



Fireproof and smokeproof seals in profile frames

Contemporary glass architecture incorporating doors
and wall elements



Room experiences made of glass and metal

Profile frames from Novoferm create room experiences made of glass and metal. In a choice of aluminium or steel, and combined with generous 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.





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Enhanced possibilities, fewer restrictions

Fire protection requirements are best met when the requisite structural elements feature a certain design sophistication. We know that architects and property owners want a broadly diversified programme, especially in property construction, that features individual elements with matching designs. The ranges of profile frames in this brochure 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. Only for fireproof units the height is limited by building laws to a maximum 3,500, 4,000 or 5,000 mm – depending on the type. NovoFire® aluminium systems are now also available with an elegant stainless steel finish; thermally separated elements, for example for doors to the outside, are supplied in steel. 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 finish, timeless design and numerous options, 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 transom windows and/or side elements can be versatilely combined with each other. NovoFire® systems are particularly stable, thanks to the profile wall thickness of 4 mm, and extremely compact, due to the single fireproof 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.



The “anodized aluminium” finish looks like stainless steel

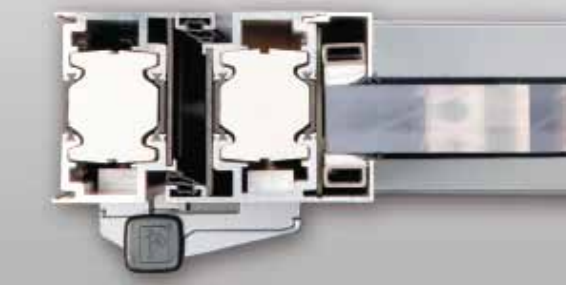




The fire protection core, which is anchored in the middle, leaves space free on each side which can be used, e.g., for cable routing or for fastening add-on parts.



The area surrounding the two hinges is reinforced on the inside for added stability.



Do you demand high standards of both function and design? Then our solutions are the perfect answer.

The most important features to start with: Smokeproof in acc. with DIN 18095, fire resistance classes T30 / F30 (EI 30) or T90 / F90 (EI 90) in acc. with DIN 4102, burglar resistance in acc. with EN V1627 for T30 (EI 30) doors in classes WK1 or WK2, optionally also available in WK3. Single or double leaf smokeproof/fire-resistant doors can be combined with fixed elements with any transom spacing up to 4.0 m (F90 / EI 90) or 5.0 m (F30 / EI 30) in height. Upper door closer, electric opener or anti-panic functions in accordance with EN 179 or EN 1125 can be integrated. This broad range of functions obviously offers huge scope for numerous applications.

The design is consistently aligned to this philosophy. All of the systems are identical in appearance, and the doors, side elements and transom windows can be combined at will: two factors that are particularly welcomed in sophisticated property construction. When the frame and door profiles lie flush alongside each other as well, the value of a certain unwillingness to compromise becomes evident: The simplicity of the shapes offers users maximum scope for design.

System description

Aluminium door element 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 / EI 30) or 90 mm (T90 / EI 90). The inactive leaf on a double door unit must not be less than 500 mm. The elements are pre-assembled for bushing assembly or weld-on fitting.

Hardware

Mortice lock, pre-assembled for profile cylinder, handle or knob levers with oval rosette plates in aluminium, stainless steel or plastic. The inactive leaf is fixed by a rebate retracting bolt at the top. An anti-panic function that complies with EN 179 or EN 1125 is also possible as an alternative. Slide channel upper door closers in compliance with EN 1154, e.g. GEZE TS 5000/Dorma TS 93, integrated door closing systems (Dorma ITS 96), swing door operation in accordance with DIN 18263/DIN 18650.

Hinges

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

Surface

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

Glazing

Laminated (LSG) or tempered (TSG) 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.

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, structures surrounding smokeproof and fireproof seals. 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 for use in door systems to the outside: “Unico” is fitted with innovative thermal separation made of stainless steel which permits a particularly narrow visible width.

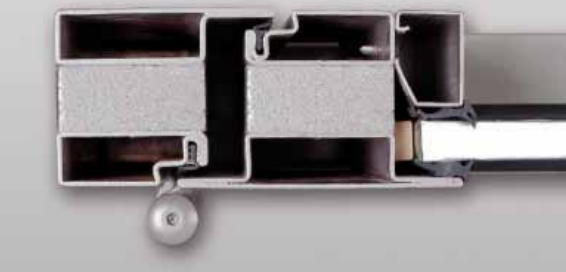




The fire protection core, which is anchored in the middle, leaves space free on each side which can be used, e.g., for cable routing or for fastening add-on parts.



The area surrounding the two hinges is reinforced on the inside for added stability.



Can you imagine just what such a door has to cope with at an airport?

First the basics: Smokeproof in acc. with DIN 18095, fire resistance classes T30 / F30 (EI 30) or T90 / F90 (EI 90) in acc. with DIN 4102, and – for certain versions – burglar resistance in acc. with EN V1627 up to WK3. Single or double leaf smokeproof/fire-resistant doors can be combined with fixed elements with any transom spacing up to 4.0 m (F90 / EI 90) or 5.0 m (F30 / EI 30) in height. Upper door closer, electric opener or anti-panic functions in accordance with EN 179 or EN 1125 can be integrated.

Steel profile tube systems contribute substantially towards professionally satisfying the need for security; a need that has been steadily increasing for years. This applies not only to the requirements in terms of technical functionality, but also to the ability to withstand extreme continuous stress. Steel really demonstrates its qualities in areas with particularly high volumes of traffic, such as railway stations or airports. High quality solutions for additional options, such as burglar protection, are also possible with these systems. That is quality made by Novoferm.

System description: “Presto” and “Fuego light”*

Door element 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 elements are pre-assembled for bushing assembly or weld-on fitting.

Hardware

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

Hinges

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

Surface

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

Glazing












Laminated or tempered 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.

*System description: “Unico”, see page 14

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

Resistance class		RS				
		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 transom 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	-	-	-	•	
	Angles	-	-	-	-	
	Widening	•	•	•	•	
Dimensions	Shell dimension (larger dimensions possible through use of frame variants)	Width min. – max.	624 - 1834*	n.a.	1500 - 3270*	unlimited
		Height min. – max.	1750 - 3135*	n.a.	1750 - 3135*	max. 5000 ^{1) 2)}
	Outer frame dimension (larger dimensions possible through use of frame variants)	Width min. – max.	604 - 1804*	621 - 1821*	1470 - 3240*	unlimited
		Height min. – max.	1740 - 3120*	1749 - 3129*	1740 - 3120*	max. 4985 ^{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 leaf	Structural depth	74	74	74	74	
	View	150	159	150	75	
	Pedestal height	98 - 238	98 - 238	98 - 238	75 - 225	
	Glued transom / Slide mechanism profile	20 - 140 / 98	20 - 140 / 98	20 - 140 / 98	20 - 140 / 98	
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 studs/bolts	≥ 95	≥ 95	≥ 95	≥ 95	
	Partition walls, wood studs/bolts	≥ 105	≥ 105	≥ 105	≥ 105	
	Steel structure clad/unclad	•	•	•	•	
	Door / glazing combination	•	•	•	•	
Z-frames	-	-	-	-		
Fillings	LSG or TSG	1302 x 2782	1302 x 2782	1302 x 2782	n.a.	
	Panelling	•	•	•	•	
	Glass / panelling	•	•	•	•	
	Glass	Wet glazing	•	•	•	•
Dry glazing		•	•	•	•	
Design variants	with transom window and side element OFD height	•	•	•	•	
	with transom window OFD height	•	-	•	•	
	with side element OFD width	•	-	•	•	
	Smoke protection door in accordance with DIN 18095 (in combination with DIN 4102)	•	•	•	•	
	Sound insulation max. $R_{w,P}$ ($R_{w,R}$)	42 [37]	-	42 [37]	-	
Test certificate/Registration numbers	P-120003623-10	-	P-120003623-10	-		

• possible – not possible









* incl. 120 mm wider door frame on the left and right hand sides and at the top

¹⁾ in keeping with static requirement

²⁾ Installation of the RS-1 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. $H \leq 3500$ without stiffening tube, $H \leq 4000$ with Al tube 80 x 50 x 4, $H \leq 4500$ with Al tube 100 x 50 x 4, $H \leq 5000$ with Al tube 120 x 50 x 4

All dimensions indicated in mm, OFD = Outer frame dimension

T30-1 (EI 30) door, T30-2 (EI 30) door, F30 (EI 30) fire-resistant glazing, "NovoFire" system

Resistance class		T30 (EI 30)			F30 (EI 30)	
Type		NovoFire T30-1 (EI 30)	NovoFire T30-1 (EI 30) combination door	NovoFire T30-2 (EI 30)	NovoFire F30 (EI 30) with T30 (EI 30)	
Models	Doors and fixed units with glazing					
	Doors can be combined with fixed units – in any transom 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	-	-	-	•	
	Angles	-	-	-	-	
	Widening	•	•	•	•	
Dimensions	Shell dimension (larger dimensions possible through use of frame variants)	Width min. – max.	634 - 1834*	811 - 3312*	1500 - 3270*	unlimited
		Height min. – max.	1755 - 3135*	1915 - 3820*	1755 - 3135*	max. 5000 ^{1) 2)}
	Outer frame dimension (larger dimensions possible through use of frame variants)	Width min. – max.	604 - 1804*	781 - 3282*	1470 - 3240*	unlimited
		Height min. – max.	1740 - 3120*	1900 - 3805*	1740 - 3120*	max. 4985 ^{1) 2)}
	Clear passage when opened 180°	Width min. – max.	453 - 1412	453 - 1413	1320 - 2850	-
		Height min. – max.	1665 - 2925	1665 - 2616	1665 - 2925	-
Door leaf	Structural depth	74	74	74	74	
	View	150	159	150	75	
	Pedestal height	98 - 238	98 - 238	98 - 238	75 - 225	
	Glued transom / Slide mechanism profile	20 - 140 / 98	20 - 140 / 98	20 - 140 / 98	20 - 140 / 98	
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 studs/bolts	≥ 95	≥ 95	≥ 95	≥ 95	
	Partition walls, wood studs/bolts	-	-	-	≥ 105	
	Steel structure clad/unclad	•	•	•	•	
	Door / glazing combination	•	•	•	•	
	Z-frames	-	-	-	-	
Fillings	Contraflam 30 - 1 / Contraflam 30 - V6 (Contraflam 30 - V22) / Contraflam 30 - V24 (Contraflam 30 - V26) / Contraflam 30 IGU max. width x height		1208 x 2261 939 x 2413 2345 x 1219		2200 x 1400 2345 x 1219 1400 x 2413	
	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	
	Panelling	•	•	•	•	
	Glass / panelling	•	•	•	•	
	Glass	Wet glazing	•	•	•	•
		Dry glazing	•	•	•	•
Design variants	with transom window and side element OFD height	•	•	•	•	
	with transom window OFD height	•	•	•	•	
	with side part	•	-	•	•	
	Smoke protection door in accordance with DIN 18095 (in combination with DIN 4102)	•	•	•	•	
	Sound insulation max. R _{w,F} (R _{w,R})	40 (35)	-	40 (35)	-	
Test certificate/Registration numbers	Z-6.20-1845	Z-6.20-1845 Z-19.14-1769	Z-6.20-1845	Z-19.14-1769		

• possible – not possible







* incl. 120 mm wider door frame on the left and right hand sides and at the top

¹⁾ in keeping with static requirement

²⁾ Installation of the T30-1 (EI 30) or T30-2 (EI 30) door in the F30 (EI 30) fire-resistant glazing: 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 dimensions indicated in mm, OFD = Outer frame dimension

T90-1 (EI 90) door, T90-2 (EI 90) door, F90 (EI 90) fire-resistant glazing, "NovoFire" system

Resistance class		T90 (EI 90)		F90 (EI 90)	
Type		NovoFire T90-1 (EI 90)	NovoFire T90-2 (EI 90)	NovoFire F90 (EI 90) with T90 (EI 90)	
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units – in any transom spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf	1 2	1 2	Any	
Element design	Slants	-	-	-	
	Arches	-	-	-	
	Recesses	-	-	•	
	Angles	-	-	-	
	Widening	•	•	•	
Dimensions	Shell dimension (larger dimensions possible through use of frame variants)	Width min. – max.	624 - 1730*	1500 - 2730*	unlimited
		Height min. – max.	1750 - 2610*	1750 - 2610*	max. 4000 ¹⁾²⁾
	Outer frame dimension (larger dimensions possible through use of frame variants)	Width min. – max.	604 - 1710*	1470 - 2700*	unlimited
		Height min. – max.	1740 - 2600*	1740 - 2600*	max. 3985 ¹⁾²⁾
	Clear passage when opened 180°	Width min. – max.	454 - 1320	1320 - 2310	-
		Height min. – max.	1665 - 2405	1665 - 2405	-
Door leaf	Structural depth	90	90	90	
	View	150	150	75	
	Pedestal height	98 - 238	98 - 238	75 - 225	
	Glued transom / Slide mechanism profile	20 - 140 / 98	20 - 140 / 98	20 - 140 / 98	
Walls	Masonry	≥ 175	≥ 175	≥ 175	
	Concrete	≥ 140	≥ 140	≥ 140	
	Foam mortar or precision blocks	≥ 200	≥ 200	≥ 175	
	Foam mortar slabs	≥ 175	≥ 175	≥ 175	
	Partition walls	≥ 95	≥ 95	≥ 95	
	Steel structure, cladded	•	•	•	
	Wood structure, cladded	-	-	•	
	Door / glazing combination	•	•	•	
Z-frames	-	-	-		
Fillings	Contraflam 90	Width x height max.	1208 x 2261	1208 x 2261	1400 x 2400 2200 x 1400
		** Transom window	2347 x 939 **		
		*** Side element	939 x 2413 ***		
	Pyrostop type 90-1	Width x height	≤ 1208 x ≤ 2261	≤ 1208 x ≤ 2261	1400 x 2400 2200 x 1400
		Total surface area	≤ 2,44 m ²		
		** Transom window	2347 x 939 **		
	Pyrostop type 90-2	*** Side element	939 x 2413 ***		1400 x 2400 2200 x 1400
		Width x height	≤ 1208 x ≤ 2261	≤ 1208 x ≤ 2261	
		Total surface area	≤ 2,21 m ²		
		** Transom window	2347 x 939 **		
	Panelling	Wet glazing	•	•	•
		Dry glazing	•	•	•
Glass / panelling		•	•	•	
Design variants	with transom window and side element OFD height	•	•	•	
	with transom window OFD height	•	•	•	
	with side element OFD width	•	•	•	
	Smoke protection door in accordance with DIN 18095 (in combination with DIN 4102)	•	•	•	
	Sound insulation max. R _{w,F} (R _{w,R})	42 (37)	42 (37)	-	
Test certificate/Registration numbers	Z-6.20-1836	Z-6.20-1836	Z-19.14-1771		

• possible – not possible

* incl. 120 mm wider door frame on the left and right hand sides and at the top











¹⁾ in keeping with static requirement

²⁾ Installation of the T90-1 (EI 90) or T90-2 (EI 90) door in the F90 fire-resistant glazing: 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 dimensions indicated in mm, OFD = Outer frame dimension







RS-1 door, RS-2 door, fixed glazing, "Forster Presto"

Resistance class		RS			G30		
Type		Presto RS-1	Presto RS-2	Presto glazing wall	Presto G30	Presto G30 ²⁾	
Models	Doors and fixed units with glazing						
	Doors can be combined with fixed units – in any transom spacing						
	Vertical sash bars on each leaf or horizontal sash bars on each leaf	1 2	1 2	Any	Any	Any	
Element design	Slants	-	-	•	-	•	
	Arches	-	-	•	-	•	
	Recesses	-	-	•	-	•	
	Angles	-	-	•	-	•	
	Widening	•	•	•	-	•	
Dimensions	Shell dimension (larger dimensions possible through use of frame variants)	Width min. – max.	610 - 1570	1610 - 2970	unlimited ¹⁾	unlimited ¹⁾	
		Height min. – max.	1745 - 3085	1745 - 3085	unlimited ¹⁾	3515	
		Height (with transom window)	unlimited ¹⁾	unlimited ¹⁾	-	-	
	Outer frame dimension (larger dimensions possible through use of frame variants)	Width min. – max.	580 - 1540	1580 - 2940	unlimited ¹⁾	unlimited ¹⁾	
		Height min. – max.	1730 - 3070	1730 - 3070	unlimited ¹⁾	3500	
		Height (with transom window)	unlimited ¹⁾	unlimited ¹⁾	-	-	
Clear passage when opened 180°	Width min. – max.	440 - 1400	1440 - 2800	-	-		
	Height min. – max.	1660 - 3000	1660 - 3000	-	-		
Door leaf	Structural depth	50	50	50	50	50	
	View	130	130 / 150	70 / 90	70 / 90	70 / 90	
	Pedestal height	70, 90, 140 - 440	70, 90, 140 - 440	70, 90, 140 - 440	70, 90	70	
	Sash bar width incl. window bar/rebate, vertical	40, 80, 90, 140 - 440	40, 80, 90, 140 - 440	40, 80, 90, 140 - 440	80, 90, 140	80, 90, 140	
	Sash bar width incl. window bar/rebate, horizontal	40, 80, 90, 140 - 440	40, 80, 90, 140 - 440	40, 80, 90, 140 - 440	80, 90, 140	80, 90, 140	
Walls	Masonry	≥ 115	≥ 115	≥ 115	≥ 115	≥ 115	
	Concrete	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100	
	Foam mortar	≥ 150	≥ 150	≥ 150	-	≥ 150	
	Partition walls	≥ 100	≥ 100	≥ 100 ³⁾	≥ 100	≥ 100	
	Door / glazing combination	•	•	•	-	-	
	Z-frames	•	•	-	-	-	
	Steel and wood supports / beams (for G30, F30 version)	•	•	•	-	•	
Fillings	Glazing of choice from 5 mm max. width x height	Door size	Door size	unlimited ¹⁾	-	-	
	G30 glazing of choice from 5 mm max. width x height	•	•	•	1000 x 2000 2000 x 1000	-	
	Pyran S (G30) max. width x height	•	•	•	1000 x 2000 2000 x 1000	1600 x 3000 3000 x 1600	
	Panelling	•	•	•	-	•	
	Glass / panelling	•	•	•	-	•	
	Glass	Wet glazing	•	•	•	•	•
		Dry glazing	•	•	•	-	-
Design variants	with transom window and side element OFD height	unlimited ¹⁾	unlimited ¹⁾	-	-	-	
	with transom window OFD height	unlimited ¹⁾	unlimited ¹⁾	-	-	-	
	with side element OFD width	unlimited ¹⁾	unlimited ¹⁾	-	-	-	
Test certificate/Registration numbers		P12000403-01	P12000403-02	-	Z-19.14-508	Z-19.14-1524	

• possible – not possible ¹⁾ in keeping with static requirement ²⁾ only if Pyran glass is used

All dimensions indicated in mm, OFD = Outer frame dimension

T30-1 (EI 30) door, T30-2 (EI 30) door, F30 (EI 30) fixed glazing, "Forster Fuego light T30 / F30 (EI 30)"

Resistance class		T30 (EI 30)		F30 (EI 30)	
Type		Fuego light T30-1 (EI 30)	Fuego light T30-2 (EI 30)	Fuego light F30 (EI 30)	
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units – in any transom spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf	1 2	1 2	Any	
Element design	Slants	-	-	•	
	Arches	-	-	•	
	Recesses	-	-	-	
	Angles	-	-	•	
	Widening	•	•	•	
Dimensions	Shell dimension	Width min. – max.	730 - 2030	1430 - 3460	unlimited ¹⁾
		Height min. – max.	1740 - 3315	1740 - 3315	4015
		Height (with transom window)	4515	4515	-
	Outer frame dimension	Width min. – max.	700 - 2000	1400 - 3430	unlimited ¹⁾
		Height min. – max.	1725 - 3300	1725 - 3300	4000
		Height (with transom window)	4500	4500	-
Clear passage when opened 180°	Width min. – max.	560 - 1400	1260 - 2830	-	
	Height min. – max.	1655 - 3000	1655 - 3000	-	
Door leaf	Structural depth	65	65	65	
	View	130	130 / 150	70 / 90	
	Pedestal height incl. window bar/rebate	70, 90, 140 - 340	70, 90, 140 - 340	70, 90, 140 - 340	
	Sash bar width incl. window bar/rebate, vertical	90	90	90	
	Sash bar width incl. window bar/rebate, horizontal	90, 140 - 340	90, 140 - 340	90, 140 - 340	
Walls	Masonry	≥ 115 ²⁾	≥ 115 ²⁾	≥ 115	
	Concrete	≥ 100 ³⁾	≥ 100 ³⁾	≥ 100	
	Foam mortar	≥ 150 ⁴⁾	≥ 150 ⁴⁾	≥ 150	
	Partition walls	≥ 100 ⁵⁾	≥ 100 ⁵⁾	≥ 100	
	Door / glazing combination	•	•	•	
	Z-frames	•	•	•	
Fillings	Pyrostop 30-1x; 30-2x Width x height max.	1400 x 2400	1400 x 2400	1400 x 2400	
		2400 x 1400	2400 x 1400	2400 x 1400	
	Pyrostop 30-2x; 30-101 Width x height max.	1400 x 2864	1400 x 2864	1400 x 2864	
	Panelling, max. width x height	1400 x 2400	1400 x 2400	1400 x 2400	
	Glass / panelling	•	•	•	
		Glass	Wet glazing	•	•
Dry glazing			•	•	
Design variants	with transom window and side element OFD height	3500 ⁶⁾ 7)	4500 ⁶⁾ 7)	-	
	with transom window OFD height	4500 ⁸⁾	4500 ⁸⁾	-	
	with side element OFD width	3500 ⁶⁾	4500 ⁶⁾	-	
	Smoke protection door in accordance with DIN 18095 (in combination with DIN 4102)	•	•	-	
	Approval numbers	Z-6.20-1873	Z-6.20-1873	Z-19.14-1382	

¹⁾ in keeping with static requirement

²⁾ up to OFD 4500 x 3500 with transom window and side element, in masonry ³⁾240 H = 4500 only with transom window

³⁾ up to OFD 4500 x 3500 with transom window and side element, in concrete ³⁾140 H = 4500 only with transom window

⁴⁾ up to OFD 2970 x 3070 with / without transom window and side element, ³⁾175 : 2970 x 3500, ³⁾200 : 4500 x 3500 and H = 4500 only with transom window

⁵⁾ up to H = 3500 with UA profile, up to H = 4500 with 50 x 50 x 3 profile







⁶⁾ Side element width max. 1000 mm

⁷⁾ Transom window height max. 1000 mm

⁸⁾ Transom window height max. 1500 mm

All dimensions indicated in mm, OFD = Outer frame dimension

T90-1 (EI 90) door, T90-2 (EI 90) door, F90 (EI 90) fixed glazing, "Forster Fuego light T90 / F90 (EI 90)"

Resistance class		T90 (EI 90)		F90 (EI 90)	
		Fuego light T90-1 (EI 90)	Fuego light T90-2 (EI 90)	Fuego light F90 (EI 90)	
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units – in any transom spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf	1 2	1 2	Any	
Element design	Slants	-	-	•	
	Arches	-	-	•	
	Recesses	-	-	•	
	Angles	-	-	•	
	Widening	-	-	•	
Dimensions	Shell dimension	Width min. – max.	740 - 1580	1440 - 2530	unlimited ¹⁾
		Height min. – max.	1745 - 2590	1745 - 2590	4020
		Height (with transom window)	4020	4020	-
	Outer frame dimension	Width min. – max.	700 - 1540	1400 - 2490	unlimited ¹⁾
		Height min. – max.	1725 - 2570	1725 - 2570	4000
		Height (with transom window)	4000	4000	-
Clear passage when opened 180°	Width min. – max.	560 - 1400	1260 - 2350	-	
	Height min. – max.	1655 - 2500	1655 - 2500	-	
Door leaf	Structural depth	70	70	70	
	View	130	130 / 150	70 / 90	
	Pedestal height	70 / 90	70 / 90	70 / 90	
	Sash bar width incl. window bar/rebate, vertical	90, 140 - 340	90, 140 - 340	90, 140 - 340	
	Sash bar width incl. window bar/rebate, horizontal	20 - 300	20 - 300	20 - 300	
Walls	Masonry	≥ 175 ²⁾	≥ 175 ²⁾	≥ 175 ²⁾	
	Concrete	≥ 140 ³⁾	≥ 140 ³⁾	≥ 140 ³⁾	
	Foam mortar	≥ 240 ³⁾	≥ 240 ³⁾	≥ 240 ³⁾	
	Partition walls	≥ 100 ^{3) 4)}	≥ 100 ^{3) 4)}	≥ 100 ^{3) 4)}	
	Door / glazing combination	•	•	•	
	Z-frames	-	-	-	
Fillings	Pyrostop 90-102 max. width x height	1304 x 2364	1304 x 2364	1350 x 2800	
		2364 x 1304	2364 x 1304	2350 x 1400	
	Panelling, max. width x height	1064 x 2184	1064 x 2184	1305 x 2185	
	Glass / panelling	•	•	•	
		Wet glazing	•	•	•
Dry glazing	-	-	-		
Design variants	with transom window and side element OFD height	3500 ^{6) 7)}	3500 ^{6) 7)}	-	
	with transom window OFD height	4000 ⁸⁾	4000 ⁸⁾	-	
	with side element OFD width	3500 ⁶⁾	4500 ⁶⁾	-	
	Smoke protection door in accordance with DIN 18095 (in combination with DIN 4102)	•	•	-	
Approval numbers		Z-6.20-1881	Z-6.20-1881	Z-19.14-1973	

¹⁾ in keeping with static requirement

²⁾ up to OFD 2400 x 2600 with transom window and side element, in masonry ³⁾240 OFD up to 4500 x 3500, up to H = 4000 only with transom window

³⁾ up to OFD 4500 x 3500 with transom window and side element, up to H = 4000 only with transom window

⁴⁾ Min. 50 x 50 x 4 partition profile needed







⁶⁾ Side element width max. 1000 mm

⁷⁾ Transom window height max. 1000 mm

⁸⁾ Transom window height max. 1500 mm

All dimensions indicated in mm, OFD = Outer frame dimension

T0-1 (EI 0) door, T0-2 (EI 0) door, fixed glazing, “Forster Unico”

Type		Unico TT-1	Unico TT-2	Unico Glazing wall ²⁾	
Heat insulated steel door (U_f value)		1.9 W/m ² (K)	1.9 W/m ² (K)	1.9 W/m ² (K)	
Models	Doors and fixed units with glazing				
	Doors can be combined with fixed units – in any transom spacing				
	Vertical sash bars on each leaf or horizontal sash bars on each leaf	1 2	1 2	Any	
Element design	Slants	-	-	•	
	Arches	-	-	•	
	Recesses	-	-	•	
	Angles	-	-	•	
	Widening	•	•	•	
Dimensions	Shell dimension	Width min. – max.	630 - 1530	1430 - 3030	unlimited ¹⁾
		Height min. – max.	1765 - 3015	1740 - 3315	unlimited ¹⁾
		Height (with transom window)	unlimited ¹⁾	unlimited ¹⁾	-
	Outer frame dimension	Width min. – max.	600 - 1500	1400 - 3000	unlimited ¹⁾
		Height min. – max.	1750 - 3000	1750 - 3000	unlimited ¹⁾
		Height (with transom window)	unlimited ¹⁾	unlimited ¹⁾	-
Clear passage when opened 180°	Width min. – max.	460 - 1360	1260 - 2860	-	
	Height min. – max.	1680 - 2930	1680 - 2930	-	
Door leaf	Structural depth	65	65	65	
	View	130	130 / 150	70 / 90	
	Pedestal height	70, 90, 140 - 340	70, 90, 140 - 340	70, 90, 140 - 340	
	Sash bar width incl. window bar/rebate, vertical	90	90	90	
	Sash bar width incl. window bar/rebate, horizontal	90, 140 - 340	90, 140 - 340	90, 140 - 340	
Walls	Masonry	•	•	•	
	Concrete	•	•	•	
	Foam mortar	•	•	•	
	Partition walls	•	•	•	
	Door / glazing combination	•	•	•	
	Z-frames	-	-	-	
	Any steel and wood supports / beams	•	•	•	
Fillings	Insulating glass of choice	•	•	•	
	Panelling	•	•	•	
	Glass / panelling	•	•	•	
	Glass	Wet glazing	•	•	•
		Dry glazing	•	•	•
Design variants	with transom window and side element OFD height	unlimited ¹⁾	unlimited ¹⁾	-	
	with transom window OFD height	unlimited ¹⁾	unlimited ¹⁾	-	
	with side element OFD width	unlimited ¹⁾	unlimited ¹⁾	-	

¹⁾ in keeping with static requirement

²⁾ no façade, no side-hung/bottom-hung windows

All dimensions indicated in mm, OFD = Outer frame dimension

System description: “Unico”

- U_f values up to 1.9 W/m²(K) in accordance with EN 10077-2
- Visible widths: Frame profiles 30, 50, 70 and 90 mm, door profiles 85 mm
- System tested to prEN 14351_1, meets the requirements for CE marking
- Tested for burglar resistant doors WK 1-3 in accordance with EN 1627-1630

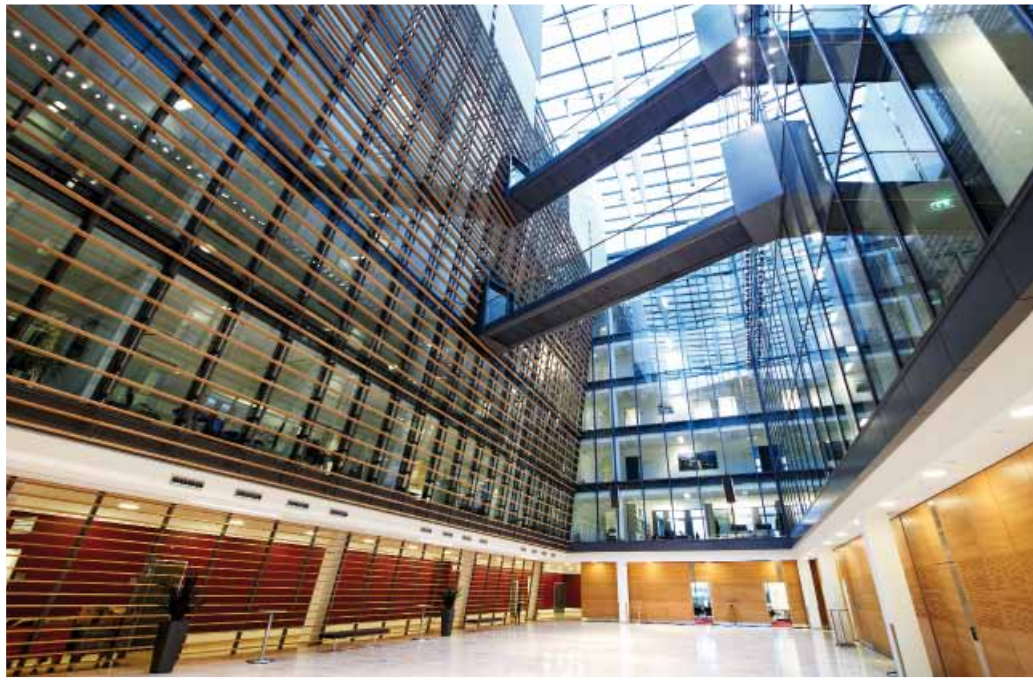
The base profiles are made entirely of recyclable steel with no plastic insulators – unlike conventional insulated systems. This structural geometry ensures the best possible stability of the structures and enables them to easily match the insulating values of insulated profile ranges that are nowadays standard.



References

Extract from our reference list:

Daimler, Berlin
Daimler, Stuttgart
Borussia-Park, Mönchengladbach
Fraunhofer Institut, Bad Godesberg
Zintl Institut, Darmstadt
Airport, Athens
Mens' college, Dubai
Womens' college, Dubai
Goldpfeil, Offenbach
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