{w,P}$ ($R_{w,R}$)		42 (37)	42 (37)	-
	Burglar resistance		-	-	-
	Heat transfer Uf		-	-	-
	Test certificate/registration numbers		Z-6.20-1836 (EI60/ EN 16034)	Z-6.20-1836 (EI60/ EN 16034)	Z-19.14-1771 (EI60/ EN 16034)
	Tested to		DIN 4102 and EN 1634		

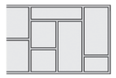
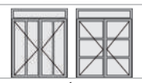
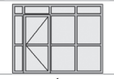
• possible – not possible
* Incl. 120 mm wider door frame on the left, right and at the top
[1] As stipulated for structural stability
[2] Installation of the RS-1 door or RS-2 door in the fixed glazing: We recommend a stiffening tube on the left and right of the frame profile of the fixed glazing.
H ≤ 3500 without stiffening tube, H ≤ 4000 with Al tube 80 x 50 x 4, H ≤ 4500 with Al tube 100 x 50 x 4, H ≤ 5000 with Al tube 120 x 50 x 4
All sizes in mm, RAM = Outer frame dimensions

Heat insulated aluminium exterior seals, with large glazed areas

	Resistance class		Heat insulated exterior seals		
	Type		Single leafdoor	Double leafdoor	Heat insulated glazing
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units, in any sash bar spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf		1 2	1 2	any
Element design	Slants		-	-	•
	Arches		-	-	•
	Recesses		-	-	-
	Angle		-	-	•
	Widening		•	•	•
Sizes	Unfinished dimensions	Width min. – max.	625 - 1450	1500 - 2400	unlimited
		Height min. – max.	1750 - 2505	1740 - 2400	5000[1]
	Outer frame dimension[3]	Width min. – max.	605 - 1425	1470 - 2395	unlimited
		Height min. – max.	1740 - 2495	1740 - 2385	5000[1]
	Clear passage when opened 180°	Width min. – max.	461 - 1281	1322 - 2247	–
		Height min. – max.	1668 - 2417	1668 - 2313	–
Door panel	Installation depth		75	75	75
	View		149	149	74
	Pedestal height		152	152	176
	Transom profile		76 - 96	76 - 96	76 - 96
	Glued sash bar		20 - 140	20 - 140	20 - 140
Walls	Masonry		•	•	•
	Concrete		•	•	•
	Foam mortar or precision blocks		•	•	•
	Foam mortar slabs		•	•	•
	Partition walls		•	•	•
	Steel structure cladded		•	•	•
	Wood structure cladded		•	•	•
	Door / glazing combination		•	•	•
	Z-frames		–	–	–
Fillers	Glazing thickness[4]		24 - 52 mm		
	Panel		•	•	•
	Glass / panelling		•	•	•
	Glass	Wet glazing	-	-	-
		Dry glazing	•	•	•
Design variants	with fanlight and side part		•	•	•
	with fanlight		•	•	•
	with side part		•	•	•
	Joint permeability class		4	4	4
	Resistance to driving rain class		Up to 6 A	Up to 6 A	-
	Sound protection		40 dB	40 dB	40 dB
	Burglar resistance		WK 2	WK 2	–
	Heat transfer Uf		1.3 - 1.9 W/m²K	1.3 - 1.9 W/m²K	1.3 - 1.9 W/m²K
	CE mark in accordance with EN 14351-1		•	•	•
	Tested to		DIN 4102 and EN 1634		

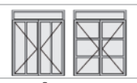
• possible – not possible
[1] As stipulated for structural stability
[2] No façade, no side hung/bottom hung windows
[3] Further sizes possible
[4] All commercially available panes are possible
All sizes in mm, RAM = Outer frame dimensions

RS-1 door, RS-2 door, “Forster Presto” fixed glazing

	Resistance class		Smoke protection			G30
	Type		Presto RS-1	Presto RS-2	Presto glazing wall	Presto G30
Models	Doors and fixed units with glazing					
	Doors can be combined with fixed units, in any sash bar spacing					
	Vertical sash bars on each leaf or horizontal sash bars on each leaf		1 2	1 2	1 2	any
Element design	Slants		-	-	•	-
	Arches		-	-	•	-
	Recesses		-	-	•	-
	Angle		-	-	•	-
	Widening		•	•	•	-
Sizes	Unfinished dimensions	Width min. – max.	610 - 1570	1610 - 2970	unlimited[1]	unlimited[1]
		Height min. – max.	1745 - 3085	1745 - 3085	unlimited[1]	3515
		Height (with fanlight)	unlimited[1]	unlimited[1]	-	-
	Outer frame dimensions	Width min. – max.	580 - 1540	1580 - 2940	unlimited[1]	unlimited[1]
		Height min. – max.	1730 - 3070	1730 - 3070	unlimited[1]	3500
		Height (with fanlight)	unlimited[1]	unlimited[1]	-	-
	Clear passage when opened 180°	Width min. – max.	440 - 1400	1440 - 2800	-	-
		Height min. – max.	1660 - 3000	1660 - 3000	-	-
Door panel	Installation depth		50	50	50	50
	View		130	130 / 150	70 / 90	70 / 90
	Pedestal height		70, 90, 140 - 440	70, 90, 140 - 440	70, 90, 140 - 440	70, 90
	Transom profile		90	90	90	90
	Glued sash bar		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
	Foam mortar or precision blocks		≥ 150	≥ 150	≥ 150	-
	Foam mortar slabs		≥ 150	≥ 150	≥ 150	-
	Partition walls, steel bolts and studs		≥ 100	≥ 100	≥ 100	≥ 100
	Partition walls, wood bolts and studs		≥ 100	≥ 100	≥ 100	≥ 100
	Steel structure cladded		•	•	•	•
	Wood structure cladded		•	•	•	-
	Door / glazing combination		•	•	•	-
	Z-frames		•	•	-	-
Fillers	Glazing thickness ≥ 5 mm max. width x height		Door size	Door size	unlimited[1]	-
	G30 glazing of choice max. width x height		•	•	•	1000 x 2000 2000 x 1000
	Pyran S (G30) max. width x height		•	•	•	1000 x 2000 2000 x 1000
	Panel		•	•	•	-
	Glass / panelling		•	•	•	-
	Glass	Wet glazing	•	•	•	•
		Dry glazing	•	•	•	-
Design variants	with fanlight and side part		unlimited[1]	unlimited[1]	-	-
	with fanlight		unlimited[1]	unlimited[1]	-	-
	with side part		unlimited[1]	unlimited[1]	-	-
	Smokeproof door as per DIN 18095 and EN 1634 Part 3		•	•	•	-
	Sound insulation max. $R_{w,P}$ ($R_{w,R}$)		-	-	-	-
	Burglar resistance		-	-	-	-
	Heat transfer Uf		-	-	-	-
	Test certificate/registration numbers		P12000403-01	P12000403-02	-	Z-19.14-508
	Tested to		DIN 4102 and EN 1634			

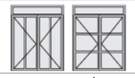
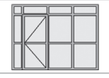
• possible – not possible
[1] As stipulated for structural stability
All sizes in mm, RAM = Outer frame dimensions

T30-1 door, T30-2 door, Forster Fuego light T30 / F30 fixed glazing F30

	Resistance class		T30 / F30		
	Type		Fuego light T30-1	Fuego light T30-2	Fuego light F30
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units, in any sash bar spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf		2 5	2 5	any
Element design	Slants		-	-	•
	Arches		-	-	•
	Recesses		-	-	-
	Angle		-	-	•
	Widening		•	•	•
Sizes	Unfinished dimensions	Width min. – max.	660 - 2060	1360 - 3490	unlimited[1]
		Height min. – max.	1705 - 3330	1705 - 3330	4515
		Height (with fanlight)	1805 - 4530	1805 - 4500	-
	Outer frame dimension[3]	Width min. – max.	660 - 2000	1360 - 3430	unlimited[1]
		Height min. – max.	1705 - 3300	1705 - 3300	4500
		Height (with fanlight)	1805 - 4500	1805 - 4500	-
	Clear passage when opened 180°	Width min. – max.	560 - 1400	1260 - 2830	-
		Height min. – max.	1655 - 3000	1655 - 3000	-
Door panel	Installation depth		65	65	65
	View		130	130/150	70/90
	Pedestal height		90, 140 - 340	90, 140 - 340	90, 140 - 340
	Transom profile		90	90	90
	Glued sash bar		30, 50 (up to 200)	30, 50 (up to 200)	30, 50 (up to 200)
Walls	Masonry		≥ 115[2]	≥ 115[2]	≥ 115
	Concrete		≥ 100[3]	≥ 100[3]	≥ 100
	Foam mortar or precision blocks		≥ 150[4]	≥ 150[4]	≥ 150
	Foam mortar slabs		≥ 150[4]	≥ 150[4]	≥ 150
	Partition walls, steel bolts and studs		≥ 100[5]	≥ 100[5]	≥ 100
	Partition walls, wood bolts and studs		-	-	-
	Steel structure cladded		•	•	•
	Wood structure cladded		-	-	-
	Door / glazing combination		•	•	•
	Z-frames		•	•	-
Fillers	Pyrostop 30-1x Max. width x height		1400 x 2400 2400 x 1400	1401 x 2400 2400 x 1400	1402 x 2400 2400 x 1400
	Pyrostop 30-2x; 30-101 Max. width x height		1400 x 2864	1401 x 2864	1402 x 2864
	Panelling, max. width x height		1400 x 2400	1401 x 2400	1402 x 2400
	Glass / panelling		•	•	•
	Glass	Wet glazing	•	•	•
		Dry glazing	•	•	•
Design variants	with fanlight and side part		•	•	-
	with fanlight		•	•	-
	with side part		•	•	-
	Smokeproof door as per DIN 18095 and EN 1634 Part 3 (in combination with DIN 4102)		•	•	-
	Sound insulation max. $R_{w,P}$ ($R_{w,R}$)		-	-	-
	Burglar resistance		-	-	-
	Heat transfer Uf		-	-	-
	Test certificate/registration numbers		Z-6.20-1873	Z-6.20-1873	Z-19.14-1382
	Tested to		DIN 4102 and EN 1634		

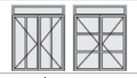
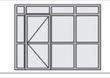
• possible – not possible
[1] As stipulated for structural stability
[2] up to RAM 4500 x 3500 with fanlight and side part, masonry ≥ 240: height = 4500 only with fanlight
[3] up to RAM 4500 x 3500 with fanlight and side part, concrete ≥ 140: height = 4500 only with fanlight
[4] up to RAM 2970 x 3070 with / without fanlight and side part, foam mortar ≥ 175 RAM = 2970 x 3500, ≥ 200 RAM = 4500 x 3500 and height = 4500 only with fanlight
[5] up to height 3500 with UA profile, up to height 4500 with 50 x 50 x 3 steel hollow profile
All sizes in mm, RAM = Outer frame dimensions

T90-1 door, T90-2 door, F90 Forster Fuego light T90 / F90 fixed glazing

	Resistance class		T90 / F90		
	Type		Fuego light T90-1	Fuego light T90-2	Fuego light F90
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units, in any sash bar spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf		1 2	1 2	any
Element design	Slants		-	-	•
	Arches		-	-	•
	Recesses		-	-	•
	Angle		-	-	•
	Widening		•	•	•
Sizes	Unfinished dimensions	Width min. – max.	740 - 1580	1440 - 2530	unlimited[1]
		Height min. – max.	1745 - 2590	1745 - 2590	4020
		Height (with fanlight)	1845 - 4020	1845 - 4020	-
	Outer frame dimension[3]	Width min. – max.	700 - 1540	1400 - 2490	unlimited[1]
		Height min. – max.	1725 - 2570	1725 - 2570	4000
		Height (with fanlight)	1825 - 4000	1825 - 4000	-
	Clear passage when opened 180°	Width min. – max.	560 - 1400	1260 - 2350	-
		Height min. – max.	1655 - 2500	1665 - 2500	-
Door panel	Installation depth		70	65	65
	View		130	130 / 150	70 / 90
	Pedestal height		90, 140 - 340	90, 140 - 340	90, 140 - 340
	Transom profile		90	90	90
	Glued sash bar		30, 50 (up to 200)	30, 50 (up to 200)	30, 50 (up to 200)
Walls	Masonry		≥ 175[2]	≥ 175[2]	≥ 175[2]
	Concrete		≥ 140[3]	≥ 140[3]	≥ 140[3]
	Foam mortar or precision blocks		≥ 240[3]	≥ 240[3]	≥ 240[3]
	Foam mortar slabs		≥ 240[3]	≥ 240[3]	≥ 240[3]
	Partition walls, steel bolts and studs		≥ 100[3] [4]	≥ 100[4]	≥ 100[4]
	Partition walls, wood bolts and studs		–	–	–
	Steel structure cladded		•	•	•
	Wood structure cladded		–	–	–
	Door / glazing combination		•	•	•
	Z-frames		–	–	–
Fillers	Pyrostop 90-102 Max. width x height		1304 x 2364 2364 x 1304	1304 x 2364 2364 x 1304	1350 x 2800 2350 x 1400
	Panelling, max. width x height		1064 x 2184	1064 x 2184	1305 x 2185
	Glass / panelling		•	•	•
	Glass	Wet glazing	•	•	•
		Dry glazing	-	-	-
Design variants	with fanlight and side part		•	•	-
	with fanlight		•	•	-
	with side part		•	•	-
	Smokeproof door as per DIN 18095 and EN 1634 - Part 3 (in combination with DIN 4102)		•	•	-
	Sound insulation max. $R_{w,P}$ ($R_{w,R}$)		-	-	-
	Burglar resistance		-	-	-
	Heat transfer Uf		-	-	-
	Test certificate/registration numbers		Z-6.20-1881	Z-6.20-1881	Z-19.14-1973
	Tested to		DIN 4102 and EN 1634		

• possible – not possible
[1] As stipulated for structural stability
[2] up to RAM 2400 x 2600 with fanlight and side part, for masonry ≥ 240 RAM up to 4500 x 3500, up to height 4000 only with fanlight
[3] up to RAM 4500 x 3500 only with fanlight and side part, up to height = 4000 only with fanlight
[4] Steel hollow profile min. 50 x 50 x 4 required
All sizes in mm, RAM = Outer frame dimensions

Heat insulated steel exterior seals, with large glazed areas

	Resistance class		Heat insulated exterior seals		
	Type		Single leafdoor	Double leafdoor	Heat insulated glazing[2]
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units, in any sash bar spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf		1 2	1 2	any
Element design	Slants		-	-	•
	Arches		-	-	•
	Recesses		-	-	•
	Angle		-	-	•
	Widening		•	•	•
Sizes	Unfinished dimensions	Width min. – max.	6300 - 1530	1500 - 2400	unlimited[1]
		Height min. – max.	1765 - 3015	1740 - 2400	5000[1]
	Outer frame dimension[3]	Width min. – max.	600 - 1500	1400 - 3000	unlimited[1]
		Height min. – max.	1750 - 3000	1750 - 3000	5000[1]
	Clear passage when opened 180°	Width min. – max.	460 - 1360	1260 - 2860	-
		Height min. – max.	1680 - 2930	1680 - 2930	-
Door panel	Installation depth		65	65	65
	View		130	130 / 150	70 / 90
	Pedestal height		70, 90, 140 - 340	70, 90, 140 - 340	70, 90, 140 - 340
	Transom profile		90	90	90
	Glued sash bar		30, 50, (up to 400)	30, 50, (up to 400)	30, 50, (up to 400)
Walls	Masonry		•	•	•
	Concrete		•	•	•
	Foam mortar or precision blocks		•	•	•
	Foam mortar slabs		•	•	•
	Partition walls		•	•	•
	Steel structure cladded		•	•	•
	Wood structure cladded		•	•	•
	Door / glazing combination		•	•	•
	Z-frames		-	-	-
Fillers	Glazing thickness[4]		20 - 54mm		
	Panel		•	•	•
	Glass / panelling		•	•	•
	Glass	Wet glazing	-	-	-
		Dry glazing	•	•	•
Design variants	with fanlight and side part		•	•	•
	with fanlight		•	•	•
	with side part		•	•	•
	Joint permeability class		4	4	4
	Resistance to driving rain class		Up to 5A	Up to 5A	-
	Sound protection		47 dB	47 dB	47 dB
	Burglar resistance		WK 1-3	WK 1-3	–
	Heat transfer Uf		> 1.4 - 1.9 W/m²K	> 1.4 - 1.9 W/m²K	> 1.4 - 1.9 W/m²K
	CE mark in accordance with EN 14351-1		•	•	•
	Tested to		DIN 4102 and EN 1634		

• possible – not possible
[1] As stipulated for structural stability
[2] No façade, no side hung/bottom hung windows
[3] Further sizes possible
[4] All commercially available panes are possible
All sizes in mm, RAM = Outer frame dimensions

System description: "Unico"

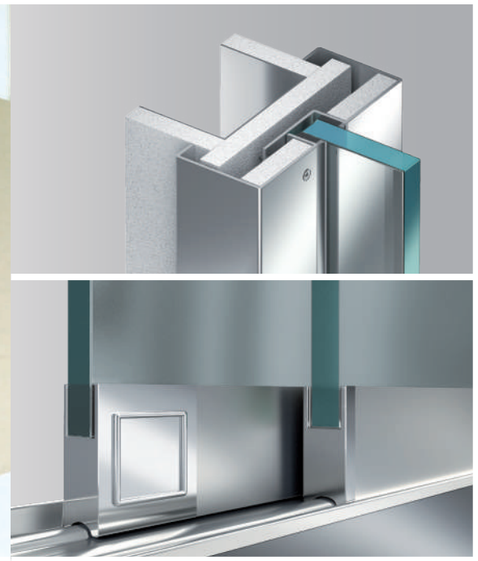
The basic profiles are made of 100% recyclable steel and do not contain plastic insulators – unlike conventionally insulated systems. Thanks to this supporting framework geometry, the structural elements achieve optimum strength performance and easily comply with the currently standard insulation performance of insulated profiles.

Visibility windows - bright spots with an optional fire protection function

Creative interior design with transparent glass elements has always had a particular appeal. In homes, offices and factories, in schools and hospitals, or in hotels and public buildings, Novoferm's visibility windows can be used to create striking and attractive solutions.

Visibility windows: The application areas at a glance

- Living environments and housing
- Office and administration
- Education and healthcare
- Commerce and industry
- Hotel and food service industry



You can find more information on the following topics in our visibility window brochure:

Assembly

A well-engineered design is crucial for easy, safe and durable assembly. A logical combination of components makes our visibility windows easy to install for every user.

Profile variants

Three different options are available: centre, one-sided or double glazing. A shadow groove is also possible in the frame profile. Every variant has its own advantages and meets different requirements.

Additional features

Our sliding windows are very smooth-running thanks to completely maintenance-free ball bearings. They are the perfect solution for wrapping, food service and prescription drug counters, at reception desks or in doctors' surgeries. Further possible additional features include profile coupling, transoms/jambs and radiation protection.

Glass strip variants

The variants given below are possible:

- Standard strip with clips
- Bolted tubular strip
- Glass holder with angle profile
- Flush mounted
- Frame made of flat steel

Fire resistance

Perfect fire resistance products are essential to ensure people can be effectively rescued and goods salvaged. Glazing elements play a special role in this area.

Screens

Various screening options include shutters, blinds, mirror glass and smart glass.
The solutions can be used in various ways as required or desired.

Saint-Gobain Directorate General Central Europe, Aachen

Saint-Gobain Group is an international leader in the field of innovative construction and other technical materials, and wanted its new directorate general for Central Europe to stress its "globally leading role in designing living spaces". Which it indeed does, and not just from an aesthetic perspective. The administrative building not only features an impressive room concept tailored to the staff and team work, it also complies with the highest standards of acoustic insulation and climate efficiency as added extras. And it has a fire protection system that not only permits but also invisibly supports design, comfort and functional performance.

FACTS & FIGURES

PROJECT
Saint-Gobain Directorate General Central Europe

LOCATION
Aachen

PROPERTY DEVELOPER
AIRE Aachen KS1 Verwaltungs GmbH

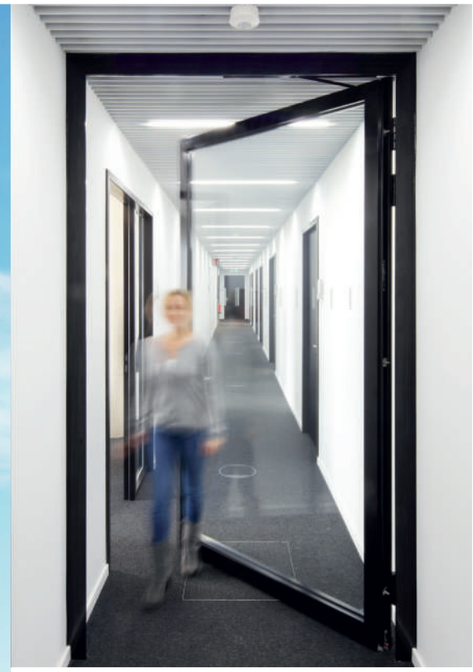
ARCHITECT
kadawittfeldarchitektur GmbH

CONTRACTOR
Heinz Cohnen Bauelemente GmbH & Co. KG

COMPLETION
2015

REQUIREMENTS PROFILE
Exceptional fire protection requirements, quality combined with transparency and design

NOVOFERM PRODUCTS
- NovoFire® system aluminium tubular frame doors
  - RS-1, some with side part
  - T30-1 RS, some with side part
- NovoPorta Premio system multifunctional steel doors



Fire protection with a light touch

One of the leading demands for the building concept of the architects at kadawittfeldarchitektur was transparency, literally the ability to see through things. A requirement that the fire protection concept – which is necessarily complex in a building of this size – also had to comply with. Specifically because the interior architecture is also characterized by transparency and openness, the building occupant was looking for a supplier for the fire resistant and smokeproof doors – of which there are 20, after all – who could assure maximum security standards for individually manufactured products. They finally opted for Novoferm for the visible work areas, with made-to-measure tubular frame door solutions from the NovoFire range, while NovoPorta Premio fire resistant doors – some with glass cutout – were installed in the functional areas in the basement. The client placed great importance on the doors blending into the architectural concept – the building was designed to be open, to encourage communication and encounters, and not to be visibly partitioned by fire resistant doors.

Variable locking function

According to the architect's brief, the fire resistant doors needed to perform a barrier-free function in two respects. Firstly, their width of up to 1.5 m means that wheelchair occupants can easily reach all parts of the building without assistance. Secondly, the architects did not want the necessary division of the building into sections for fire protection reasons to be recognizable in everyday use. Which is why the fire resistant doors in these areas were fitted with hold open mechanisms to create open passageways. If the alarm sounds or in the event of an emergency, the doors close automatically. The fire protection system is able to either close individual doors separately or all of the doors at the same time, depending on the type of alarm. By accurately implementing the requirements of the architectural concept – some of which were very specific– Novoferm proved that design options are possible for property owners nowadays, despite strict fire protection standards and even if a building is large and representative.


© kadawittfeldarchitektur

Catholic University Aachen

The building that now houses the Catholic University in Aachen was erected in1931 by architect Rudolf Schwarz (*1897 - 1961) as a “social school for women” and is a listed early modernist building. Numerous internal changes in use and conversions necessitated upgrading the building to modern fireproofing requirements without sacrificing the original character.

FACTS & FIGURES

PROJECT
Catholic University Aachen

LOCATION
Aachen

PROPERTY DEVELOPER
Diocese of Aachen

ARCHITECT
Architektur- und Brandschutzbüro
Dipl.-Ing. Erika Wald

CONTRACTOR
Alpha Bau GmbH

REQUIREMENTS PROFILE
Conversion of an existing building, transparent fire resistance, all units to look the same

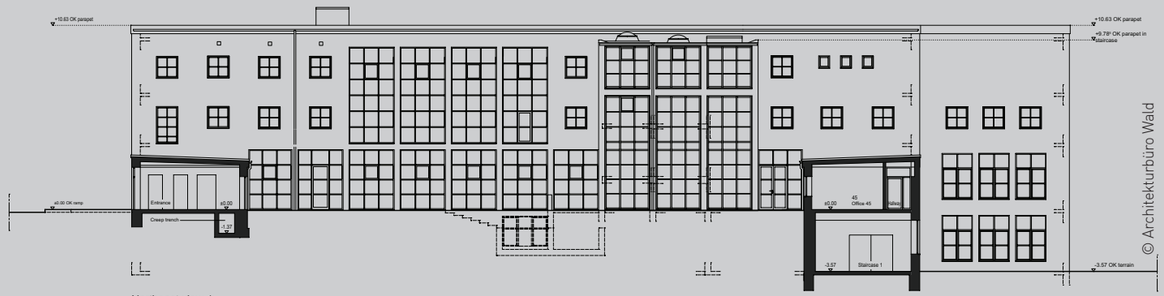
NOVOFERM PRODUCTS
- NovoFire® system aluminium tubular frame doors
  · T30-1 RS
  · T30-1 RS with fanlight
  · RS-1
  · F90 fixed glazing

Fire resistance doors made of glass

Rudolf Schwarz placed great importance on open hallways. The existing configurations had to be preserved or restored while at the same time assuring fire resistance. To achieve this, the planning office of fireproofing expert Erika Wald split the complex into functional units that are separated from each other by self-closing T30-RS fire resistance doors. Designed in glass, their purpose was to detract as little as possible from the original architecture. The planners opted for doors made by Novoferm, primarily because of their identical appearance – regardless of resistance class and grade, irrespective of whether smokeproof or not. The 4 mm wall thickness of the aluminium tubular frames proved to be a further advantage as it permitted the construction of single leaf fire resistance doors with a width of up to 1.56 m, thus largely dispensing with the need for fixed side leaves. This minimizes bottlenecks in the event of an emergency and vastly increases accessibility, especially for wheelchair users.

Past and present

A closer look at the original layout and details shows that the building must have undergone enormous change over the 85 years of its existence. Nevertheless, the structure is quite consistent for the relevant period and very thoroughly thought through with an impressive depth of planning. The new staircase blends seamlessly into the existing listed structure. You might be tempted to ask what is actually new?! You can’t pay a bigger compliment than that to a planner who is committed to preserving the character of a listed building.



Northeast view 1

Bielefeld University of Applied Sciences

Some 300 fire resistant and smokeproof doors from Novoferm's fuego light and presto systems were installed in Bielefeld University of Applied Sciences. They were joined by further exterior fire seals and customized designs. The interior design of the university features some open spaces that span multiple floors. To prevent fires and smoke spreading from one floor to the next yet still maintain the openness of the building design, F30 glazing spanning three or four floors was installed.

FACTS & FIGURES

PROJECT
New construction of Bielefeld University of Applied Sciences

LOCATION
Bielefeld

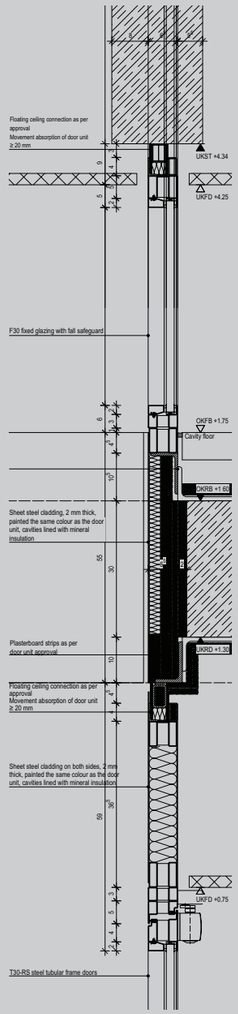
PROPERTY DEVELOPER
Bau- und Liegenschaftsbetrieb NRW, Bielefeld

ARCHITECT
Auer + Weber + Assoziierte GmbH, Stuttgart

CONTRACTOR
Lindner Group

REQUIREMENTS PROFILE
Buildings linked by transparent fire protection solutions

NOVOFERM PRODUCTS
- Novoferm fuego light and presto in steel
  - T30 doors with one and two leaves
  - T90 doors with one and two leaves
  - Smokeproof doors with one and two leaves
  - Fire resistant glazing up to 5 m tall
  - F30 glazing spanning multiple floors



Transparent centre of education

Where so many people come together every day, the management of security requirements is also a matter for professionals. Novoferm steel tubular frame doors were chosen to provide the smoke and fire seals, not just because of their strength but equally on account of their delicate structure and elegant, slimline visible widths. After all, one of the planners' key specifications was transparency.

Fireproof connections

Remarkable elements of this project are the elaborate technical features of the individual fire resistant and smokeproof doors. In the entrance lobby and extensive connecting routes, more than 200 single and double T30 / T90 fire resistant doors from the Novoferm fuego light range and around 90 single and double smokeproof doors from the presto range reliably protect the university from the risks of fire.

Robust and aesthetically pleasing

Where great value is placed on transparency and aesthetics, the sophisticated design requirements extend to include even functional security systems. Novoferm steel tubular frame doors with glazing were chosen as the numerous fire resistant and smokeproof doors for this major project. They really demonstrate their exceptional quality and strength in heavily frequented areas – such as these public spaces with frequently changing traffic – even when exposed to permanent extreme stress or frequent incorrect operation. Added to which, surface damages are quick and easy to repair to a limited extent.

St. Pauli vocational school

Hamburg's biggest vocational school opened in the heart of the St. Pauli district. The biggest vocational training centre in the hanseatic city was built on Budapester Strasse to accommodate some 2,500 students and around 100 teachers. The existing grammar school has been extensively renovated and a five-storey building added – with open learning landscapes in a multifunctional architecture for contemporary learning concepts. The design requirements were dominated by the wish for brightness and transparency, even for the fire protection systems that tend to be mainly functional in appearance.

FACTS & FIGURES

PROJECT
St. Pauli vocational school for banking, insurance and law with vocational grammar school focusing on business

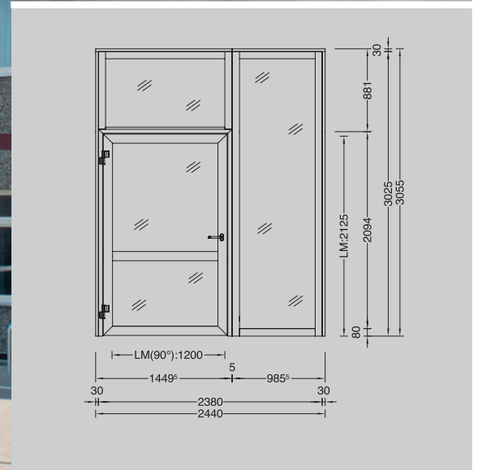
LOCATION
Hamburg

PROPERTY DEVELOPER
Behörde für Schule und Berufsausbildung (BSB)

ARCHITECT
HEOS Berufliche Schulen Hamburg GmbH

REQUIREMENTS PROFILE
Strict fire protection and quality requirements in conjunction with

NOVOFERM PRODUCTS
- NovoFire® system aluminium tubular frame doors
  - T-30 and T-90 doors with side part and fanlight



Fire resistance: functional performance and design

That the architectural design of a school can have a positive impact on the learning achievements of its students is undisputed. There are numerous attractive examples that prove this claim. To an extent, however, the imagination of architects is constrained by legal specifications – such as fire protection regulations. The high quality fire resistant and smokeproof seals in the new vocational training centre are proof that this does not have to be the case. They impressively unite reliable functional performance with an attractive design. NovoFire aluminium systems for doors and walls were installed.

Effective light control

The staircases in the extension were located on the outer edges of the building and clad with a glass façade to maximize light incidence. The planners wanted to use clever light control to effectively channel daylight from the outside far into the adjoining corridors. Special solutions were needed. The clients opted for slimline single and double NovoFire T30 doors with aluminium-glass frame structures, with glazing panels joining the sides to the walls, and fanlights.

Schools as places to live and learn

Monumental school buildings with classrooms leading off to the left and right of dark, grey felt carpeted corridors running through the interior are a thing of the past. Schools are increasingly becoming places to live and learn. Modern education centres feature open designs nowadays, with flexible and bright rooms to help students learn.

Aachen music school

Security is a key issue in this heavily frequented school building where so many children are taught. Which is why it has been systematically upgraded with high quality fire resistant doors. Regardless of whether the doors have one or two leaves, both NovoFire models share the same excellent quality right down to the smallest detail. They are fitted with overhead door closers that can be adjusted with exact accuracy, and are coupled with precision catches and perfectly fitting seals.

FACTS & FIGURES

PROJECT
Aachen music school

LOCATION
Aachen

PROPERTY DEVELOPER
City of Aachen

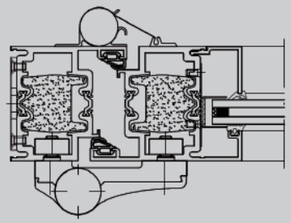
ARCHITECT
Carpus+Partner AG

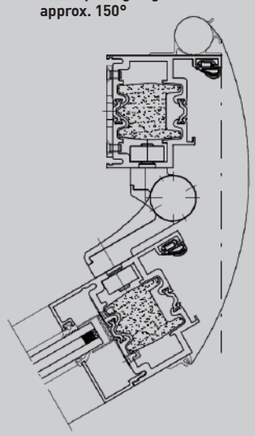
CONTRACTOR
Alpha Bau GmbH

COMPLETION
November 2014

REQUIREMENTS PROFILE
Conversion of existing building, smoke and fire protection, individual design, same visual appearance as existing units

NOVOFERM PRODUCTS
Single and double leaf NovoFire® T30 tubular frame doors made of aluminium





Individually manufactured

Although all of the fire resistant doors installed in this property look the same, each one is in fact unique. The matching engineering design of the components and the pre-assembly of the doors at the factory ensure exceptional functional reliability and durability. The new fire sections with their high quality NovoFire® T30 aluminium tubular frame doors provide security while their bright open character emphasizes the attractive architectural contrast of traditional and modern.

Security and transparency throughout all corridors

To assure the security of the pupils, the entire building was overhauled and fitted with an extended fire protection concept involving the design of new fire sections in keeping with the changed utilization. At the property owner's request, the practice rooms were designed to be spacious, bright, friendly, and exceptionally inviting. Equally, the corridors and hallways – that also serve as the escape routes – were to be bright and transparent. The biggest challenge lay in satisfying the requirement for a visually uniform interior design.

Making music in secure surroundings – with transparent fire protection

Modifying existing buildings is increasingly becoming a core requirement in modern construction culture. Combining existing historical characteristics with modern and transparent fire protection solutions made by Novoferm produces a particularly attractive result. In keeping with the new fire sections, all school corridors were fitted with double NovoFire® T30 aluminium door units with matching fanlights and side panels. These doors are particularly stable thanks to the profile wall thickness of 4 mm, and extremely compact with just one single fire resistant core anchored in the centre. Added to which, the visible width is the same on all models.

Hotel Schelf

These days, modern hotels are faced with particular challenges. Not only is the pressure increasing as the number of competitors grows; guests are also becoming ever more demanding. In this anything but easy market environment, individually managed hotels with customized concepts have a good chance of succeeding. Hotel Schelf is a privately owned hotel on the North Sea coast that combines luxury with a spa and sustainability to create a successful overall product that even incorporates the attractive implementation of challenges such as fire resistance.

FACTS & FIGURES

PROJECT
Hotel Schelf extension

LOCATION
Büsum

PROPERTY DEVELOPER
Uta Hedde von Westernhagen

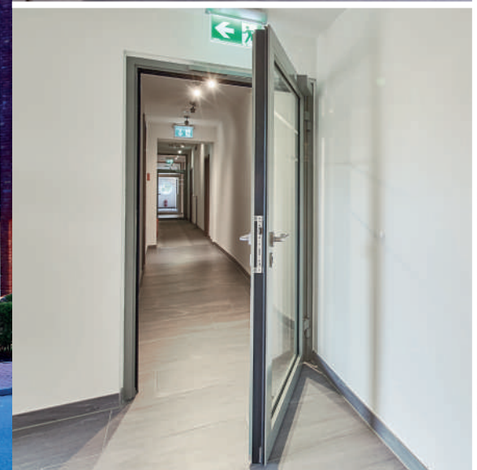
ARCHITECT
Planning team
Ladehoff + Kähler + Petersen

CONTRACTOR
Klar & Rönnau GmbH

COMPLETION
Existing building: 2009
Extension: 2015

REQUIREMENTS PROFILE
Exceptional fire protection requirements, quality combined with transparency and design

NOVOFERM PRODUCTS
- NovoFire® system aluminium tubular frame doors
  · NovoFire® T-90-1
  · NovoFire® T-30-1 with side part
  · NovoFire® T-30-1 XXL



Generous in execution, meticulous in detail

Unlike the straightforward, clearly laid-out architecture with its dark red brickwork, stainless steel and large glazing panels, the interior design placed maximum importance on creating a homely feel in modern surroundings with the use of exquisite materials, light-coloured timber, sand colour scheme and clever lighting design. Because of their particular characteristics, accommodation facilities are more frequently exposed to the risk of fire – from a purely statistical perspective – which is why effective fire protection plays an increasingly important role.

Individual solutions to special requirements

Single leaf, transparent NovoFire® T-90 fire resistant doors were installed on all four floors as fire seals in the transition from first to second construction phase. These doors were exceptionally fitted with electromechanical hold-open systems and linked to smoke detectors. The benefit: In everyday use, the doors can remain open to allow accessible passage between the two areas. In the event of a fire, the doors automatically seal off this highly security-relevant area and stop the fire from spreading.

Elegant transparency

Fire protection requirements are best met when the requisite structural elements also feature a certain design sophistication. After in-depth consultations with the experts, the property owner opted for glass frame structures made of aluminium from Novoferm's NovoFire® system. With its elegant surface finishes, timeless design and numerous variants, this system offers comprehensive scope for designing transparent interior fire and smokeproof seals.

Stadthaus Giessen: Transparently open and citizen friendly

The new city hall in Giessen, which opened in 2009 on Berliner Platz, consists of two buildings: the actual "Verwaltungshaus" that houses the administration and a "Stadthaus", which is home to the citizens advice bureau as well as an art gallery, concert hall and three-storey library, and which has a glass lobby opening onto the square outside. Numerous galleries and atriums that are flooded with daylight coupled with the transparency of the large glass surfaces in the interior were designed to symbolize an open and citizen friendly administration.

FACTS & FIGURES

PROJECT
Stadthaus Giessen

LOCATION
Giessen

PROPERTY DEVELOPER
Town council of Giessen

ARCHITECT
aplus architektur

COMPLETION
April 2009

REQUIREMENTS PROFILE
Fire resistance without compromising on design

NOVOFERM PRODUCTS
NovoFire® T30-1 and -2/F30, with RC2 or RC3 burglar resistance

Exceptional functional performance in sophisticated properties

NovoFire® glass frame structures made of aluminium or steel offer transparent smoke and fire protection coupled with exceptional functional performance. The single or double leaf smokeproof/fire resistant doors can be combined with fixed elements with any sash bar spacing.

Compact security offering multiple benefits

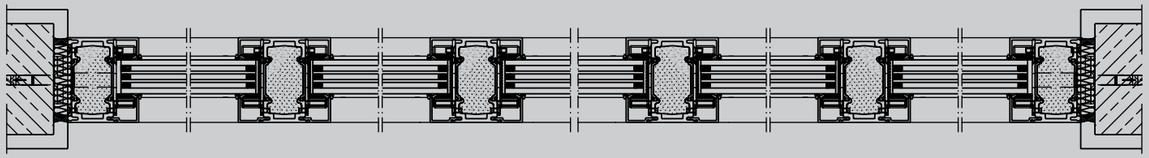
NovoFire® frame and door profiles only require a single fire resistant core, which is anchored in the centre of the profile without the need for additional clamps. This compact design enables a uniform visible width. Three sides of the door rebate on T30 and T90 doors are clad with continuous fireproof strips coated with black PVC.

Exceptional stability for superb durability

At the same time, the doors only need two hinges, thanks to the strengthening profiles, which in turn reduces the time and effort needed for adjustment and maintenance while making sure the door leaves operate smoothly. The dry glazing with EPDM seals ensures a durable and easy-care transition from profile to glass.

Uncompromising design

NovoFire® glass frame structures guarantee fire protection without compromising on design– by ensuring a consistently identical appearance of smokeproof seals, by enabling doors to be combined with side parts and fanlights, by using just two hinges on each leaf, and by ensuring the flush design of the frame and door profiles.



ECE Projektmanagement: Clever connections

Mail order pioneer Werner Otto was always driven by the need to find the most effective access to customers. Not just through catalogues, but face to face with buyers, in large shopping centres. What started as an idea when ECE was established back in 1965 has since become a common feature of many an urban landscape: The company now operates some 140 shopping centres, many of which it designed and built itself. When a corporation operating in this field designs its own headquarters, you can expect the standards to be particularly demanding – even for halls and corridors, i.e. in-house connections.

FACTS & FIGURES

PROJECT
ECE Projektmanagement

LOCATION
Hamburg

PROPERTY DEVELOPER
KG Grundstückgesellschaft Klosterstern mbH & CO

ARCHITECT
ECE Projektmanagement

COMPLETION
June 2009

REQUIREMENTS PROFILE
Exceptional fire protection, quality, functionality, and personality requirements

NOVOFERM PRODUCTS
Fireproof, sheet steel and aluminium tubular frame doors

Fire safety in a spider's web of corridors

Transparent fire resistant doors made of steel tubular profiles were the perfect solution from both a technical and visual perspective. The slim 65 mm frame structure accommodates glazing with properties designed to suit requirements, thus producing a building code approved system unit: fire retardant or fireproof, optionally smoke retardant and/or soundproof.

Close reliably despite changes in air pressure

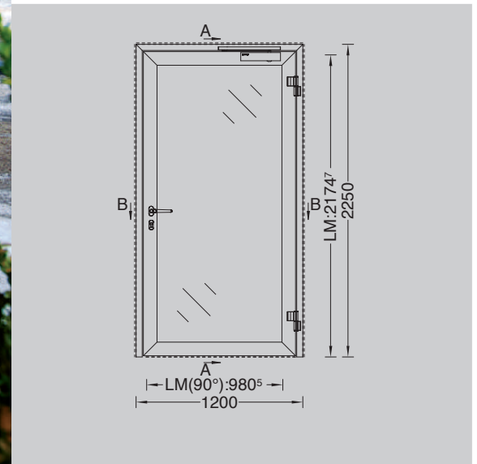
Novoferm fire resistant units are fitted with integrated overhead door closers that can be adjusted with exact accuracy, and coupled with precision catches and perfectly fitting seals – quality down to the very last detail. Individual adjustments are therefore possible to ensure that doors close safely without banging and can be opened easily without force.

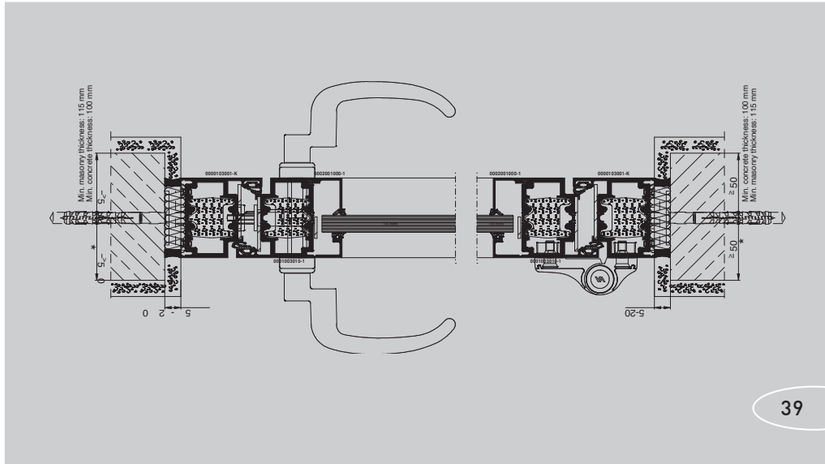
Reliable access control despite exceptional pressure to perform

Single and double leaf fire resistant doors and sheet steel multipurpose doors reliably protect this enormously security-relevant part of the building against fire and smoke while at the same time making unauthorized access much more difficult.

Functional reliability in an emergency

In the event of a fire, Novoferm sliding fire doors close automatically and prevent the flames from spreading. Security is guaranteed by the high quality materials, particularly the moving parts, such as the tubular track system with double pairs of rollers, or the electrical hold open system and standard alarm that sounds when the door is triggered.





Germanischer Lloyd SE: Modern openness

Germanischer Lloyd SE brought together its teams from 14 offices when it moved into its new headquarters in Hamburg's HafenCity in 2010. The architectural design with contrasting traditional and modern styles emphasizes what it is that defines the functional performance of the open plan office landscapes: On a floor area measuring 45,000 m², specialists from all sorts of disciplines work hard to secure their common goal – safety in maritime and energy business.

FACTS & FIGURES

PROJECT
Germanischer Lloyd SE

LOCATION
Hamburg

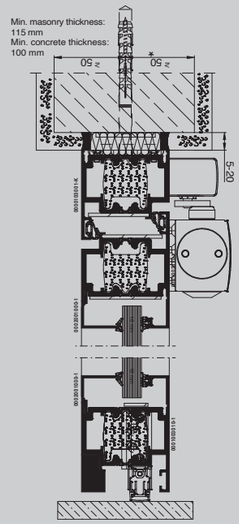
PROPERTY DEVELOPER
Germanischer Lloyd SE

ARCHITECT
Jan Störmer

COMPLETION
October 2010

REQUIREMENTS PROFILE
Contrast of traditional and modern, combined with security

NOVOFERM PRODUCTS
Fireproof, sheet steel and aluminium tubular frame doors



Uniform design featuring aluminium, glass and steel

Novoferm can offer expert advice and a NovoFire® product range that is as broad as it is variable and can satisfy virtually all requirements: fire retardant, fireproof, smoke retardant, soundproof and burglar resistant.

Variable adaptation with top and side panels

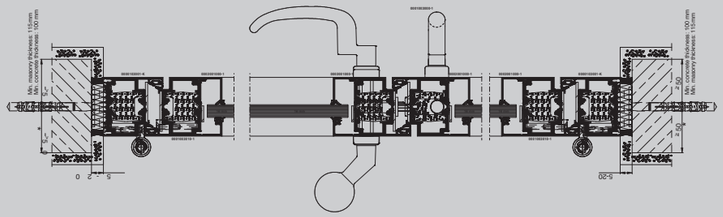
The passage heights and widths in the building vary. Matching top and side panels in the requisite protection class create a pleasing overall appearance. The aluminium tubular frame construction can accommodate both glass and aluminium panels powder coated in the same colour as the frame.

Integrated soundproofing and/or smoke protection, virtually invisible

In the seminar area at Germanischer Lloyd SE, maximum peace and quiet is a must. Which is why the doors in this area have been specially fitted with soundproofing. In the event of a fire, additional smoke protection at neuralgic points and automatic door closers with integrated hold open mechanisms ensure maximum safety. Soundproofing, fire resistance and smoke protection are thus combined virtually invisibly to suit specific requirements.

An individual solution for each individual door

All of the doors are perceived as being identical – and yet nearly every single one of them is unique. The matching engineering design of the components and the pre-assembly of door and operator at the factory ensure functional reliability and durability.



EmslandArena: Fire protection doors

The EmslandArena – designed to be a multifunctional venue by pbr Planungsbüro Rohling AG, Osnabrück – is a lighthouse project of more than just regional importance. It strengthens the importance of Lingen/Ems and adds a whole new dimension to the cultural programme in the region. Installations include eight aluminium exterior doors, eight NovoFire® smokeproof doors, 27 T90 sheet steel doors, 293 T30 sheet steel doors and 56 multipurpose sheet steel doors. On this project, Novoferm proved its ability to provide not just integrated solutions tailored to individual requirements but also innovative design solutions.

FACTS & FIGURES

PROJECT
EmslandArena

LOCATION
Lingen

PROPERTY DEVELOPER
Town of Lingen

ARCHITECT
pbr Planungsbüro Rohling AG

COMPLETION
November 2013

REQUIREMENTS PROFILE
Exceptional fire protection, quality, functionality, and personality requirements

NOVOFERM PRODUCTS
Fireproof, sheet steel and aluminium tubular frame doors

© Alfred Büttel

Secure multipurpose arena in the Emsland region

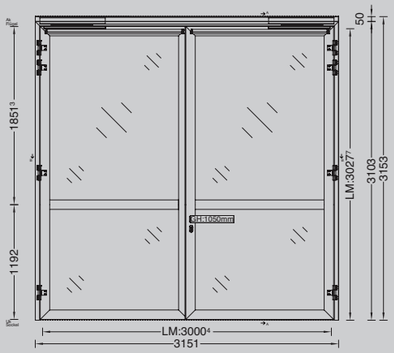
The Arena is a solid structure built of reinforced steel floors, bearing walls and beams. It contains a hall for events, with a foyer out front and service areas. The options for utilizing the 5,500 m² of floor space are varied,

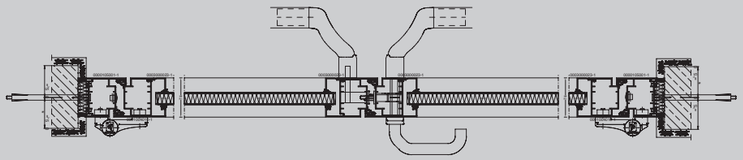
Customized solution: Aluminium tubular frame doors

Maximum security and functional reliability were demanded when building the Arena. Originally, all of the fire resistant doors were supposed to be made of sheet steel, but this proved impossible in light of the difficult ratio of width to height of the doors. As an experienced system provider, Novoferm was able to come up with a solution to the problem in the shape of a made-to-measure aluminium tubular frame door that was exactly suited to the property.

Fire resistant doors that perform a dual function

All of the outer fire resistance doors perform a dual function. Fitted with swing door operators and smoke detectors, their smoke extraction function ensures they are opened automatically by a central controller in the event of a fire with smoke development. To ensure reliable performance of this function even if the power is cut off in the event of a fire, they have their own separate battery and panic function. Novoferm, one of Europe's leading system suppliers of doors, garage doors, frames and operators, demonstrated its ability to provide all the equipment needed for fire resistant and multifunctional doors.





ONE Goetheplaza: The new top address for premium shoppers

"ONE Goetheplaza" recently opened in Frankfurt. This attractive top shopping address for trend brands and luxury labels is located in a prime city centre location with direct access to the business and banking district. The planning efforts involved restructuring a city centre complex through demolition and construction of new prime office and retail space. Some 120 single and double leaf fire resistant doors from this hugely varied system were installed within the complex. 23 NovoFire® smokeproof and 96 fire resistant doors with T30 respectively T90 classification, some with full panic function.

FACTS & FIGURES

PROJECT
ONE Goetheplaza

LOCATION
Frankfurt

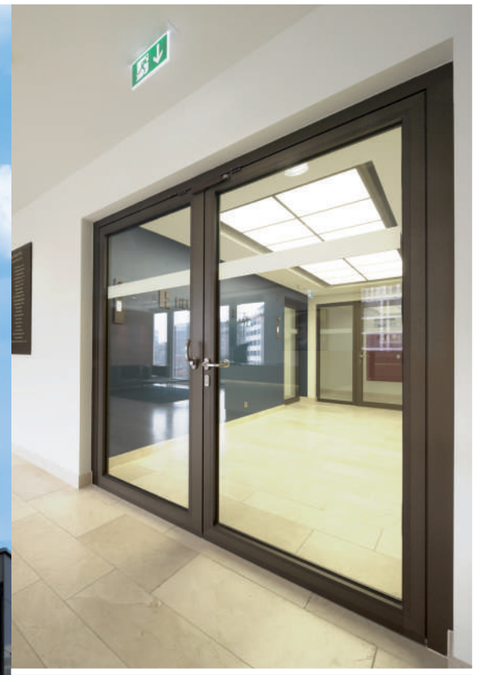
PROPERTY DEVELOPER
FREO Group Holding

ARCHITECT
Professor Christoph Mäckler Architekten

COMPLETION
May 2014

REQUIREMENTS PROFILE
Attractively designed fire resistance

NOVOFERM PRODUCTS
Fireproof and aluminium tubular frame doors

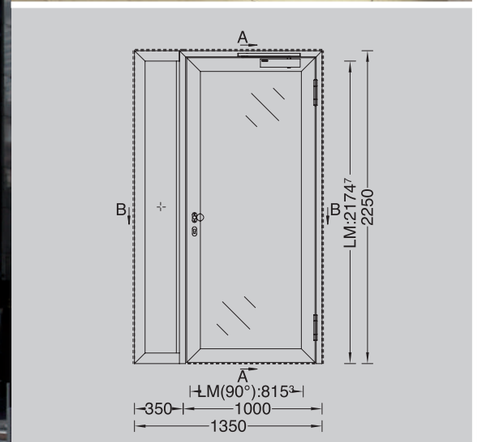


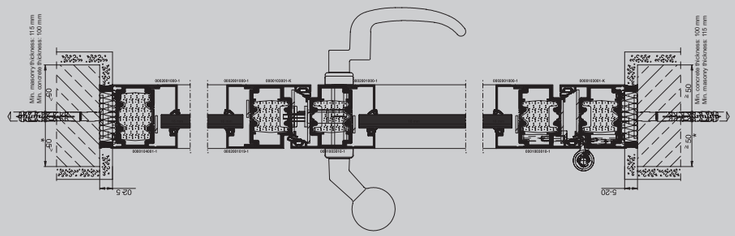
Sophisticated design requirement

The ensemble forms the entrance portal to Frankfurt's noblest shopping street. The interior design was correspondingly sophisticated. The fire resistant doors, which generally tend to feature a design that is more functional than anything else, proved to be a real challenge. The architects opted for aluminium tubular frame doors from Novoferm's NovoFire® system,not just due to their functional properties, but also because of their design language featuring a clear structure and elegant surface finishes.

Functional reliability in an emergency

The main staircase required particularly good protection against the impacts of fire. While ventilated corridors and staircases ensure a pleasant room climate, they also present a special challenge when it comes to door technology: The changes in air pressure in the individual sections produce regular fluctuations in the forces needed to activate the doors. If, in the event of a fire, both doors within a section close – creating an airlock – overpressure accumulates in the interior, which prevents the doors closing fully and automatically. The fire protection function is at risk as a result. A fundamental problem that was resolved in Frankfurt through the exceptional functional performance of the fire resistance doors that were installed in the building. The overhead door closers integrated into this system can be adjusted with exact accuracy, and are coupled with precision catches and perfectly fitting seals. One door closes shortly after the other. The overpressure can escape. Which can save lives in an emergency. The NovoFire® fire resistant doors are not just functional; they also blend perfectly into the sophisticated architectural surroundings.





Extract from our reference list:

ONE Goetheplaza, Frankfurt
Saint Gobain, Aachen
EmslandArena, Lingen
Daimler, Berlin and Stuttgart
Borussia-Park, Mönchengladbach
Fraunhofer Institut, Bad Godesberg
Bielefeld University of Applied Sciences
Athens Airport
Boys' boarding school, Dubai
Girls' boarding school, Dubai
Goldpfeil, Offenbach
Sparkasse, Constance
Hotel Schelf, Büsum
Zeche Nordstern, Bochum
Kassenärztliche Vereinigung, Munich
BMW, Leipzig
Stadthaus Giessen, Giessen
ECE, Hamburg
Germanischer Lloyd SE, Hamburg

For a sustainable future

Our products meet the requirements of an environmental product declaration (EPD) as per ISO 14025 and EN 15804 of the programme for environmental product declarations managed by the Institute for Construction and Environment (IBU) based on standard EN 15804.

EPD as per ISO 14025 and EN 15804

Life cycle assessment as per DIN ISO 14040 / 14044

Product Category Rules (PCR) for Doors

Institut Bauen und Umwelt e.V.

Certified by:

- ISO 9001 Quality Management
- ISO 14001 Environmental Protection Management
- OHSAS 18001 Occupational Health and Safety Management

Novoferm banks on a sustainable ecological future

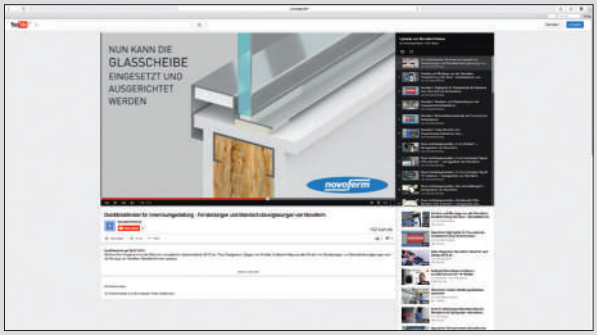
Novoferm – active on all online media for you!

Online platform for digital information

Our website www.novoferm.com offers construction experts a clearly structured platform for quickly and easily obtaining comprehensive information about our products.

Please feel free to contact us directly online. Either we will be able to help you straight away, or we can forward your enquiry to a Novoferm sales partner near you.

www.novoferm.de



Social media for more dialogue and movement

Gain a quick overview of our products – animated and in colour. And then share your opinion with others.

Novoferm goes YouTube.The videos shown on our channel provide a vivid demonstration of the features and benefits of our products. The animated presentations and practical tips provide you with a convincing illustration of the Novoferm product range.

www.youtube.de/NovofermVideos

Novoferm. Local. Throughout Europe.

Novoferm Group is one of Europe's leading system suppliers of doors, garage doors, frames and operators. We offer a broad range of products and services for private, commercial and industrial applications. All our products are manufactured to the highest standards of quality and reflect best engineering practice. We combine maximum functionality with innovative design. We manufacture our products in various international locations and with our Europe-wide network we are always available to help you – wherever you are!

Your Novoferm sales partner

32 505 551/1016/7.5/NW

Novoferm Vertriebs GmbH
Schüttensteiner Str. 26
46419 Isselburg, Germany
Phone:+49 (0) 2850 910-700
Fax:+49 (0) 2850 910-646
E-Mail: vertrieb@novoferm.de

www.novoferm.de

Novoferm YouTube-Channel **www.youtube.com/NovofermVideos**