FIRE RATED
AND SMOKE EXHAUST SYSTEMS

ALUPROF
ALUMINIUM SYSTEMS

CONTENT

Fire-rated, smoke-tight & smoke exhaust systems by Aluprof

A wide range of systems offered by Aluprof allows for fabrication of a variety of structural elements that are responsible for "fire protection zones" in buildings, and provide appropriate conditions for evacuation of their occupants. These solutions include products linked to window & door systems, extending to a typical "stick assembly" curtain wall system solution. The fire resistance performance of these solutions, depending on the project requirements, is available in a variety of classes, from EI 15 to EI 120 for vertical assemblies, and achieves a class of REI30 / RE45 for roofs.

Aluprof's products that ensure safety of buildings' users in the event of a fire include internal partition walls with doors **MB-45EW** (EW30), internal & external partition walls with doors **MB-78EI** (EI15 to EI90) and **MB-60E EI** (EI15, EI30), automatic sliding doors **MB-78EI DPA** (EI15 to EI30), fire-rated windows **MB-86EI** (EI30), fire-rated walls **MB-118EI** (EI120), fire-rated facades **MB-SR50N EI** (EI30, EI60), fire-rated facades **MB-SR50N EI EFEKT** (EI30, EI60), glazed fire roofs (RE20, RE30, REI20, REI30), smoke control doors **MB-45D** (S_a, S_{200} [S_m]) and **smoke exhaust windows & vents**.

An important feature of the **ALUPROF** fire-rated solutions is their ability to interface with each other, one system to the next, whilst maintaining the necessary fire resistance. This is demonstrated with the integration of the **MB-78EI** door into a facade, enabling the whole structure to achieve a EI 30 or EI 60 class performance. The same possibility exists with **MB-60E EI** door that can be integrated into the MB-78EI wall and with **MB-60E EI** door that can be integrated into the **MB-118EI** wall system.

All products featured in this publication have been successfully tested in laboratories & research institutes in Poland & across Europe.

GAIN VALUABLE TIME !

Technical requirements as to fire-resisting constructions in buildings.

In accordance with the requirements of the building regulations as to buildings and their location, fire-resisting door and windows that are to be installed in the openings of vertical separating elements in a building should be designed and constructed in such a way, that in case of fire:

- prevent fire from spreading
- limit the spread of fire and smoke in the building to other rooms and zones,
- limit the spread of fire to other buildings,
- allow the evacuation of building occupants by limiting the level of heat radiation,
- ensure safety and facilitate the operation of emergency crews

The required fire resistance rating for partitions is determined by the provisions in force in the respective countries, and can be dependent on the fire resistance class, to which the building is suited. This is shown in the table below:

Fire resistive rating (building)	Fire resistance rating (partition wall)
A	EI 60
B	EI 30
C	EI 15
D	-
E	-

Symbols in the classification of fire resistance of a construction.

E – integrity

→ no flames
→ no smoke
→ high temperature

Integrity (E) is the ability of a component or construction to maintain the integrity of the element on one side only, without spreading the fire to a non-heated side as a result of penetration of flames or hot gases.

EW – integrity and radiation reduction

→ no flames
→ no smoke
→ lower thermal radiation

Reduction of radiation (W) is the ability of a component or construction to maintain the integrity of the element on one side only, to reduce the likelihood of fire spreading that may result from significant thermal radiation or through an element, or from its non-heated surface to adjacent materials.

EI – integrity and insulation

→ no flames
→ no smoke
→ high temperature insulation

Insulation (I) is the ability of a component or construction to maintain the integrity of the element on one side only, without spreading the fire as a result of a significant heat flow from a heated side to a non-heated side. During the fire, the construction on the non-heated side reaches a temperature of not more than +140°C up to +180 °C.

All the above-mentioned parameters are given in minutes. The number after a given symbol gives the laboratory time from starting of a fire, in which a parameter is maintained.

Research, reports, certificates.

Aluprof S.A. strives to continuously improve the quality of its products. The company's quality management system meets the requirements of standards **EN ISO 9001 / EN ISO 14001**, which has been confirmed by the inspection body **TÜV NORD**. The products offered by **Aluprof** meet all the requirements of the European standards as to the quality of alloys, tolerance and resistance characteristics. The company cooperates with many European research centres and building research laboratories, also specializing in the fire-resisting constructions: Building Research Institute (Poland), IFT Rosenheim (Germany), Warrington Certificate Exova (Great Britain), UBAtc (Belgium), Fires Institute (Slovakia), ÉMI Institute (Hungary) Incerc Institute (Romania), Efectis Institute (Netherlands), and others. The cooperation involves fire testing and reviews of the company's documents (reports and classifications). These documents enable ALUPROF systems-based products to be applied in fire-resisting constructions throughout Europe and beyond.

Examples of documents issued for ALUPROF systems-based fire-resisting constructions
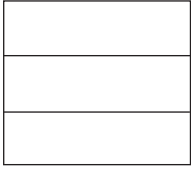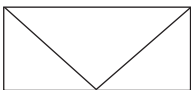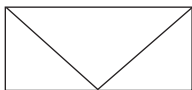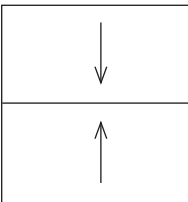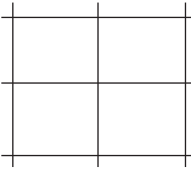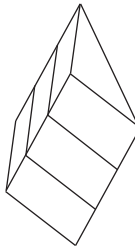
Maximum dimensions of a fire-resisting construction fabricated using ALUPROF's systems, types and maximum glass dimensions

The following table lists the maximum dimensions of fire-resisting constructions with notations and maximum glass dimensions depending on the type of construction and its fire resistance rating. For notations/dimensions of glass that are not listed in the table, please contact our Technical Support Department.

Construction	System	Class	Glass manufacturer	Type of single or inner pane in insulating glass unit	Thickness [mm]	Max dims. of the construction /leaf -W x H	Max dims. of the glass-vertical rectangle [mm]	Max dims. of the glass-horizontal rectangle [mm]
	MB-60E EI	EI30	Polflam	Polflam EI30	20	no limit x 4000	1500x3000	1500x3000
	MB-78EI	EI15	AGC	Pyrobel 8	9,3	no limit x 4000	1260x2360	1260x2360
			POLFLAM (Glass-Team)	Polflam EI15	20	no limit x 4000	1500x3000	2320x1465
			Vetrotech (Saint-Gobain)	Contraflam Lite 30	13	no limit x 4000	1500x3000	2500x1500
	MB-78EI	EW30	Vetrotech (Saint-Gobain)	Contraflam Lite 30	13		1500x3000	2500x1500
			AGC	Pyrobel 16	17	no limit x 4000	1260x2360	1260x2360
				Polflam EI30	20	no limit x 4300	2200x4200	3000x1500
			Polflam	Polflam EI30	22	no limit x 4000	2200x4000	2200x4000
Fixed partitions	MB-78EI	EI30		Polflam EI30	22	no limit x4800	2200x4200	2200x4200
			Pilkington	Pyrostop	16		1300x2400	1300x2400
			Promat Top	Promaglas	17	no limit x 4000	1075x2300	2470x1320
			Vetrotech (Saint-Gobain)	Contraflam 30	16	no limit x 4000	1500x3000	3000x1500
			Pyroguard	Pyroguard T-EI30	18	no limit x 4000	1470x2800	2385x1500
	MB-78EI	EI30	Q4glass	Q4Firestop	16,5	no limit x 4000	1400x2700	2350x1400
			AGC	Pyrobel 25	26	no limit x 4000	1260x2360	1260x2360
				Pyrobel 25 EG	30,4			
				Polflam EI60	25	no limit x4000	1500x3000	3000x1500
	MB-78EI	EI60	Polflam (Glass-Team)	Polflam EI60	27	no limit x4000	2420x4000	2420x4620
				Polflam EI60	27	no limit x 5160	2420x4620	2420x4000
			Pilkington	Pyrostop	23	no limit x 4000	1300x2400	1300x2400
			Pyroguard	Pyroguard T-EI60	28	no limit x 4000	1470x2800	1470x2800
			Vetrotech (Saint-Gobain)	Contraflam 60	25		1500x3000	2500x1500
Fixed partitions			Q4glass	Q4Firestop	27	no limit x 4000	1400x2700	2350x1400
	MB-78EI	EI90	Polflam	Polflam EI90	32	no limit x 4000	1500x3000	1500x3000
	MB-118EI	EI120	Polflam	Polflam EI120	35	no limit x 4000	1500x3000	1508x1467
			Pilkington	Pyrostop 120-10	58	no limit x 4000	1400x2500	1400x1068

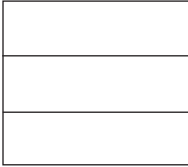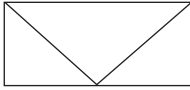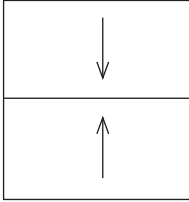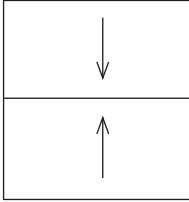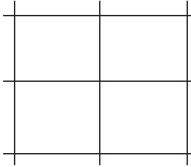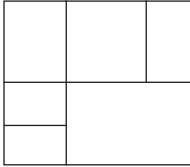| Construction	System	Class	Glass manufacturer	Type of single or inner pane in insulating glass unit	Thickness [mm]	Max dims. of the construction /leaf -W x H	Max dims. of the glass-vertical rectangle [mm]	Max dims. of the glass-horizontal rectangle [mm]
Silicone joined glazed walls	MB-78EI	EI30	Vetrotech (Saint-Gobain)	Contraflam Strukture	23	no limit x 3600	1500x3600	1800x3000
			AGC	Pyrobel VL 16	17	no limit x 2900	1000x2900	
		EI60	Vetrotech (Saint-Gobain)	Contraflam Strukture	31	no limit x 3400	1500x3400	1700x3000
			AGC	Pyrobel VL 25	26	no limit x 3480	1000x3480	1200x2900
doors and windows	MB-60E EI	EI30	Polflam	Polflam EI30	20	1400x2475 / 2580x2475		
	MB-78EI	EI15	AGC	Pyrobel 8	9,3	1260x2360		
			POLFLAM (Glass-Team)	Polflam EI15	20	1400x2500 / 2500x2500		
			Vetrotech (Saint-Gobain)	Contraflam Lite 30	13	1160x2250		
	MB-78EI	EI30	AGC	Pyrobel 16	17,3	1400x2500		
			AGC	Pyrobel 16 EG	21,2			
			Polflam (Glass-Team)	Polflam EI30	20	1400x2500/2500x2500		
				Polflam EI30	20	1100x3006/2184x3006		
			Pilkington	Pyrostop	16	1400x2500/2500x2500		
			Promat Top	Promaglas	17	1075x2300		
			Pyroguard	Pyroguard T-EI30	18	1400x2500/2500x2500		
			Vetrotech (Saint-Gobain)	Contraflam 30	16	1400x2500/2500x2500		
			Q4glass	Q4Firestop	16,5	1260x2300		
	MB-86EI	EI30	Polflam	Polflam EI30	20	1500x2300/2400x1300	1385x2185	2236x1135
doors and windows	MB-78EI	EI60	AGC	Pyrobel 25	26	1400x2500/2500x2500		
			Polflam (Glass-Team)	Polflam EI60	25	1400x2500/2500x2500		
				Polflam EI60	25	1100x3006/2184x3006		
			Pilkington	Pyrostop	23	1400x2500		
			Pyroguard	Pyroguard T-EI60	25	1400x2500/2500x2500		
			Vetrotech (Saint-Gobain)	Contraflam 60	25	1400x2500		
			Q4glass	Q4Firestop	27	1400x2500		
	MB-78EI	EI90	AGC	Pyrobel 90/35	36	1400x2500		
			Pilkington	Pyrostop 90-102	37	1265x2300		
			Vetrotech (Saint-Gobain)	Contraflam 90	40	1260x2360		

Construction	System	Class	Glass manufacturer	Type of single or inner pane in insulating glass unit	Thickness [mm]	Max dims. of the construction /leaf - W x H	Max dims. of the glass-vertical rectangle [mm]	Max dims. of the glass-horizontal rectangle [mm]
Automatic sliding doors	MB-78 EI DPA	EI30	Polflam	Polflam EI30	20	1350x2550/1350x2710		
			Vetrotech (Saint-Gobain)	Contraflam 30	16, 18, 22	1350x2550		
curtain wall	MB-SR50N EI	EI30	Polflam (Glass-Team)	Polflam EI30	20		1500x3000	2400x1500
			Pilkington	Pyrostop 30	16		1400x2400	1800x1200
			Vetrotech (Saint-Gobain)	Contraflam 30	16		1500x3000	1700x1200
				Contraflam 30 – 20	20		1500x3000	1700x1200
	MB-SR50N EI	EI60	Polflam	Polflam EI60	25		1500x3000	2400x1500
			Pilkington	Pyrostop 60	23		1400x2400	1800x1200
			Vetrotech (Saint-Gobain)	Contraflam 60	25		1400x2400	1800x1200
				Contraflam 60-3	27		1500x3000	1700x1200
			Q4Glass	Q4Fire Stop 60	30		1500x3000	2000x1500
	MB-SR50N EI EFEKT	EI30	Polflam	Polflam EI30	20		1500x3000	2000x1500
	MB-SR50N EI EFEKT	EI60	Polflam	Polflam EI60	25		1500x3000	2000x1500
			Vetrotech (Saint-Gobain)	Contraflam	25, 29		1500x3146	
			Q4glass	Q4Firestop	30		1500x3000	2000x1500
skylight	MB-SR50N EI	REI30/RE30	Polflam	Polflam H EI30	22		1250x3250	
			Vetrotech (Saint-Gobain)	Contraflam Lite 30 Horizontal	20		1100x2100	
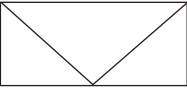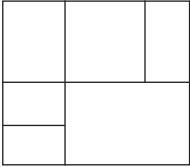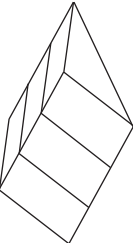
List of constructions available in different fire resistance classes

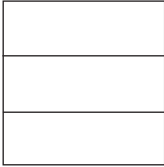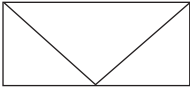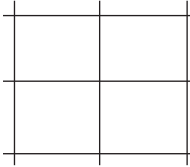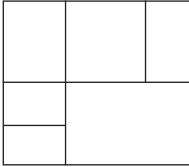| Class	Construction	System	Glass manufacturer	Type of single or inner pane in insulating glass unit	Thickness [mm]	Max dims. of the construction-/ leaf - W x H [mm]	Max dims. of the glass - vertical rectangle [mm]	Max dims. of the glass - horizontal rectangle [mm]	Page
EW30	Fixed partitions	MB-78EI	Vetrotech (Saint-Gobain)	Contraflam Lite 30	13	no limit x 4000	1500x3000	2500x1500	18
EI15	Fixed partitions	MB-78EI	AGC	Pyrobel 8	9,3	no limit x 4000	1260x2360	1260x2360	18
			Polflam	Polflam EI15	20	no limit x 4000	1500x3000	3000x1500	
			Vetrotech (Saint-Gobain)	Contraflam Lite 30	13, 15, 19	no limit x 4000	1500x3000	2500x1500	
EI15	Doors and windows	MB-78EI	AGC	Pyrobel 8	9,3	1260x2360			18
			Polflam	Polflam EI15	20	1400x2500/2500x2500			
			Vetrotech (Saint-Gobain)	Contraflam Lite 30	13	1160x2250			
EI30	Fixed partitions	MB-60E EI	Polflam	Polflam EI30	20	no limit x 4000	1500x3000		14
		MB-78EI	AGC	Pyrobel 16	17	no limit x 4000	1260x2360	1260x2360	18
			Polflam	Polflam EI30	20	no limit x 4300	2200x4200	3000x1500	
			Polflam	Polflam EI30	22	no limit x 4000	2200x4000	2200x4000	
			Polflam	Polflam EI30	22	no limit x 4800	2200x4200	2200x4200	
			Pilkington	Pyrostop	16	no limit x 4000	1300x2400	1300x2400	
			Promat Top	Promaglas	17	no limit x 4000	1075x2300	2470x1320	
			Pyroguard	Pyroguard T-EI30	18	no limit x 4000	1470x2800	2385x1500	
			Vetrotech (Saint-Gobain)	Contraflam 30	16	no limit x 4000	1500x3000	3000x1500	
			Q4glass	Q4Firestop	16,5	no limit x 4000	1400x2700	2350x1400	

Class	Construction	System	Glass manufacturer	Type of single or inner pane in insulating glass unit	Thickness [mm]	Max dims. of the construction-/leaf - W x H [mm]	Max dims. of the glass - vertical rectangle [mm]	Max dims. of the glass - horizontal rectangle [mm]	Page
EI30	Silicone joined glazed walls	MB-78EI	Vetrotech (Saint-Gobain)	Contraflam Strukture	23	no limit x 3600	1500x3600	1800x3000	24
			AGC	Pyrobel VL 16	17	no limit x 2900	1000x2900		
	Doors and windows	MB-60E EI	Polflam	Polflam EI30	20	1400x2475/2580x2475			14
			AGC	Pyrobel 16	17,3	1400x2500			
			AGC	Pyrobel 16 EG	21,2				
EI30		MB-78EI	Polflam	Polflam EI30	20	1400x2500/2500x2500			18
			Polflam	Polflam EI30	20	1100x3006/2184x3006			
			Pilkington	Pyrostop 30-10	15	1400x2400			
			Promat Top	Promaglas	17	1400x2500			
			Vetrotech (Saint-Gobain)	Contraflam 30	16	1400x2500 / 2500x2500			
			Q4glass	Q4Firestop	16,5	1260x2300			
		MB-86EI	Polflam	Polflam EI30	20	1500x2300/2400x1300	1385x2185	2236x1135	32
EI30	Automatic sliding doors	MB-78 EI DPA	Polflam	Polflam EI30	20	1350x2550/1350x2710			30
			Vetrotech (Saint-Gobain)	Contraflam 30	16, 18, 22	1350x2550			
	Facade	MB-SR50N EI	Polflam	Polflam EI30	20		1500x3000	2400x1500	44
			Pilkington	Pyrostop 30	16		1400x2400	1800x1200	
EI30			Vetrotech (Saint-Gobain)	Contraflam 30	16		1500x3000	1700x1200	
			Vetrotech (Saint-Gobain)	Contraflam 30-20	20		1500x3000	1700x1200	
		MB-SR50N EI EFEKT	Polflam	Polflam EI30	20		1500x3000	2000x1500	48
	Fixed partitions	MB-78EI	AGC	Pyrobel 25	26,6	no limit x 4000	1260x2360	2700x1400	18
			Polflam	Polflam EI60	25	no limit x 4000	1500x3000	3000x1500	
EI60			Polflam	Polflam EI60	27	no limit x 4000	2420x4000	2420x4000	
			Polflam	Polflam EI60	27	no limit x 5160	2420x4620	2420x4620	
			Pilkington	Pyrostop	23	no limit x 4000	1300x2400	1300x2400	
			Pyroguard	Pyroguard T-EI60	28	no limit x 4000	1470x2800	1470x2800	

Class	Construction	System	Glass manufacturer	Type of single or inner pane in insulating glass unit	Thickness [mm]	Max dims. of the construction-/leaf - W x H [mm]	Max dims. of the glass - vertical rectangle [mm]	Max dims. of the glass - horizontal rectangle [mm]	Page
EI60	Fixed partitions	MB-78EI	Vetrotech (Saint-Gobain)	Contraflam 60	25		1500x3000	2500x1500	18
		MB-78EI	Q4glass	Q4Firestop	27	no limit x 4000	1400x2700	2350x1400	
EI60	Silicone joined glazed walls	MB-78EI	Vetrotech (Saint-Gobain)	Contraflam Strukture	31	no limit x 3400	1500x3400	1700x3000	24
			AGC	Pyrobel VL 25	26	no limit x 3480	1000x3480	1200x2900	
EI60	Doors and windows	MB-78EI	AGC	Pyrobel 25	26,6	1400x2500 / 2500x2500			18
			Polflam	Polflam EI60	25	1400x2500/2500x2500			
			Polflam	Polflam EI30	20	1100x3006/2184x3006			
			Pilkington	Pyrostop	23	1400x2500			
			Vetrotech (Saint-Gobain)	Contraflam 60	25	1400x2500			
			Q4glass	Q4Firestop	27	1260x2300			
EI60		MB-SR50N EI	Polflam	Polflam EI60	25		1500x3000	2400x1500	44
			Pilkington	Pyrostop	23		1400x2400	1800x1200	
			Vetrotech (Saint-Gobain)	Contraflam 60	25		1500x3000	1700x1200	
				Contraflam 60-3	27		1500x3000	1700x1200	
			Q4glass	Q4Firestop	60		1500x3000	2000x1500	
EI60	Facade	MB-SR50N EI EFEKT	Polflam	Polflam SG EI-60	27		1500x3000	2000x1500	48
			Vetrotech (Saint-Gobain)	Contraflam 60	25, 29		1576x3146		
			Q4glass	Q4Firestop	30		1500x3000	2000x1500	
EI90	Fixed partitions	MB-78EI	Polflam	Polflam EI90	32	no limit x 4000	1500x3000		18

Class	Construction	System	Glass manufacturer	Type of single or inner pane in insulating glass unit	Thickness [mm]	Max dims. of the construction-/leaf - W x H [mm]	Max dims. of the glass - vertical rectangle [mm]	Max dims. of the glass - horizontal rectangle [mm]	Page
EI90	Doors and windows	MB-78EI	AGC	Pyrobel 90/35	36	360x460			18
			Pilkington	Pyrostop 90-102	37	1265x2300			
			Vetrotech (Saint-Gobain)	Contraflam 90	40	1260x2360			
EI120	Fixed partitions	MB-118EI	Polflam	Polflam EI120	35	no limit x 4000	1500x3000	1508x1467	36
			Pilkington	Pyrostop 120-10	58	no limit x 4000	1400x2500	1400x1068	
REI30/RE30	skylight	MB-SR50N EI	Polflam	Polflam H EI30	22		1250x3250		46
			Vetrotech (Saint-Gobain)	Contraflam Lite 30 Horizontal	20		1100x2100		

MODERN OFFICE
SOLUTIONS AT
YOUR FINGERTIPS

GLAZED PARTITION SYSTEMS:

- silicone joined glazed walls **MB-78EI** rated **EI30** & **EI60**

- architecturally-striking shopfronts and igh-quality moveable & folding doors **MB-EXPO/MB-EXPO MOBILE**

- office partitions with transparent door **MB-45 OFFICE**

- double glazed office partitions **MB-80 OFFICE**

ALUPROF

www.aluprof.eu

MB-60E EI

EI 15   **EI 30**

MB-60E EI enables the fabrication of fire-resisting internal or exterior single or double leaf doors. It also enables the fabrication of "technical windows" and fire-resisting partitions. **MB-60E EI**-based constructions are classified EI15 or EI30 to EN 13501-2+A1, doors can additionally meet smoke-tightness requirements in class S_{200}, S_a to EN 13501-2 + A1. The system is classified as non-fire spreading (NRO).

This solutions is based on aluminium profiles with thermal break (system MB-60E) with the structural depth of profiles of 60 mm. The fire resistance of the construction is ensured by its fire insulation components that are mounted in internal chambers of its profiles. In addition, constructions are equipped with intumescent tapes, which stop the fire from spreading.

The system enables the application of all common fire-resisting glass classified EI15 and EI30 (thickness from 5 to 41 mm). Unlike other fire-resisting systems, **MB-60 E EI** glass is fastened on the inner face using glazing strips. Special steel elements are an important element in securing the glass before falling out during the fire.

MB-60E EI enables the fabrication of doors of the following max. leaf dimensions: W up to 1.4 m, H up to 2.475 m. Double leaf door can be 2.58 m wide. Design capabilities and compatibility with other MB systems makes this solution a very attractive proposition in that class of products, whilst providing an excellent fire protection.

Max. dims. of the construction

max 4000

max 4000

max 6000

Expansion joint profile

Expansion joint profile

max 4000

max 6000

Doors

Technical window

max 2475

max 1400

max 2475

max 2580

600 ÷ 2475

500 ÷ 1400

max 2475

max 2580
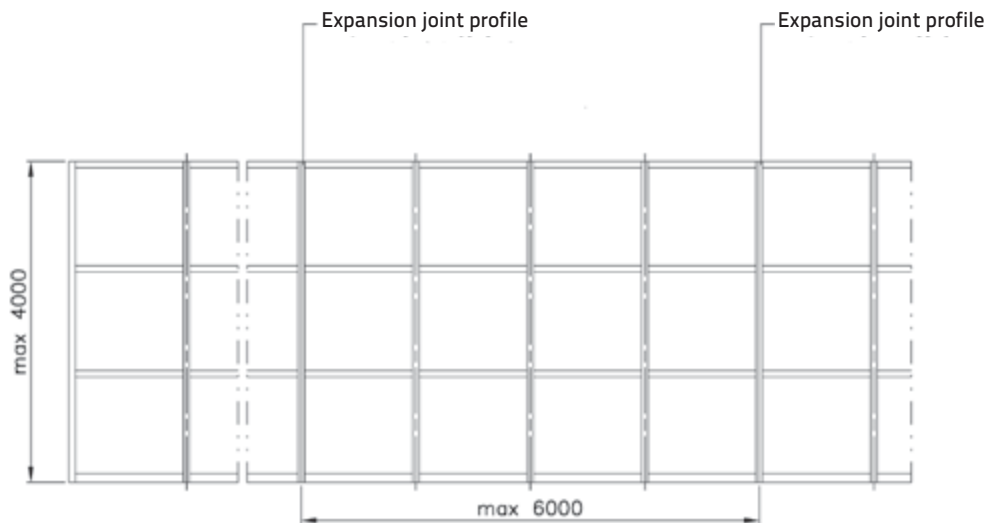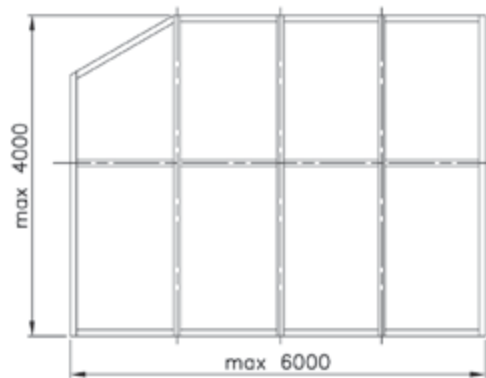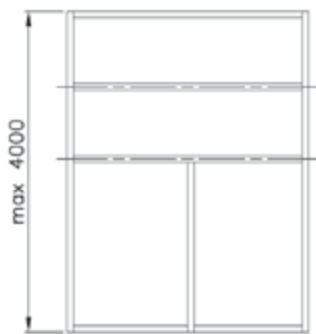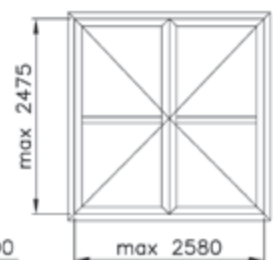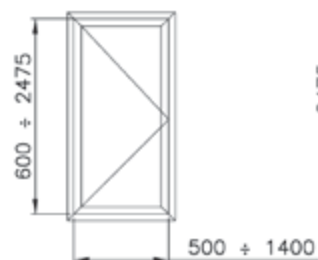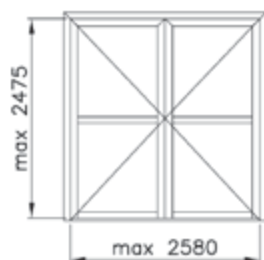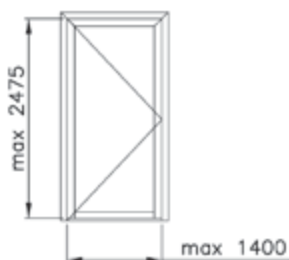
TECHNICAL INFORMATION		TECHNICAL PARAMETERS	
Depth of the partition frame & door	60 mm	Air tightness	class 2, PN-EN 12207
Depth of the door leaf	60 mm	Water tightness	class 3A, PN-EN 12208
Range of glazing	5 – 41 mm	Fire resistance rating	EI15, EI30, EN 13501-2 +A1

Fire rated partitions with doors
MB-60E EI
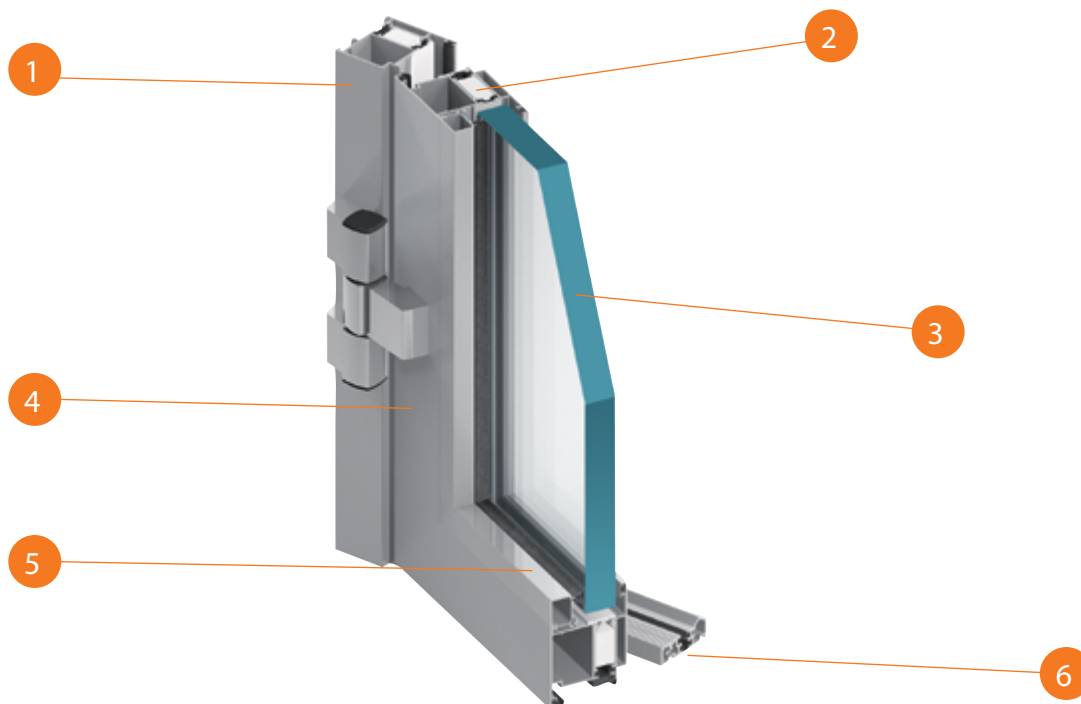
1. MB-60E-based fire system enables the use of common elements and allows a simple and fast prefabrication
2. Constructions classified EI15, EI30
3. The system enables the application of all common fire-resisting glass of different classes and of a thickness ranging from 5 to 41 mm.
4. Structural depth of profiles: 60 mm
5. Glazing strips used for glazing on the inner face
6. Available solutions with or without threshold

MB-60E EI-based constructions are covered by the Technical Approval of the No. AT-15-6006/2016 and the European Technical Assessment ETA-18/091

Door frame and door leaf – cross-section
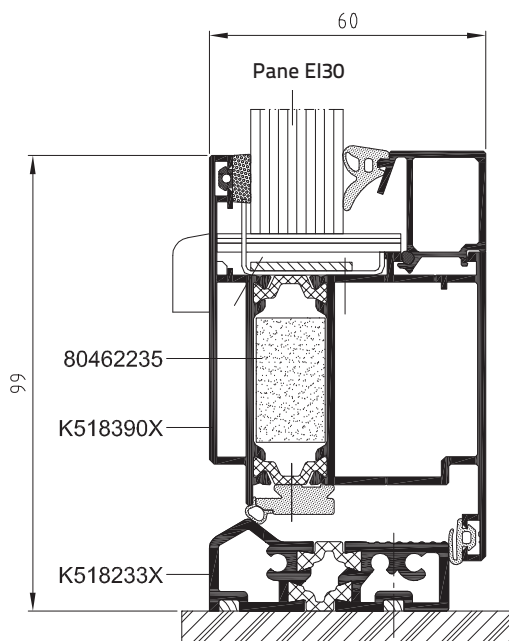
K518391X

K518386X

Pane EI30

60

80462235

80462232

134.5

Bottom cross-section with threshold

Door leaf with drop seal – cross-section

60

Pane EI30

80462235

K518390X

K518233X

96

60

Pane EI30

80462235

K518390X

K431236X

100
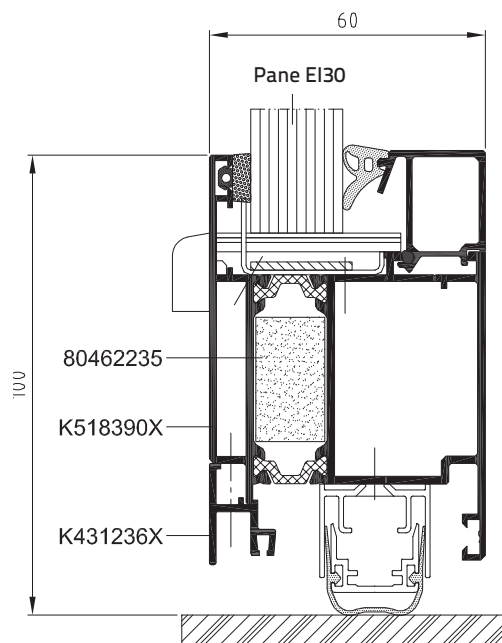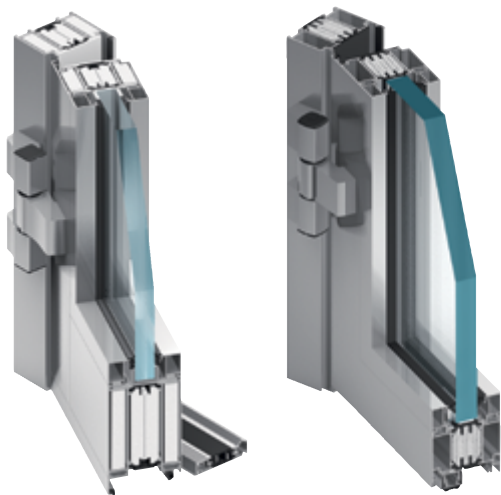
EW 15 **EW 30**

EI 15 **EI 30** **EI 45** **EI 60** **EI 90**

The **MB-78EI** system has been developed for the producing of internal or external fire-rated partition walls, with single- or double-leaf doors featured by a fire resistance class of EI 15, EI 30, EI 45 EI 60 or EI 90 to EN 13501-2. In most cases, these constructions can also have smoke control characteristics (classes S_{200} & S_a). Numerous tests and calculations have shown that **MB-78EI**-based products have a very good thermal and acoustic insulation. Due to its characteristics, optimized technology & production costs, the compatibility with other ALUPROF window and door systems and the constant technical development, it is a very popular product, widely used by the construction professionals.

The structure of the **MB-78 EI** system is based on the thermally-insulated, 78 mm deep aluminium profiles. They are characterized by a low overall heat transfer coefficient "U," thanks in the main, to specialist design thermal break, 34mm in width. The resistance to high temperature is assured by special fire insulation elements – GKF or CI – introduced into the inner chambers of the profiles and into insulating spaces between profiles and steel accessories and joints.

Angular wall connections achievable with the system, the possibility of bending & curving profiles, as well as the use of diagonal cross-pieces and decorative muntin bars glued on glass are the features that affect the shape and aesthetics of a building.

The range of permissible dimensions of the construction includes fixed partitions up to 5.16 m high and single-swing doors with leaf dimensions: W up to 1.4 m; H up to 3.0 m; the width of double doors may achieve 2.5 m. The **MB-78EI** door system can exist as an individual "goal-post frame" as part of a larger composite "window wall" or in fire resistant facade, our **MB-SR50N EI** system. Structures & door sets of this type, both single & double leaf door arrangements, have been successfully tested in a notified laboratory, obtaining fire resistance classes of EI 30 & EI 60.

Max. dimensions of the wall segments
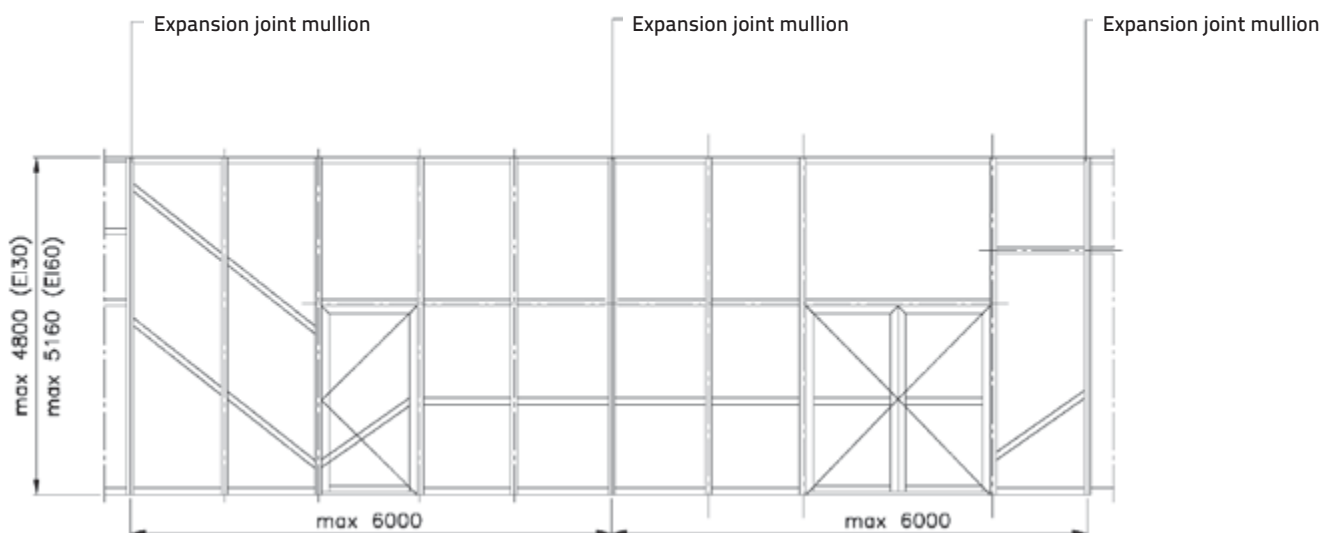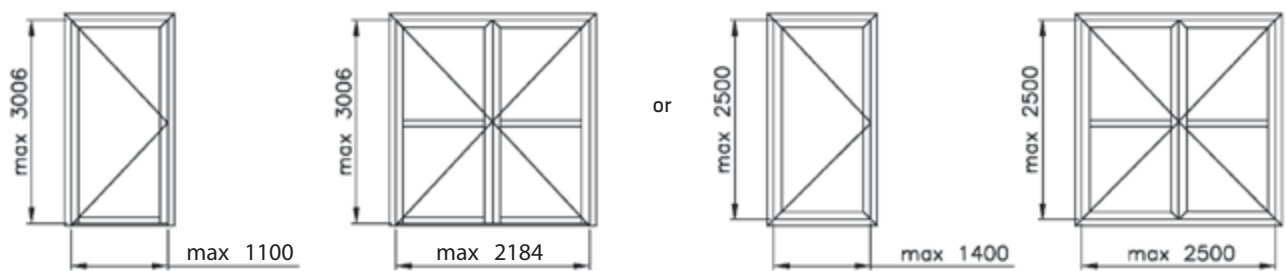
TECHNICAL SPECIFICATION		TECHNICAL PARAMETERS	
Depth of wall & door frame	78 mm	Air Permeability	Class 2, PN-EN 12207:2001
Depth of leaf	78 mm	Watertightness	Class 5A, PN-EN 12208:2001
Width of wall & door frame	51 mm / 72 mm	Fire resistance	Classes EI 15, EI 30, EI45, EI 60, EI 90 in accordance with EN 13501-2, classes EI 15, EI 30, EI45, EI 60 in accordance with AT-15-6006/2016
Width of door leaf profiles	72 mm / 51 mm	Thermal insulation (coeff.)	from 1,6 W/(m²K)
Glazing range	8 – 65 mm	Acoustic Insulation (coeff. R_W)	up to 41 dB

Fire rated doors and wall partitions
MB-78EI
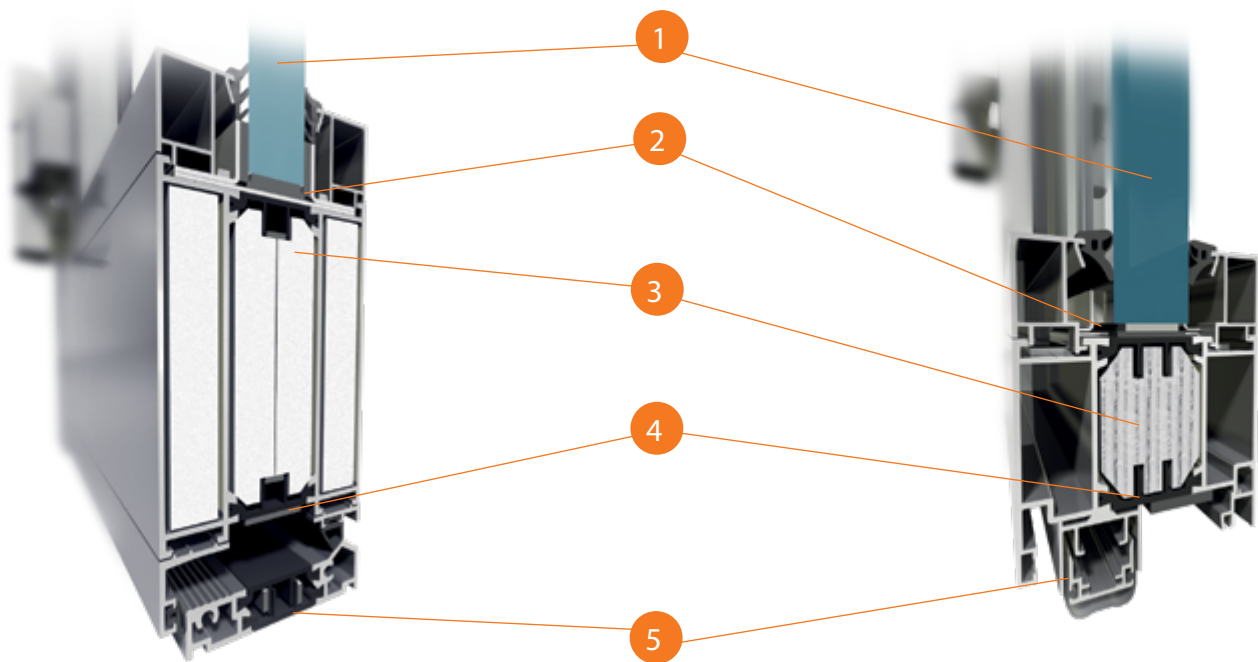
1. Single or double fire-resistant glass of a thickness of up to 65 mm
2. Steel accessories and expanding tapes that protect the structure from high temperatures
3. GKF or CI type fire protection inserted inside the profiles, enables performance classes EI15 to EI 90
4. Profiled thermal break that provides adequate protection against heat loss (U_f from 1.6 m^{2}K)
5. Different door bottom rail seal solutions: with & without threshold profile option, obtaining a smoke-proof class S_{200} S_a

Extensive design possibilities, a wide range & variety of hinge products, locks, door closers & other hardware, alongside an optimised manufacturing process, are not the only advantages of this system. It also allows the realisation of the product solutions contained on the following pages: **MB-78EI DPA** automatic sliding door of an EI 15 or EI 30 class & **MB-118EI** walls of an EI 120 class.

The thickness of infills achievable with the **MB-78EI** system is from 8 to 65 mm. Infills may include all typical fire-resistant glass panes, as well as layered opaque elements consisting of sheet metal and appropriate panels that ensure the required fire resistance.

Range of possible fire-resistant glazing
for use in the MB-78EI systems includes:
- Pyrobel of a thickness of 9.3 mm – 36 mm
- Polflam of a thickness of 20 mm – 25 mm
- Contraflam Lite of a thickness of 13 mm – 22 mm
- Contraflam 30 of a thickness of 16 mm – 20 mm
- Contraflam 60 of a thickness of 25 mm – 35 mm
- Contraflam 90 of a thickness of 40 mm
- Pyrostop of a thickness of 15 mm – 45 mm
- Promaglas of a thickness of 17 mm – 30 mm
- Pyranowa of a thickness of 15 mm – 27 mm
- Fireswiss of a thickness of 15 mm – 28 mm
- Q4Firestop of a thickness of 16,5 mm – 27 mm

The **MB-78EI** system has a Technical Approval of the No. AT-15-6006/2016 valid until 29.12.2021 and a certificate CERTIFIRE by the Institute of Warrington Certification Ltd No. CF 5138.

Door frame and door leaf – cross-section

78

K518138X

155

K518138X

K430300X
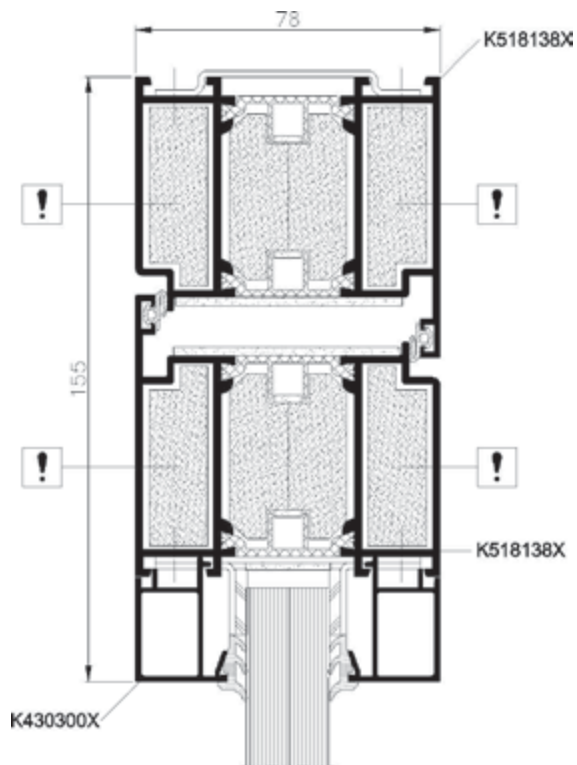
Door frame and door leaf with CI infills – cross-section

78

143

K518395X

K518395X
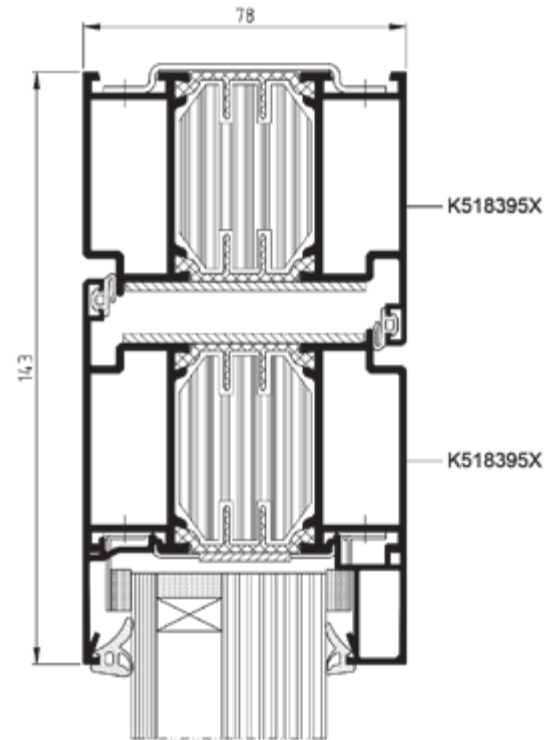
Door without a threshold – bottom cross-section
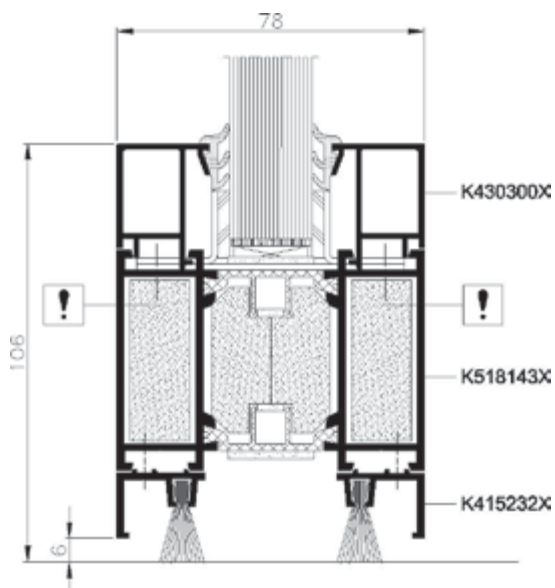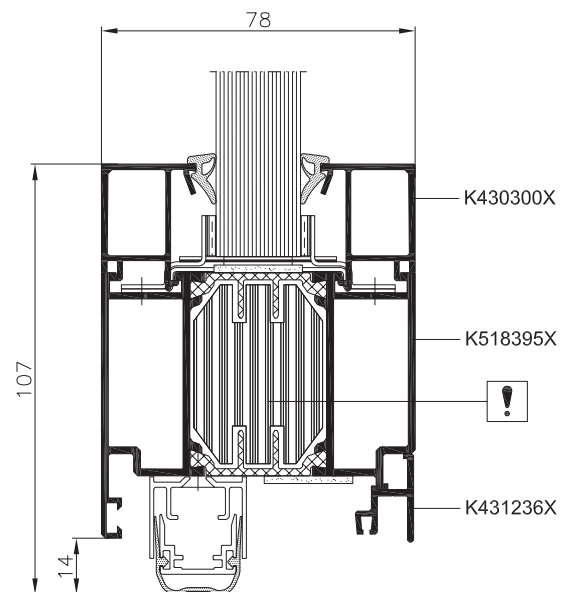
78

106

6

K430300X

K518143X

K415232X

Door leaf with drop seal – cross-section

78

107

14

K430300X

K518395X

K431236X

Bottom cross-section with threshold

78

168

K518145X

K518140X

Angle joint of the fixed walls

147

84

K518144X

78

135°

K430300X
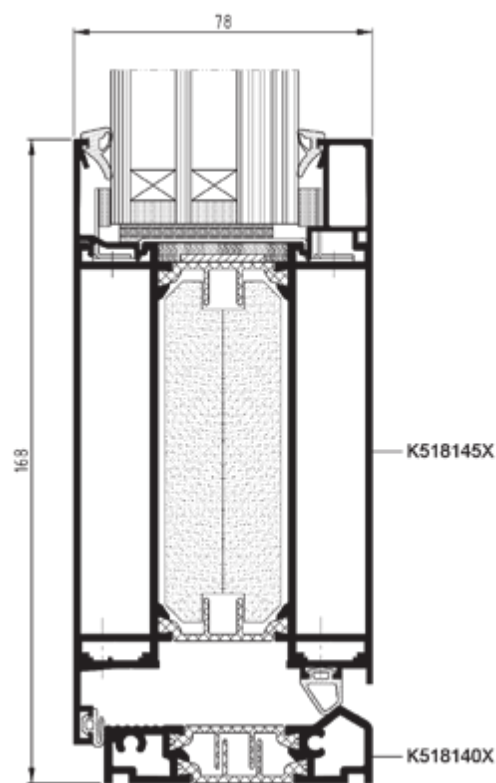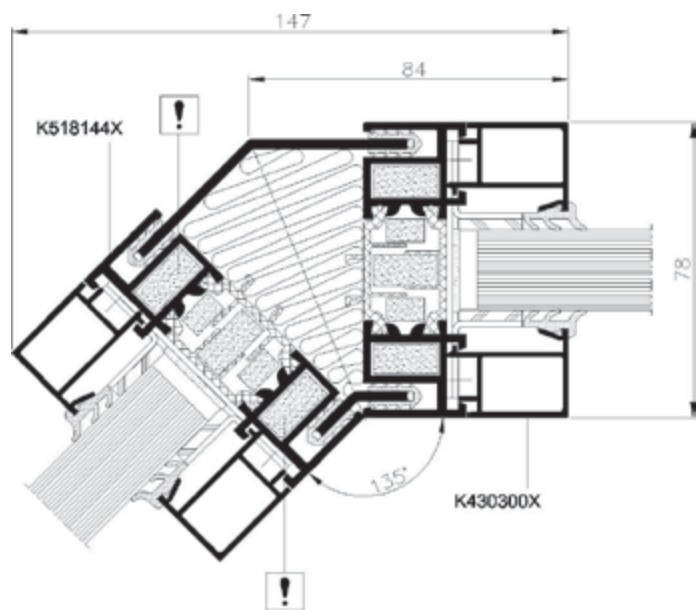
Angle joint of the fixed walls 90°

K430300X

K430300X

K518396X

K518143X
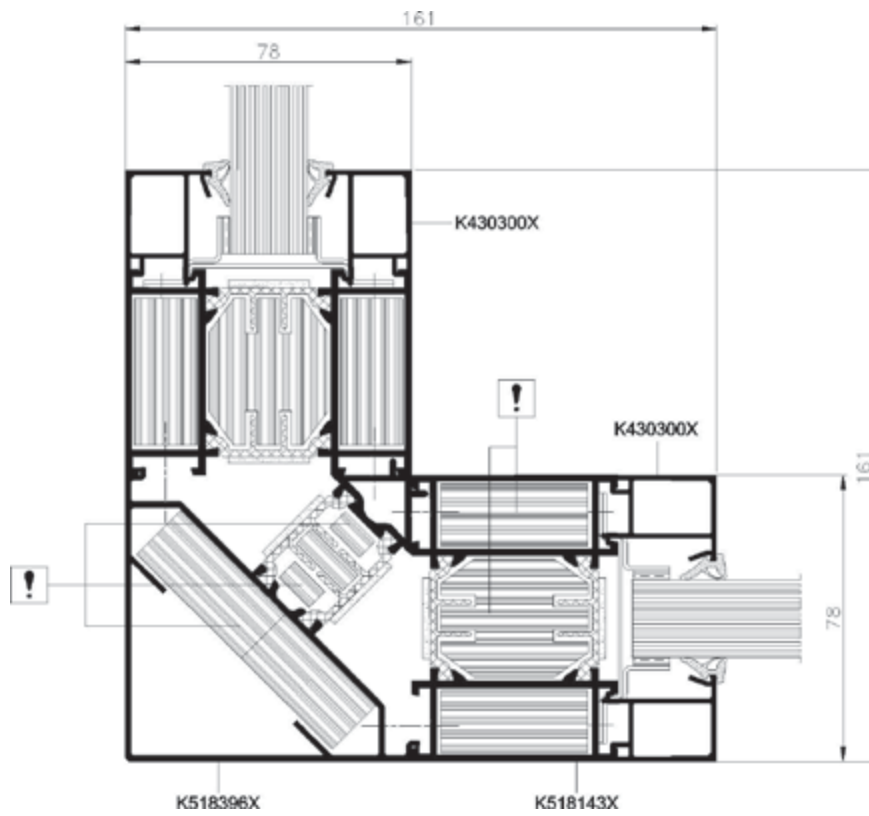
MB-78EI doors cross-section in the MB-SR50N EI façade

MB-SR50N EI

K518395X

K518395X

EI 30   **EI 60**

Aluprof offers **MB-78EI** system-based solution for transparent fire-resisting walls, the so-called "silicone joined glazed walls". It enables the fabrication of internal partitions without the visible vertical profiles that separate the individual modules of the wall, whilst preserving the full fire resistance. The gap between the glass panes is only 4 mm and is filled with firestop intumescent material and non-flammable silicone. The silicone is available in three colours (black, grey, or white). That way, fire-resisting partitions can be up to 3.6 m high, with modules' width of up to 1.8 m. Fire tests carried out at the Building Research Institute (ITB) included a "free edge" model, so there is no limit as to the maximum length of this type of wall.
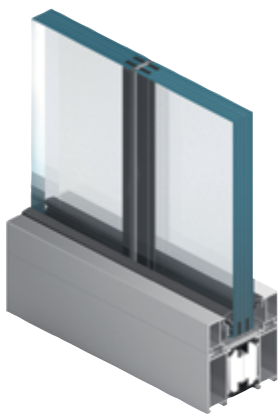
MB-78EI

EI 30 **EI 60**

MB-78EI-based silicone joined glazed walls enable to freely design and build very large internal partition walls. With their transparent modules, the constructions made of this system make every room optically bigger. What's more, the system provides security and helps to organize fire zones in the building, whilst ensuring the appropriate conditions for the evacuation of building occupants.
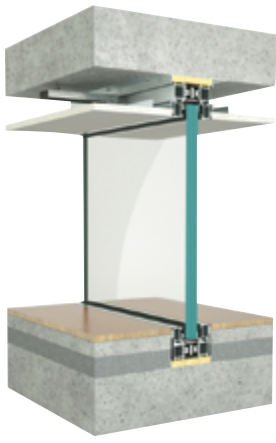
Silicone joined fire-rated glazed walls
MB-78EI

EI 30 **EI 60**

Aluprof offers also a version with profiles fitted in the floor, walls and ceiling. Hidden wall mount enhances this optical effect, while maintaining the full fire protection of the construction.

Silicone joined glazed wall MB-78EI - examples

max 3600 (EI30)
max 3400 (EI60)

max 3600 (EI30)
max 3400 (EI60)

max 3600 (EI30)
max 3400 (EI60)

max 3600 (EI30)
max 3400 (EI60)

max 3600 (EI30)
max 3400 (EI60)

max 3600 (EI30)
max 3400 (EI60)

max 3600 (EI30)
max 3400 (EI60)

max 6000
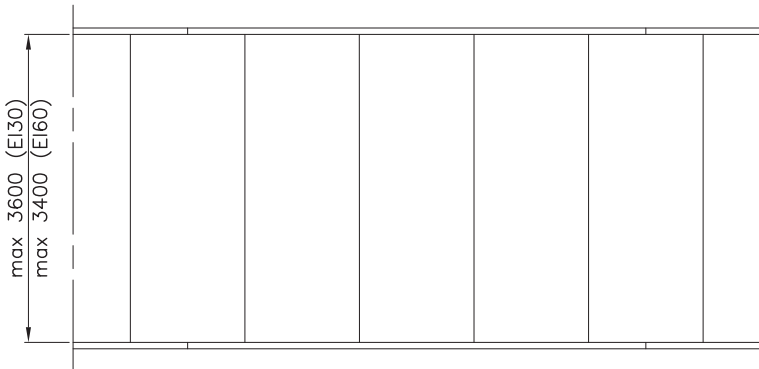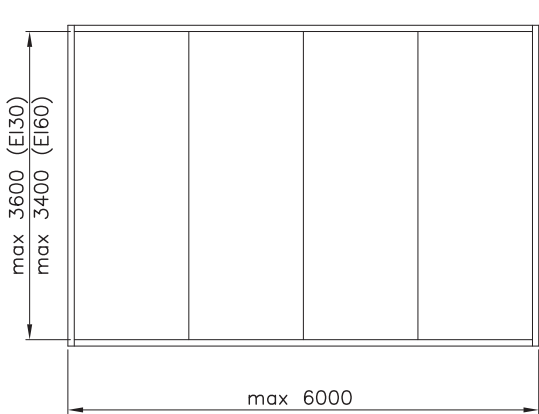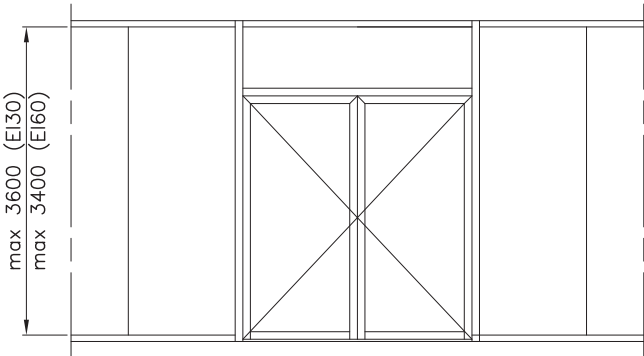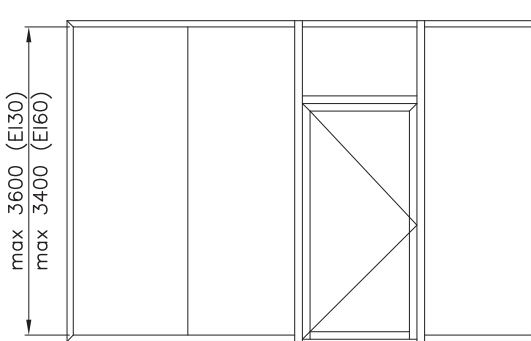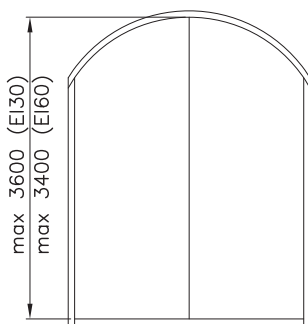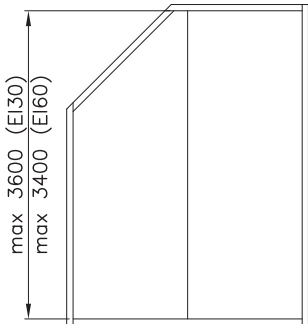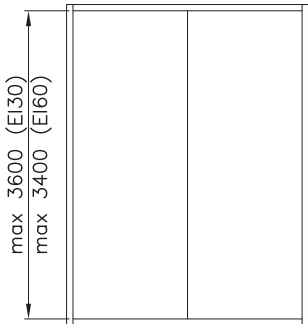
Silicone joined fire-rated glazed walls
MB-78EI
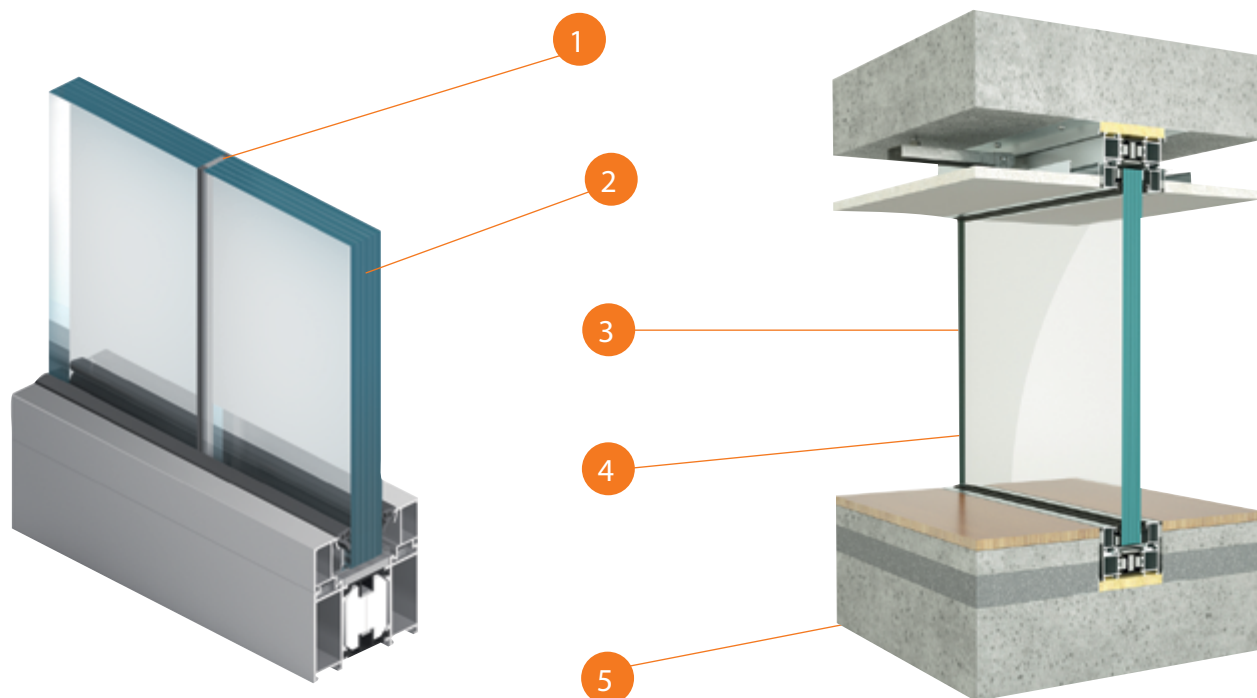
1. The gap between the modules is only 4 mm wide

2. Fire glass thickness: 17 mm or 23 mm (EI30), 26 mm or 31 mm (EI60)

3. The maximum height of the partitions: 3.6 m; no limits as to the maximum length

4. The maximum width of glass modules: 1.5 m (max height: 3.6 m) and 1.8 m (max height 3.0 mm)

5. Solution available with profiles fitted in the floor, walls and ceiling

Silicone joined glazed wall **MB-78EI** are covered by the classification ITB 1036/16/R267NZP
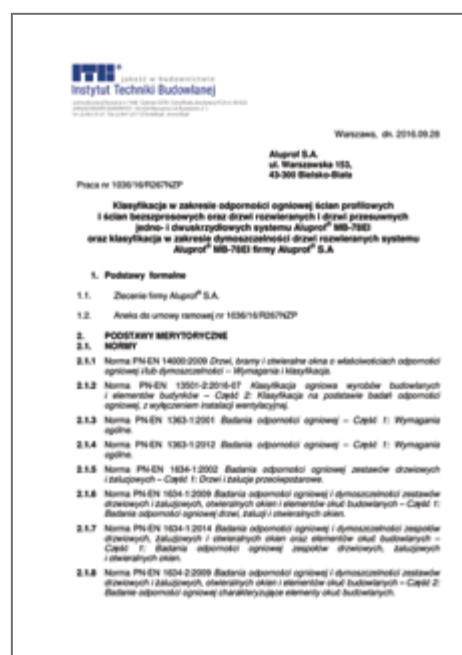
Silicone joined glazed wall MB-78EI, Horizontal view

61

90° - 180°

90° - 180°

Silicone jointed connection

K518142X   K430301X
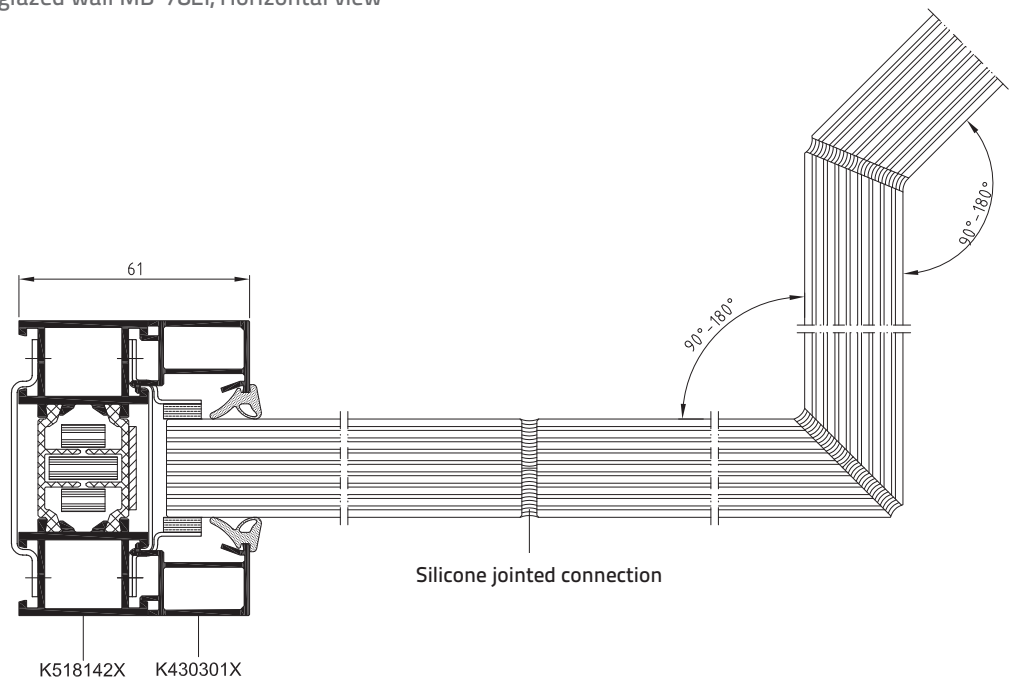
Partition with a ceiling-integrated profile, section view

K518143X

K430301X
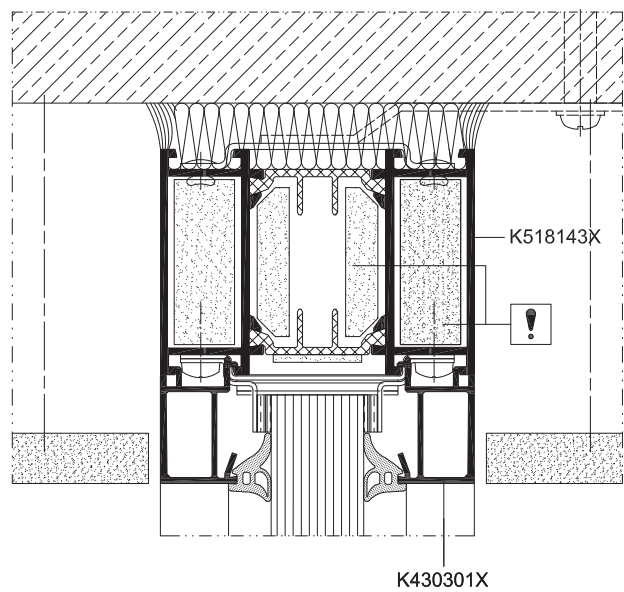
Partition with a floor-integrated profile, section view

K430301X

K518143X
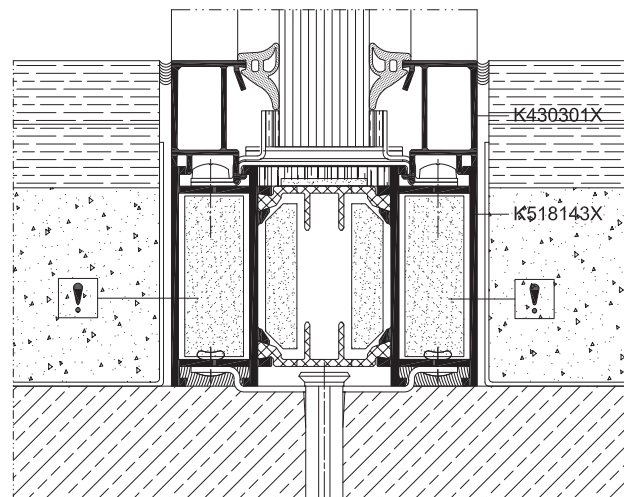
Automatic fire rated sliding doors
MB-78EI DPA
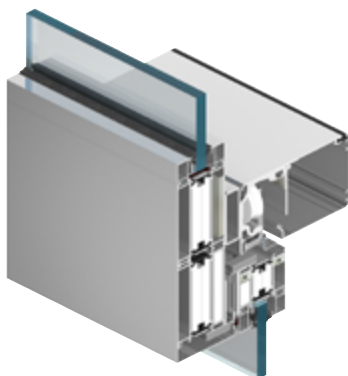
EI 15   **EI 30**

The **MB-78EI DPA** system is intended to make fire rated partitions with automatic, single and double leaf sliding doors. Their fire resistance class of EI 15 and EI 30 is kept when they are exposed to fire both from the outside and the inside. The structure is based on the system of fire walls with the **MB-78EI** doors, from which comes most of the production technology and components, including main profiles, glazing beads, cooling inserts, expanding tapes, gaskets, and most of the accessories. A wide range of glazing of these structures is the same as in the basic system and allows the installation of all common fire-resistant glazing of EI 15 and EI 30 class, including any fusion into an insulation package.

The **MB-78EI DPA** sliding door's drive can be installed on walls/system walls. Mechanisms that are intended to be used in this system allow a smooth and trouble-free operation of the door with a 200 kg leaf.

Max. dimensions of the structure in clear opening:
- height of a single and double leaf door : up to 2550 mm.
- width of a single door: up to 1350 mm.
- width of a double door: up to 2710 mm.

The **MB-78EI DPA** system holds an ITB's Technical Approval No. AT-15-6006/2016 and a certificate CERTIFIRE delivered by Warrington Certification Ltd No. CF 5138

Upper sliding doors – cross-section

K518145X

K518145X

Steel pipe

GEZE Powerdrive

210

78

40

150

267

109

77

22

K518143X

K430300X

5

K430318X

100

78

110

5

288
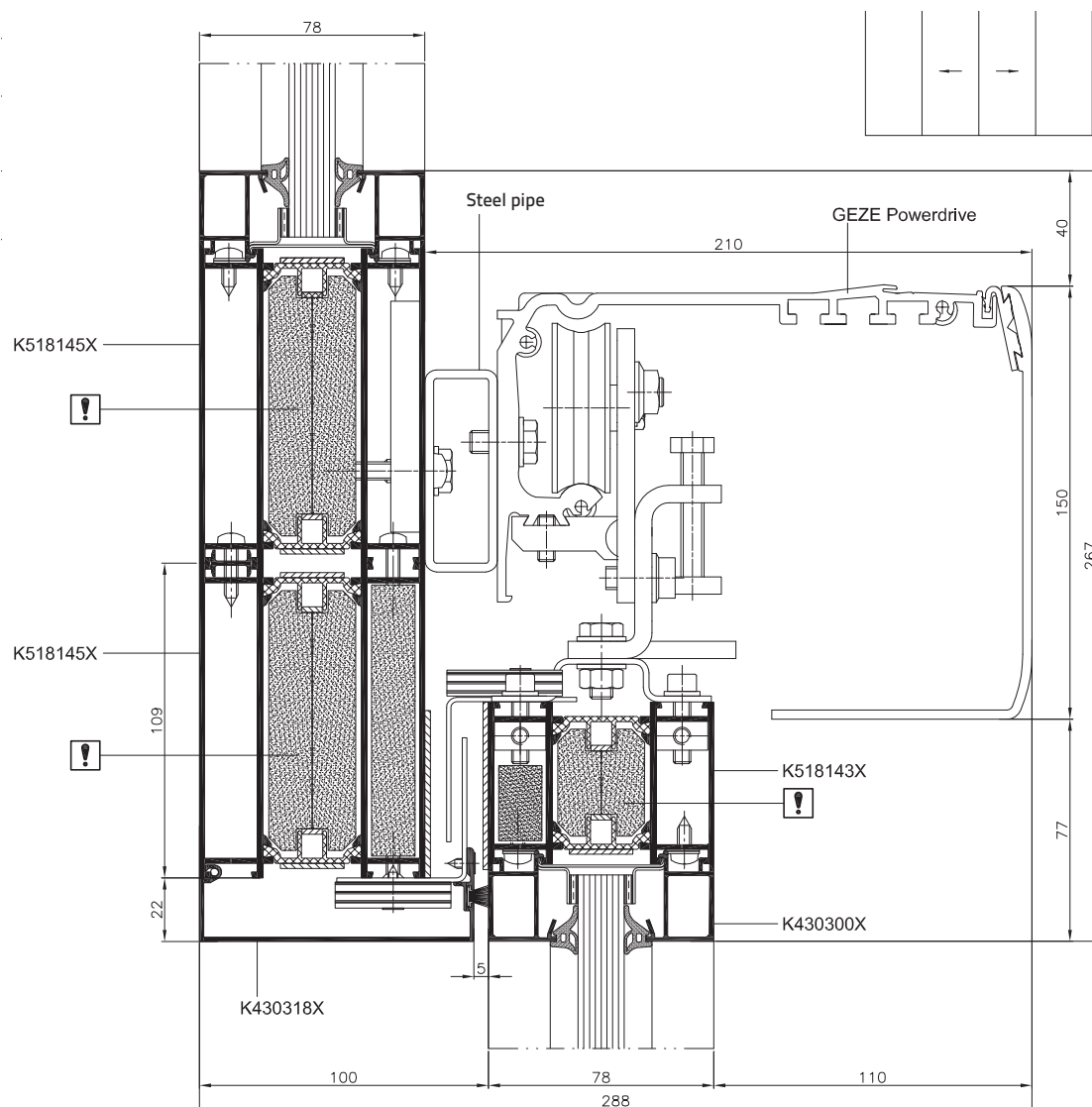
Lateral sliding doors – cross-section

K518143X

K430300X

K430318X

105

95

78

178

5

5

Photocell

K430300X
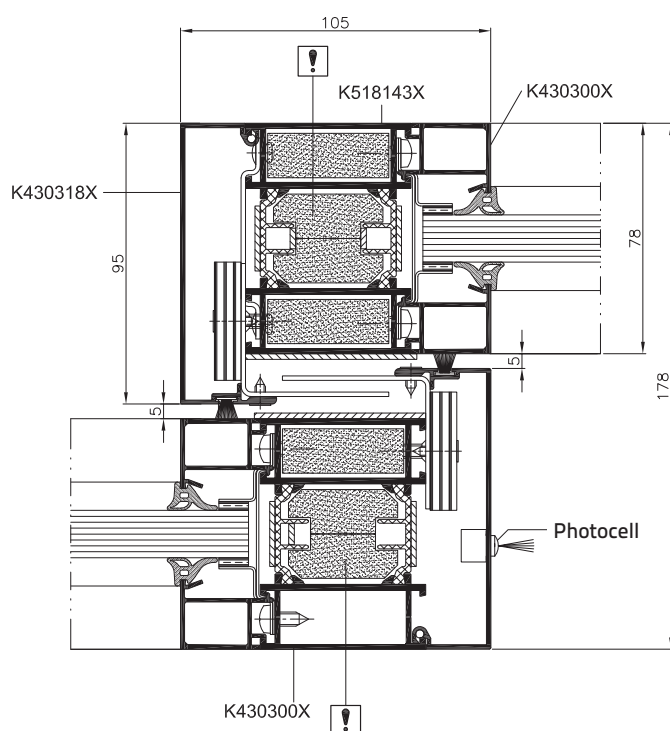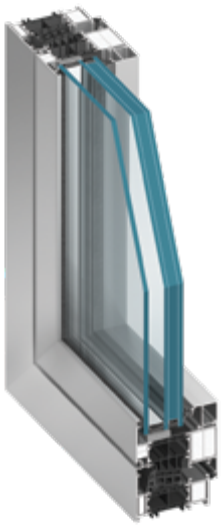
EI 30

MB-86EI is used for fabrication of EI30 fire-rated openable windows to EN 13501-2+A1. MB-86EI is based on **MB-86** system, and has excellent thermal, sound reduction, water resistance and air leakage performances. The **MB-86EI** combines the advantages of a classic window system with the properties of a fire partition walling – the construction meets all the requirements of the applicable regulations and standards, especially regarding energy saving and environmental protection, while ensuring proper fire safety. The system is classified as non-fire spreading (NRO).

Max. dimensions of the windows:
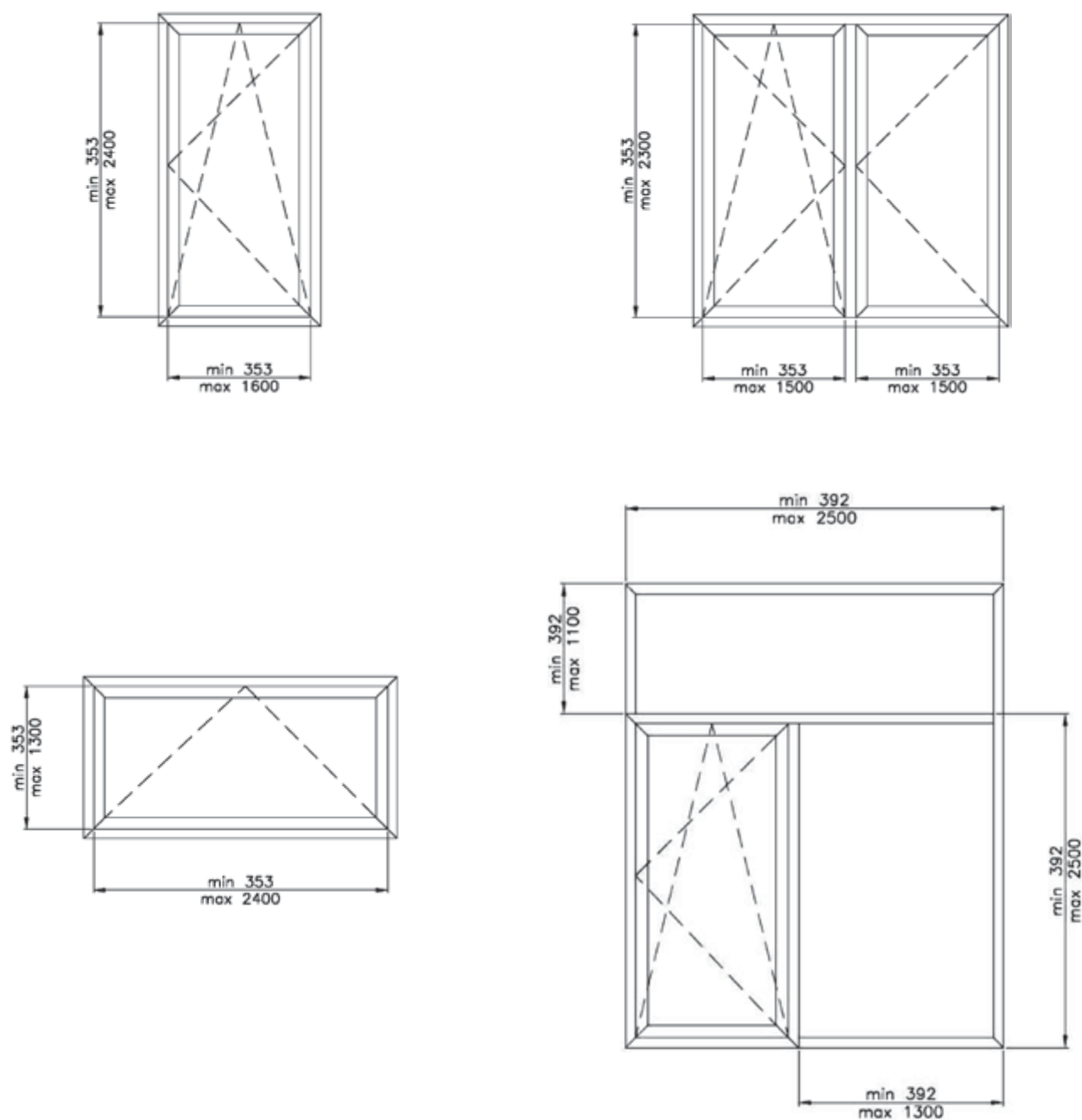
TECHNICAL SPECIFICATION	MB-86EI
Frame depth	77 mm
Casement depth	86 mm
Glazing thickness	frame: 13 to 61 mm, casement: 22 up to 70 mm
Max casement weight	130 kg
TECHNICAL PARAMETERS	**MB-86EI**
Air leakage	class 4, EN 12207
Water resistance	class E 1500, EN 12208
Wind resistance	class C5, EN 12210
Thermal insulation	U_f od 1,07 W/(m²K), U_w from 0,86 W/(m²K)*
Fire resistance rating	class EI30

* - for a 2000 x 1100 mm window with triple glazing unit U_g=0.5 W/(m²K), warm spacer and EI30-rated fire-resisting glazing pane

Fire-rated windows

MB-86EI
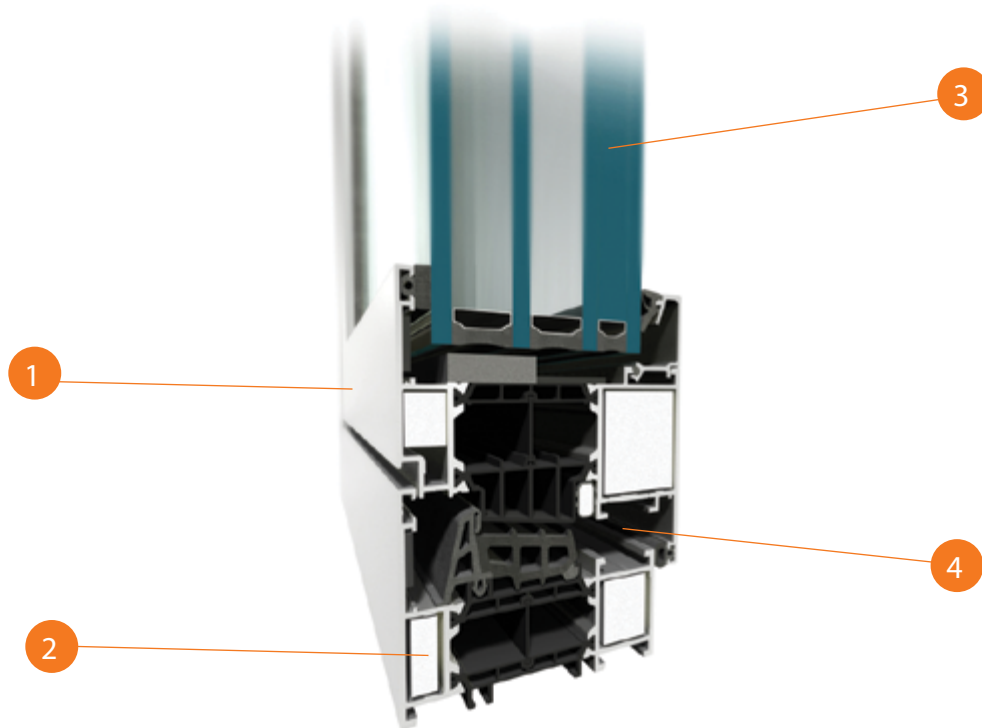
1. three-chambered profiles, with a 43 or 42 mm-wide insulation chamber between thermal breaks as a central part

2. fire resistance is ensured by the appropriately rated glass panes, fire insulation elements in the internal chambers of aluminium profiles and special accessories and materials used in the space between aluminium profiles and the glazing

3. wide range of glazing thickness allows for use of different types of insulated glass, including triple glazing units

4. hardware used in MB-86EI is typically RC2 burglar-resistant-rated

MB-86 EI-based constructions hold an ITB's
Classification No. 1036/18/R360NZP

Window view

K718611X K518702X
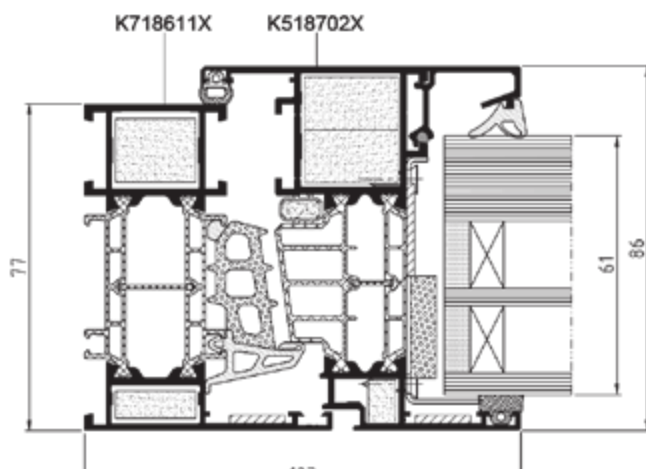
Balcony door with low-level threshold, view

86

103

77

K718703X

K718600X

77

61

86
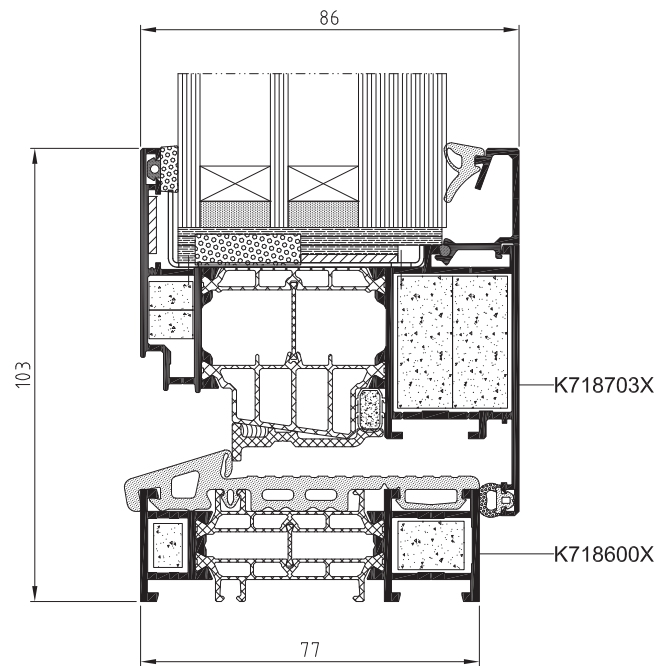
Double window with floating mullion, view

K718702X K718709X K718702X

86

86

156
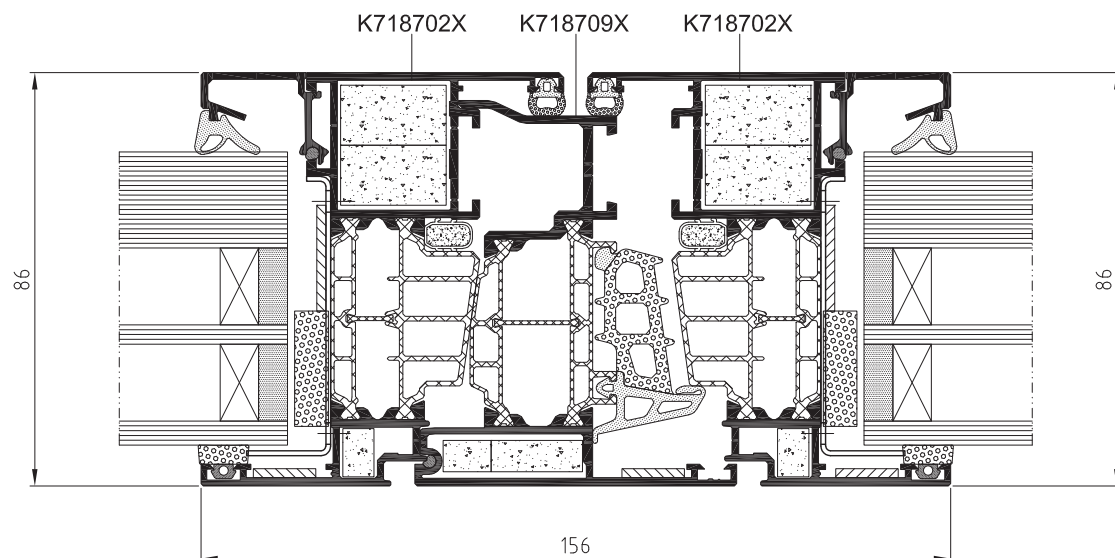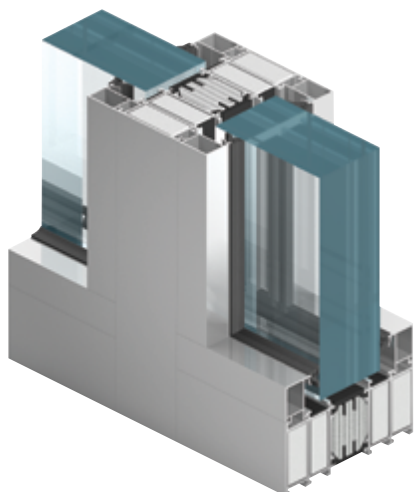
MB-118EI

EI 120

The **MB-118 EI** fire rated walls are used to make fire partitions with fire resistance class of EI 120. The system is classified as non-fire spreading (NRO). It's design & construction is such that, it provides a technical connection with the **MB-78EI** door, which means a number of common components (such as glazing beads, cooling inserts, expanding tapes, seals and most accessories) and also similar to the basic system, production and installation technology.

The **MB-118EI** system has been developed on the basis of a five chamber insulated aluminium profile, with a front to back depth of 118 mm. The inner chamber profiles, as well as insulating space between them, are filled with fire insulation elements. On the outer surfaces there are expanding tapes which are additionally mounted, and the whole structure is completed by steel accessories components, joining both sides of the profiles. The **MB-118EI** system can accommodate infills of a thickness 31-84 mm. This system can also be the basis for constructions in EI 30 or EI 60 classes, in which, due to high thermal or acoustic requirements, triple glazing units must be used.

Thanks to its symmetrical composition, the structures that are made of it remain fire resistant in EI 120 class, both exposed to fire from the outside and the inside. An important feature affecting the functionality of these fire partitions is the possibility to install the **MB-78EI** doors.

Max. dimensions of the walls

Expansion joint mullion   Expansion joint mullion

max 4000

max 6000

Expansion joint mullion   Expansion joint mullion

max 4000

max 6000
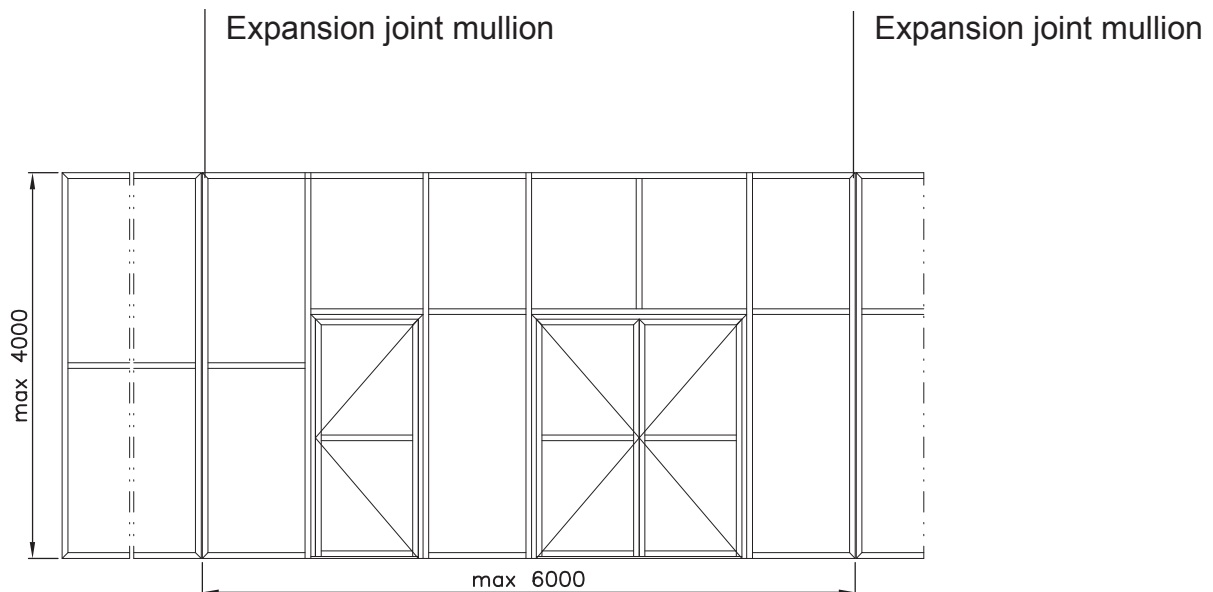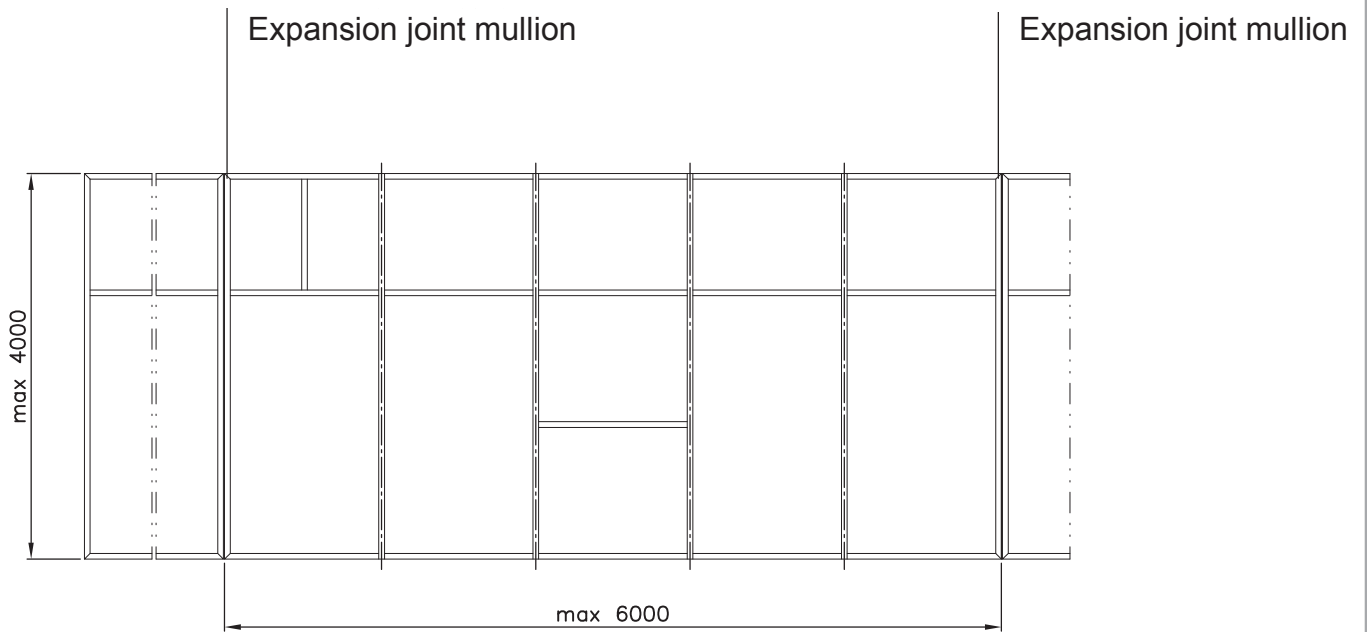
TECHNICAL SPECIFICATION		TECHNICAL PARAMETERS	
Depth of wall frame	118 mm	Air Permeability	Class A4, PN-EN 12152:2004
Glazing range	31 - 84 mm	Watertightness	Class RE 750, PN-EN 12154:2004
		Fire resistance	Class EI 120, EN 13501-2

Fire rated wall partitions

MB-118EI
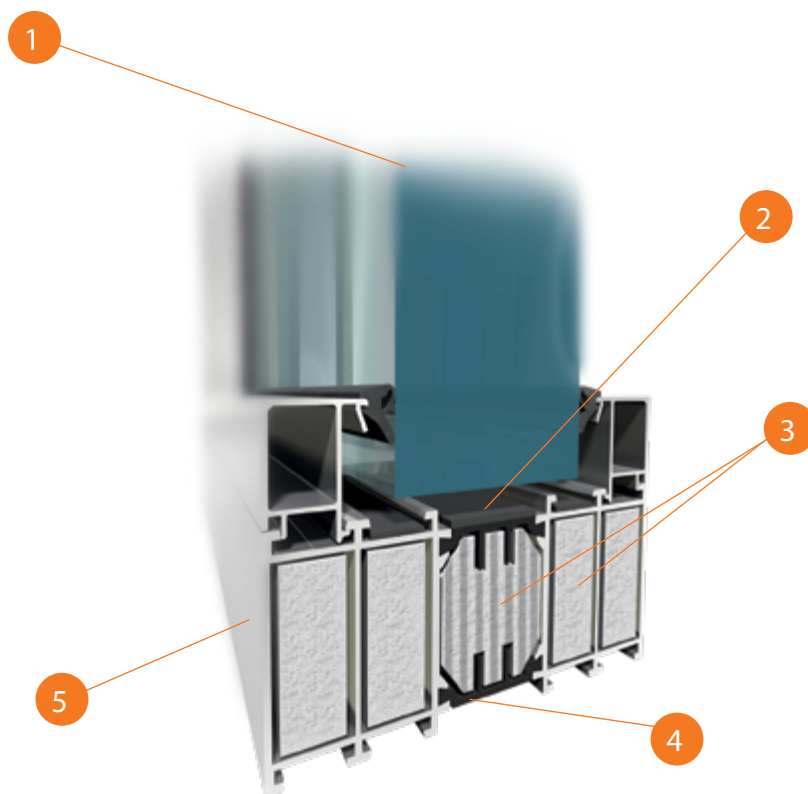
1. Single or double (sealed unit) fire resistant glasses, of a thickness to 84 mm.

2. Steel accessories and expanding tapes that protect the structure from high temperatures

3. GKF or CI type fire protection infills inside the profiles allowing to obtain EI120 class

4. Profiled thermal break that provides adequate protection against heat loss

5. 5-chamber, symmetrical design, where fire resistance is maintained regardless the side of the fire

The **MB-118EI** system holds an ITB's
Classification No. 1036/18/R368NZP

Max. dimensions of the walls

118

K415188X

83

K518397X

Joining of the MB-118EI wall and MB-78EI doors – cross-section

184

K518394X

78

K518395X   MB-118EI

EI 30   **EI 60**

The **MB-SR50N EI** curtain wall fire rated systems have been developed to provide a light-weight curtain & fire resistant wall, of classes EI30, EI60 classes according to PN-EN 1364-3 and PN-EN 1364-1 and of fire-resistant glass-covered roofs. The system is classified as non-fire spreading (NRO).

These solutions use profiles of the basic, **MB-SR50N** façade system: mullions of a depth of between 85 and 225 mm and transoms of a depth of 65 and 189,5 mm. The **MB-SR50N** system allows for selecting mullion & transom profiles which provide a flush internal finish of the facade, creating a desirable, unified grid appearance.

The design of the fire rated curtain wall system allows the use of angled connections to ± 7.5° per side, angled connections 90° or 135° (internal or external) and building façades tilted from the vertical at an angle of ± 15°. It is also possible to install the **MB-78EI** fire doors while maintaining the fire resistance of the whole structure in classes EI 30 or EI 60.

Max. dimensions of the panels in curtain walls

MH

ML
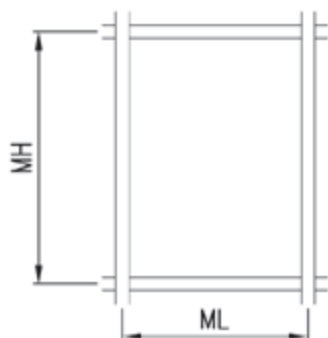
MHmax=3000 mm
MLmax=1500 mm

kg - 300 kg

MH

ML
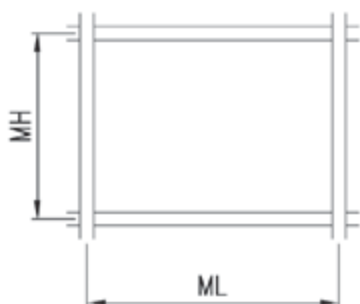
MHmax=1500 mm
MLmax=2400 mm

kg - 300 kg

kg } - max. infill weight

TECHNICAL SPECIFICATION	MB-SR50N EI
Mullions depth	85 – 225 mm
Transoms depth	69,5 – 189,5 mm
Inertia mullions (coeff. range I_x)	83,80 – 1222,14 cm^4
Inertia transoms (coeff. range I_z)	48,07 – 591,55 cm^4
Width of profiles	50 mm
Glazing range	16 – 64 mm
TECHNICAL PARAMETERS	
Air Permeability	Class AE 1050, PN-EN 12152
Watertightness	Class RE 1200, PN-EN 12154
Fire resistance	Classes EI 30, EI 60, EN 13501-2
Thermal insulation (coeff. U_f)	from 1.8 W/(m^{2}K)

Curtain wall fire rated systems
MB-SR50N EI

1. Single or double (sealed unit) fire resistant glasses, mechanical fix, glazed infill system, accommodating glass of a thickness up to 64 mm
2. Steel accessories, special bolts and expanding tapes that protect the structure from high temperatures
3. GKF or CI type fire protection inserted inside the profile, enabling performance classes of EI 30 – EI 60
4. Mullion and transom supporting structure gives the possibility to build vertical facades, inclined from the vertical position by an angle of ± 10° and glazed roofs
5. The inner core aluminium profile insert, provides the necessary integrity of the construction in the event of a fire

The view of the fire resistant façade does not differ from the basic system. In order to gain fire resistance, mullions and transoms are fitted with special fireproof inserts. These inserts consist of an aluminium profile serving as a reinforcement element, clad round with fire-proof board.
The glazing or other fire-proof fillings are "loaded" into their respective "zones," against the internal glazing rebate of both the transoms & mullions, & held fast in place via an external pressure plate or clamping strip.

In order to achieve optimal heat and sound insulation in construction we use continuous thermal break profile of HPVC and EPDM seals. In addition, the side surfaces of the insulator are equipped with fire-proof tape that under high temperature expands and fills the space between the areas of the façade.

The pressure plate is fixed to the grid profiles by a machine screw and stainless steel plate. Such a method of fix provides the necessary technical parameter, in order to achieve performance, & protect against the glass or other similar fire resistant infill from unwanted displacement.

The **MB-SR50N EI** system holds an ITB's Classification No. 1036.12/16/R289NZP and a certificate CERTIFIRE delivered by Warrington Certification Ltd No. CF 5139

Mullion cross-section EI 30

K430476X
K430483X

50

105 (85 do 225)

K417890X
K417892X
80322091

Mullion cross-section EI 60

K430476X
K430483X

50

105 (85 do 225)

K417890X
K417892X
80322091

Mullion cross-section +7,5° EI 60

K430476X
K430483X

50

105 (85 do 225)

0 - 7,5°

K417890X
K417892X
80322091

Mullion cross-section 90° EI 30

105 (85 do 225)

50

105 (85 do 225)

GKF / Promatect
Wełna mineralna
Blacha alu. 2mm

K430476X
K430483X

K417890X
K417892X
80322091

43

MB-SR50N EI EFEKT

EI 30 **EI 60**

MB-SR50N EI EFEKT system is designed for fabrication of fire-rated, EI30, EI60 infill curtai profiles, the mullion and transom support structure has a special core protected by fire-retardant inserts. It may be inclined from the vertical by an angle of ±10°.

MB-SR50N EI EFEKT systems is covered by the ITB classification no 01036/15/R218NP and certified CERTIFIRE by the Warrington Certification Ltd (certificate no CF 5139).

Max. dimensions of the walls

Expansion joint mullion   Expansion joint mullion

max 3024 mm

max 6000 mm

Transom cross-section

K430492X   K4304760

24

50

64   4   109.5 (69.5÷189.5)
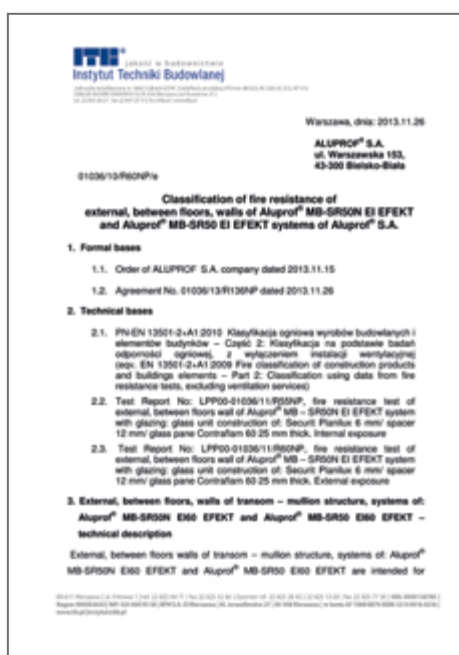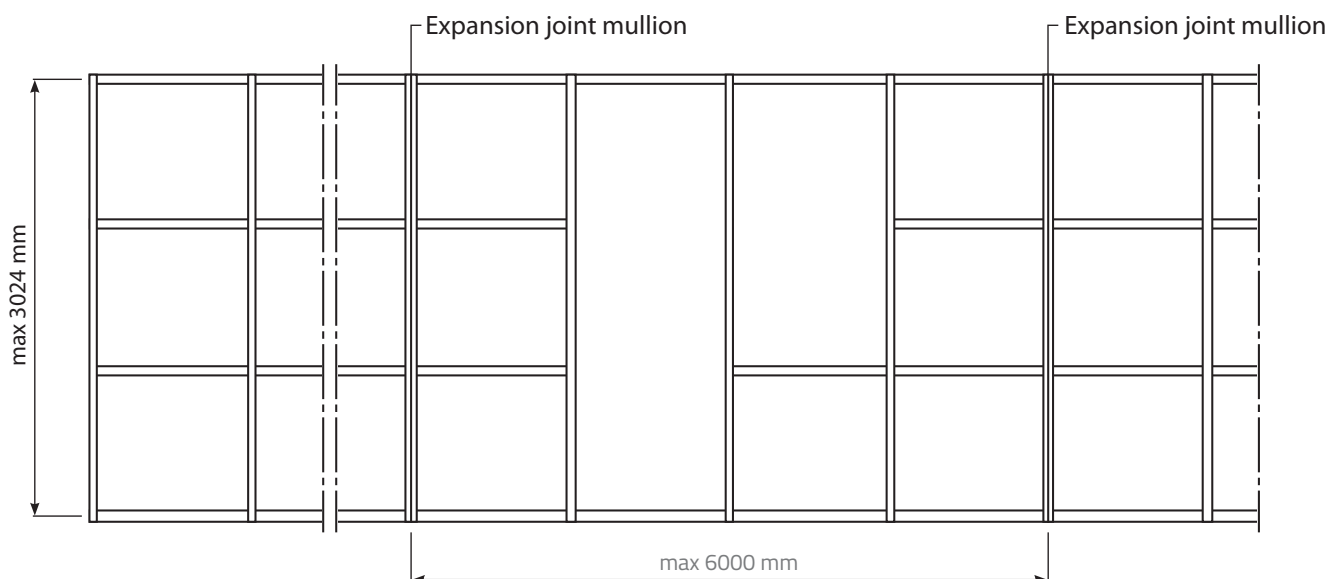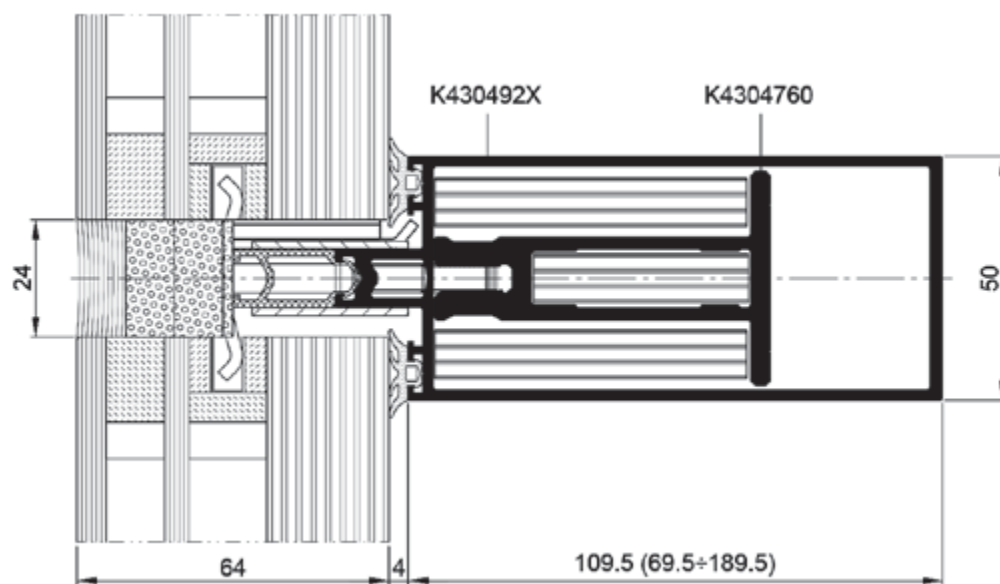
TECHNICAL SPECIFICATION	MB-SR50N EI EFEKT
Frame/mullion depth	85 – 225 mm
Leaf/transom depth	69,5 – 189,5 mm
Mullion stiffness (coeff. range Ix)	81,34 – 1222,14 cm^4
Transom stiffness (coeff. range Iz)	49,54 – 629,54 cm^4
Profiles width	50 mm
Glazing range	36 – 64 mm
TECHNICAL PARAMETERS	
Air permeability	class AE1200 Pa; PN-EN 12153:2004
Water-tightness	class RE1200; PN-EN 12155:2004
Wind resistance	2400 Pa / 3600 Pa; PN-EN 12179:2004
Impact resistance	class I5/E5; PN-EN 13049:2004, PN-EN 14019:2006

Fire resistant glazed roofs

REI 20 **REI 30**

RE 20 **RE 30** **RE 45**

Based on the **MB-SR50N EI** façade systems, it is possible to perform **roof glazing** with fire resistance class RE20, RE30, RE45, REI20, REI30 according to PN-EN 13501-2 + A1: 2010. "RE" means that the construction will maintain its structural capacity and integrity, and "REI" means that the construction will provide high temperature insulation.

Regular curtain wall mullions & transoms are used as roof glazing rafters & purlins, suitably joined to each other to form an aluminium grid structure, which is in turn mounted to the building structure by means of appropriate supports. Similar to the vertical curtain wall offer, these rafter & purlin profiles are fitted with fire resistant inserts, consisting of an aluminium insert profile acting as reinforcement, and surface clad with fire-proof board. The standard solution does not require any additional support such as steel.

Fire tests performed on two versions: flat and inclined, have assured classification of roofs with an inclination of 0° to 80° from the horizontal level. Rafters with a depth of 85 + 225 mm and purlins with a depth of 65 + 189.5 mm may be used in this structure. Window inserts are installed into the glazing rebate of the rafter & purlin formed grid, & fixed securely by the pressure plate clamping strip, screw fixed back to the carrier profiles. Within this system, it is possible to apply glazing thicknesses ranging from 32 to 64 mm. The maximum dimensions of the glass are 1250 mm x 3250 mm. Fire resistant glass can be used in a composite set with any glass placed in the system on the outside. **Glazed fire resistant roofs** can be combined with the EI **MB-SR50N** vertical façades.

The **MB-SR50N EI** fire roofs hold an ITB's Fire Classifications
Nos. 01036-18-R376NZP & 01036.2-18-R376NZP

Cross section of the fire roof ridge

Mineral wool
density min. 75 kg/m³

Sheet steel
thickness min. 0,8mm 1m

K417896X

K417895X

69.5 (69.5 do 189.5)

50

50

K430475X

K431543X
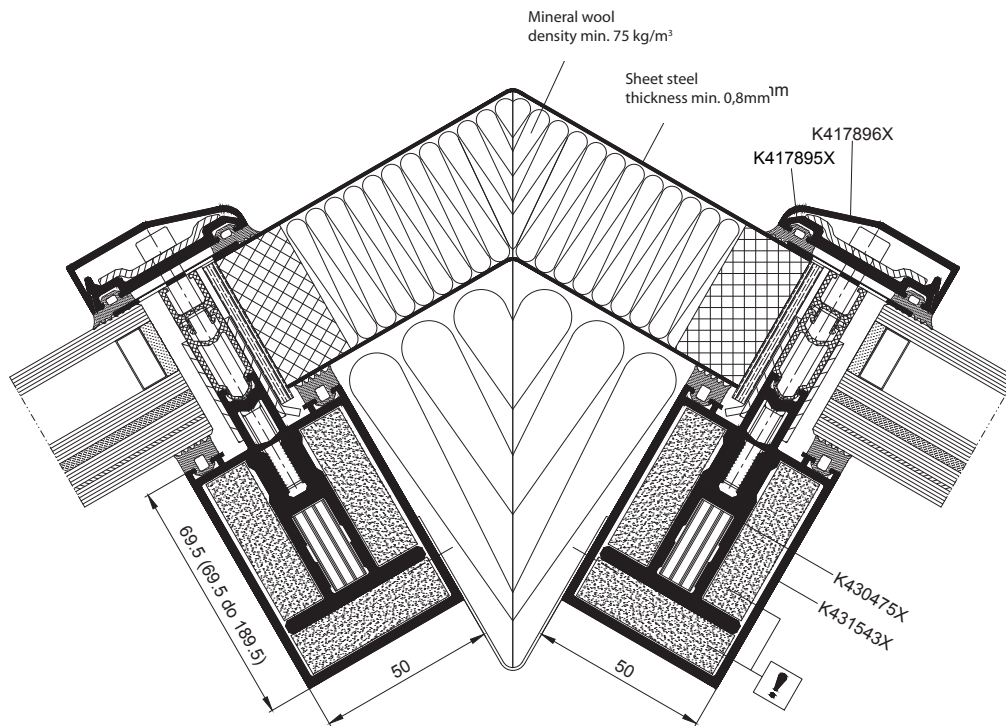
Cross section of the roof combined with a fire façade

K417896X

K417895X

K431543X

K430475X

50

Mineral wool
density min. 75 kg/m³

Sheet steel
thickness min. 0,8mm

GKF or Promatect

50

69.5 (69.5 do 189.5)
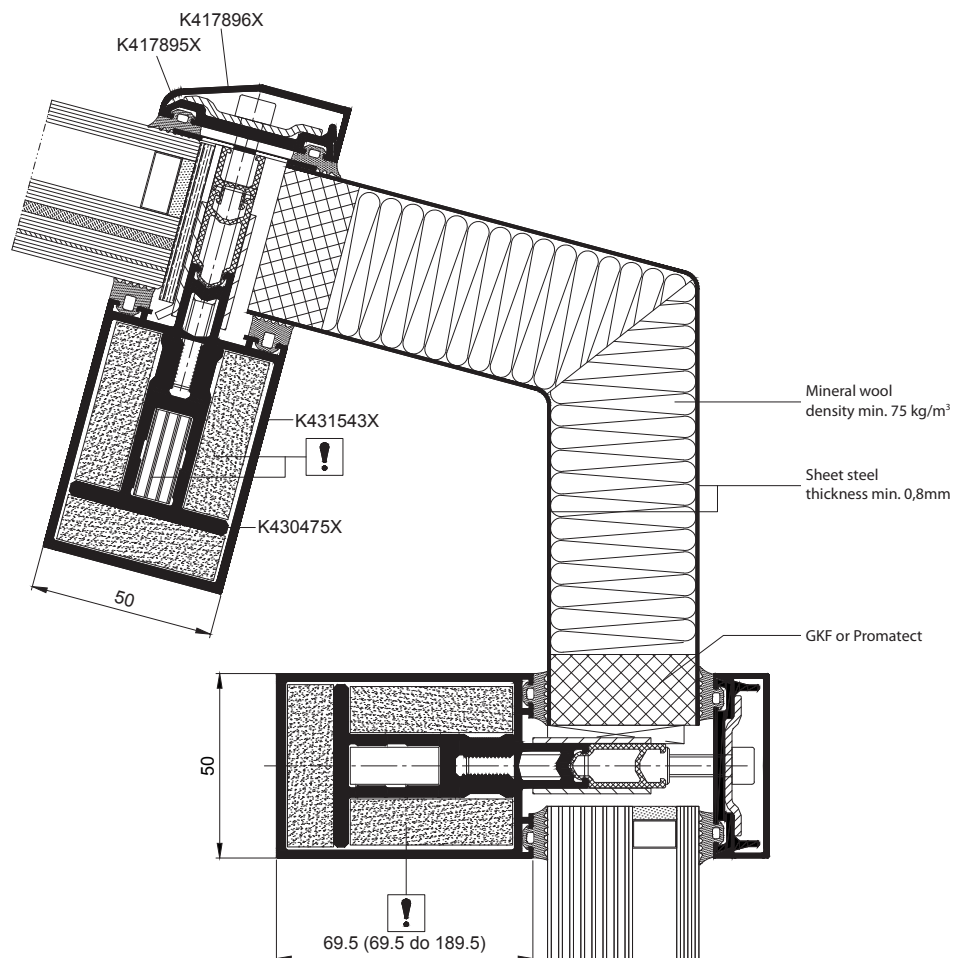
Fire partition walls with door

MB-45EW

EW 30

The **MB-45EW** system enables the fabrication of fire-rated single and double doors and fixed partition walls with doors. The constructions based on the **MB-45EW** system are classified fire-resistant EW30 to EN 13501-2+A1:2010. The construction is based on aluminium profiles of the "non-thermal" system **MB-45** which has a structural depth of 45mm. The fire resistance of the construction is ensured by materials inserted into the internal chambers of the profiles. The outer surfaces have strips that swell under the effect of temperature.

The system can use fire-resistant glazing EW 30 (thickness 11mm – 15,5mm). The infill is made using standard glazing beads, and the entire construction has steel accessories that protect the glass in case of fire. The **MB-45EW** system enables the fabrication of doors with maximum leaf size of up to 2.40m high and 1.25m wide. Structural capabilities and compatibility with other MB-series systems make this solution very attractive in this product category, while providing an excellent fire protection.

Maximum size of the construction

max 2407

max 1250

max 3000

max 3000

max 2448

max 2480

max 3400

Expansion mullion

Expansion mullion

max 3400

max 6000
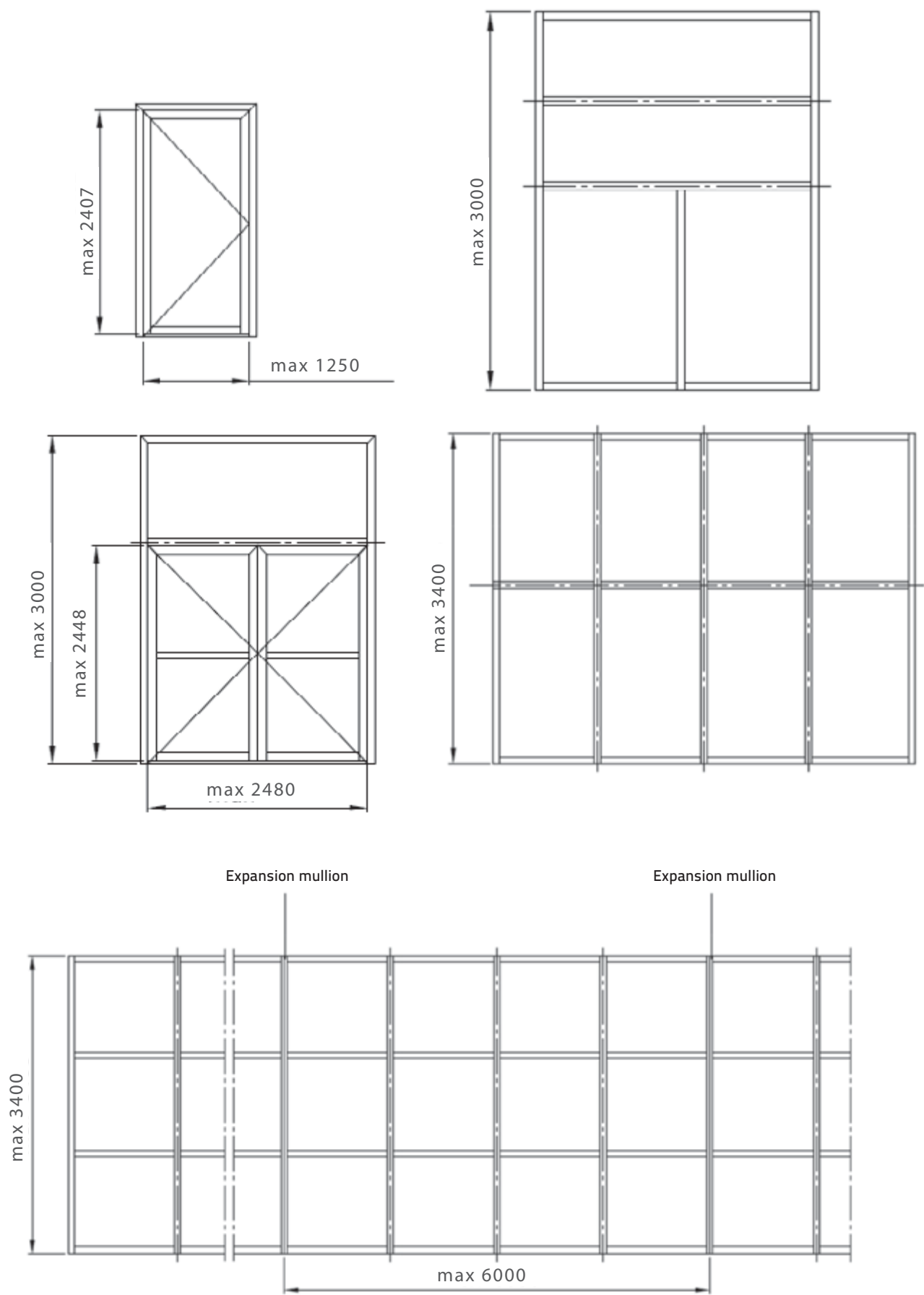
Technical parameters			
Frame depth (wall & door)	45 mm	Range of glazing	11 - 15,5 mm
Door leaf depth	45 mm	Maximum weight of the door leaf	120 kg

Fire partition walls with door
MB-45EW
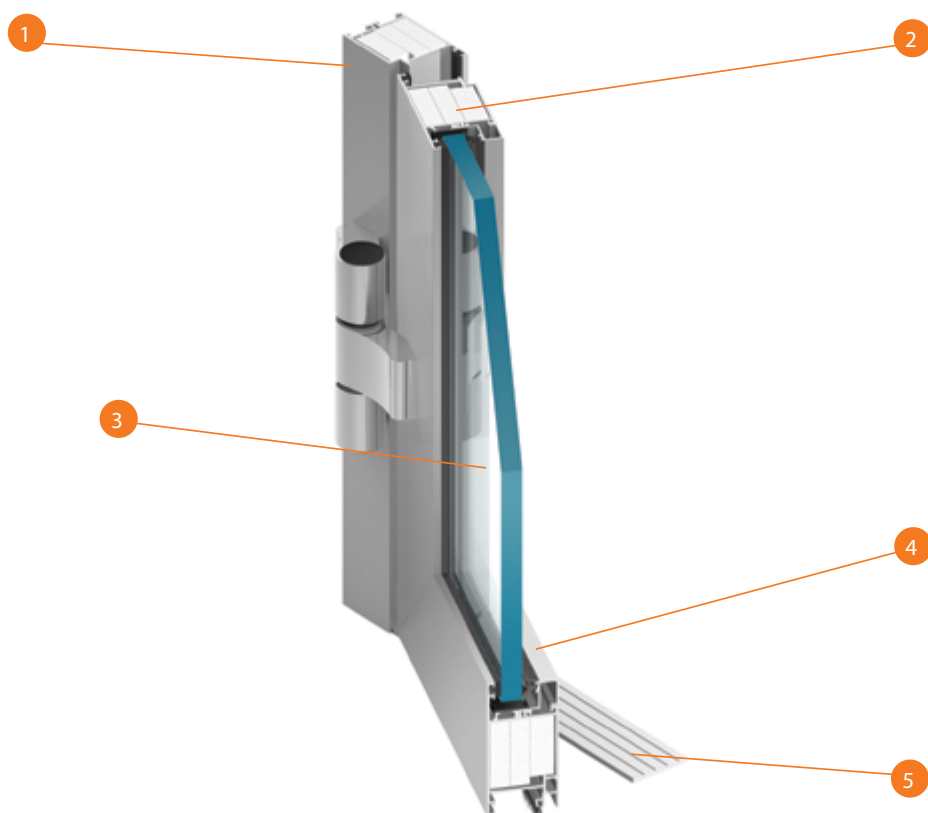
1. A solution based on MB-45 window & door profiles. Prefabrication made simple and fast with the use of elements that are common to both systems.

2. Special infills in the profiles and accessories for even better fire rating.

3. Possibility to use all standard types of fire resistant glass Pyroguard (EW30).

4. "From-the-inside" glazing – with glazing beads.

5. Low-level threshold solution

The door & partition wall system MB-45EW has documents issued by Efectis France

Fixed partition wall, section view

K415219X   80462223
            80462224

K417842X

45

66

Door, section view

K415226X   80462109   K415224X   80462225
            80462227   80462226

K417842X

45

143.5
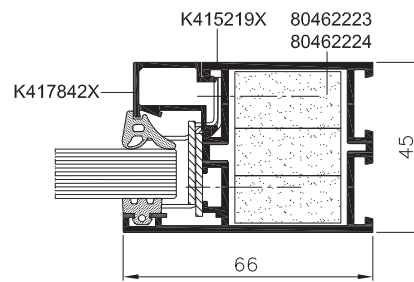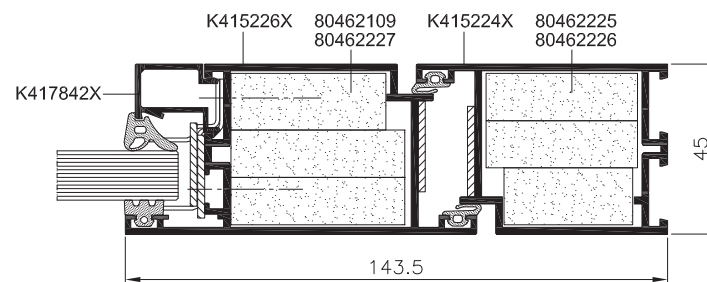
Door with low-level threshold, bottom view

45

K417842X

K415226X

80462109
80462227

K430028X

101

8

K412677X
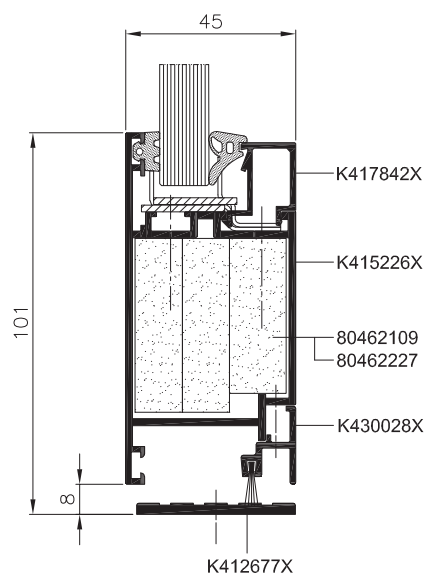
Door with tubular threshold, bottom view

45

K417842X

K415226X

80462109
80462227

K415249X

101

8

K417713X
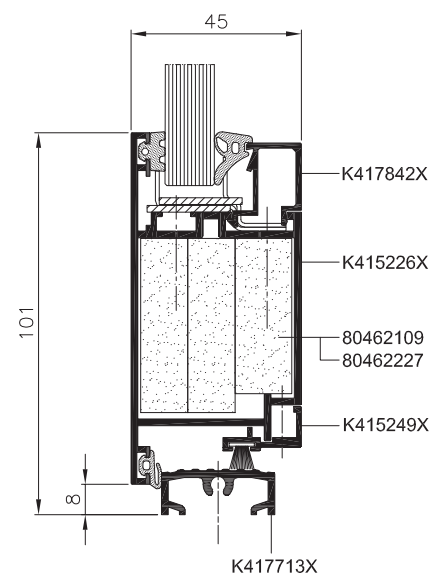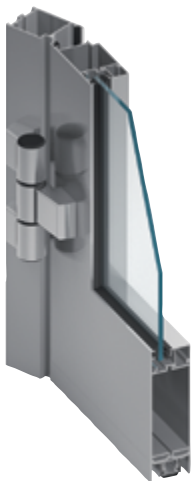
S_a S_{200}

MB-45D partition system is intended for producing partition walls with smoke exhaust single- or double-leaf doors with a class of S_a, and S_{200} according to the EN 13501-2:2016 standard. Its construction is based on the elements of internal partitions of the **MB-45** system. Proper performance of the smoke-tightness function is conditioned by the correct application of the leaf peripheral sealings, rear glazing and other fillings as well as the application of threshold seals.

The **MB-45D** doors hold an ITB's Technical Approval No. AT-15-5163/2016 valid until 29 December 2021.

Door frame and door leaf – cross-section

45

143.5

K415224X

K415226X

K417844X
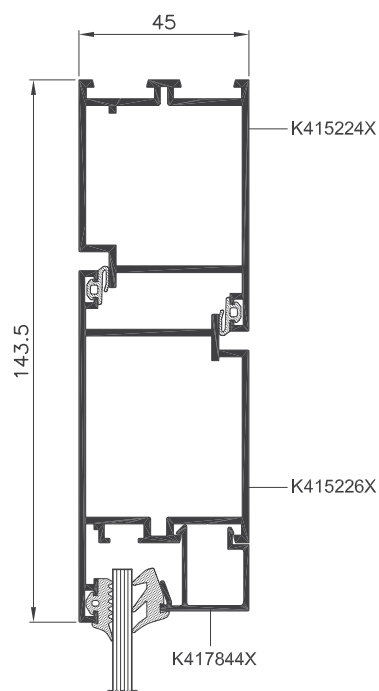
Door with threshold – bottom cross-section

45

162

K417844X

K415220X

K415231X

K411406X
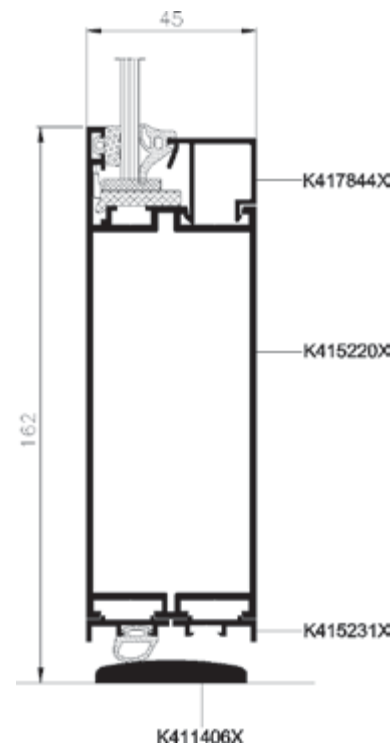
Door without threshold – bottom cross-section

45

162

K417844X

K415220X

K418023X

threshold
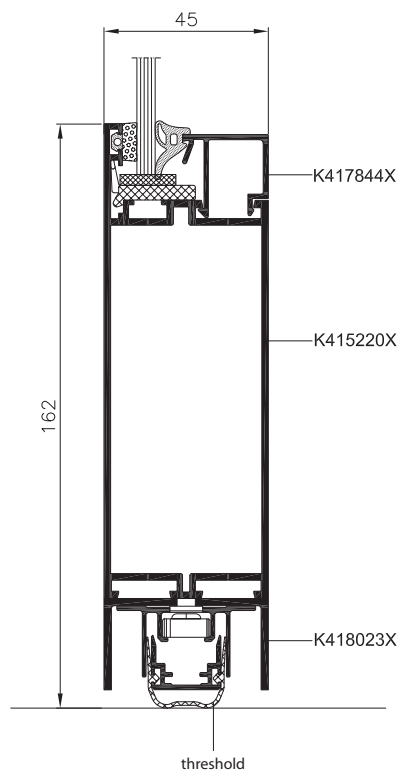
TECHNICAL SPECIFICATION			
Door frame depth	45 mm	Glazing range	2 - 25 mm
Door leaf depth	45 mm	Max. leaf door dimension	H up to 2400 mm (2200 mm), L up to 1250 mm (1400 mm)
		Max. leaf door weight	120 kg
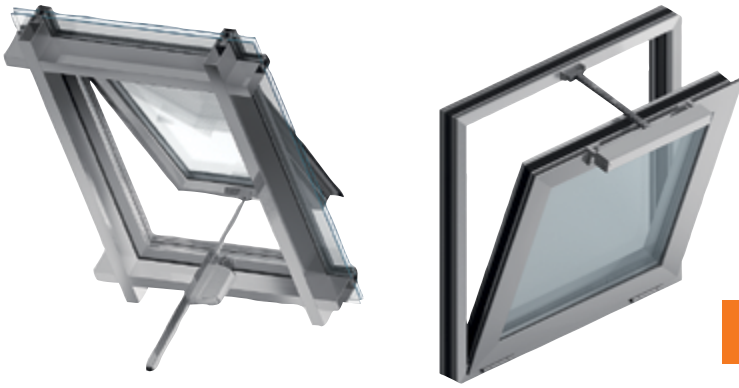
Maximum window size up to 4 m²

Smoke exhaust windows play a particular role in ensuring safety and comfort for the people staying in the building. When properly selected, they are the elements of gravity ventilation, and when necessary they can help to quickly get rid of smoke & toxic vapours which can be hazardous to health or worse.

The offer for these products is characterised by the diversity of solutions so they can be used in an individual development, as well as elements integrated with aluminium façades or roof glazed panels.

Smoke exhaust structures can be based on window systems such as **MB-59S**, **MB59S-Casement**, **MB-60**, **MB-60US**, **MB-70**, **MB-70US**, **MB-86**, **MB-86US**, and on the dedicated solutions for façades, such as tilt windows (**MB-SR50N OW**) and skylights (**MB-RW**). There are various options of windows opening – side hinged or tilted inward or outward (top/bottom) as well as the dormers used with tilted façades or with skylights. Smoke exhaust and ventilation system is completed by the aerating windows or doors.

Cross-sections through the MB-RW smoke exhaust window in MB-TT50 system

80

K432130X

K417896X
K417895X

80

K432130X

50

K417896X
K417895X

113

K518040X

K518040X

K518041X

MB-TT50

K518041X

MB-TT50

MB-TT50

3 – 75°

3 – 75°

Cross-section of the the MB-70 system's smoke exhaust window

70

110

electric actuator
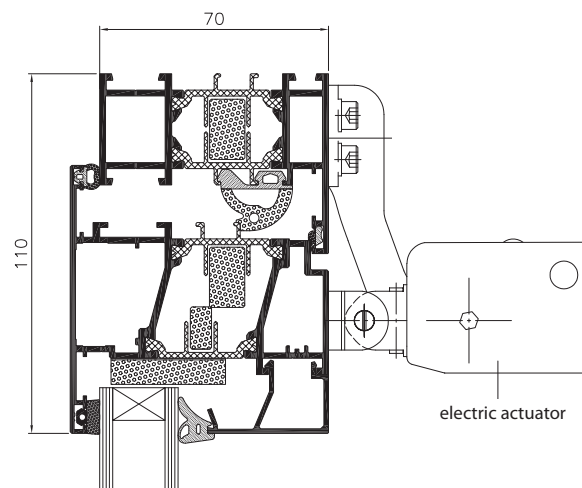
TECHNICAL SPECIFICATION	
Max. dimensions of window leaf (horizontal)	L up to 2500 mm, H up to 1600 mm
Max. dimensions of window leaf (vertical)	L up to 1600 mm, H up to 2500 mm
Max. dimensions of roof window leaf	L up to 1500 mm, H up to 2200 mm or L up to 2200 mm, H up to 1500 mm
Max. surface of vertical/roof smoke exhaust window	up to 4.0 m^2 / up to 3.3 m^2
Max. opening angle of the smoke exhaust window	up to 90°

The smoke exhaust windows and flaps

The smoke exhaust windows and flaps can be equipped with reliable and silent mechanisms by D+H, GEZE, and for roof windows – also with drives by ESCO. Different types of actuators, including drives with a large opening force (up to 3,000 N) are available. They can be installed in a single window or in synchronised "Tandem" systems. In spite of their responsible function in building, these structures can be characterised by high aesthetics, which is ensured by the possibility of using small-sized drives installed parallel to the window surface.

Producers of drives for smoke exhaust windows

EN 12101-2 standard which is the legal basis for the operation of smoke exhaust windows, requires that the equipment used for smoke and heat evacuation would work reliably and correctly every time it is started, during the period of use. Smoke exhaust structures based on Aluprof systems have been tested in accordance with the above standard in the Institutes of IFT and VdS both in terms of effective ventilation area, operational reliability and proper behavior under various operating conditions: the wind load, snow load and also under the influence of low and high temperatures. Through the smoke exhaust window made using Aluprof's systems have appropriate documents confirming the required technical parameters.

REFERENCE PROJECTS

completed using fire protection and smoke
exhaust systems by ALUPROF

www.aluprof.eu/en/projects

ALUPROF

Gk
Grupa Kęty

www.aluprof.eu