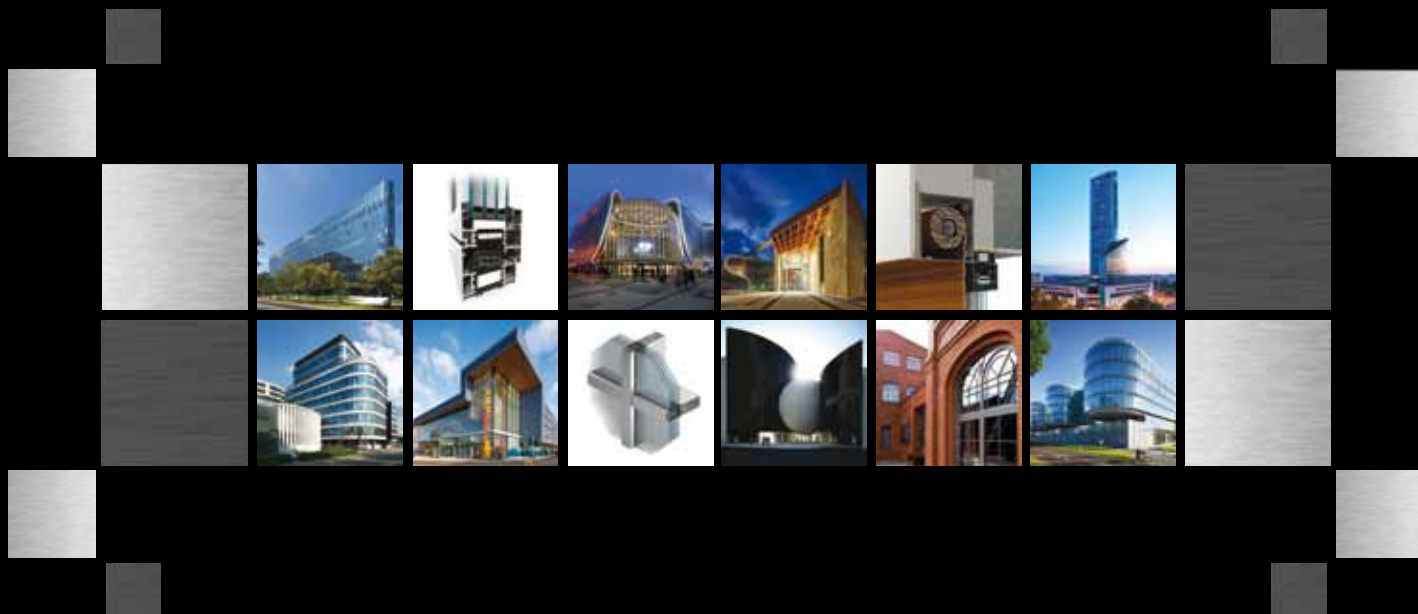


ARCHITECTURAL

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The main idea behind the issue of the "Architectural Product Guide" is to present the complete offer of Aluprof, with descriptions of the systems, basic technical information and selected typical structure cross-sections. The guide has been prepared for all designers, investors and entities involved in construction who are interested in the ALUPROF offer.

ALUPROF ENERGY EFFICIENT SYSTEMS – A NEW STANDARD IN BUILDING

Our range of products includes modern constructions, which, thanks to the excellent thermal insulation and innovative technical solutions, can perfectly meet the requirements of green building. That is the case with numerous buildings constructed using Aluprof systems, awarded with prestigious certifications BREEAM, LEED or Green Building. Products in this group are labeled "Recommended for energy-efficient buildings". This includes façade systems such as MB-TT50, MB-SR50N HI +, as well as the following window & door systems: MB-86, MB-77HS or panelled door. Improving building energy use and thermal comfort in buildings can successfully be done with the majority of "protective" solutions such as roller shutter, external louvers and shutters.

DON'T WASTE YOUR PRECIOUS TIME

ALUPROF systems offer includes specialised solutions: fire-resisting, smoke-proof and smoke exhaust structures up to EI120 class. Using these products in situations that threaten the life or health can buy time for safe evacuation while increasing chances to control the fire and reducing losses caused by fire.

SOLUTIONS FOR YOUR NEEDS

Today's architecture poses a real challenge for the contractors. Complicated structures, original shapes or very large spaces often require customized solutions dedicated to a specific building. For modern facilities, Aluprof has prepared special systems, materials and projects, thanks to which buildings look exceptionally grand.

Aluprof S. A.

Aluprof S.A. is one of the leading European distributors of aluminium systems for the building industry. The company's offer includes windows and doors, curtain walls, roller shutters and gates systems, and also steel product systems. Large logistical facilities, modern machinery, profile embossing within the Group and own paint shops provides the company with full independent and market flexibility – which, for many years, has resulted in the growth of the portfolio of customers and distribution areas.



Production Plant in Bielsko-Biala



Production Plant in Opole

Headquartered in Bielsko-Biala and Opole, Aluprof S.A. has nearly 80,000 sq. m. of production space and state-of-the-art machinery and equipment, including:

- automated line for the production of composite sections,
- eight latest generation lines for the production of roller shutters and boxes,
- high bay warehouses,
- modern, fully automated lines for powder painting,
- efficient transport fleet.





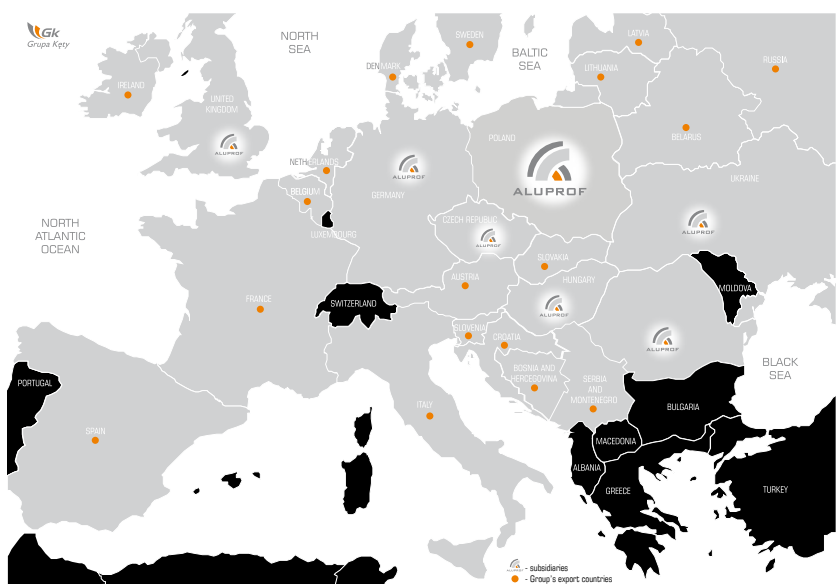
Offices of the Management Board of Grupa Kapitałowa Kety S.A.

Aluprof S.A. belongs to Grupa Kapitałowa Kety S.A. (Kety Group) – the most advanced and fastest growing company in the aluminium industry in Poland. The company is set up as a holding that combines 21 businesses operating in Poland and abroad that all together process nearly 55,000 tons of aluminium and sell their products to dozens of countries in Europe and around the world. The Kety Group is the leader in the Polish market of aluminium profiles, aluminium systems, and flexible packaging. The Group's list of some 3,300 customers includes international corporations, large and medium-sized enterprises, as well as wholesale companies and workshops representing almost every branch of the industry, starting with construction, through automotive, interior furnishing, electric and machinery, to the food industry. The Kety Group employs nearly 3500 experienced and qualified staff. Consolidated sale revenue of Grupa Kety SA amounts to 400 million EUR. We export one-third of our output to countries all over Europe and beyond.



Logistical Centre, Aluprof Hungary

Aluprof S.A. sells its solutions to the majority of European countries, and even the United States. The company has its representative office and distribution centres across Europe, in Germany, the United Kingdom, the Ukraine, Russia, the Czech Republic, Hungary and Romania. Special mention should be made of a modern logistical centre in Hungary that has a warehouse facility of 2,900 sq. m. equipped with 8-level high.





In its operations Aluprof S.A. strives for the constant improvement of the quality level of its products. The total quality management system in the company complies with the requirements of PN-EN/ISO 9001-2001 standards. The offered products meet the requirements of the European standards as regards the quality of alloys, working tolerances and the strength properties. Technological expertise is the company's know-how. Trained professionals work on the state-of-the-art technological solutions. The designed systems satisfy the market demands, architectural visions, and also the developments of the aluminium systems industry.

Selected certification institutions and organisations that issue certificates to the company and its products



The highest quality of our products is the result of the creative work of the development department. It designs new elements of windows and doors, curtain walls and roller shutters, taking into consideration the remarks and guidelines of our clients; it also conducts research and development, and supervises the production quality at every stage of product development.

The company has won numerous awards and distinctions: Market Leader 2013, Consumer Leader of Quality 2013, the Large Pearl of the Polish Economy, Forbes's Diamonds, the Brown Emblem of Quality QI, the 2009 Quality of the Year, the 2009 Client Laurel, a Diamond for the Polish Business Leader, the 2008 Crystal Profile, Eagles of the Polish Construction Industry, the 2006 Exports Leader, and the Eu Standard.



Polish awards and distinctions



As one of the companies of the Kety Group, Aluprof has pursued the idea of the Business Social Responsibility and sustained development through the establishment of multi-lateral relations with its environment that consist in accounting for the needs of an increasingly larger group of stakeholders: shareholders, employees, clients, business partners, and local communities. Building such comprehensive relations with the environment warrants the company's harmonious development and is a path that leads to creating a positive image. Based on an initiative of the Kety Group, Kety Group for Children from the Podbeskidzie Region Foundation has been established, the main purpose of which is to provide support for those who are in Care Centres of Orphanage Houses and to promote the idea of foster family homes.

PRODUCT COLORS

The surface of aluminum profiles used for windows, doors and curtain walls can be finished with powder coating or anodizing. ALUPROF S.A. has the technical capabilities of producing various decorative and protective coat types: in the RAL palette, wood-like coats in the ADEC range, using our customized ATEC lacquers or lacquers with special properties or application range.

Paints to RAL



Special paints ATEC



Wood-effect colours

ADEC D101
golden oak

ADEC S106
pine

ADEC M103
mahogany

ADEC B108
beech

ADEC O205
walnut ven

ADEC O102
walnut

ADEC J107
fir

ADEC M204
mahogany sapell

ADEC W109
cherry

ADEC W205
wenge

ADEC D207
winchester

ADEC C110
gean

ADEC C212
gean

Product colours

silver	beige	brown	cream white	bordeau	light grey	anthracite grey
white	wood-dark	yellow	ivory	black	ultra white	basalt grey
grey	wood-light	red	fir green	mahogany	golden oak	quartz grey
dark beige	dark brown	green	steel blue	nut	golden oak	concrete grey
				wenge	winchester	mill finish*

Detailed information on the products presented in the Guide and dwg files for designing can be found in our multimedia-based **Catalog for architects** at www.architekci.aluprof.eu



RESPONSIBILITY CERTIFICATE

Aluprof systems help to care for the environment

Real-estate developers and fabricators increasingly attach importance to environmental building rating systems. A certification adds value to a building, gives it prestige and makes it easier to get tenants. Obtaining the certification is not an easy task. It takes time and requires best practices, but the effort it takes to obtain it, is something that more and more investors are aware of. The same goes for the importance of sustainable building, and the responsibility building brings. On the other hand, increased environmental awareness of the society (consumers, tenants) and direction of changes in technical conditions to be met by buildings make a lot of corporate social responsible companies think of the environment and energy-efficient building as part of their business strategy and thus making it a priority.

There are different systems for assessing buildings' energy efficiency and their environmental impact. One of the most famous is BREEAM, introduced in Poland in 1990. So far, more than 20 buildings in Poland have been awarded with this certification. LEED, an American organization established in 2000 is becoming increasingly popular. The youngest European system is the EU Green Building, launched by the European Commission in 2008.

While assessing newly constructed buildings, the following key criteria apply: location of the building, its immediate proximity, access to the city's infrastructure, suitability of the building, its impact on the quality of life of the local community, water conservation, care about the quality of conditions in the interior, the amount and cost of energy needed to operate the facility and effectiveness of energy saving systems. Thermal insulation and air-tightness of the building are of primary importance. These two depend on the proper selection of windows and building envelope systems: facades, windows and doors that minimise heat loss while providing access to sunlight and the energy that comes with it.



Alma Tower, Cracow



Sports Center of the Agricultural University Of Cracow



Atrium City, Warsaw



Pollard Street, Manchester



Enterprise Park, Cracow



Quattro Business Park, Cracow

ALUPROF S.A. co-operates with Poland's Passive House and Renewable Energy Institute and participates in the "Passive Buildings Ambassador" programme. In our development activities, we put strong emphasis on thermal insulation and excellent technical parameters of our products. That is why Aluprof's systems are often used in sustainable building, and the list of certified facilities that have used our products or for which they were specifically designed just gets longer and longer. These solutions are brought up as early as the design stage for the facilities for which the investors are willing to apply for such a certificate.

ECOLOGY IS ECONOMY



Energy-efficient building & construction is becoming increasingly important, as people are more & more looking at the impact on the environment. Newly constructed buildings use technologies & products that ensure the lowest power consumption possible but in reality.

What is an energy efficient building?

Energy-efficient buildings include low-energy & Passive Houses, not forgetting to mention those in which the energy consumption amounts to nearly zero. They are called the nZEB – Zero Energy Buildings. What are the differences between them? Each structure is characterised by way of the energy standard, that which shows or defines the annual energy consumption. For an energy-efficient building, the standard is NF40 – EuCO <40 kWh/ (m² per year), for Passive House NF15 – EuCO <15 kWh/ (m² per year), & for the nZEB building, the standard reaches 0 kWh/ (m² per year). In addition to these performances it should be remembered that, there are buildings with a positive energy effect, characterised by a positive energy balance. This means that within a year, such a building would produce more energy than they consume.

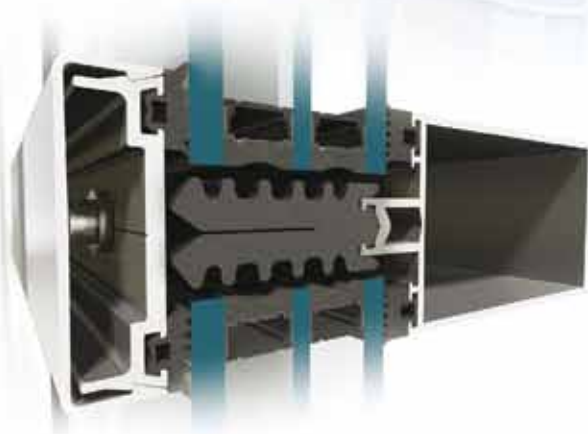
But what does passive building really mean?

These structures have low energy requirements that are used for heating purposes. Passive buildings consume no more than 15 kWh/ (m² per year), which equates to 1.5 m³ gas per 1 m² of the building surface. The level of primary energy consumption in a building of this type cannot exceed 120 kWh/ (m² per year) for all energy needs, which include heating, hot water & electricity consumption we need for living. At the same time, & with existing residential dwellings, the energy consumption (heating only) is up to 120 kWh/ (m² per year). The demand for energy in the passive building is eight times smaller than in the traditional one.

The essence of the energy-efficient building is to minimise energy loss. With that, each stage of the process is of importance, from identification of the right project, choosing of a suitable plot, through to the very last detailing however small, such as the selection & install of a suitable window sill. Low energy house is, first of all, a perfectly insulated house that prevents heat from escaping. To encourage the people to build ecologically & economically, governments in many countries have launched a program of subsidised loans for energy-efficient houses. A bonus is available upon completion of construction, provided that the building is compliant with the relevant parameters & can be proven as such.

Then why not invest in a house that will reduce energy consumption for heating, lighting & air conditioning, whilst at the same time being more friendly for us & for our planet?

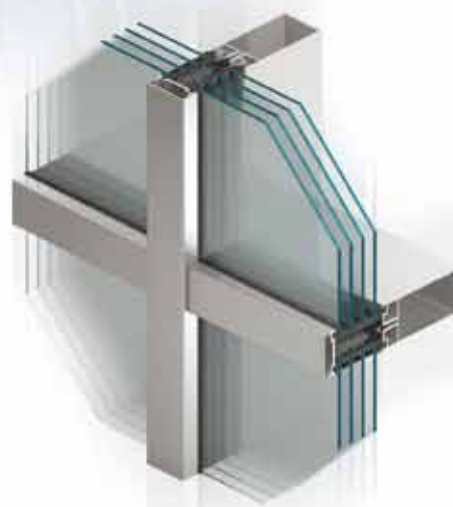




MB-SR50N HI+

$U_f \geq 0,7 \text{ W/m}^2\text{K}$

- easy and quick assembly
- a wide range of glazing



MB-TT50

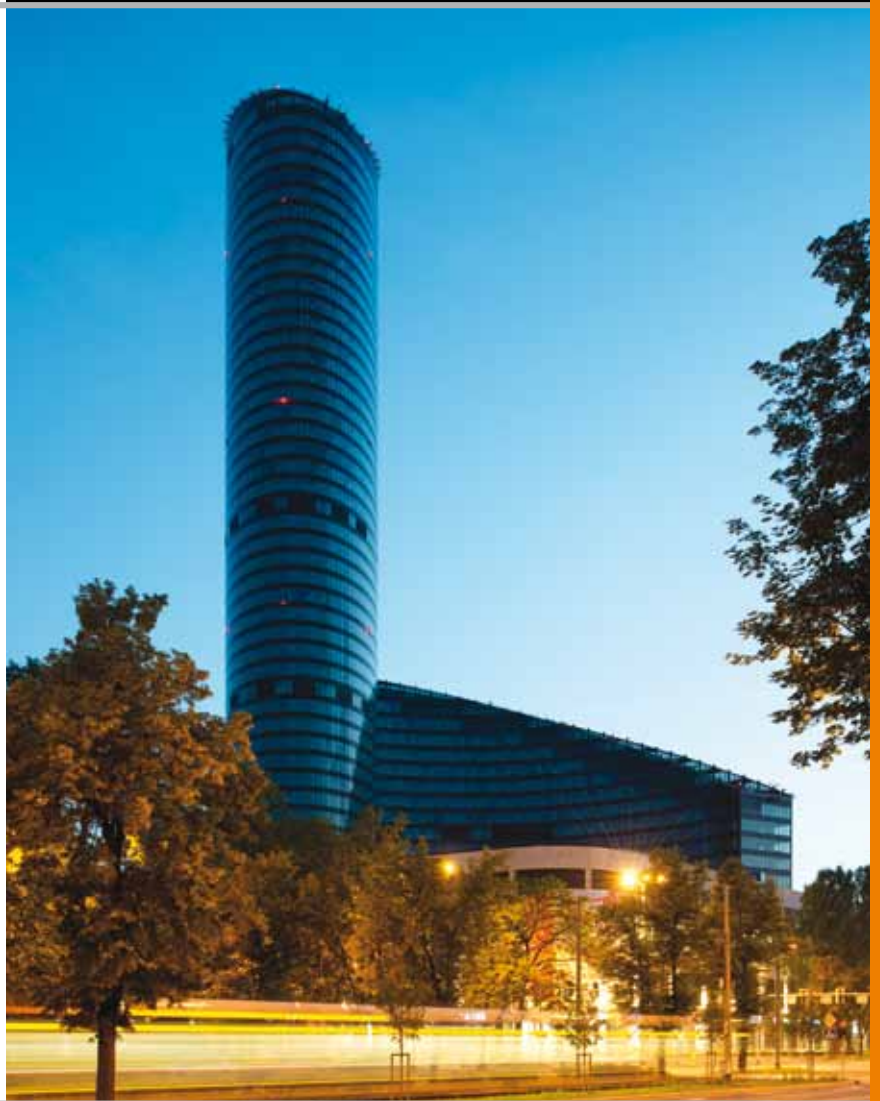
$U_f \geq 0,5 \text{ W/m}^2\text{K}$

- oversized tightness parameters
- innovative technical solution
- CWCT certificate



Certificates of Passive House Institute in Class A+ for mullion and transom curtain wall systems MB-TT50 and MB-SR50N HI+

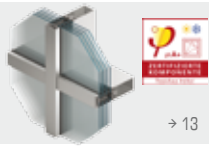
curtain wall SYSTEMS



www.aluprof.eu

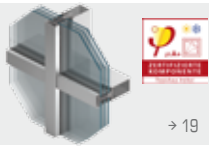
 **ALUPROF**
ALUMINIUM SYSTEMS

SYSTEM MB-TT50



→ 13

SYSTEM MB-SR50N MB-SR50N HI+



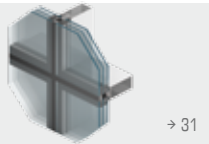
→ 19

SYSTEM MB-SR50N OW



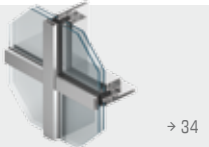
→ 20

SYSTEM MB-SR50N EFEKT



→ 31

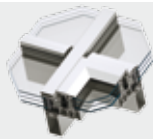
SYSTEM MB-SR50N IW



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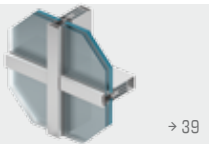
NEW

SYSTEM MB-RW ROOF WINDOW



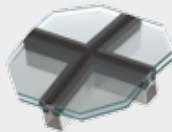
→ 37

SYSTEM MB-SR50 EI MB-SR50N EI



→ 39

SYSTEM MB-SR60N ROOF



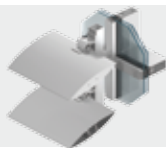
→ 44

SYSTEM EXTRABOND



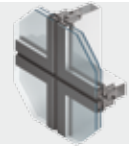
→ 48

SYSTEM MB-SUNPROF



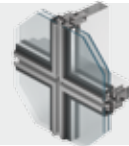
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SYSTEM MB-SG50



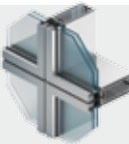
→ 53

SYSTEM MB-SG50 SEMI



→ 54

SYSTEM MB-SE75 MB-SE75 HI



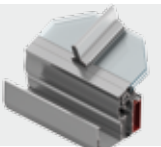
→ 60

SYSTEM MB-70CW MB-70CW HI



→ 62

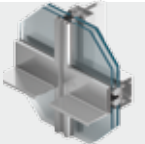
SYSTEM MB-WG60



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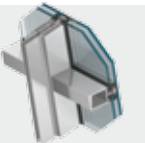
INDIVIDUAL SOLUTIONS

SYSTEM MB-SR80



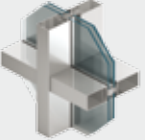
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SYSTEM MB-SG60



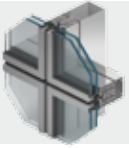
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SYSTEM MB-SR60N



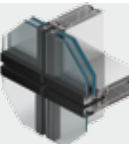
→ 68

SYSTEM MB-SR85 SEMI



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SYSTEM MB-SE85 SG



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SYSTEM MB-TT50



CURTAIN WALL SYSTEMS



A mullion and transom curtain wall system (stick system) for the construction of curtain walls or infill walls, roofs and spatial structures. It is based on a new approach to aluminum profile structures and accessories used for sealing and the thermal insulation of joints. Thanks to which, the curtain wall ensures the building high protection for against the loss of heat. The MB-TT50 system offers multiple possibilities for structure forms; it is also designed as the basis for fire-protection and anti-burglar solutions. Important features also include a wide selection of available profiles, simplified prefabrication and "mullion-to-mullion" construction – using one type of profiles for the entire support structure of the curtain wall. This allows for optimizing material consumption, as well as the shorter prefabrication and installation time of the curtain wall in the construction phase, which results in lower investment costs.

MULLION AND TRANSOM CURTAIN WALL SYSTEM

Puławski Park Naukowo-Technologiczny, Puławy
design / DEDECO

Construction

The support structure consists of vertical and horizontal aluminum sections with a box cross-section (mullions and transoms) and a fixed width of 50 mm, suitably secured to one another. On the external side, there are pressure plates securing the panes and finishing trims of the selected shape. The system also includes additional profiles, accessories for sealing or joining and a wide range of EPDM gaskets for sealing glazing or other types of infill.

Profile depth: mullions: 65-245 mm, transoms: 64-244 mm. The system can utilize 24-64 mm thick infill panels.

Visual appeal

The shape of mullions and transoms allows the construction of aesthetic curtain walls with visible thin division lines. The profiles can be selected so as to create a flush surface on the internal side.



Structure functionality, a wide range of opening elements

A characteristic feature of MB-TT50 is its compatibility with other MB systems. Thanks to which, curtain walls can include opening parts adjusted exactly to the requirements of the project in terms of functionality and thermal insulation: various types of windows and doors, including roof windows, windows integrated with the curtain wall, as well as MB-SR50N OW parallel tilting windows. In most cases, the opening elements placed in the curtain walls and roof glazing can be equipped with cylinders and used as smoke ventilation windows.

Flexibility in design

With the extensive selection of profile types and accessories, architects and designers can implement even their most inventive ideas as related to aluminum and glazing structures. Various angular connections make spatial structure designing very flexible.

Resistance proven in practice

Depending on the divisions and external loads, the system utilizes an adequate number of vertical and horizontal members with the moment of inertia (I_x) within 35,47- 1639,59 cm⁴, selected

to guarantee optimum aluminum consumption and efficiently reduce material costs. Under very high loads, all mullions can be additionally reinforced with special aluminum profiles to increase the overall strength. Modern solutions used in the production of accessories and connectors ensure higher resistance to load transfer. State-of-the-art solutions in accessories and joining means allow to achieve increased ranges of load transfers, including the weight of the infill (up to 600kg).

Very good thermal insulation, excellent water and air tightness

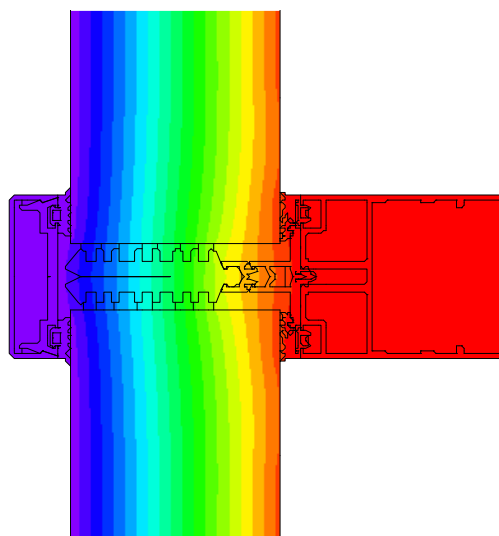
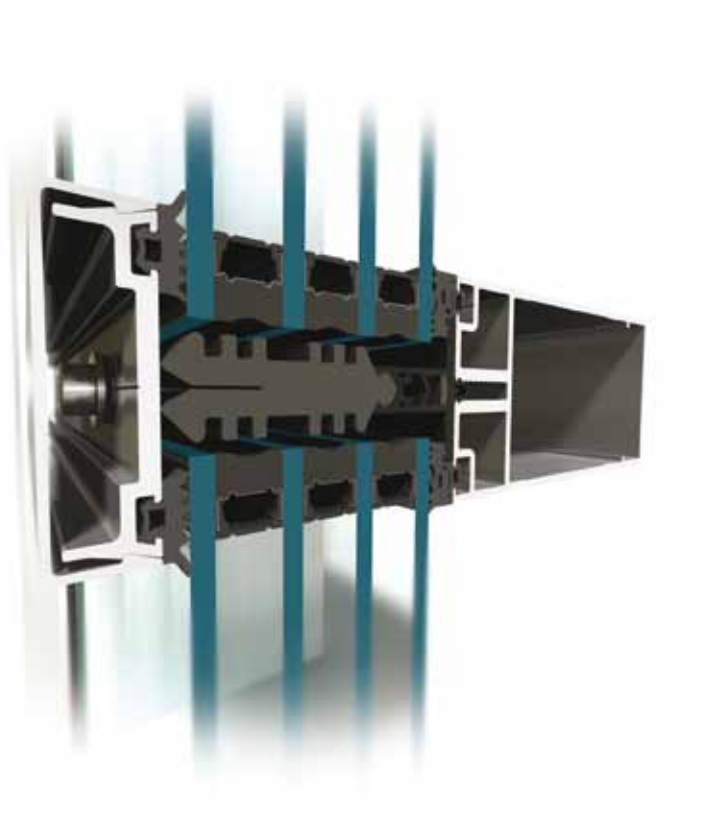
In terms of technical performance, the curtain wall can meet the requirements of applicable standards, as well as the increasing expectations of architects and investors. A system of specially selected thermal breaks provides excellent protection against heat losses within the structure. Special shapes of thermal breaks and the appropriate connection of plastic accessories ensure the correct drainage and ventilation of the wall, with low air infiltration and high water tightness. They also make the curtain wall prefabrication easier and faster.

Reliable connectors

Accessories delivered with the system, aluminum brackets and fixings for securing the wall to the building are made in aluminum alloys compliant with EN AW-6060 T66 (AlMgSi0,5F22). With their modern design, they allow the wall position to be adjusted in three directions, which makes the installation much easier.

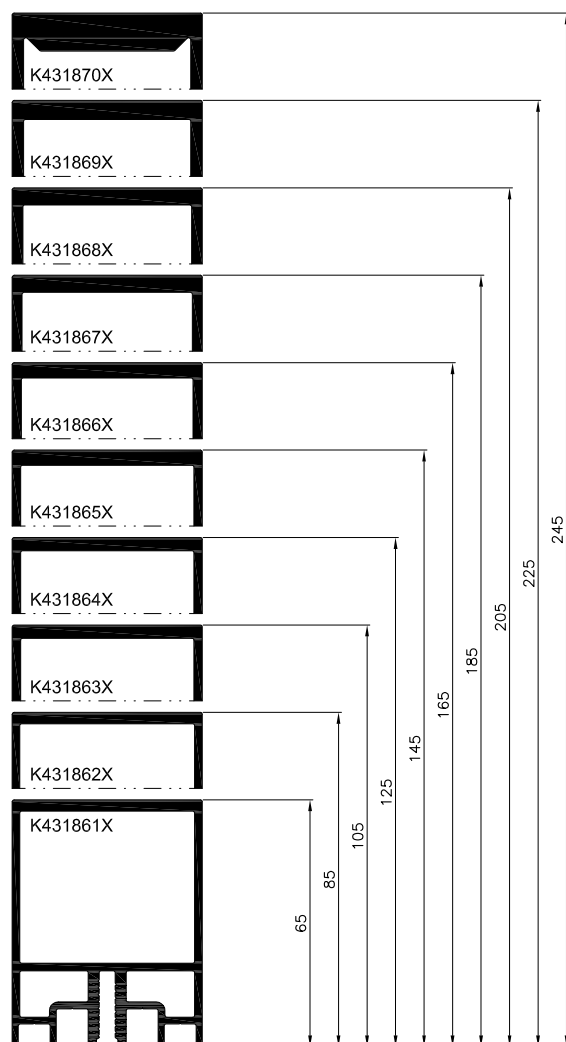
Technical parameters:

- Heat transfer coefficient:
 U_f from 0,5 W/m²K, EN ISO 10077-2:2005
- Air infiltration:
 Class AE 1350 Pa, EN 12152
- Rainwater tightness:
 Class RE1800 Pa, EN 12154
- Wind load resistance:
 2700 Pa, EN 13116:2004
- Impact resistance:
 Class I5/E5, PN-EN 14019
- Acoustic insulation: $R_w=46$ dB
 (depending on the type of filling)

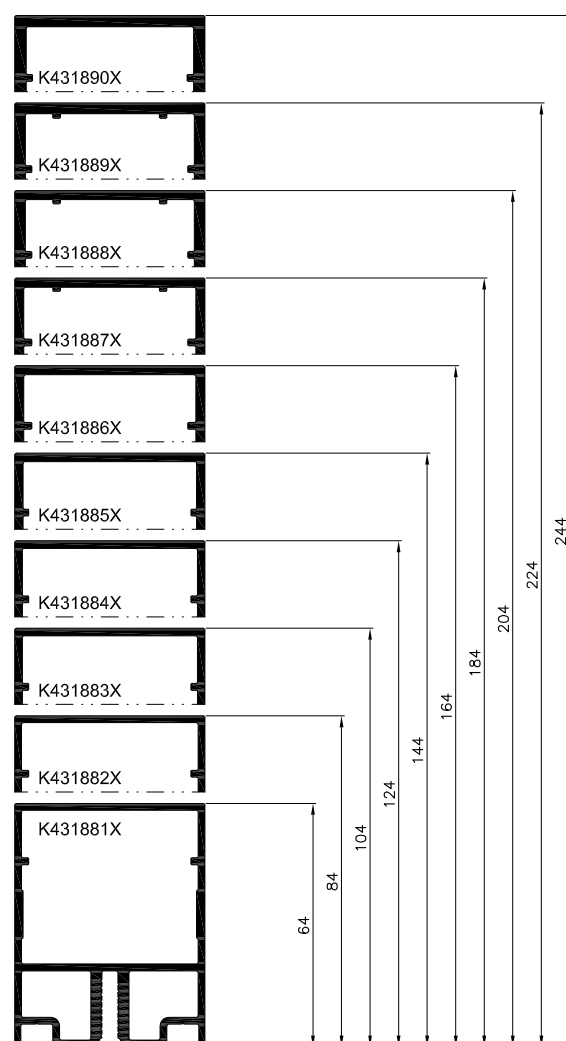


Isothermal lines in MB-TT50 curtain wall

MB-TT50 Mullion profiles - overview

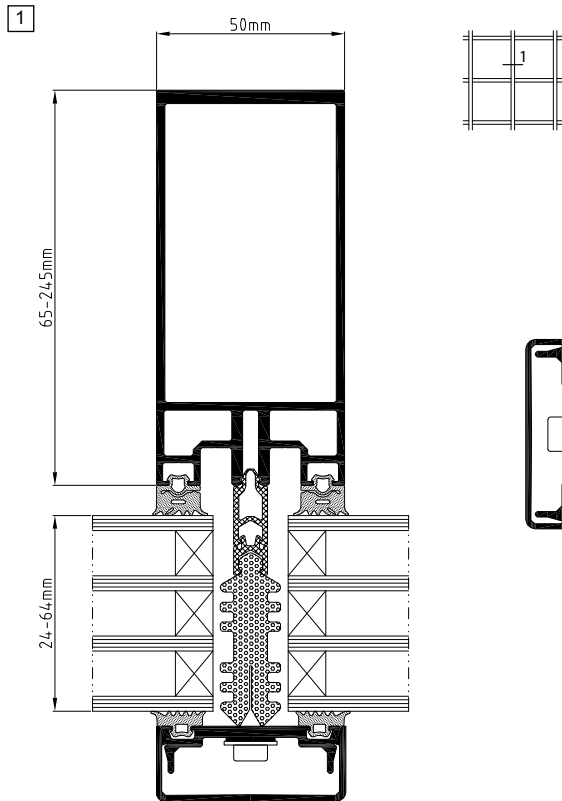


Transom profiles - overview

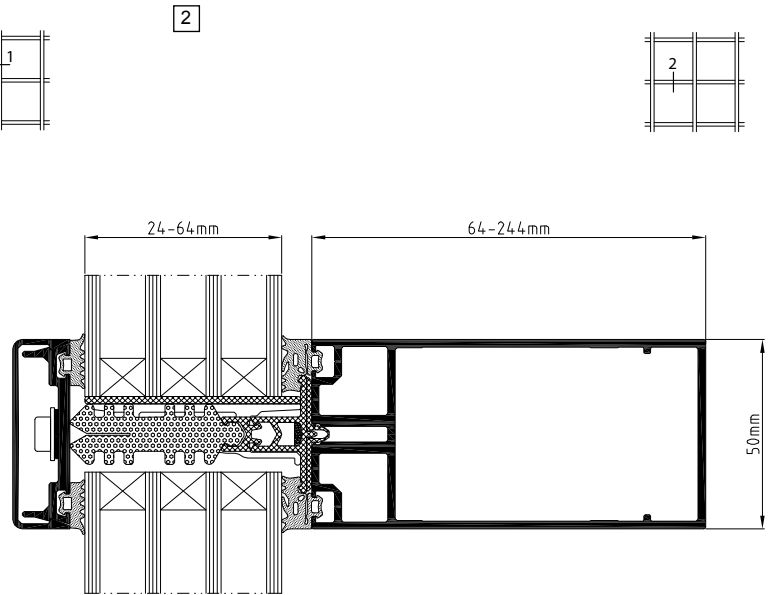


Scale 1:2

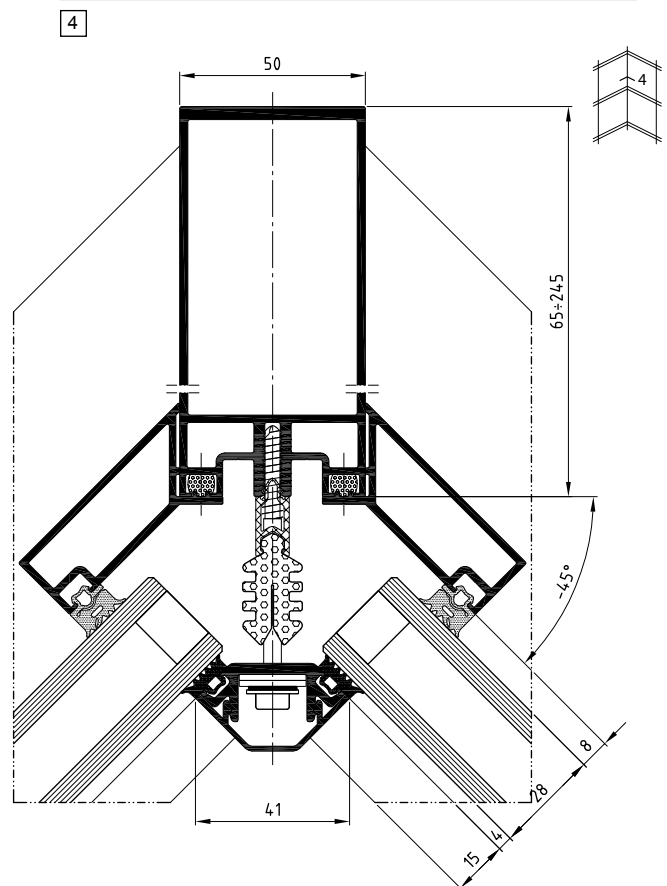
Mullion - cross - section



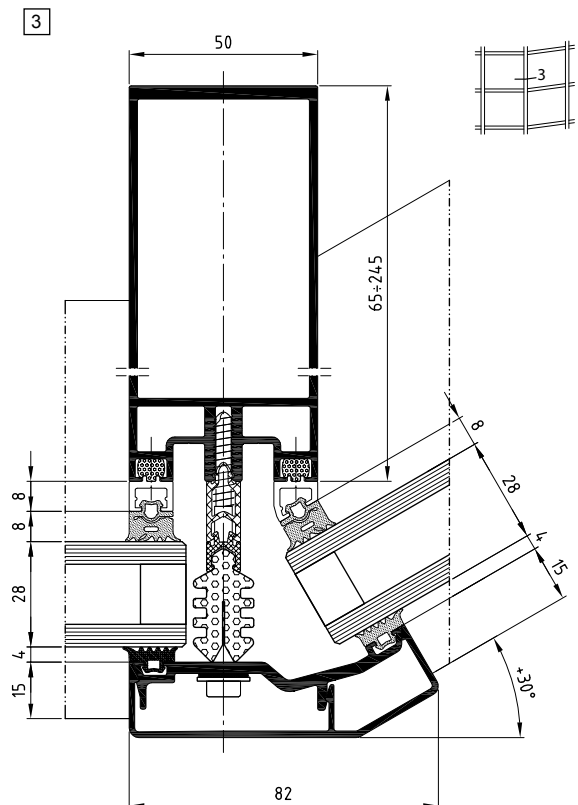
Transom - cross - section



Symmetrical angel joint - cross-section



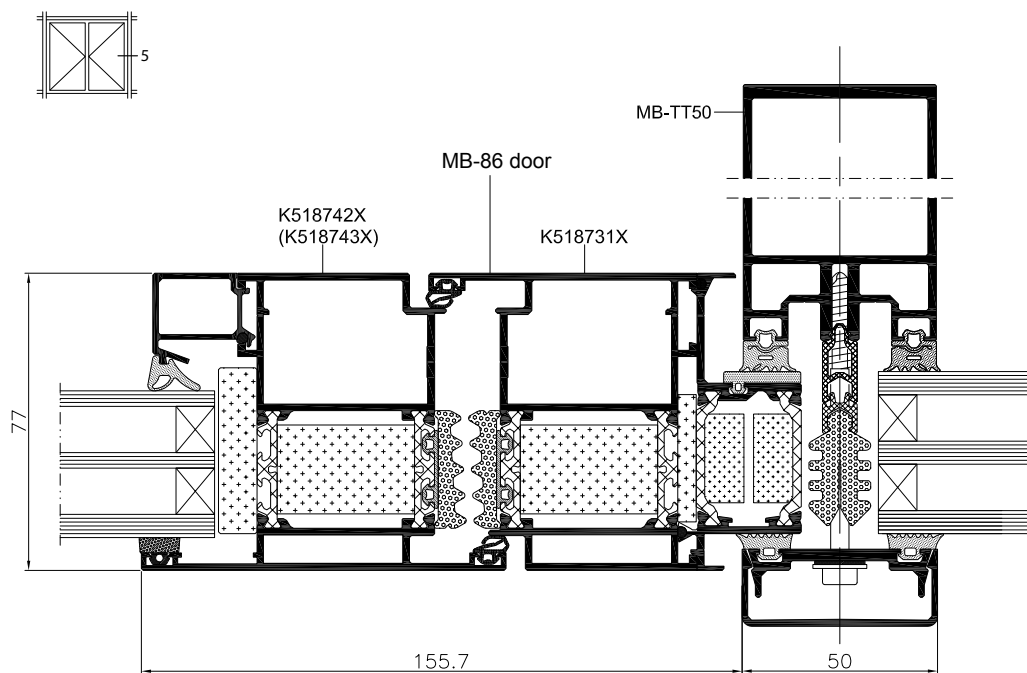
Asymmetrical angel joint - cross-section



Scale 1:2

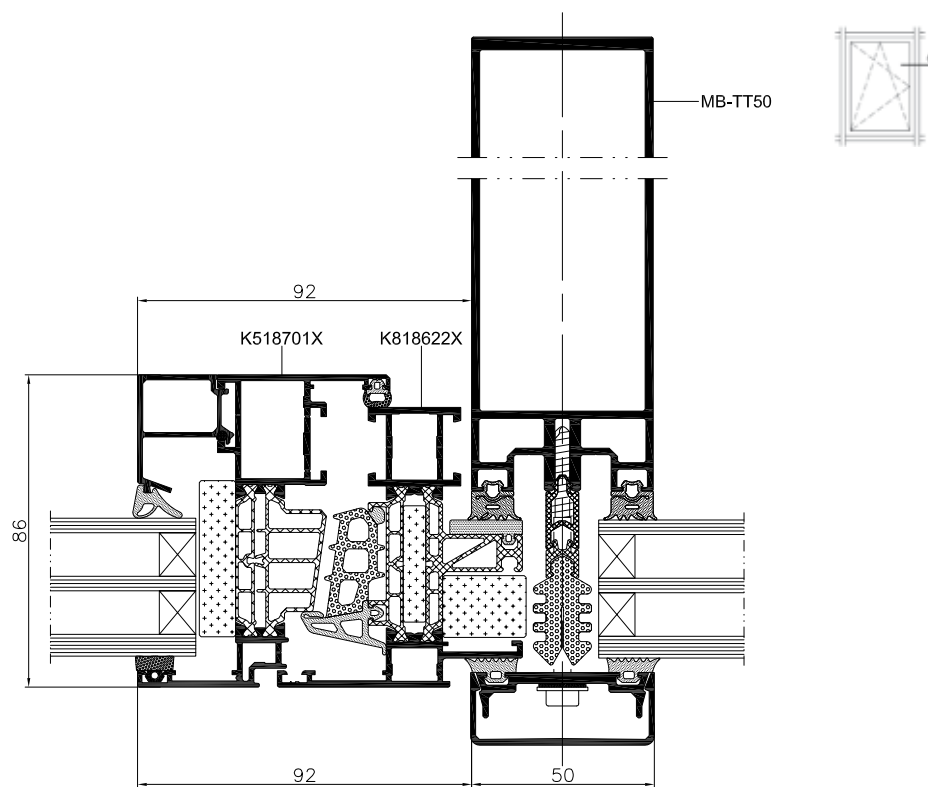
Mullion TT50 with MB 86 AREO doors
- cross section

5



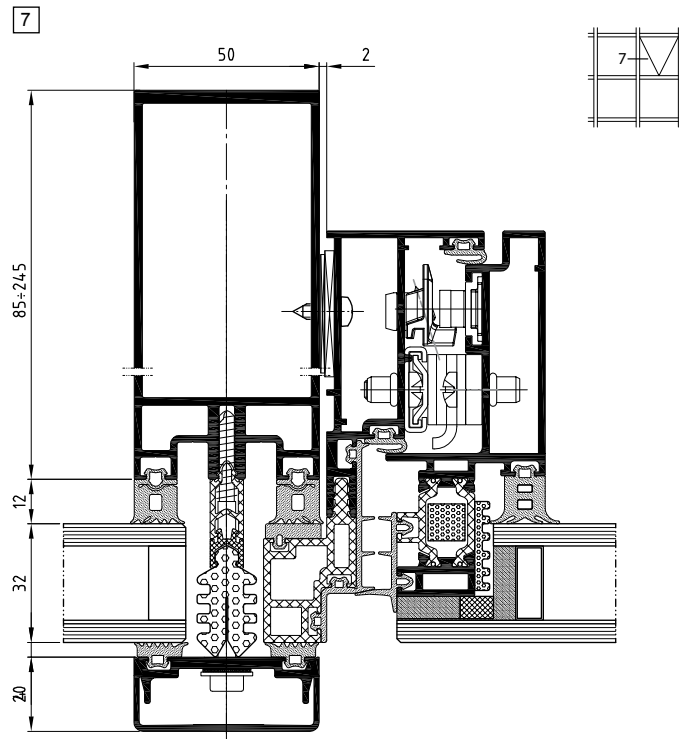
Mullion TT50 with MB 86 AREO window
- cross section

6



Scale 1:2

Mullion TT50 with MB-SR50N OW parallel window - cross section

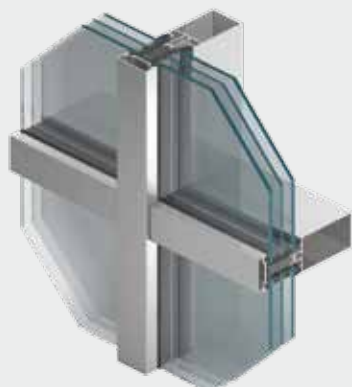


Transom and roof window - cross - section



SYSTEM MB-SR50N MB-SR50N HI+

CURTAIN WALL SYSTEMS



The system is designed for the fabrication and installation of flat, light-weight curtain walls of a suspended or filling type, roofs, skylights and other spatial structures. It enables constructing aesthetic curtain walls with narrow sight lines, ensuring at the same time durability and strength of the end product. There are different ways to finish off the external appearance, including the horizontal or vertical line (MB-SR50N HI PL) and the semi-structural version (MB-SR50N HI EFEKT). The system features very good technical parameters. Among its strong points is flexibility in shaping space and a wide variety of opening elements to be installed on the curtain wall. Particularly noteworthy is the version with enhanced thermal insulation MB-SR50N HI+, HI + which uses special insulators.

MULLION AND TRANSOM CURTAIN WALL SYSTEM

CITY CENTER, Rzeszów
design / MWM Architekci

Construction

The load bearing construction is formed by vertical and horizontal aluminium sections of box-type cross-sections (mullions and transoms) of a fixed width, i.e. 50 mm and properly connected with each other. Clamping strips supporting the panes and masking strips of any shape form the external side of the curtain wall. The system also includes additional sections, accessories performing sealing or connecting function and a wide range of EPDM gaskets, applied to seal panes or other infills in the curtain wall.

Depth of sections:

mullions: 50 - 325 mm,
transoms: 5 - 189,5 mm.

Infills 24 - 56 mm thick may be fitted in the system.



High aesthetic values.

Varying Applications

The shape of mullions and transoms enables developing aesthetic curtain walls with visible narrow division lines, ensuring at the same time durability and strength of the construction. Profiles may be selected in such a way that they are flush on the inside of the curtain wall.

The "horizontal and vertical line" forms an aesthetic variety of the MB-SR50N PL and MB-SR50N HI PL systems, with an emphasis placed on either horizontal or vertical division with the bullnose cap used in lieu of the square cap. A particular variant is the MB-SR50N EFEKT which resembles a structural wall in appearance: a uniform and smooth wall is obtained from the outside, divided by a truss of vertical and horizontal lines 20 mm wide.

Functionality of the construction and a wide range of opening elements on the curtain wall

A characteristic feature of the MB-SR50N HI system is its close correlation with the door & window system of the MB series. Therefore, different opening elements may be installed on the curtain wall, suited to the project requirements with regard to the function and thermal insulation performance:

- self-closing, swing or sliding doors,
- standard windows (casement, tilt & turn or hopper),
- windows with a hidden sash of the following versions: MB-70US, MB-70US HI (with a wider frame) or MB-70SG (with a narrower frame),
- pivot windows: MB-60 Pivot,
- awning windows with sash profiles

imperceptible on the outside (on the basis of the MB-SG50 system) or with sash profiles visible on the outside (MB-SR50 RT or MB-59S Casement).

- integrated windows - inward opening but imperceptible from the external side of the curtain wall.

Freedom of design

A wide range of profiles allows architects and designers to implement even the most challenging ideas for aluminium and glass constructions. In order to construct a broken wall, both in its vertical and horizontal sections, special overlapping profiles and appropriately shaped clamping and concealing strips have been used, with the result that there are no restrictions as to styling the body of the building and there is no need to use special angle mullions.

Proven strength

Depending on the division pattern and external loads, the system provides for an adequate number of mullions and transoms varying in depth, with the moment of inertia I_x ranging between 54.6 and 1232.5 [cm⁴], adjusted in such a way as to guarantee optimal aluminium consumption and effective reduction in material costs. In case of large bearing loads all mullions may be additionally reinforced by applying special internal aluminium profiles, thus significantly improving their strength.

Excellent tightness to water and air infiltration

The system provides for the execution of mullion - transom overlapping connection, which enables proper water drainage and wall ventilation, as well as securing low values of air infiltration coefficient and water tightness.

Reliable fasteners

The accessories that come with the system, brackets and aluminium connecting members used to fasten the wall to the structure of the building are made of EN AW-6060 T66 aluminium alloy (AlMgSi0, 5F22). Due to their modern construction, they

allow the wall to be positioned in three directions, which significantly facilitates its installation.

Secure mounting

The system has been designed in such a way that the force needed to tear the screw from the mullion and transom aluminium support would have to exceed 450 kg. This is confirmed by tests conducted by renowned European institutes. This solution allows the system to operate safely for dozens of years.

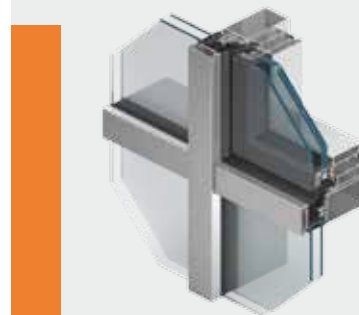
Fire safety

Due to the sandwich construction of the window head & sill area, in which non-flammable materials such as mineral wool and plasterboards have been used, fire classification EI30 and EI60 have been achieved depending on the construction. The MB-SR50 EI system is a separate solution, which meets fire safety requirements set for the whole curtain wall, i.e. of class EI30 or EI60.

Technical parameters:

- Overall heat transfer coefficient:
 U_f from 0,7 W/m²K,
EN ISO 10077-2:2005
- Air infiltration:
Class AE 1200, EN 12152
- Rainwater tightness:
Class RE1500, EN 12154
- Resistance to wind load:
2,4 kN/m², EN 13116:2002
- Impact resistance:
Class I5/E5, PN-EN 14019
- Sound insulation: $R_w=45$ dB
(depending on the infill material)

SYSTEM MB-SR50N OW



PARALLEL TILTING-SLIDING WINDOWS OPENING OUTWARDS

The window structure is based on aluminum profiles with a thermal break enabling the installation of large windows with high performance. It is designed in two glazing versions:

- as a window with a visible capping, used to hold the glass and highlight the window outlines
- as a frameless construction, using a structural silicone sealant to fix the outer pane to the aluminum frame - operable windows are then consistent with the appearance of adjacent fixed sections. In the MB-SR50N OW windows glass units with a thickness of 28 - 41 mm can be used.

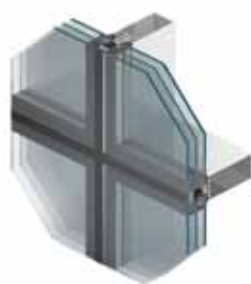
Technical parameters:

- Air infiltration:
Class 4, EN 12207:2001
- Water tightness:
E 1650, EN 12208:2001
- Resistance to wind load:
C5, EN 12210:2001

Variations available in MB-SR50N system



MB-SR50N HI+



MB-SR50N EFEKT



MB-SR50N EI



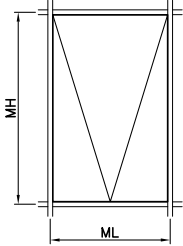
MB-SR50N IW




MB-SR50N RW

Max. dimensions in the curtain wall

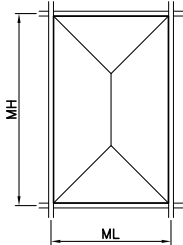
MB-SR50N OW
top hung window



MHmax=2630 mm MHmin=500 mm
MLmax=2000 mm MLmin=500 mm

 - 180 kg

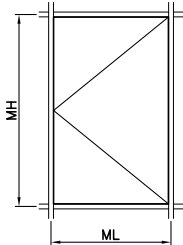
MB-SR50N OW
parallel window




MHmax=3000 mm MHmin=890 mm
MLmax=2000 mm MLmin=540 mm

 - 440 kg

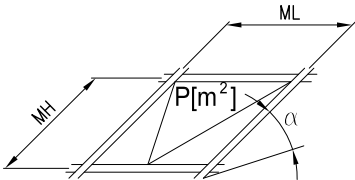
MB-SR50N OW
side hung window



MHmax=2000 mm MHmin=500 mm
MLmax=970 mm MLmin=430 mm


 - 47 kg


MB-SR50N RW
roof vent



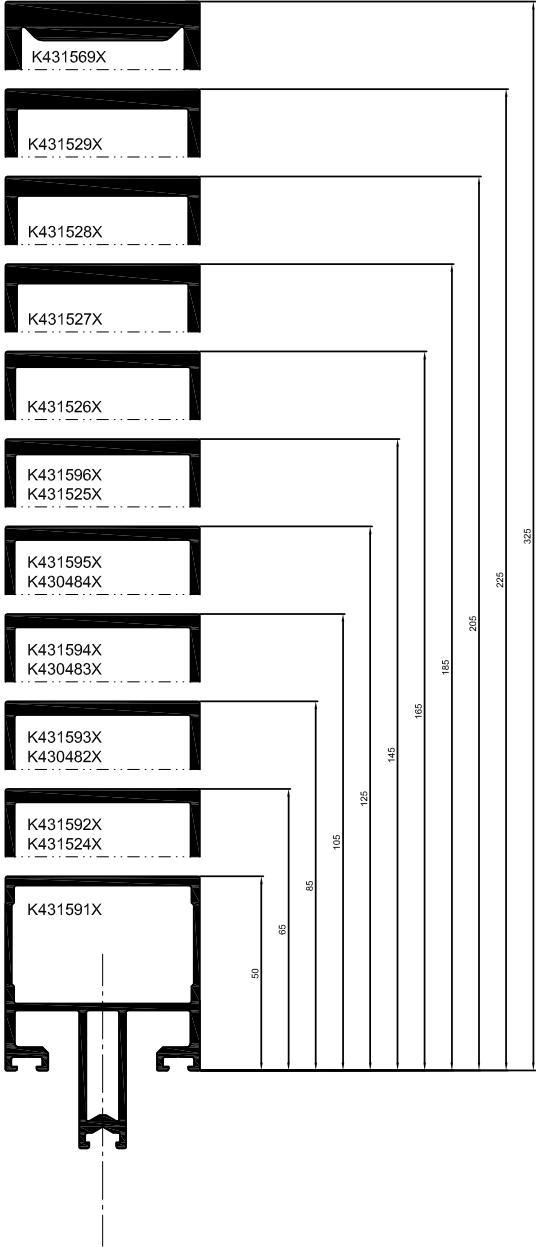
MHmax=2050 mm
MLmax=1800 mm
Pmax= 3,40 m²

α min=5°
 α max=75°

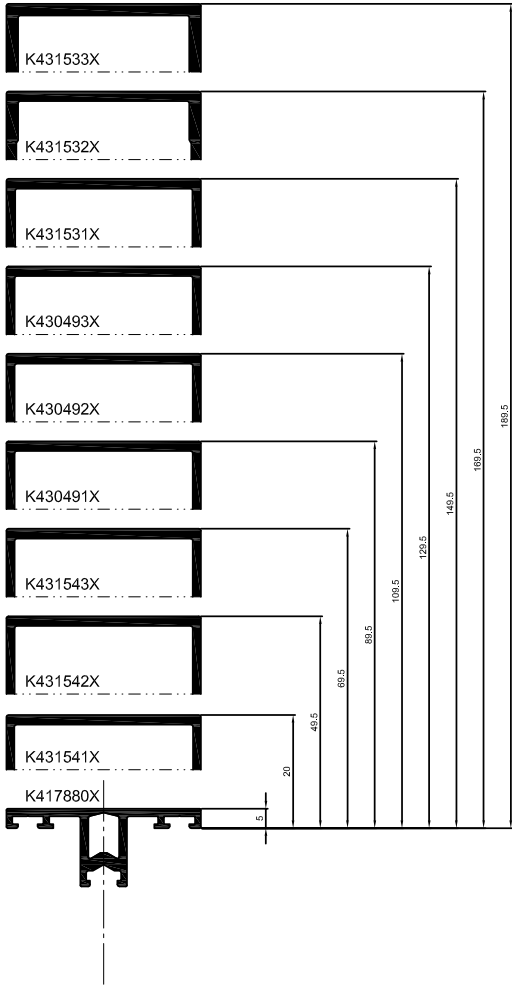
 -150 kg

 } Maximum weight of the vent

Mullions

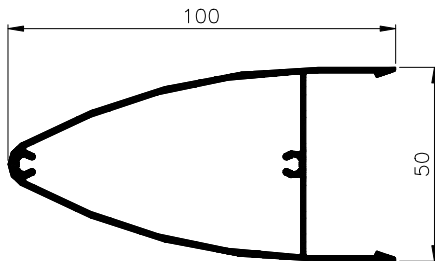


Transoms

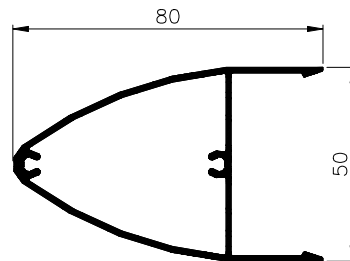


Cover caps and pressure plates, additional profiles

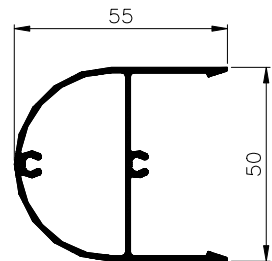
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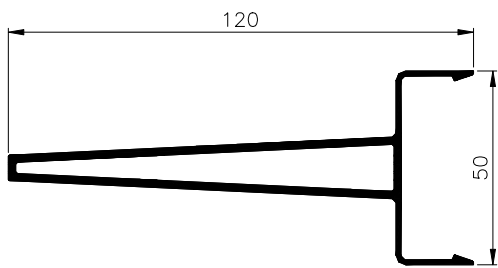
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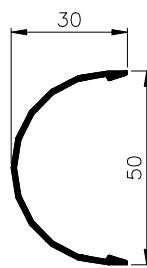
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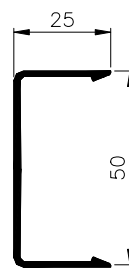
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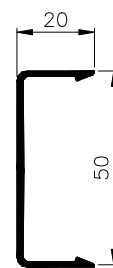
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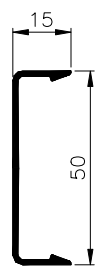
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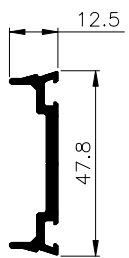
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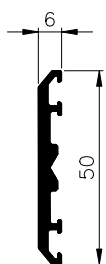
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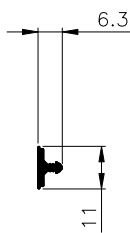
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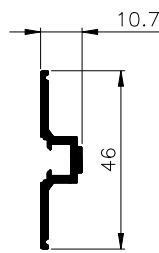
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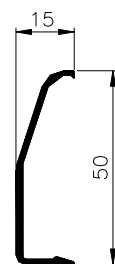
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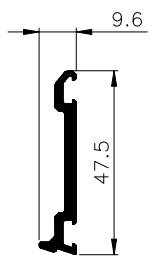
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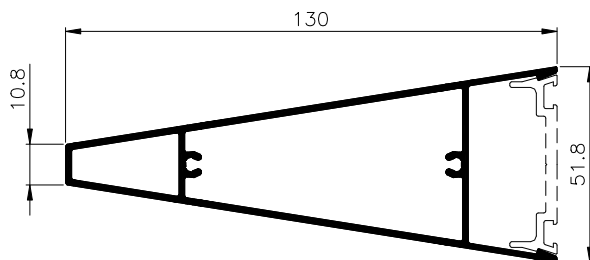
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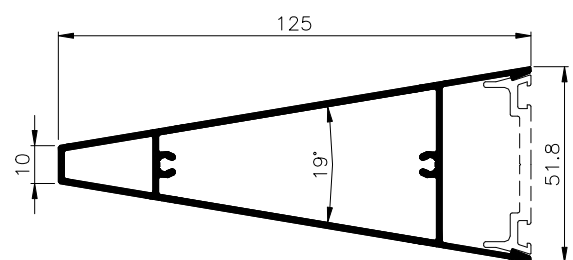
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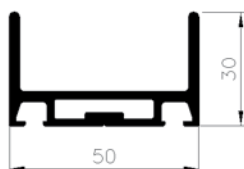


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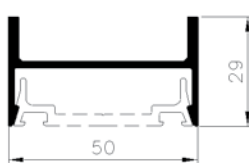


Cover caps and termination bars

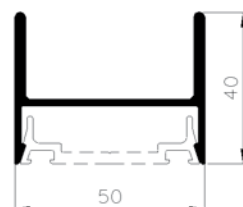
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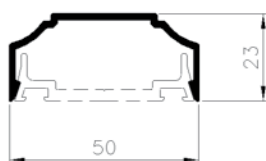
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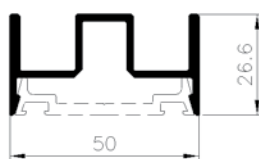
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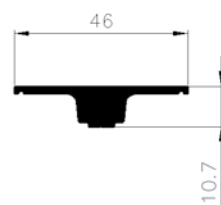
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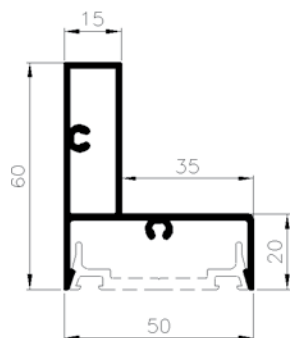
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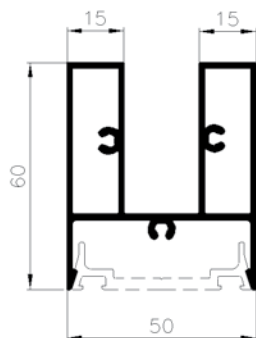
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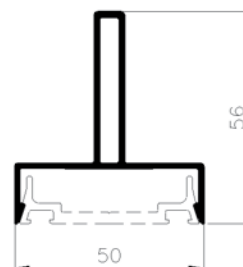
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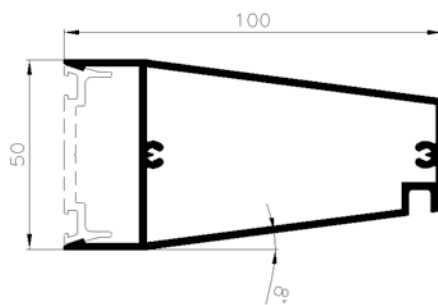


Cover caps and termination bars

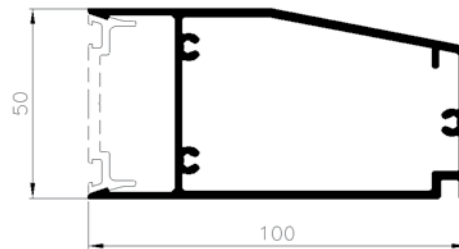
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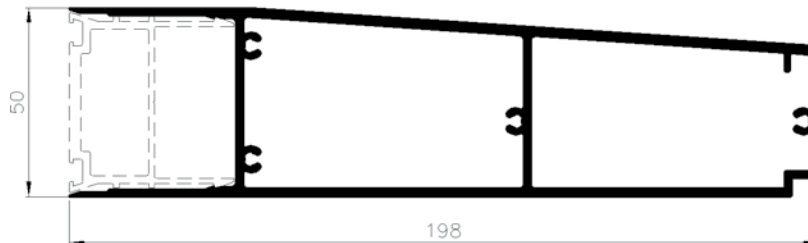
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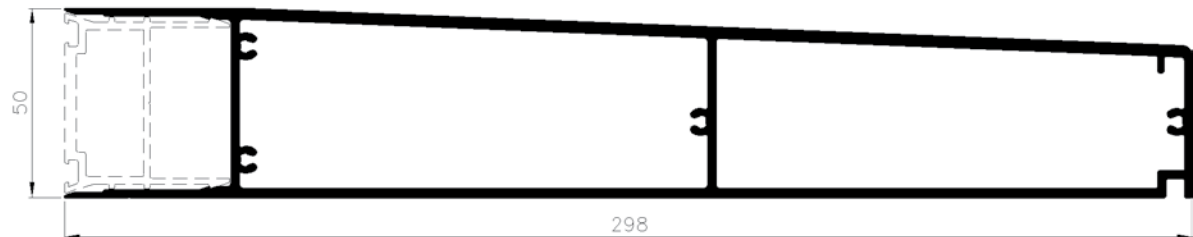
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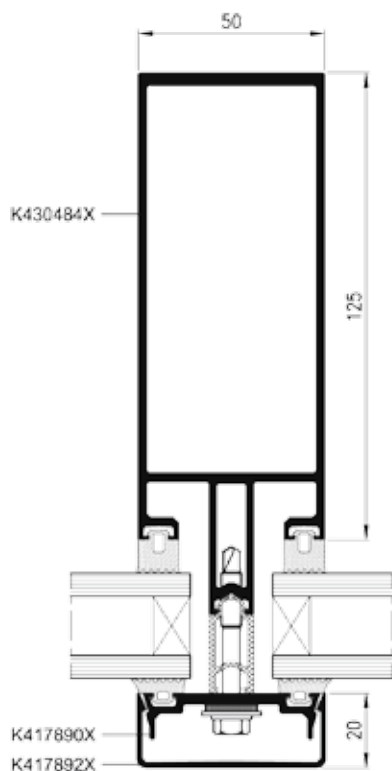
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More termination bars and cover caps' profiles are presented in the Catalogue for Architects on www.architekci.aluprof.eu and in the Project Specific & Bespoke Solutions.

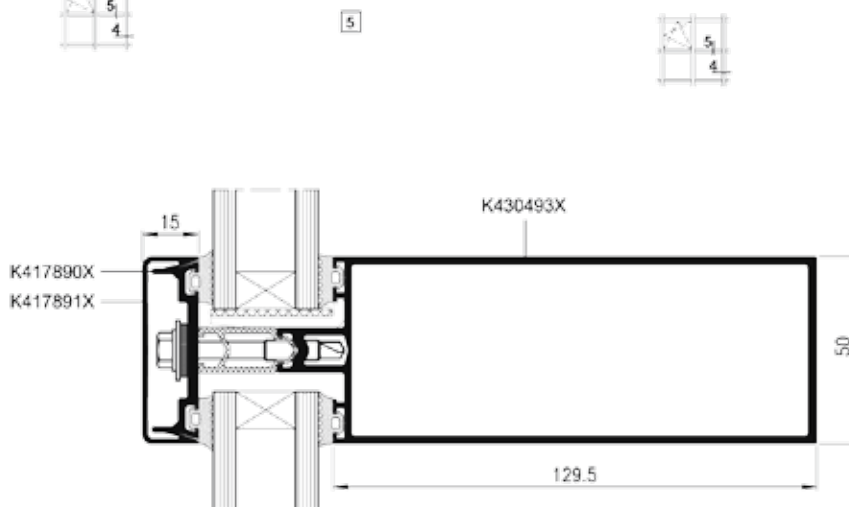
Mullion - cross section MB-SR50N

4



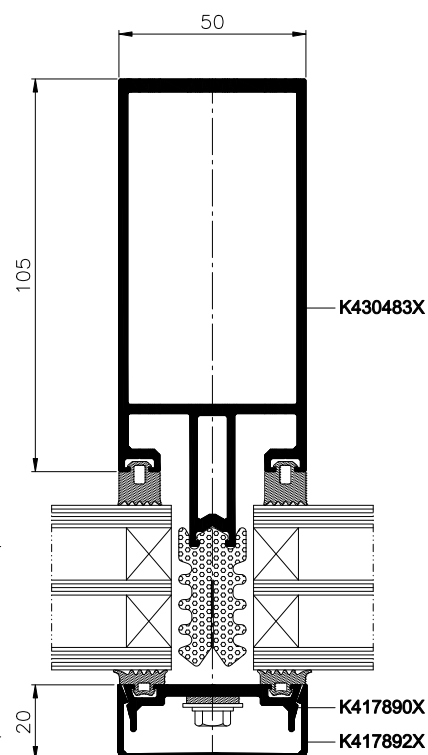
Transom - cross section MB-SR50N

5



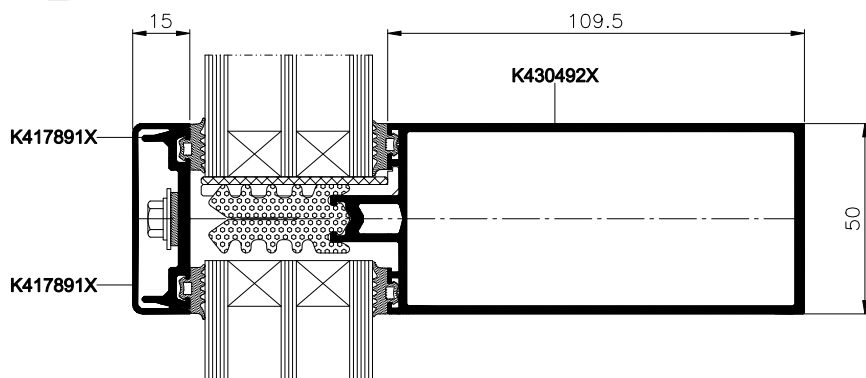
Mullion - cross section MB-SR50N HI

4



Transom - cross section MB-SR50N HI

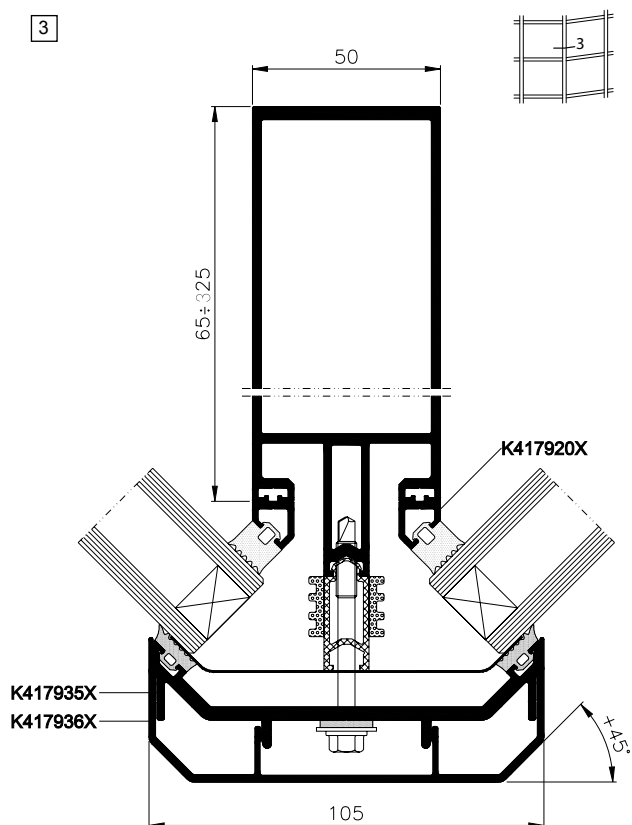
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Scale 1:2

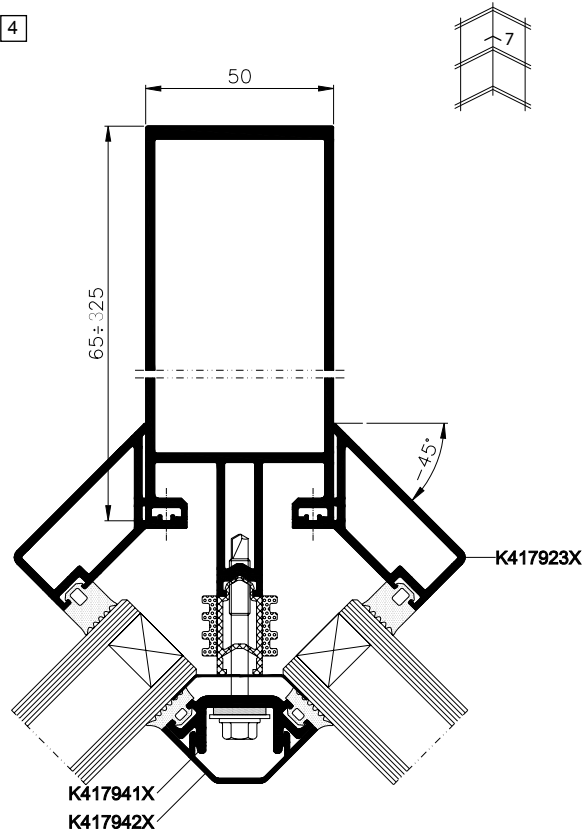
Symmetrical angel joint - cross-section

3



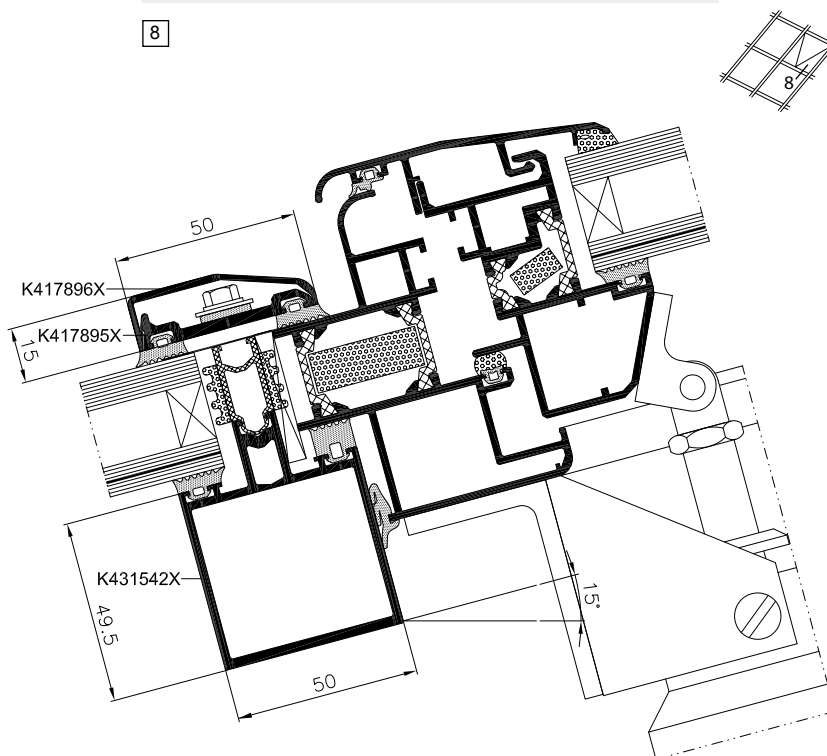
Symmetrical angel joint - cross-section

4

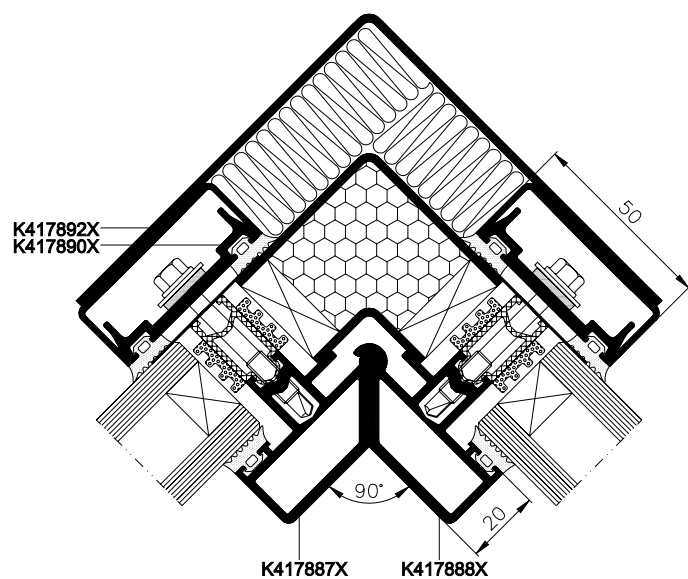


MB-SR50N RW roof vent - cross section

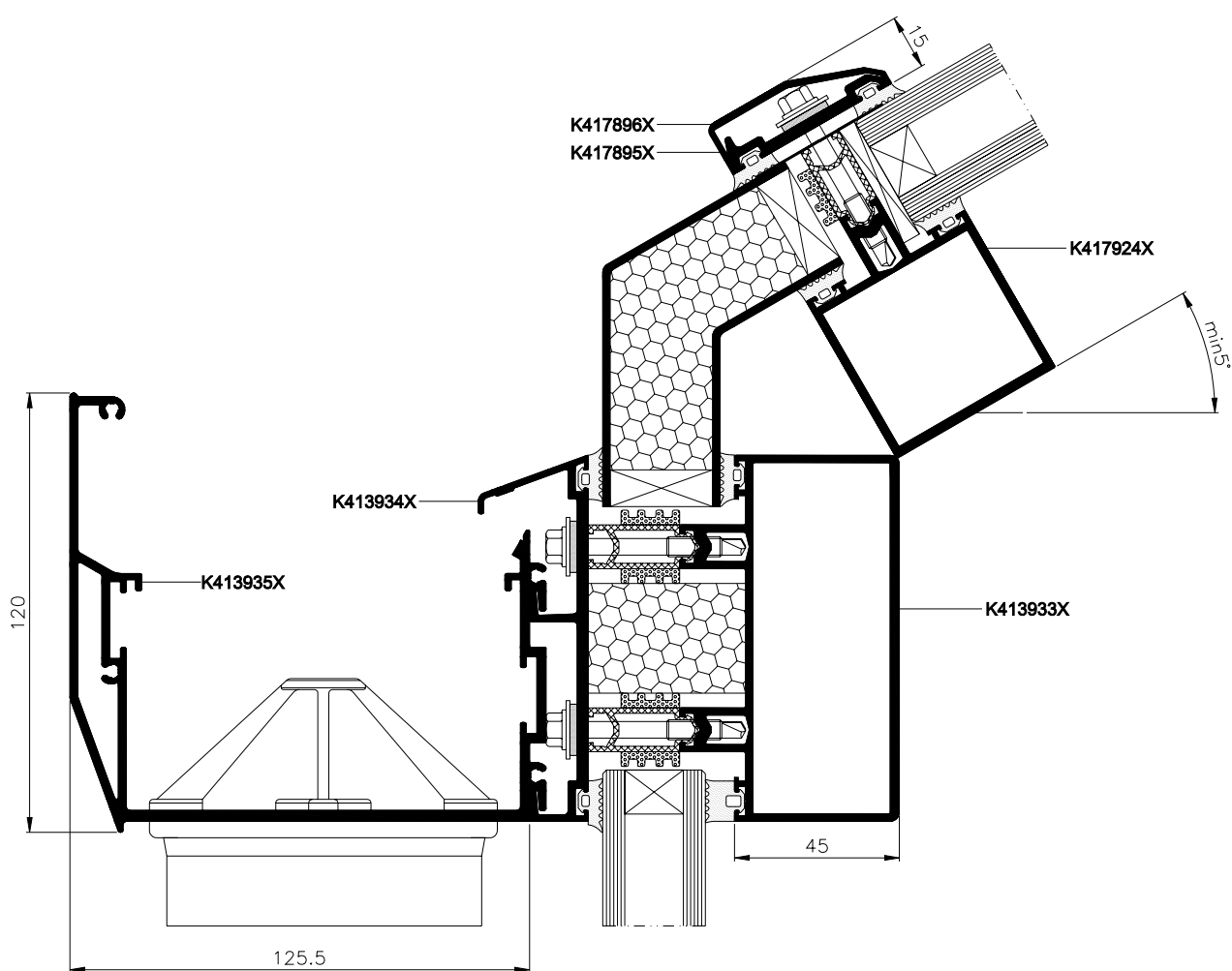
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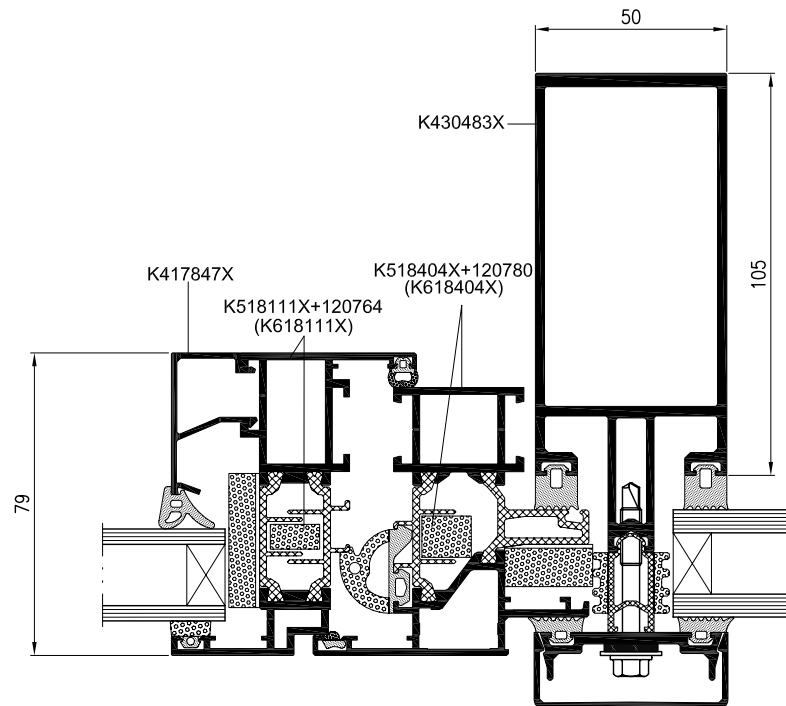
Horizontal section of roof ridge



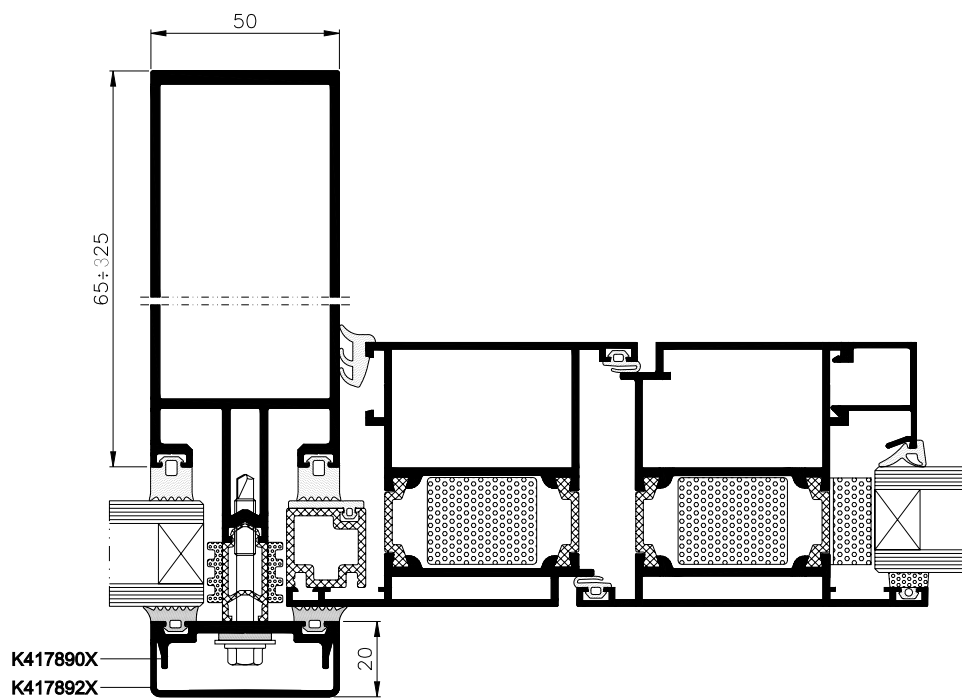
Horizontal section of gutter



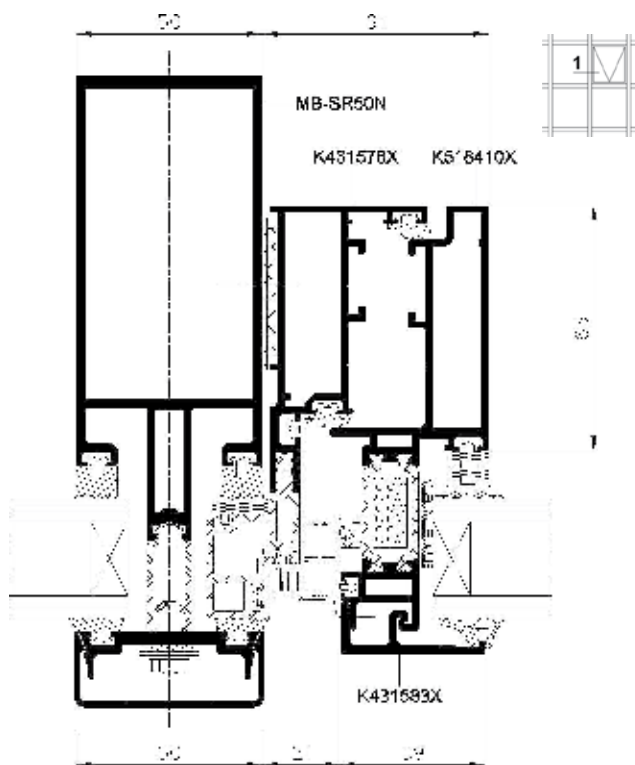
MB-70HI window cross-section in curtain wall



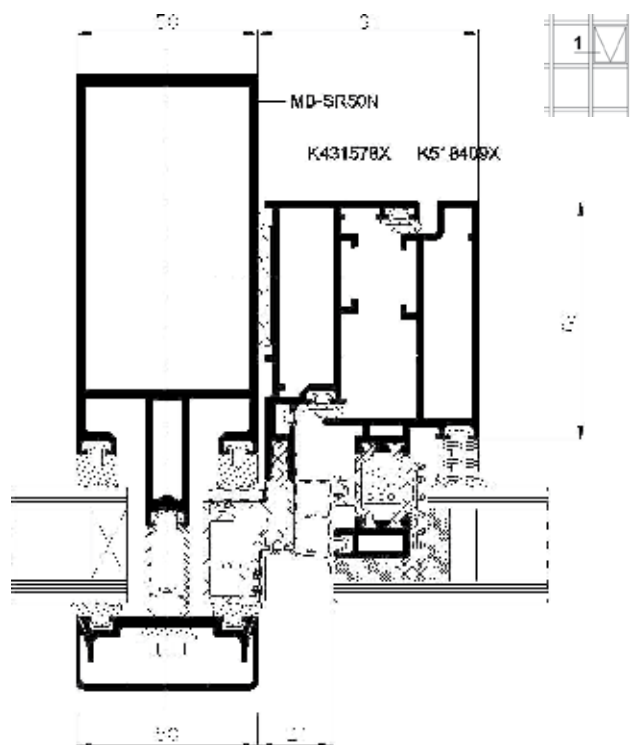
MB-70HI door cross-section in curtain wall



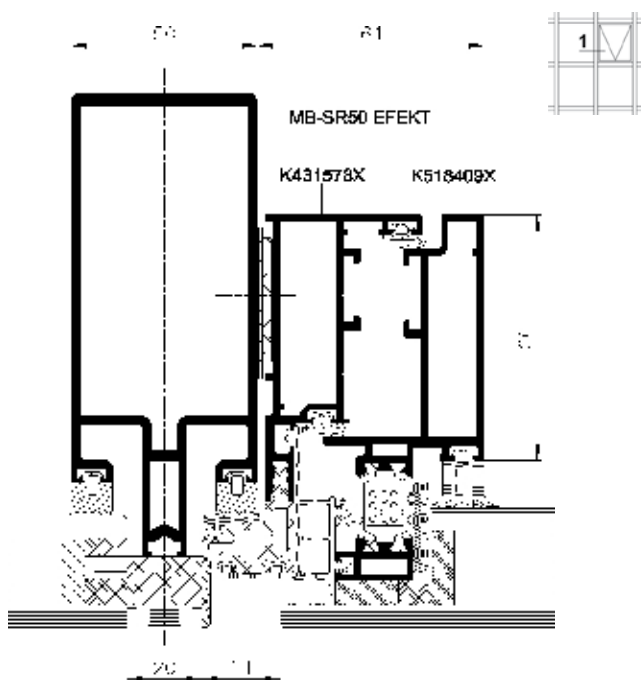
MB-SR50N OW beaded casement window
- cross section



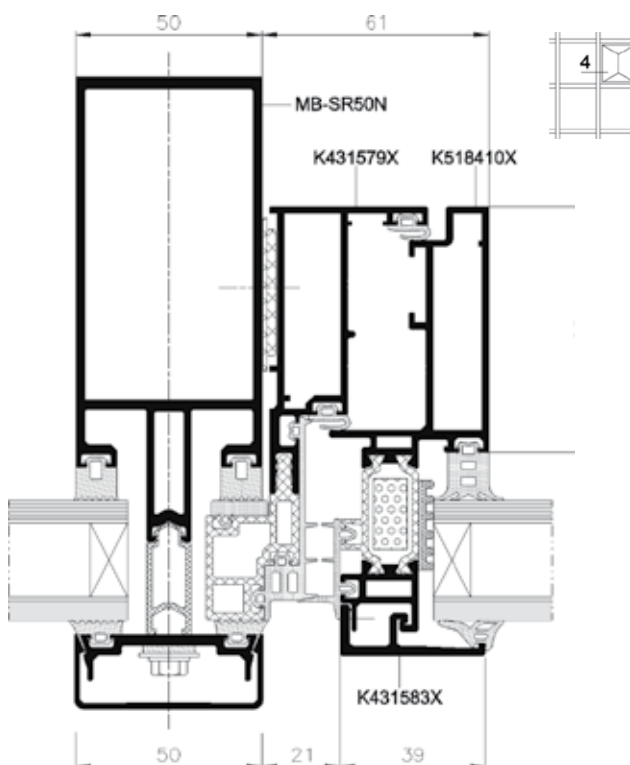
MB-SR50N OW SGG casement window
- cross section



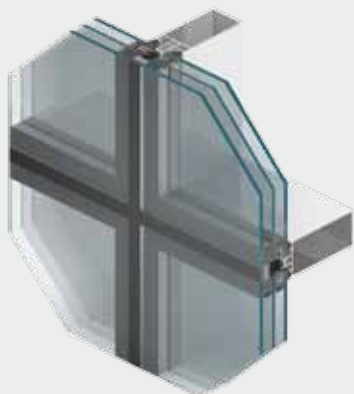
MB-SR50N OW SG casement window
in EFEKT system - cross section



MB-SR50N OW beaded parallel window
- cross section



Scale 1:2



MB-SR50N EFFECT is a special curtain wall system, in which the method of fixing the glass to mullions and transoms offers a unified external glass surface sectioned by 2 cm wide vertical and horizontal lines. The gaps between the glass panels of the curtain wall are filled with a special silicone sealant providing high tightness and improved insulation of the structure.

SEMI - STRUCTURAL CURTAIN WALL SYSTEM

MB-SR50N EFFECT is used for the construction of light curtain walls of a suspended and filling type, as well as roofs, skylights and other spatial structures. Its support structure is based on a modern and proven aluminum MB-SR50N mullion and transom system offering a wide range of profiles and options for selecting the profiles to harmonize the surfaces of members on the internal side of the curtain wall, thus, creating a visually attractive connection with the curtain wall and the inner structure.

One of the key benefits of MB-SR50N EFFECT curtain walls is the wide offer of glazing: a wide range of infills available in the catalog with a thickness within 24 to 56 mm includes double-glazed or triple-glazed glass units, as well as opaque panels based on insulated glass. A real novelty in such curtain walls is the possibility to use laminated glass units. A precise fixing system for infills allows flexible and economic adjustment to the requirements of an individual project – differentiated depending on glass weight and including solutions for transferring the loads from glass to profiles up to a capacity of 450 kg. We have two standard variants for glass fixing: with continuous or non-continuous spacers.

It is also worth noting that for this system sealants of various colors can be used, which significantly increases the options for creating aesthetic curtain walls.



DOUBLE TREE BY HILTON, Łódź
design / APA Kuryłowicz&Associates

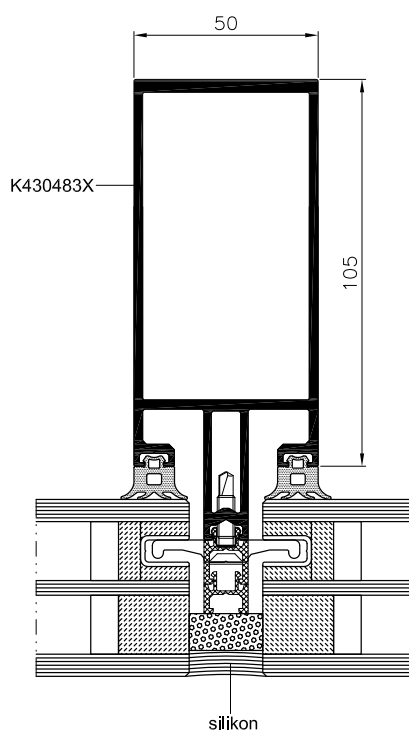
Curtain walls based on MB-SR50N EFFECT have excellent user properties and offer not only desired visual attractiveness, but also very high thermal insulation, which is one of the main criteria for assessing contemporary curtain walls due to the strong world-wide trend focused on the reduction of energy consumption in buildings.

Technical parameters:

- Air permeability: Class AE 1200 Pa
- Water tightness: Class RE 1200 Pa
- Wind load resistance: up to 2400 Pa
- Impact resistance: Class I5/E5
- Thermal insulation:
U_f from 1,1 W/(m²K)

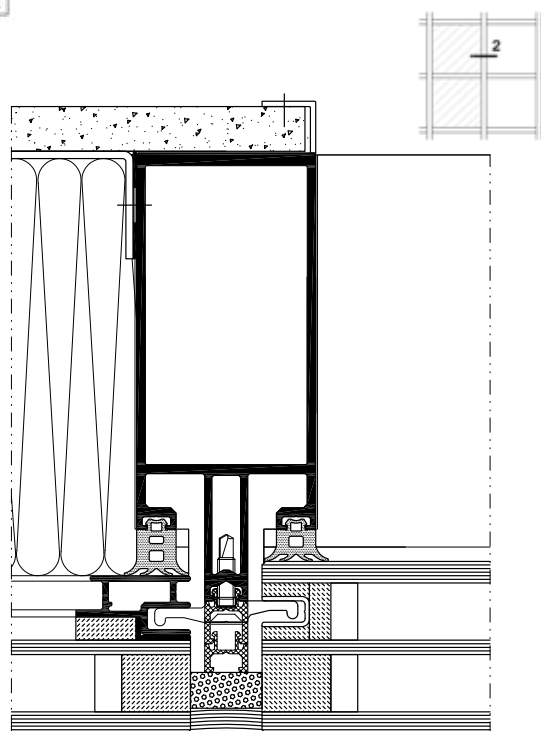
Mullion - cross section

1



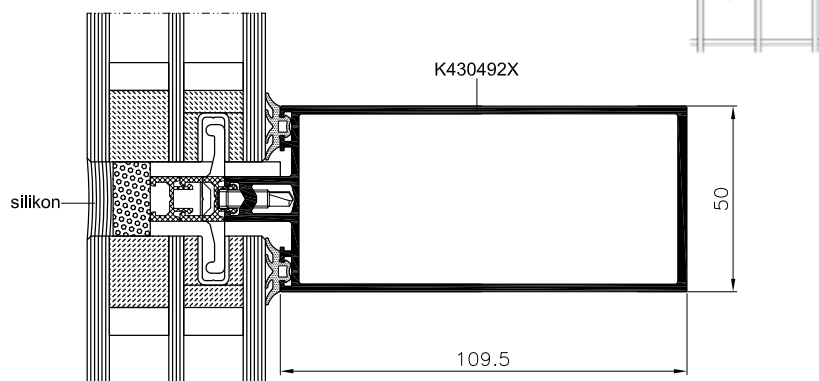
Mullion with glazing unit and obscure panel - cross section

2



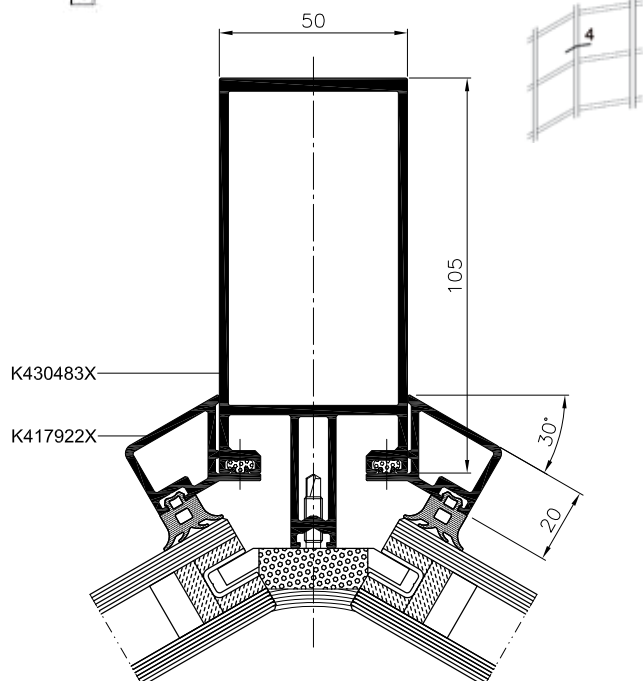
Transom - cross section

3



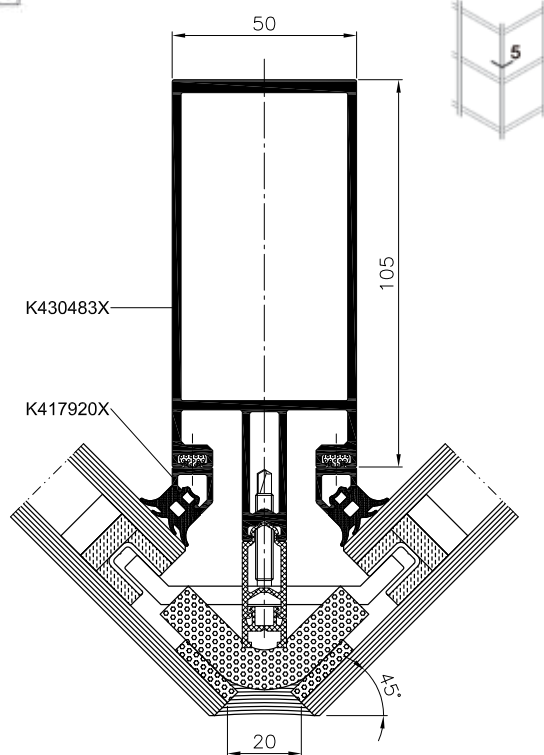
Internally folding joint - cross section

4



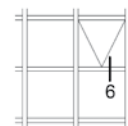
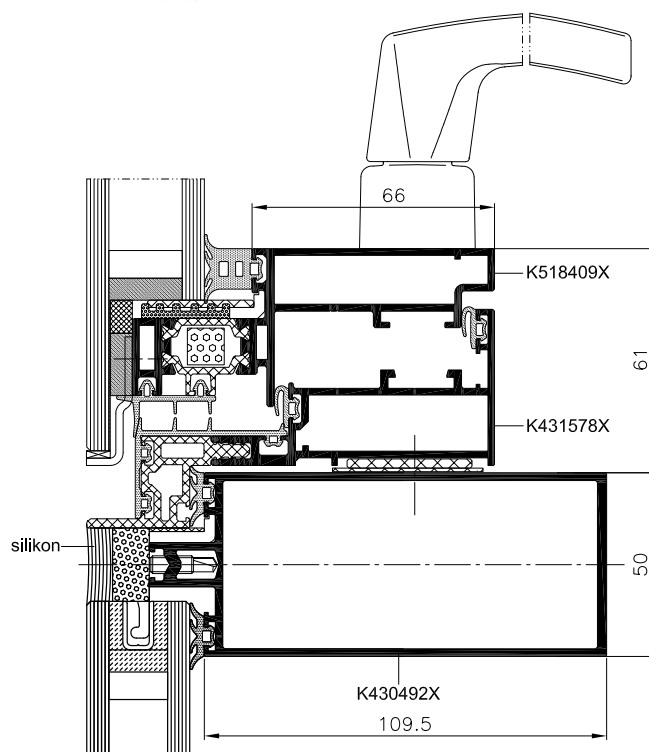
Externally folding joint - cross section

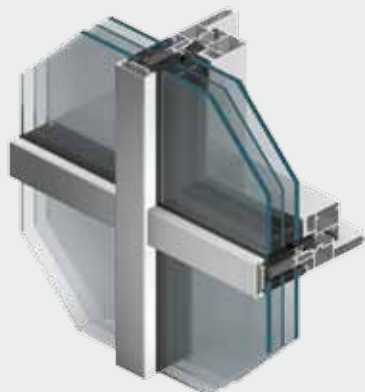
5



Transom with SG parallel window
- cross section

6





Unique in its design, the MB-SR50 IW system gives a fully integrated curtain wall option, that of an inward opening concealed vent. The external appearance of a fixed light is no different to that of a Tiltturn vent. The MB-SR50WI system is available in three "finished look" options, including standard cap, flat 4mm pressure caps, and EFEKT system option silicone joint.

BESPOKE CURTAIN WALLING SYSTEM WITH INTEGRATED WINDOW

Flexibility in design

The structure of MB-SR50IW curtain wall is based on bespoke design mullion and transom sections. The sections are shaped to accommodate vent profiles in opening areas, providing sharp edge finish profiles and the choice of an internal flush finish mullion & transom, giving a modern, contemporary look. Various design features relating to the glazing are available, including different shape standard 50mm capping, 46mm wide flat pressure plates and 20mm wide silicon joints. The overlapping nature of the mullion-transom joints, provides excellent weather tightness.

Glazing

MB-SR50 IW system accommodates glazing units from 24mm up to 36mm for fixed lights, and from 28mm up to 36mm for opening lights. The glass unit of the "IW" concealed vent is bonded to the frame by way of a structural silicone.

Technical parameters:

- Overall heat transfer coefficient:
 U_f from 1,68 W/m²K
- Air permeability:
AE1200, EN 12153:2003; EN 12152:2002
- Water tightness:
RE1200, EN 12155:2003; EN 12154:2002
- Wind resistance:
2400Pa, EN 12179:2002; EN 13116:2002
- Impact resistance: E5/15 (950N)
- Wind load resistance $R_w=42$ dB
(depending on the infill material)




TRANSATLANTYK, Gdynia, Poland
design / Bazyli Domsta,
Adam Drohomirecki i Marcin Pilch

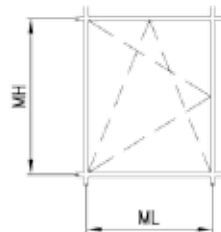
Max. dimensions in the curtain wall

Tilt and turn window



MHmax = 2400 [mm] MHmin = 550 [mm]
MLmax = 1300 [mm] MLmin = 450 [mm]

 - 100 [kg]




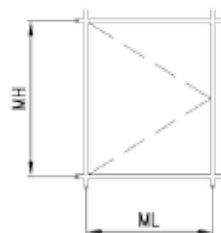
MHmax = 2000 [mm] MHmin = 550 [mm]
MLmax = 1600 [mm] MLmin = 450 [mm]

Side hung window




MHmax = 2400 [mm] MHmin = 500 [mm]
MLmax = 1300 [mm] MLmin = 400 [mm]

 - 100 [kg]

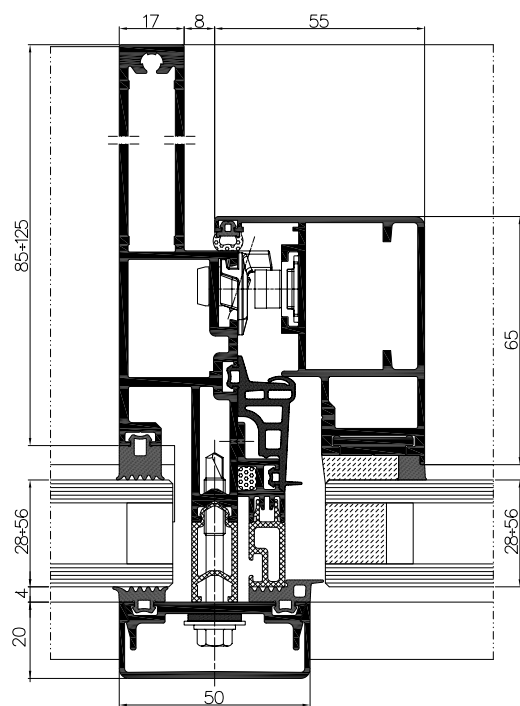


MHmax = 2000 [mm] MHmin = 500 [mm]
MLmax = 1600 [mm] MLmin = 400 [mm]

 } Maximum weight of infills

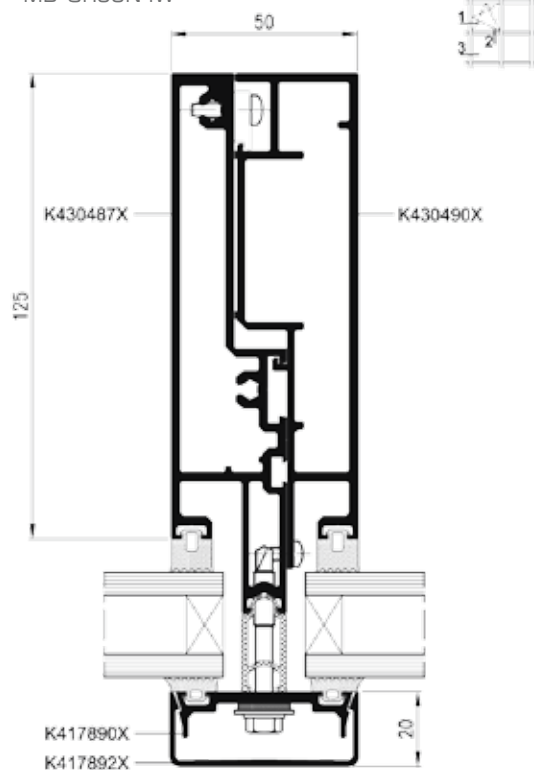
Mullion cross-section

1 MB-SR50N IW



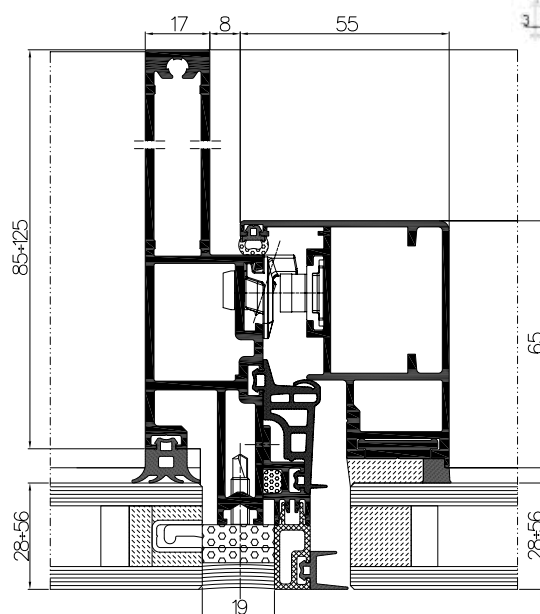
Transom cross-section

3 MB-SR50N IW



Transom cross-section

2 MB-SR50N IW



SYSTEM

MB-RW

ROOF WINDOW

CURTAIN WALL SYSTEMS



Regardless of the type, windows are a major element of the roof and support the ventilation of important parts of the building. But glazed roof plane's windows should have special features. In addition to the "opening function", windows should as much as possible match the rest of the structure in terms of aesthetics, glazing possibilities and thermal insulation. MB-RW is a modern system which responds to the increasing thermal and functional demands the contemporary roof constructions are facing today. It also complements Aluprof's offering of energy-efficient aluminium systems. Windows fabricated using the MB-RW system are intended for installation on roofs with mullion-transom systems (MB-SR50N & MB-TT50 group of products) of an inclination angle of 3° to 75° in relation to the horizontal plane. In rafters/purlins axes, roof windows can have dimensions up to 2.5 m and weight up to 200 kg.

MB-RW's high thermal insulation and a wide range of glazing (from 32 to 51 mm) allows the realization of energy-efficient building projects. To do so, special insulating materials were used. A specially-designed glazing gasket and a cover cap allow to obtain excellent tightness parameters while providing an efficient and simple installation of the infill.

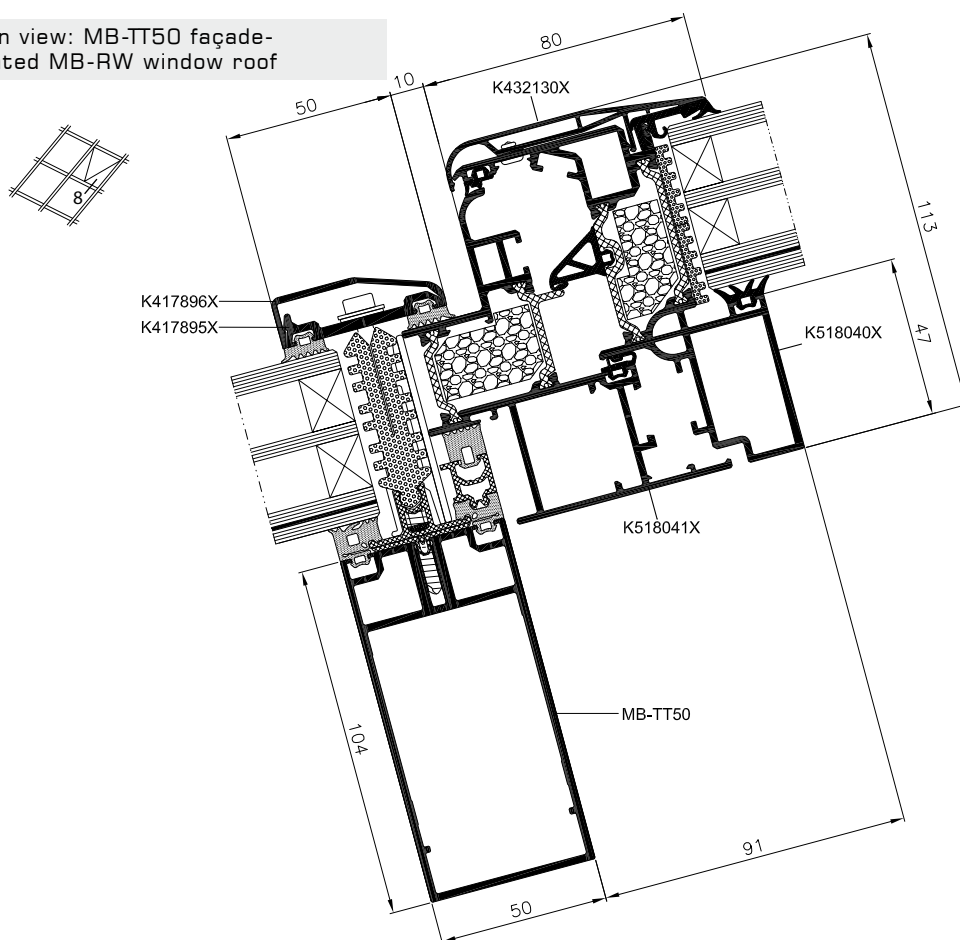
Technical capabilities – in terms of fittings – is yet another advantage of the MB-RW system-based window roofs. To simplify fabrication stage, dedicated hinges were developed – these can be installed at the final stage of the construction's fabrication. In order to increase the dimensions of the windows, profiles can be optionally ferruled with standard multi-point locking fixtures, this without prejudice to the tightness of the whole structure. This also allows to fabricate windows opened manually by the handle. The system also allows the installation of electric actuators from different manufacturers in a wide range of constructions – MB-RW windows can therefore be part of the gravitational ventilation system of the building.

Technical parameters:

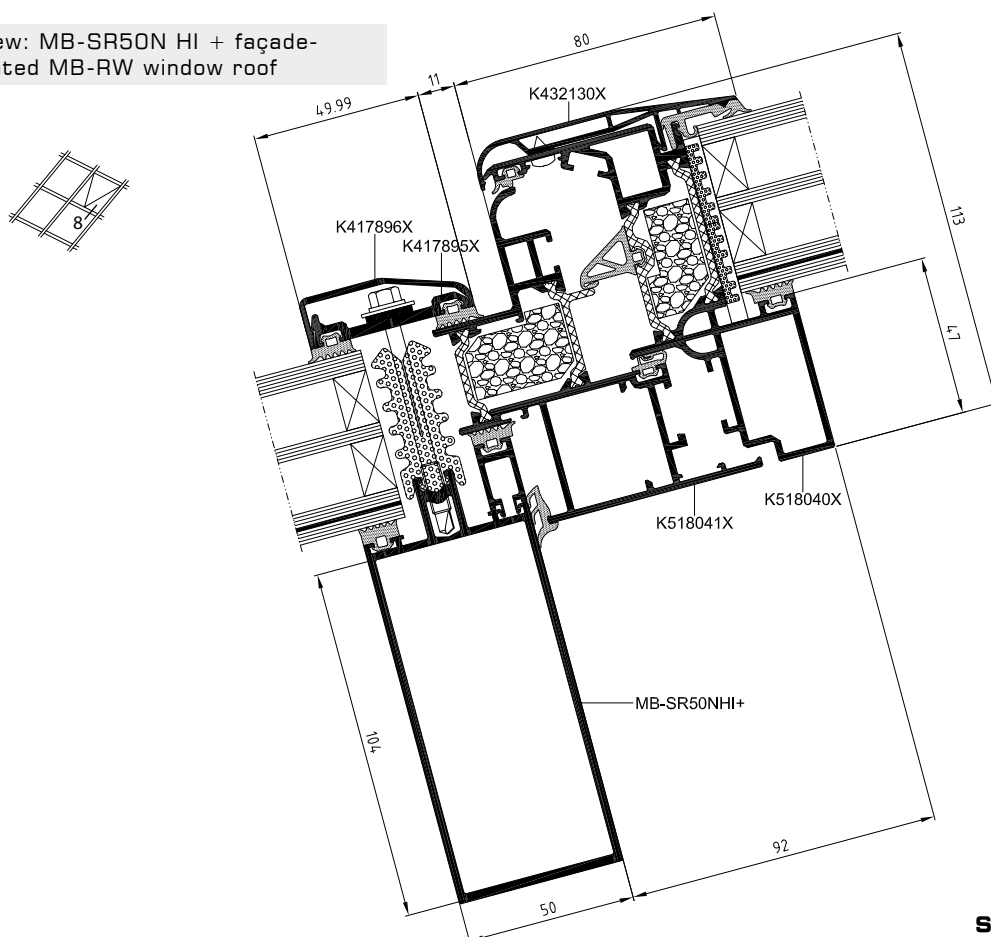
- Thermal insulation U_f from 1,8 W/(m²K)
- Air permeability:
class 4 (1350 Pa); EN 12207
- Water tightness:
E1800; EN 12208
- Wind load resistance:
2,4 kN/m²; EN 12210
- Impact resistance:
class 4; EN 1873



Section view: MB-TT50 façade-integrated MB-RW window roof



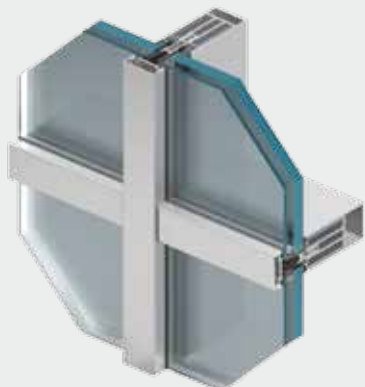
Section view: MB-SR50N HI + façade-integrated MB-RW window roof



SYSTEM MB-SR50EI MB-SR50N EI



CURTAIN WALL SYSTEMS



The stick formed mullion & transom system MB-SR50 EI is designed for fireproof curtain wall applications. Fire resistant classes EI 15, EI 30, EI 45 and EI 60 have been achieved in accordance with EN 13 501-2 standard, meeting the highest industry requirements. MB-SR50 EI allows for complex curtain wall designs, offering both internal and external faceted mullion options, with up to 7.5 degree orientation on each side possible.

FIREPROOF MULLION AND TRANSOM CURTAIN WALL SYSTEMS

System designed based on well proven MB-SR50 and MB-SR50N solutions

The Aluprof fire rated system has been developed from the standard MB-SR50 offer, therefore available in a wide range of mullion and transom sections. The mullion and transom box cavities are combined with custom design fire proof inserts, tested & proven to warrant the fire performance of the curtain wall. Each insert incorporates an Aluminium core carrier section, over clad with the relevant fire resistant insulation. The insert arrangement, when combined with intumescent tape and other stipulated fire retardant sealants, will provide the necessary performance. The screen assembly is constructed using a steel pin or dowel type connection, & the glass retained with a pressure plate fix, incorporating a stainless steel plate at each fixing position.

High thermal and acoustic insulation

In order to attain optimum thermal and acoustic performance, the system is fitted with a continuous HPVC insulator and EPDM gaskets. MB-SR50 EI is designed to accommodate a wide range selection of glass units and panel products.



CROSS POINT, Łódź, Poland
design / AGG-Architekci Grupa Grabowski

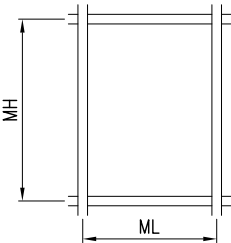
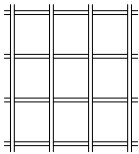
Glazing

The MB-SR50 EI system can accommodate glazing units from 15mm up to 49mm. This gives flexibility of using single or double glazing fire rated glass products, such as Pyrobel, Swissflam, Pyrostop and Promaglas, depending on the project requirement. The system also allows for fire rated panels.


Functionality and aesthetics

Due to the same design, the fire rated MB-SR50 EI curtain wall looks in no way different from a regular MB-SR50 curtain wall, both internally and externally. This feature enables the use of both systems on one curtain wall, with no compromise of aesthetic continuity. Additionally, the complete range of external face capping is available for both systems, to give a unique flexibility in design.

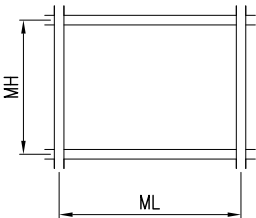
Max. dimensions in the curtain wall




MHmax=3000 mm
MLmax=1500 mm


 - 300 kg

Fixed window, transparent



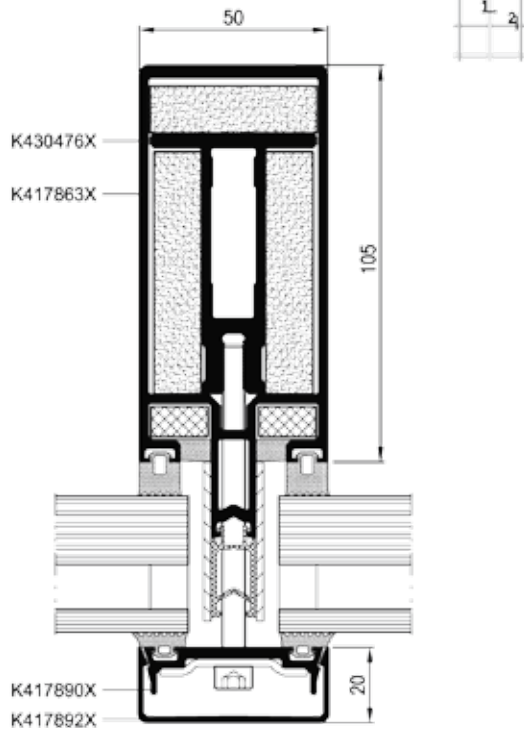
MHmax=1200 mm
MLmax=1800 mm

 - 300 kg

 } Maximum weight of the vent

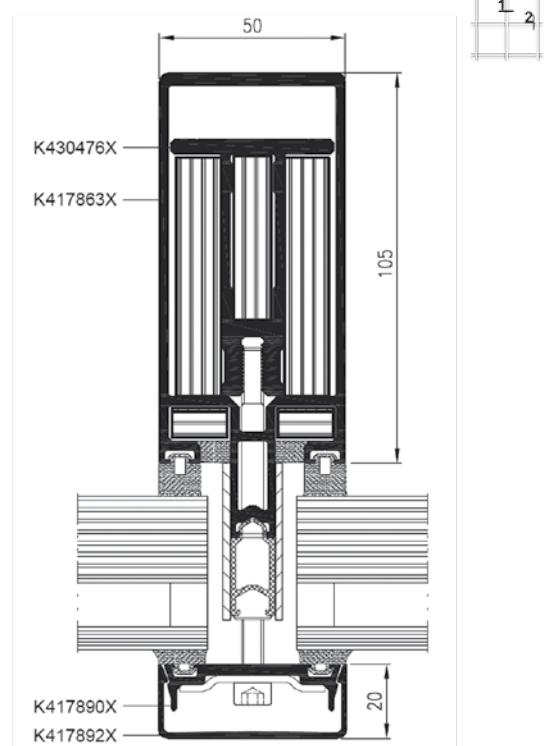
Mullion cross- section EI 15, EI 30

1 MB-SR50 EI



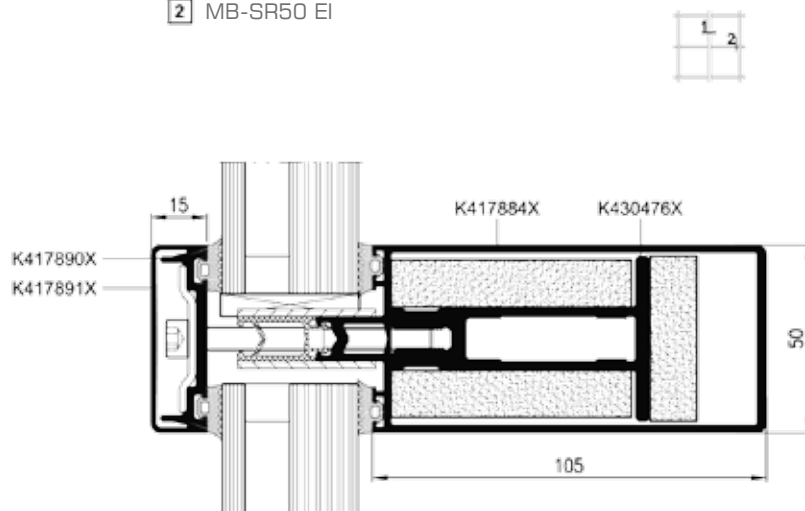
Mullion cross- section EI 45, EI 60

1 MB-SR50 EI



Transom cross-section EI 15, EI 30

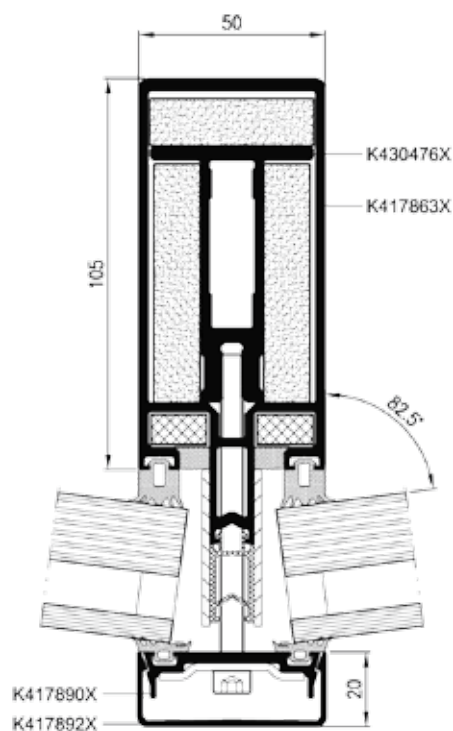
2 MB-SR50 EI



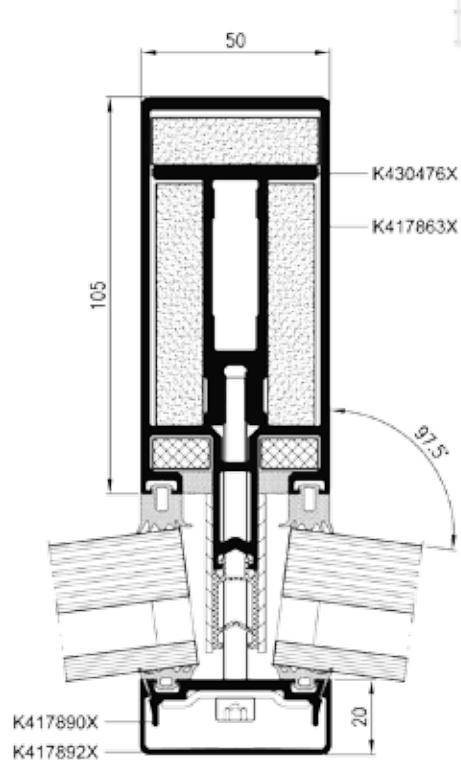
Scale 1:2

Mullion cross-section $(-7,50) \div 7,50$. EI 15, EI 30

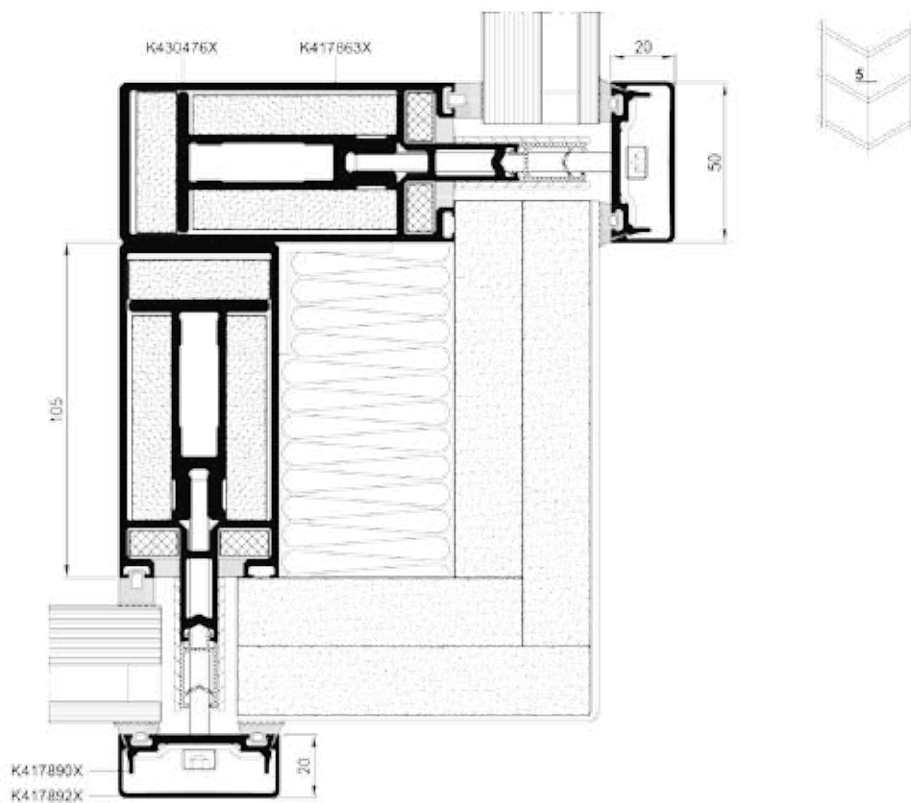
3 MB-SR50 EI



4 MB-SR50 EI

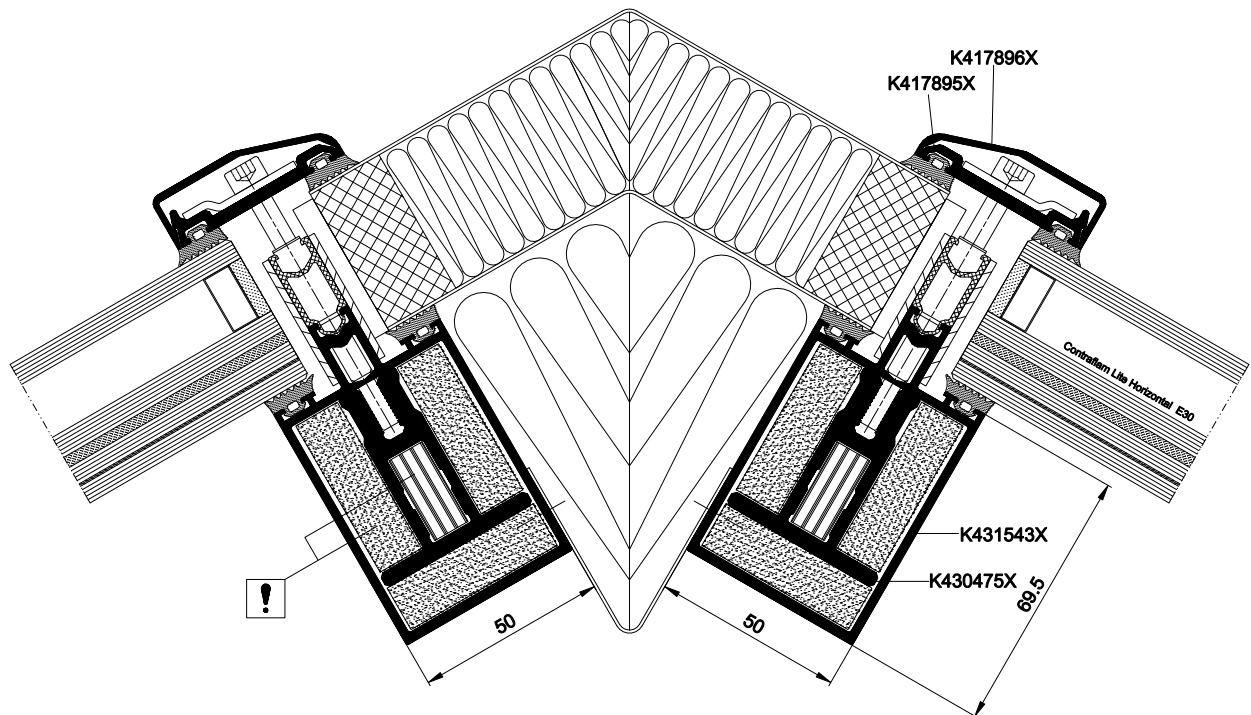


5 MB-SR50 EI

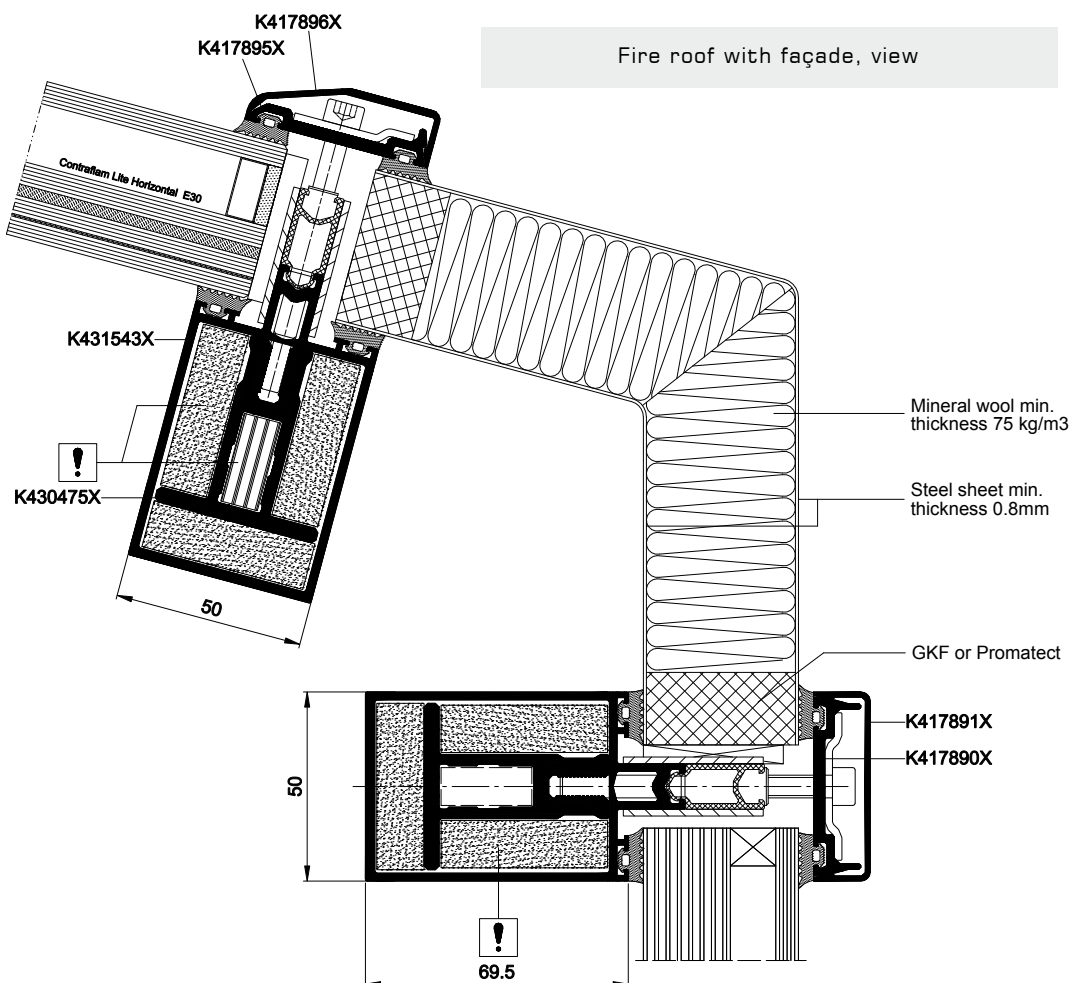


Scale 1:2

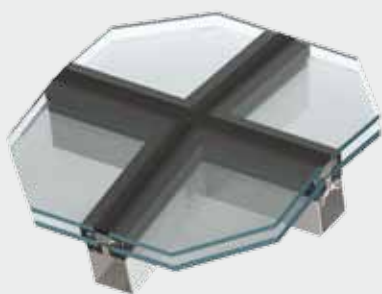
Fire roof peak line, view



Fire roof with façade, view



Scale 1:2



The MB-SR60N roof glazing system is a solution that offers extensive possibilities in the scope of spatial structures providing the architects with a complete freedom in designing modern building envelopes. The MB-SR60N allows to fabricate structures of a complex shape: pitched roofs, multiplane skylights and domes that pass into vertical walls in the form of a rotunda. This system has been designed specifically for the Galeria Katowice shopping mall. The solution consists of using 60mm wide aluminium profiles of an appropriate strength to maximize glazing area and increase amount of natural light inside the building in order to achieve stunning aesthetic effect and create an optimal indoor environment.

MULLION-TRANSOM SYSTEM FOR SPATIAL STRUCTURES

The supporting mullion-transom structure is aligned on the inside of the façade. Due to the required, industrial-look interiors or to some large spans between the supports, system structure can be supported by steel substructure to obtain the required strength of the whole construction. Mullion and transom profiles are designed to play a fundamental role in drainage and ventilation strategy. Fitted with specially shaped EPDM gaskets to form channels which allow proper cascade drainage and ventilation of the façade. Glazing, in the form of a fixed glazing units and spandrel panels, can be installed on a continuous basis or using glass fittings. With a range of glazing beads, the joints can be made

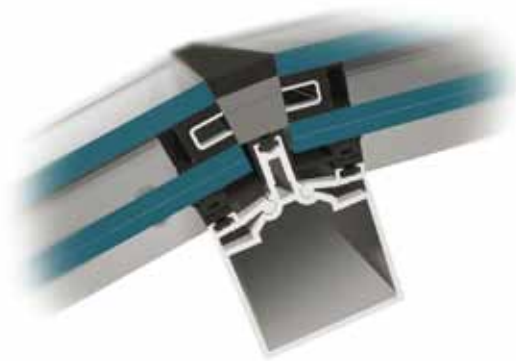


Katowice Gallery

design / SUD ARCHITECTES



with angles from 0 to 20°. The glazing of different shapes can be used (trapezoidal, triangular, etc.). From the outside the system is sealed with a special PE sealing cord (PP) and with weather silicone guarantee full air and water tightness, as well as providing an excellent thermal insulation of the façade.

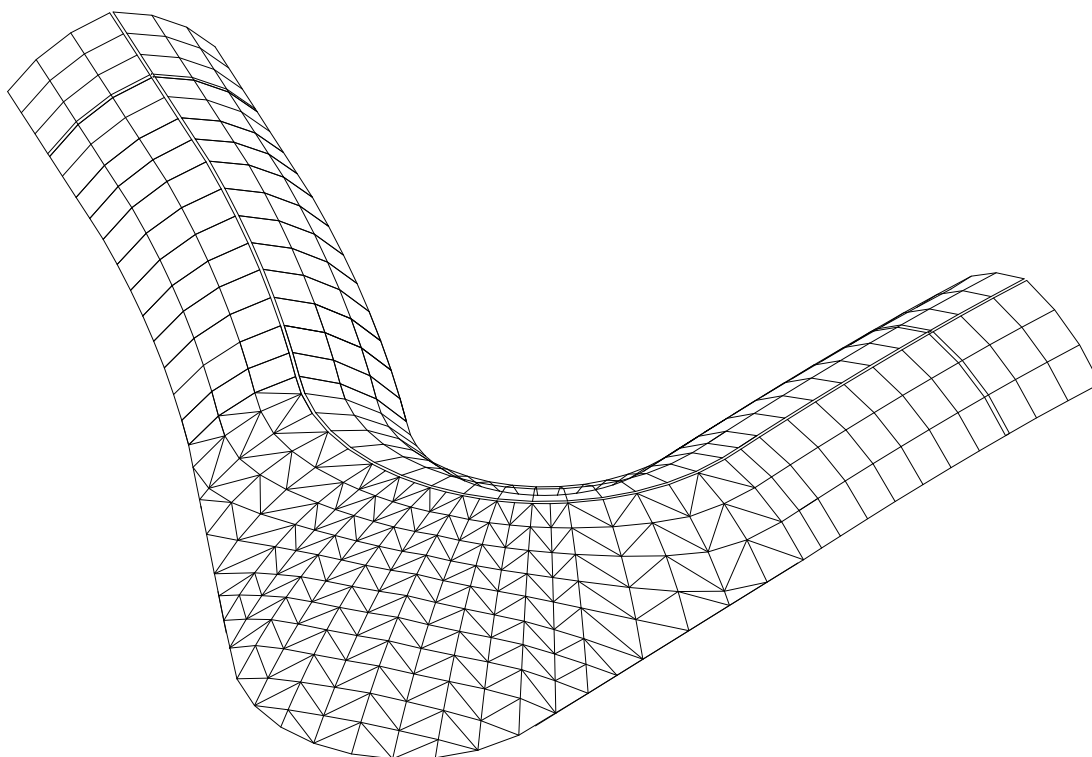
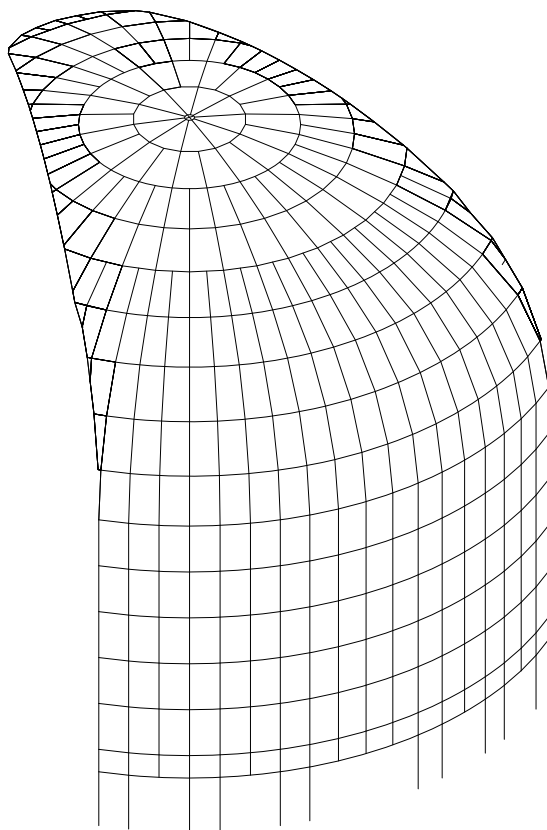


Technical parameters:

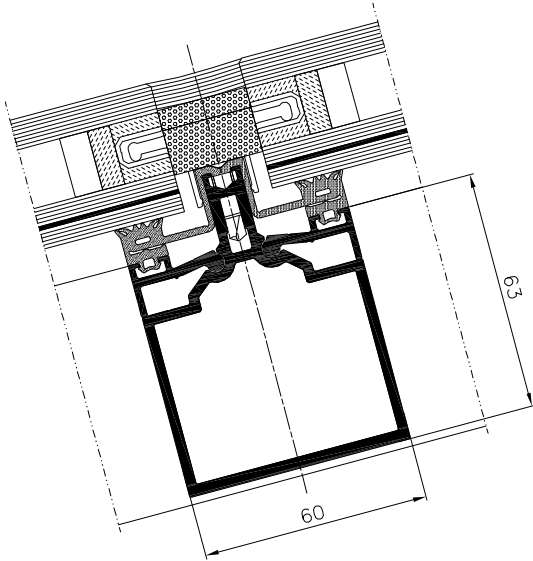
- air permeability: AE class, 1200 Pa
- water tightness: RE class, 1200 Pa
- wind load resistance: 2800 Pa
(safety testing 4200 Pa)
- clamping load – DL class 4200
- pull-off-load – UL class 4200
- impact resistance – SB class 1200



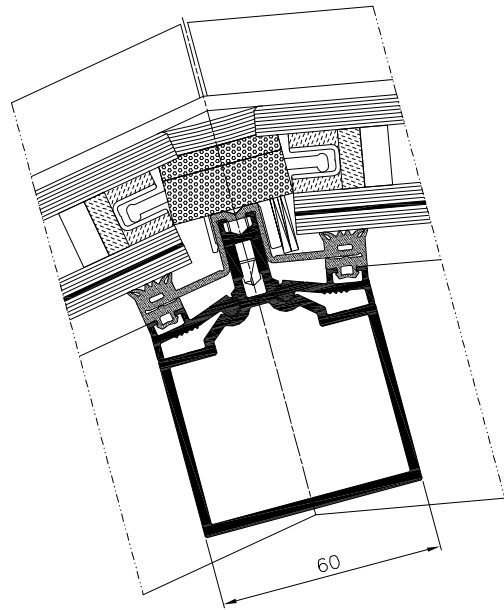
Construction schemes



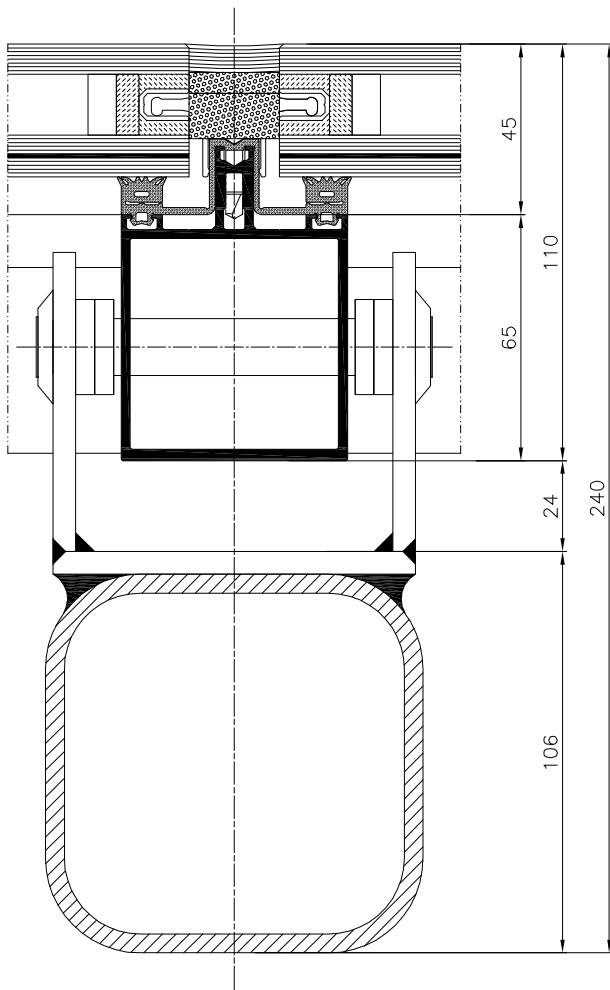
Transom, view



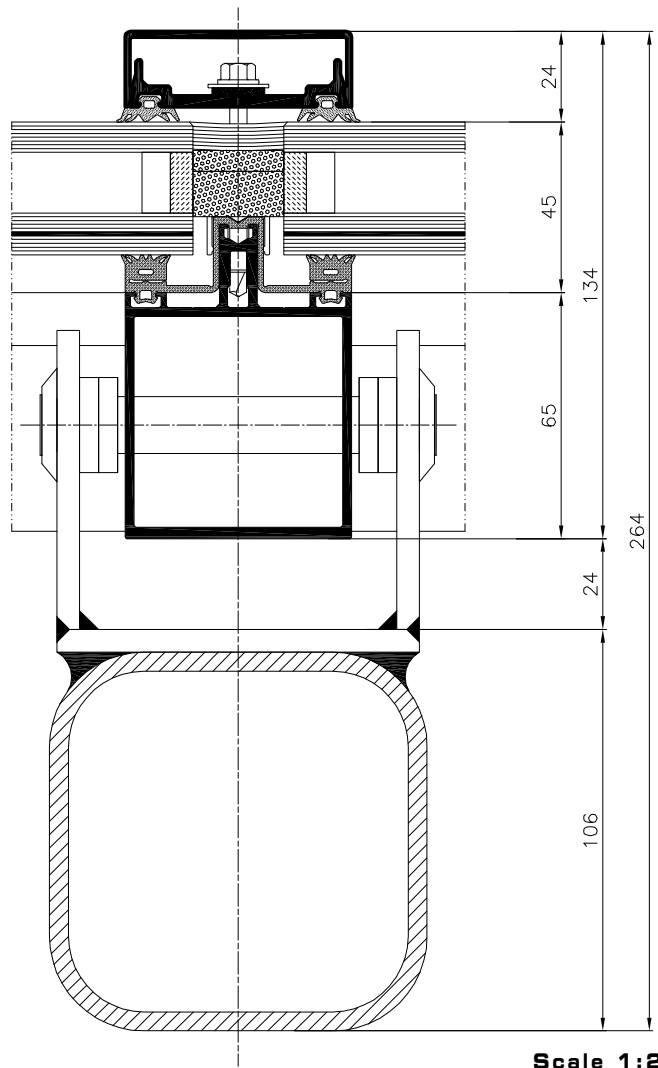
Transom, view (angle connections)



Mullion, view



Mullion, view



Scale 1:2

SYSTEM EXTRABOND

CURTAIN WALL SYSTEMS



EXTRABOND system is among rainscreen-type ventilated façades. It is used to fabricate internal and external cladding and is perfectly suited for installation in both new and modernized buildings, giving them a modern, aesthetic appearance. The system consists of an external panels formed of aluminium or fiber-cement composite sheets, aluminium grid system and insulation materials. The specially designed profiles and panels allow pressure equalization between the outer and the inner part of the wall and thereby reduce forces which cause the penetration of water behind the cladding. EXTRABOND is the perfect solution for buyers looking for a system that combines high technical parameters and aesthetic requirements.

VENTILATED FACADE SYSTEM

Structure and panel types

EXTRABOND range of ventilated cladding options, depending on the sizes of panels or type of cladding, can be divided into three types:

- **EXTRABOND Horizontal (EBH)** - façade for aluminium composite panels, arranged horizontally,
- **EXTRABOND Vertical (EBV)** - panels are arranged vertically,
- **EXTRABOND T (EBT)** - structure suited for mounting fiber-cement panels from most suppliers.

The following panels are available: **EXTRABOND**, characterized by high durability and weather resistance, and **EXTRABOND FR**, with their high fire resistance, reaction-to-fire-rating B-s1, d0, and material classified as fire retardant (NRO).

Panel's functionality and aesthetic appearance

- external layers of the panel, made of 0.5mm aluminium sheet - (AW-3005 alloy),
- high resistance to weather, UV rays corrosion, abrasion and graffiti,
- high durability based on strong, lightweight and rigid materials, 20-years product warranty
- quick installation, easy to shape,
- rich colours and high aesthetics of the panels – a completely smooth surface,
- fire resistance, sound-proofing, impact resistance,
- low noise and heat transfer coefficient,
- product is environmentally friendly (made from harmless materials, 100% recyclable).

Extrabond system advantages

- Possibility to uninstall and replace selected individual panels,
- possibility to adjust the gap between panels within 10-20 mm,
- Vertical, load-bearing Ω -shape with a very good relation weight / resistance = price
- universal Ω -shape can be used in MB-EBV and MB-EBH options by using an adapting bracket (adapter),
- Embossed façade brackets of large load capacity allowing to reduce the number of anchors per 1m²,

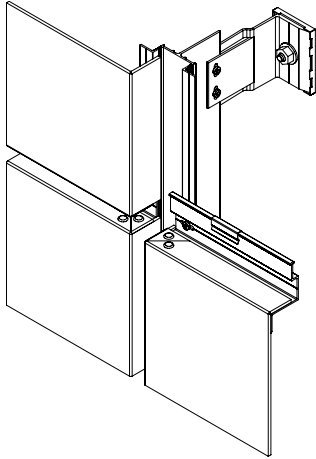
- Thermal pads reducing the adverse impact of thermal bridges,
- Façade brackets adjustable vertically within ± 12.5 mm
- Profile surfaces finished with anodic oxide coatings in accordance with Qualanod requirements or with polyester powder coatings according to Qualicoat requirements.



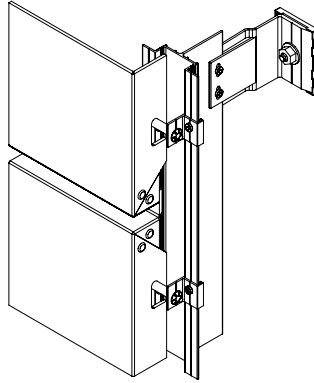
City Hall, Cracow
design / Planning&Consulting

Options:

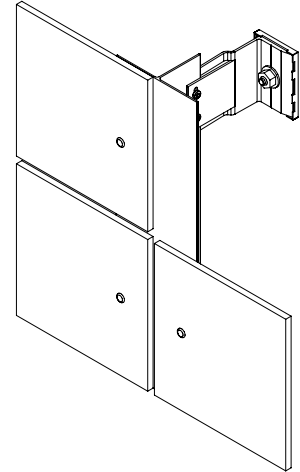
Extrabond Horizontal EBH



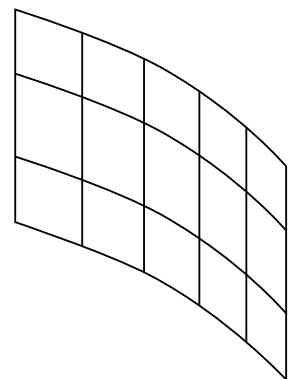
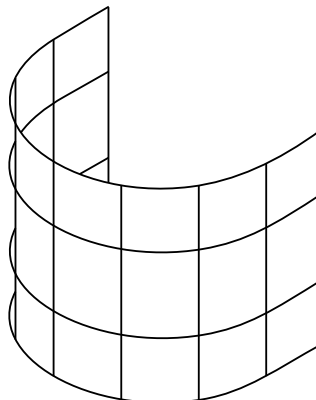
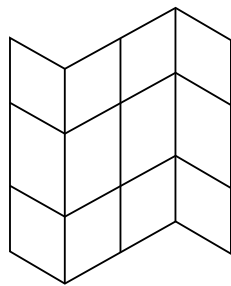
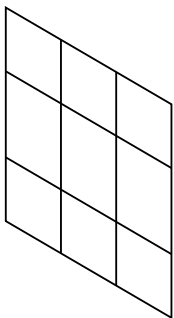
Extrabond Vertical EBV



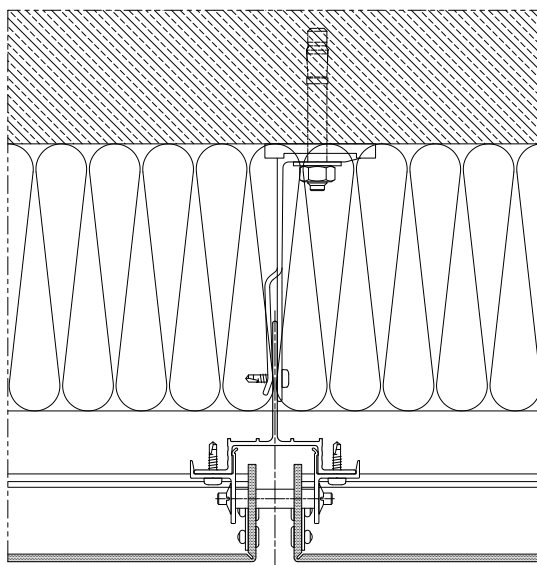
Extrabond T EBT



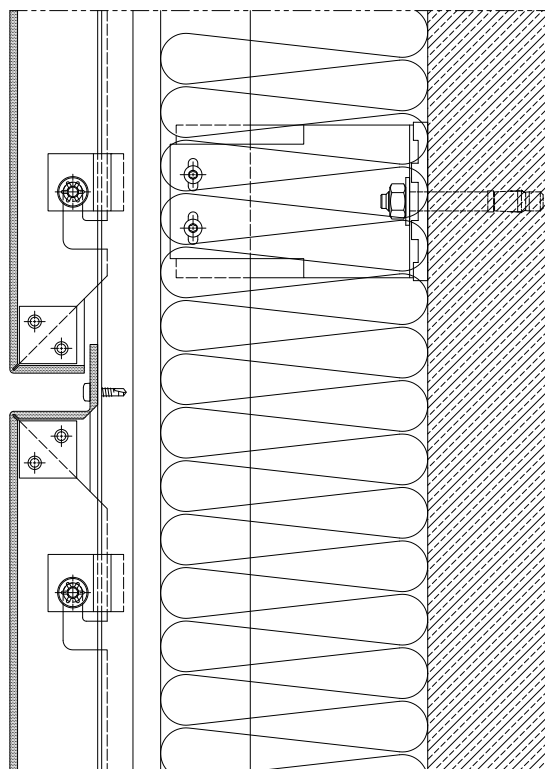
Elevation shapes that can be fabricated using Extrabond system



Extrabond - horizontal view

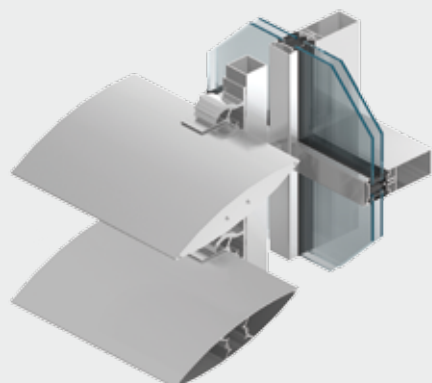


Extrabond - vertical view



SYSTEM MB-SUNPROF

BRISE SOLEIL SYSTEM



Conserving energy by reducing exposure to direct solar radiation while allowing for natural day lighting is one of a major focus of today's environmentally aware engineers, architects and specifiers. MB-SUNPROF Sun Shades have been designed to meet these needs. The system comprises aluminum blades, which are available in variety of sizes and integrate the Aluprof's curtain wall systems range, providing an impressive visual effect that helps unite the building envelope.

FEATURES AND BENEFITS

- Selection of aluminum blade profiles of width from 100 to 300 mm to serve variety of projects' requirements
- Range of outriggers (brackets) to choose from
- Up to 45 degrees incident angle
- Brings together solar glare control with the appropriate amount of natural light coming into the building's internal environment
- Comes together with Aluprof's MB range of curtain wall systems, ensuring significant visual effect on the building envelope
- Quick and easy to install to the curtain wall, load bearing wall or window frame
- Retrofit options for existing buildings that have utilized MB range of curtain walls
- Wide range of finish option

Limiting the solar heat gain of the building through the use of MB-SUNPROF Sun Shades on the curtain wall ensures the enhancement of the thermal performance of the building combined with energy savings through

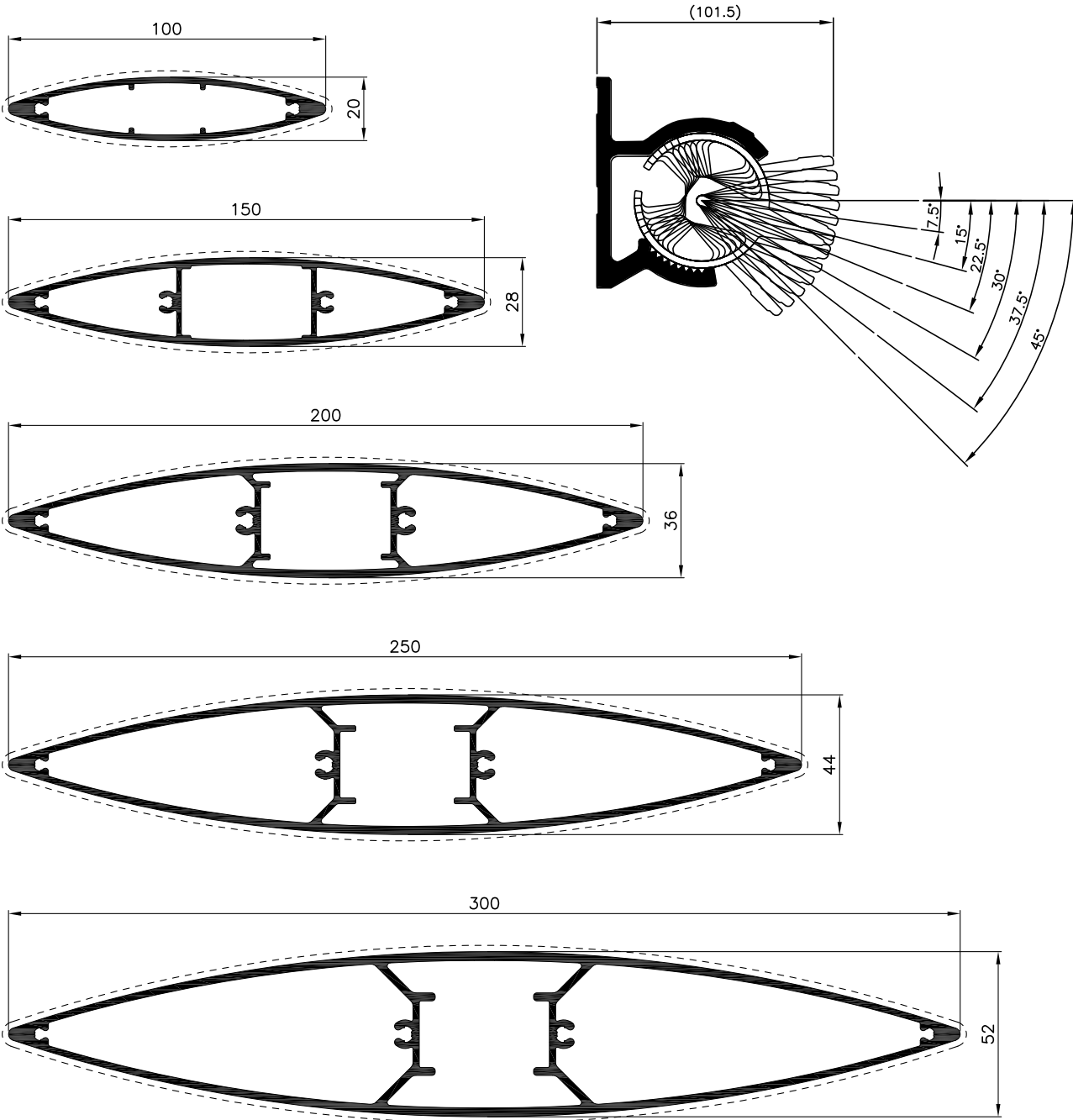
- Reduction of direct solar heat whilst remaining natural light rate coming inside the building
- Lowered use of energy required to operate electric ventilation and air conditioning systems
- Optimization of natural ventilation

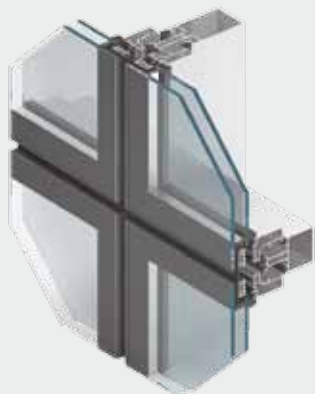
Please refer to our Local technical support team for advice and support in estimating energy saving rates that result from the use of MB-SUNPROF sun shades for each individual project.



Park Naukowo-Technologiczny, Suwałki
design / ARH+, arch. Andrzej Rydzewski

Brise soleil profiles





The MB-SG50 system is a structural picture frame system developed to create a "frameless" glass curtain wall, for external envelopes. The design and aesthetics of the system give a very modern and smooth glass surface that looks effective, particularly on large areas of the building curtain wall. A 16mm construction gap between panels creates a clean, uninterrupted look to the whole curtain wall. Internally 85mm wide framing effectively support large glazing areas. The MB-SG50 can be used side-by-side with the standard MB-SR50 system as the mullion/transom boxes are of the same design.

STRUCTURALLY GLAZED CURTAIN WALL SYSTEM

EVPU, Nová Dubnica, Slovakia
design / Marek Guga

Picture frame construction

This system is based on a mullion/transom structure no different to a regular construction of stick curtain wall. A "pure glass curtain wall effect" is achieved with the Aluminium framed panels, externally covered by double glazed units. Glass is bonded to the frames using a "Dow Corning" structural silicone, & without any additional mechanical fixings visible from the outside. Fully assembled "picture frames" are installed on the mullion/transom grid using aluminium fixing blocks about the perimeter.

High aesthetics and functionality

The main advantage of the system is its high aesthetic value, together with other benefits. Maintenance of the MB-SG50 curtain wall is very easy and cost effective. The glass surface is easy to clean and there are no external parts to be maintained.

Integrated openings

The MB-SG50 system can also incorporate opening lights for rapid ventilation. Projecting top hung casement windows can be fully integrated within the curtain wall glazing, providing simple and effective ventilation, without a negative impact on the external appearance. Internally, the design of the opening light frame is visually no different, & an exact match with a fixed glass frame carrier.



Enhanced thermal insulation

Thermally broken sections using polyamide thermal brake, reinforced with fibre glass, together with EPDM gaskets, provide high levels of thermal insulation. A Carefully designed system and selected components, with installation guidance, eliminates the possibility of unwanted "cold bridge," whilst providing an effective weather barrier.

Modern appearance of the curtain wall

This externally beaded picture frame system provides a unique contemporary appearance, one of individually framed units on the curtain wall. The gap between adjacent frames is a desirable 16mm.



CIRRUS, Warsaw, Poland
design / Pracownia Bał, Chorążak i Partnerzy
arch. Jacek Bał, arch. Maciej Chorążak, arch. Łukasz Baran, arch. Ewa Filipowicz, arch. Marcin Nauman

Precision in glazing and installation

Fabrication and glazing of the picture frames is done under controlled factory conditions, conducive to the assembly of quality frames. Once complete, each "picture frame" will be installed on site as a modular cassette. This process makes the installation easier and more cost effective. Glass is mechanically fixed by glazing beads clamped to the frame.

CIRRUS (Awning Window), Warsaw, Poland



Superb weather tightness

Continuous EPDM gaskets around panels, weather barriers between frames, and carefully designed drainage routes, are particularly effective in the prevention of unwanted air & water infiltration. For the relevant weather performance classes achieved, please refer to the "Technical Parameters" section that follows.

Vertical and horizontal expansion The design of the system, & how the mullion and transom joints are formed, provides the necessary means for both thermal expansion & building movement to take place, vertically & horizontally.

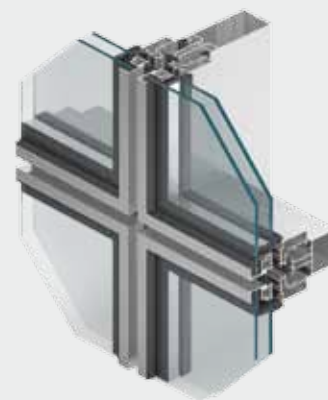
Fire safety

The system design takes into consideration, the need to include fire insulation between the screen & floor slab element, in order to prevent the spread of flames between floors. Fire rated materials would include mineral wool and plaster board, & these components have been used to achieve Integrity & insulation classifications of EI 30 and EI 60, in these parts of the curtain wall.

Technical parameters:

- Thermal insulation:
 U_{TJ} calculated individually
- Air permeability:
Class A4, EN 12153:2002U;
EN 12152:2002U
- Water tightness:
Class R7, EN 12155:2002U;
EN 12154:2002U
- Wind resistance:
Class 1430Pa, EN 12179:2002U;
EN 13116:2002U
- Acoustic insulation: $R_w=40$ dB
(depending on the infill material)

SYSTEM MB-SG50 SEMI



SEMI-STRUCTURALLY GLAZED CURTAIN WALL SYSTEM

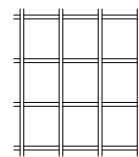
Modern appearance of the curtain wall

When curtain wall is vented externally, glass panels with narrow framing are visible. The gaps between modules in a flat wall are 16 mm wide.

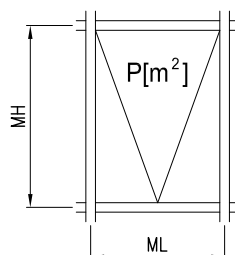
Glazing and installation under factory conditions

Glass panels are installed in aluminium frames in the factory process, which ensures module preparation and reduces the installation time at the construction site. Glass panels are joined with aluminium profiles by mechanical fixing of frames.


Max. dimensions in the curtain wall



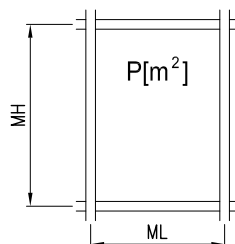
Outside opening window




MHmax=2400 mm MHmin=500 mm
MLmax=2000 mm MLmin=500 mm
Pmax= 3,84 m²

 - 180 kg

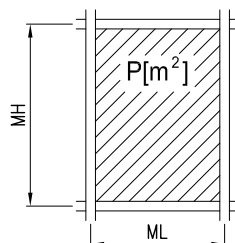
Fixed window, transparent




MHmax=2500 mm MHmin=500 mm
MLmax=2000 mm MLmin=500 mm
Pmax= 3,84 m²


 - 160 kg

Fixed window, cleaded



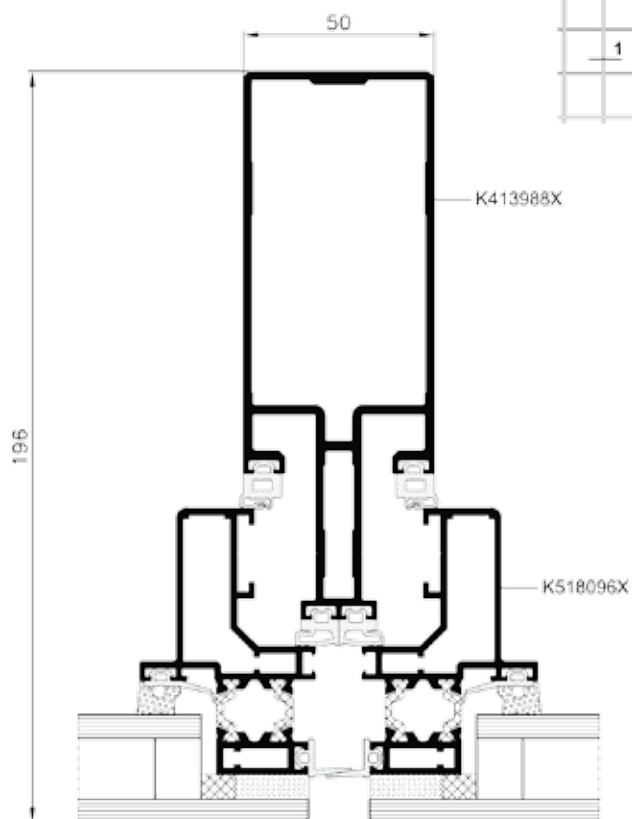
MHmax=2500 mm MHmin=500 mm
MLmax=2000 mm MLmin=500 mm
Pmax= 3,84 m²

 - 160 kg

 } Maximum weight of infills

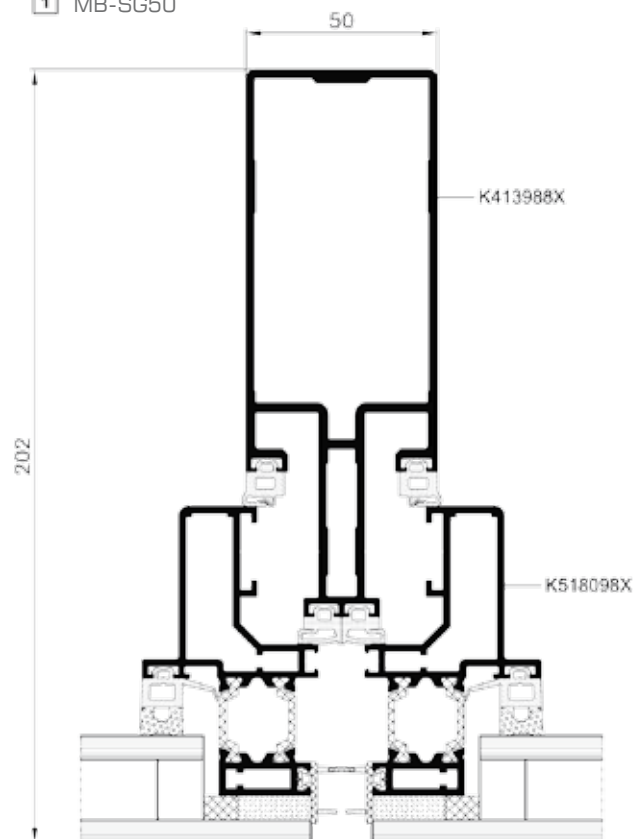
Mullion cross-section

1 MB-SG50



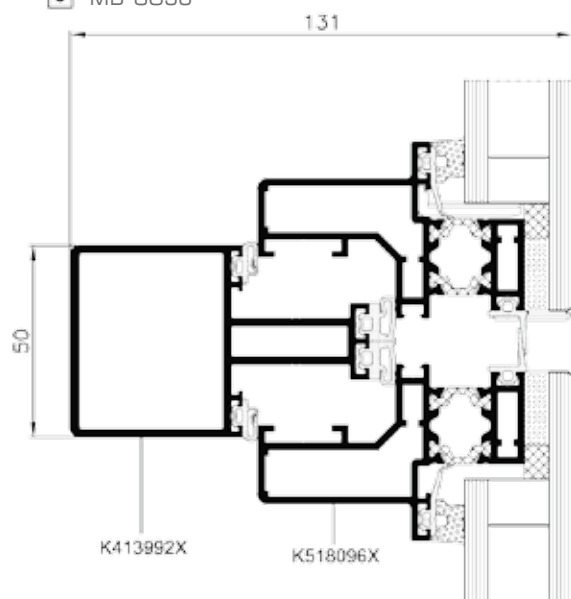
Mullion cross-section

1 MB-SG50



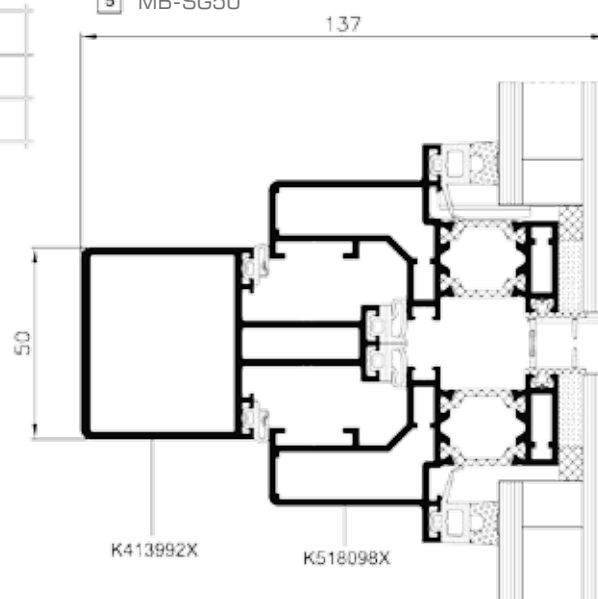
Transom cross-section

5 MB-SG50



Transom cross-section

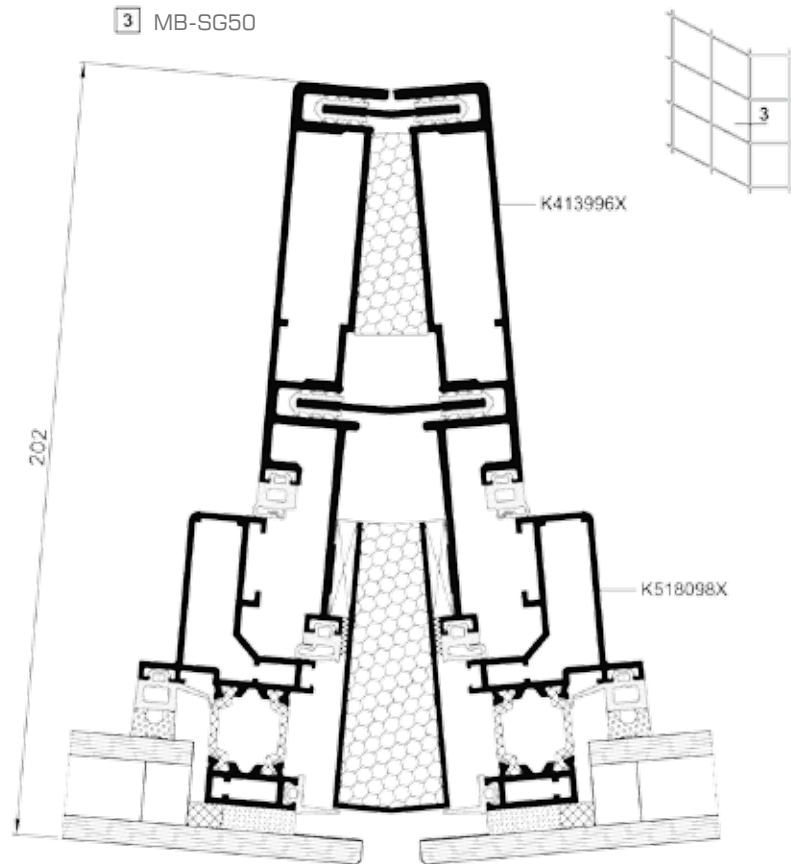
5 MB-SG50



Scale 1:2

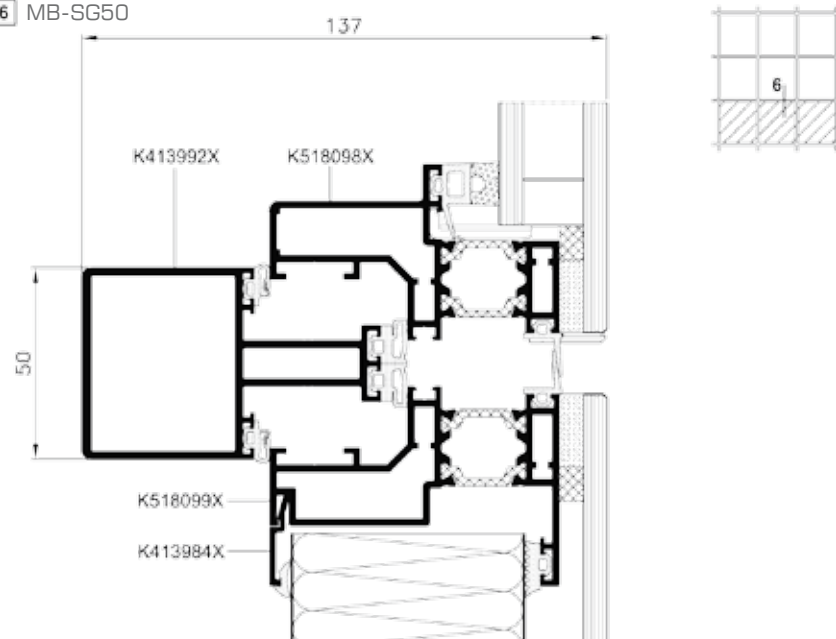
Half mullion - cross- section

3 MB-SG50



Non-transparent-panel cross-section

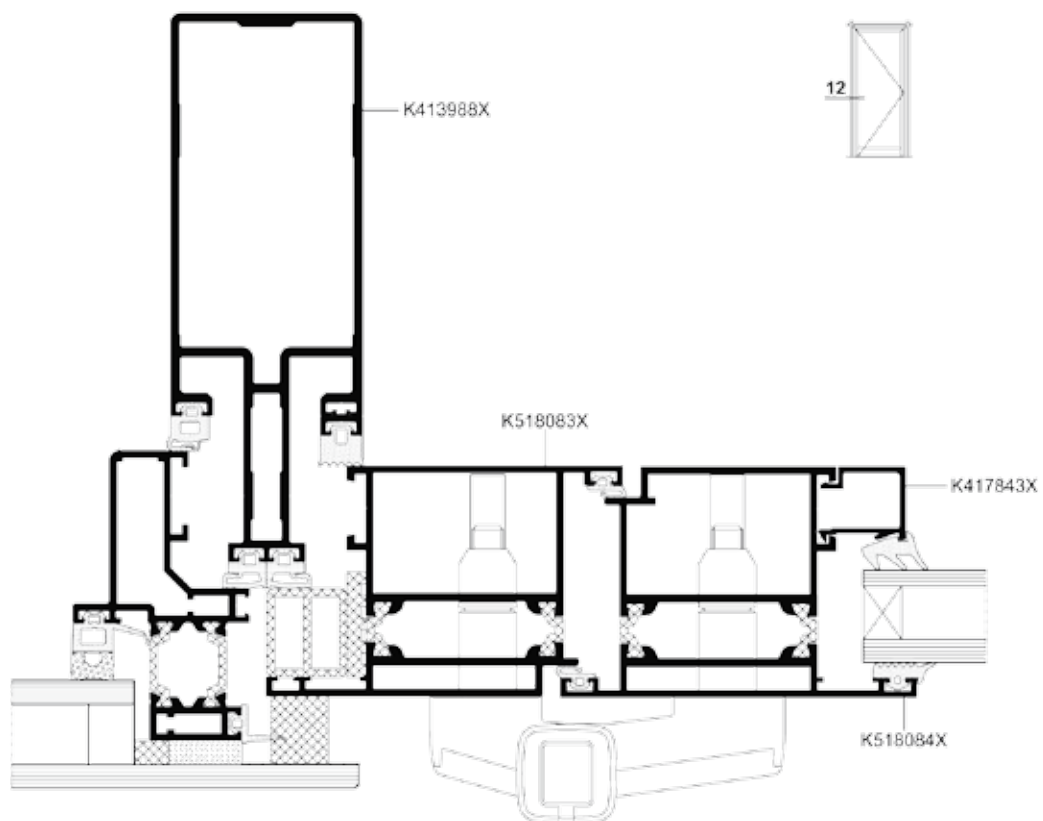
6 MB-SG50



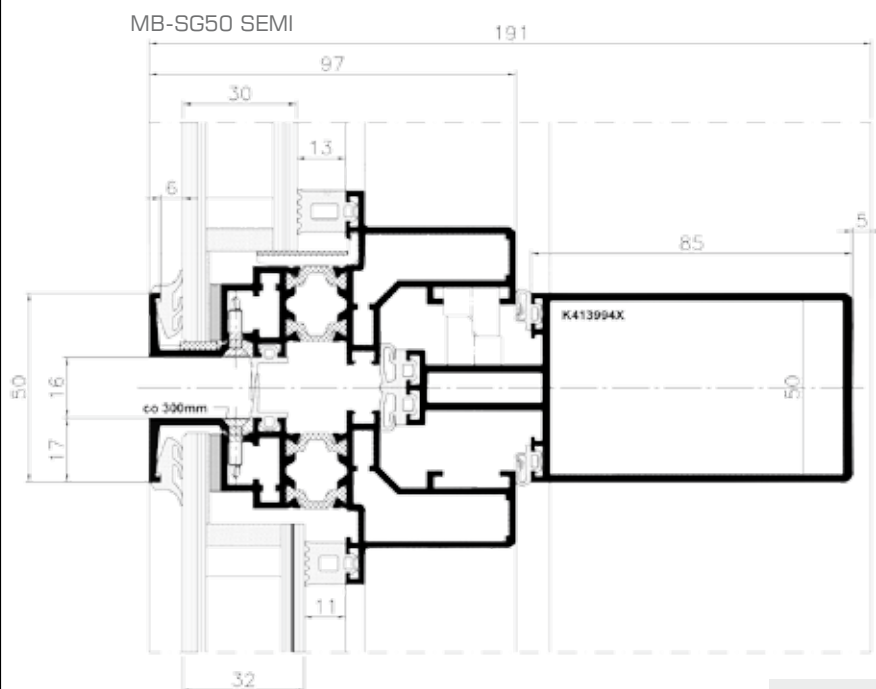
Scale 1:2

MB-60 door in a curtain wall
- cross- section

12 MB-SG50

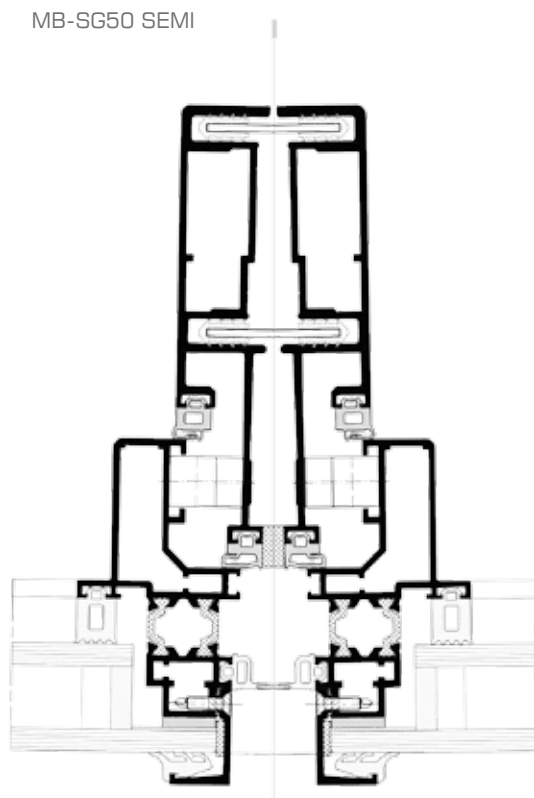


Transom cross-section

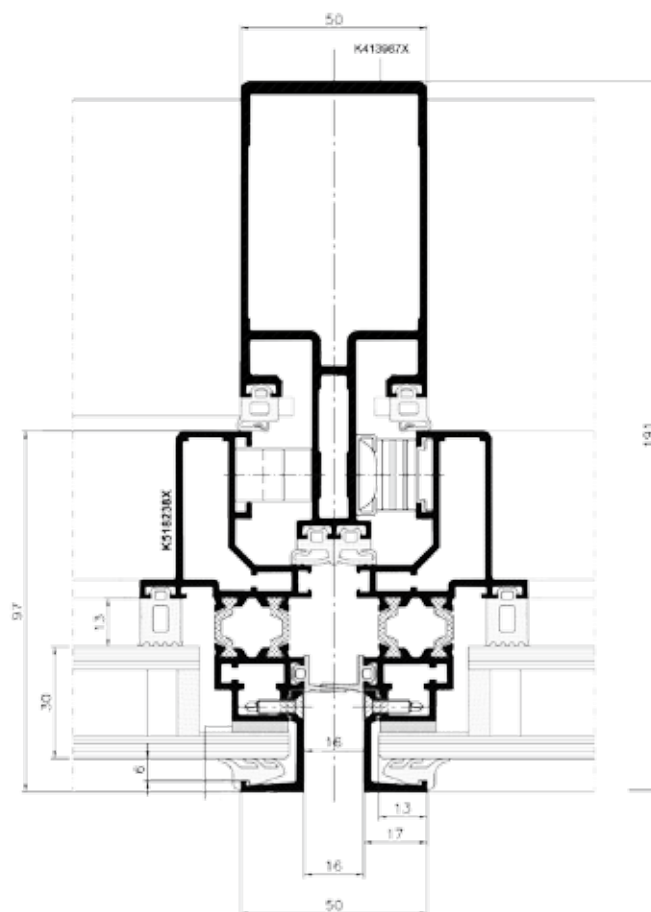


Mullion cross- section

Polygonal mullion cross- section



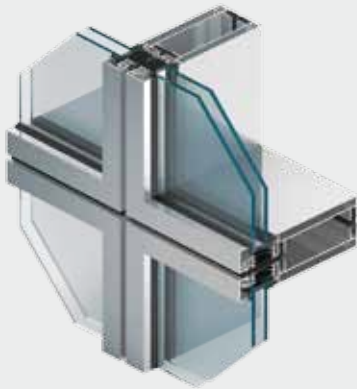
MB-SG50 SEMI



Scale 1:2

SYSTEM MB-SE75 MB-SE75 HI

CURTAIN WALL SYSTEMS



The unitised curtain wall system MB-SE75 has been developed for projects that adopt a modular or uniform appearance & developments where site access is restrictive. An internally loaded or installed system, the MB-SE75 can eliminate the need to erect scaffolding, unlike standard stick systems, & provided added benefit where site installation programs are particularly stringent.

UNITISED CURTAIN WALL

CAMPUS OF MASARYK UNIVERSITY, Brno, Czech Republic
design / Biuro Architektoniczne „A+”

Design

The MB-SE75 system is based on modular units delivered to the site, completed and ready to be integrated together on the building. The fabrication process takes place in the factory, which significantly enhances the quality of the final product. The technological concept of the unitised solution brings a number of benefits, including shorter assembly and installation time on site in comparison with regular stick systems, and potentially lower installation costs without scaffolding. The profile range availability provides different size sections from 85mm up to 145mm, making the system suitable for various applications. The MB-SE75 units can accommodate glazing units or panels between 26 and 42mm. The standard system offer has a profile sightline of 75mm wide, with an expansion joint between each module as slim as 9mm.



Technical parameters:

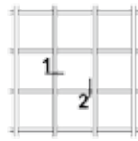
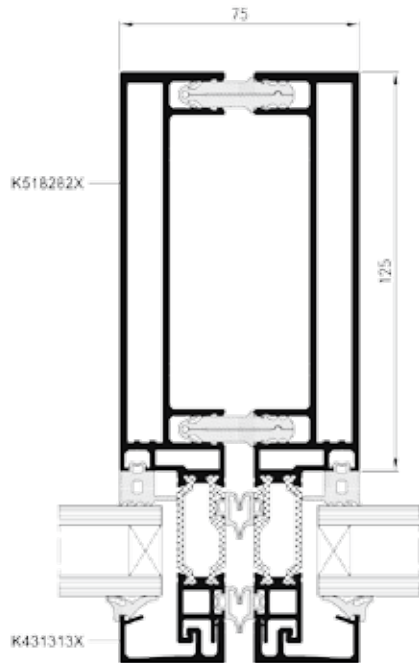
- U_f from 1,56 to 2,83 W/m²K
- Air infiltration:
Class AE1200, EN 12153:2003,
EN 12152:2004
- Water tightness: Class RE1200,
EN 12155:2003, EN 12154:2004
- Resistance to wind load
2400[Pa], EN 12179:2002,
EN13116:2004
- Impact resistance:
Class I5/E5, EN14019:2004
- Acoustic insulation:
 R_w to 40 dB

Compatibility with door/ window systems

A wide selection of opening lights can be used in conjunction with the MB-SE75 unitised system, including doors and windows from Aluprof MB-70 and MB-70HI open-in system, concealed vents MB-70US and MB-70USHI or open-in frameless vents of the MB-70SG option. An open out vent option based on the MB-SG50 solutions can also be accommodated.

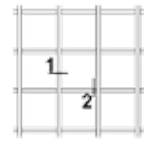
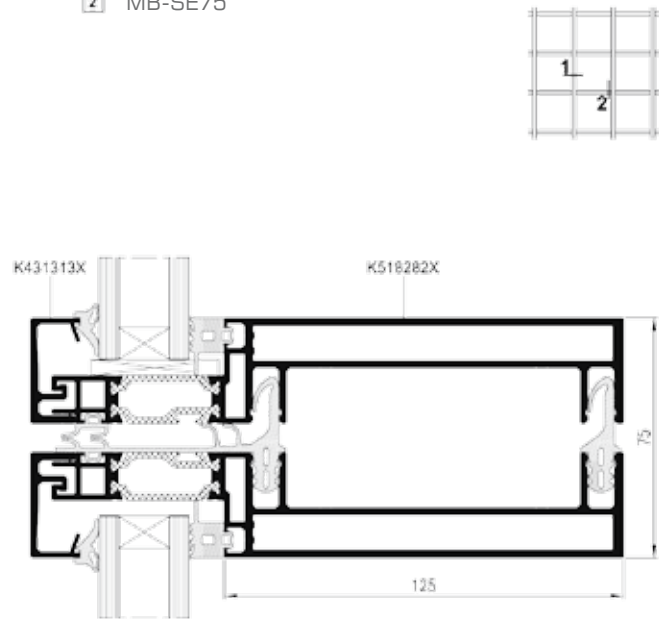
Mullion and transom cross- section

1 MB-SE75



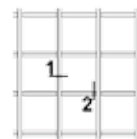
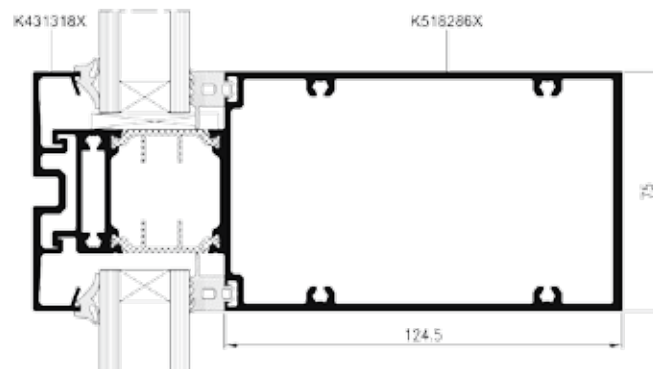
Mullion and transom cross- section

2 MB-SE75



Mullion and transom cross- section

2 MB-SE75



Scale 1:2

SYSTEM MB-70CW MB-70CW HI



WINDOW-CLADDING SOLUTION BASED ON WINDOW SYSTEM

Based on the MB-70 window system of enhanced thermal insulation properties, the profiles are applied to perform concrete or brick curtain walls with window apertures. In this kind of curtain wall two types of areas can be isolated: "cold" and "warm". The "warm" area comprises thermally-insulated windows, mounted in the window openings in front of the face of the curtain wall, whereas "cold" areas are belts between the windows protecting the structure and the thermal insulation (e.g. mineral wool) against weather conditions. Application of this system significantly shortens the time of construction, thanks to the possibility of "closing" the window openings before completing the belts between the windows and the external finish of the curtain wall.

The MB-70CW system features very good thermal and sound insulation performance. It also meets aesthetic requirements that architects and investors impose for this type of curtain walls, i.e. no difference between "warm" and "cold" fields or between fixed and opening elements.

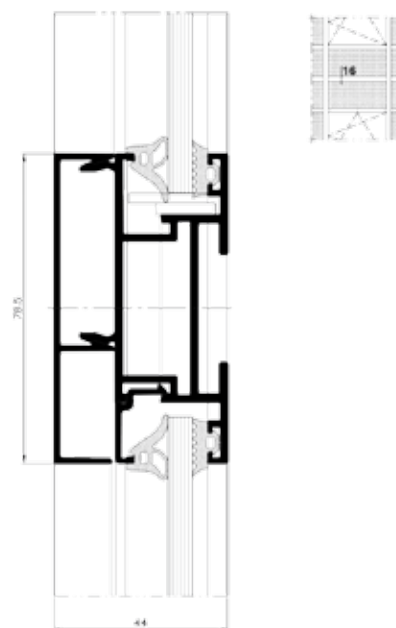
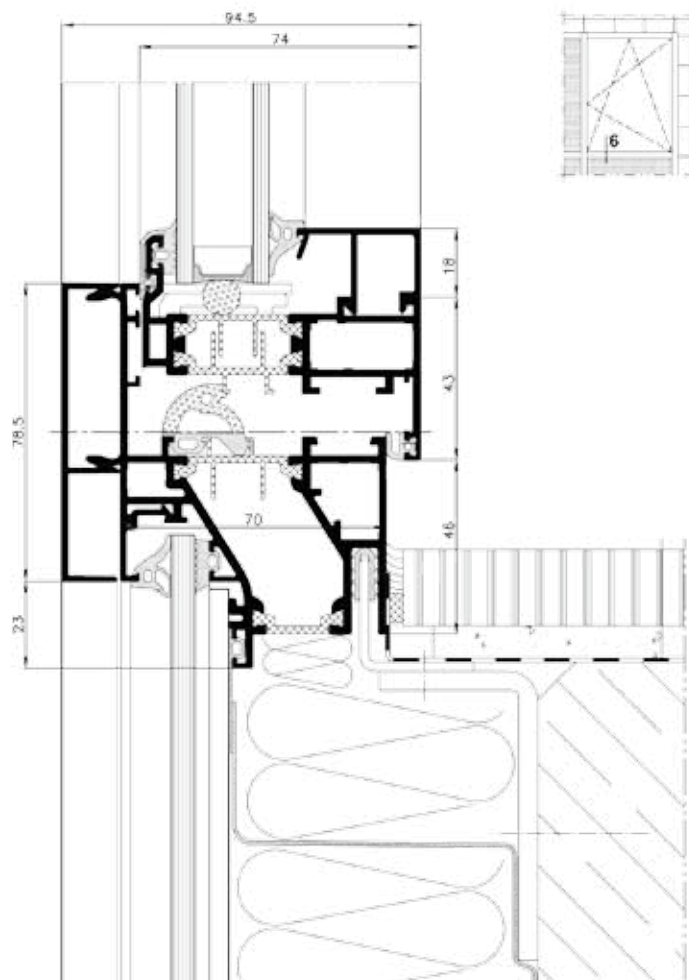
Technical parameters:

- Overall heat transfer coefficient:
 U_f from 1,43 W/m²K
- Air infiltration:
Class 4, EN 1026:2001;
EN 12207:2001
- Rainwater resistance:
Class E750, EN 1027:2001;
EN 12208:2001
- Wind load resistance:
Class C5, EN 12211:2001;
EN 12210:2001

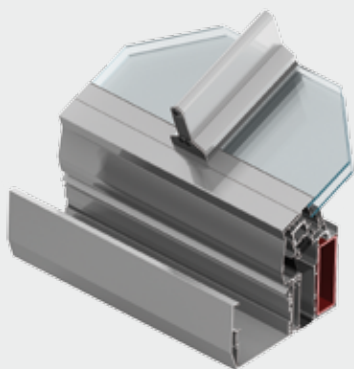


NEWTON/EDISON, Cracow, Poland
design / DDJM Biuro Architektoniczne

Cross-section of an active window,
cross-section



Scale 1:2



MB-WG60 thermally insulated profiles system designed for building winter gardens and other constructions such conservatories, verandas, etc, allowing users to have direct contact with nature and the surrounding landscape. This type of construction aims at adding new quality to the living space, with natural light falling from above, which provides optimum lighting of the room and ensures proper atmosphere of the interior. In the conventional meaning, a winter garden is an unheated veranda used in winter and summer time, making it possible to rest close to nature. Our aim was to design such a system that could be used as a living room all year long.

WINTER GARDEN

Construction

The system of winter gardens has been designed while taking into account basic requirements of its user with regard to aesthetic properties of the facility.

Primary load-bearing profiles, i.e. rafters are shaped from the outside of the room in the form of a reversed profile ended with a 20 mm radius.

To enhance resistance of the roof there is an option of strengthening profiles with additional aluminium or steel elements. Rafters are joined with purlin profiles and hinge profiles leaning against the eaves beam and wall-mounted beam in cascades, which significantly facilitates proper water drainage and enables efficient ventilation of the room. The roof gradient equals 7°-45° measured from the horizontal surface.

Thermal insulation

Very good thermal insulation performance and high durability have been attained due to the application of special chamber thermal breaks. EPDM membranes and an HPVC profile thermally protect the corner area of a window pane, particularly exposed to low temperature.

Glazing and tightness to water and air infiltrations

This system allows for the use of glazing range between 24-36 mm. To ensure efficient drainage of rainwater from the roof and condensed vapour from the inside of the room, the system has been equipped with an internal drip, integrated with the profile of eaves beam and hinge profile as well as with an external gutter detachable from the eaves beam, thus the image of the winter garden can be changed.

Designed compatibility

The system enables application of doors and windows in MB system as well as other elements made of plastic, wood or other materials available on the market.

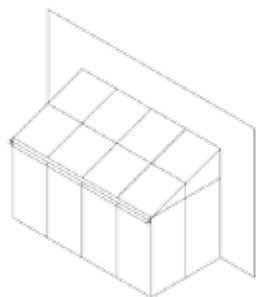
Colour palette

A wide choice of colours offered in the standard colour option meets the requirements of even the most demanding customers. Colour finishes are made by powder coating or anodising.

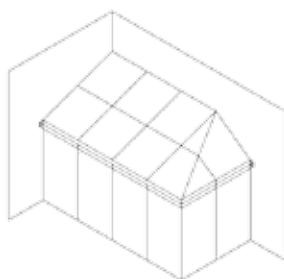


Standard constructions

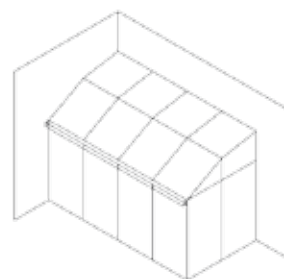
Type 1



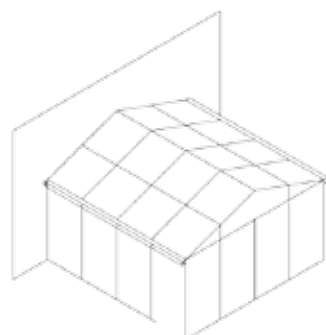
Type 2



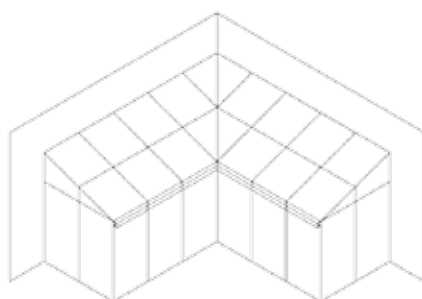
Type 3



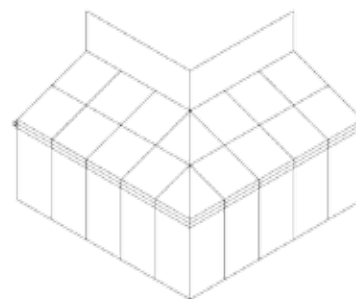
Type 4



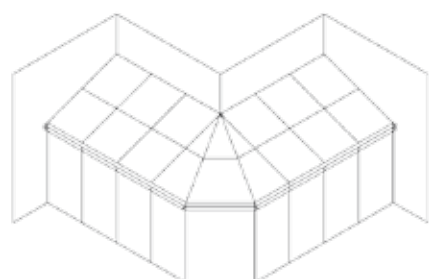
Type 5



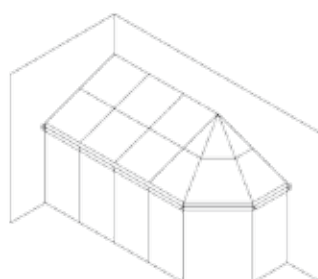
Type 6



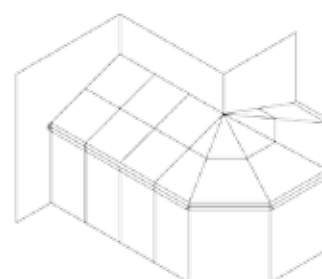
Type 7



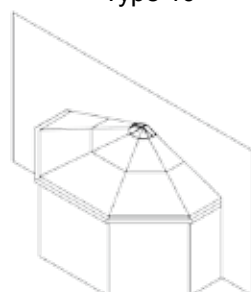
Type 8



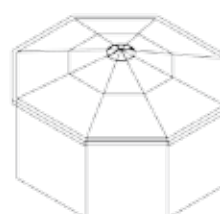
Type 9



Type 10

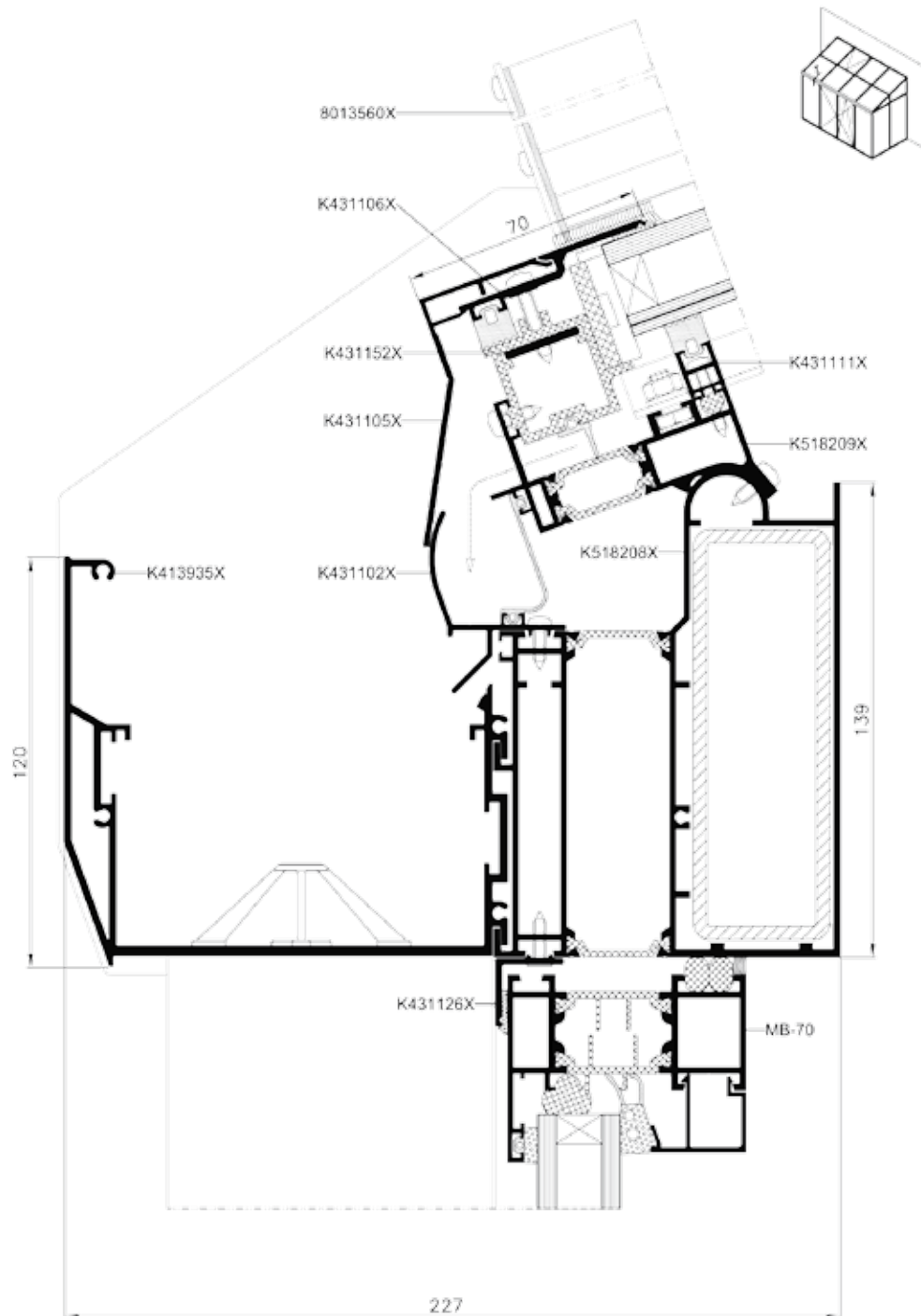


Type 11



Eaves beam cross- section

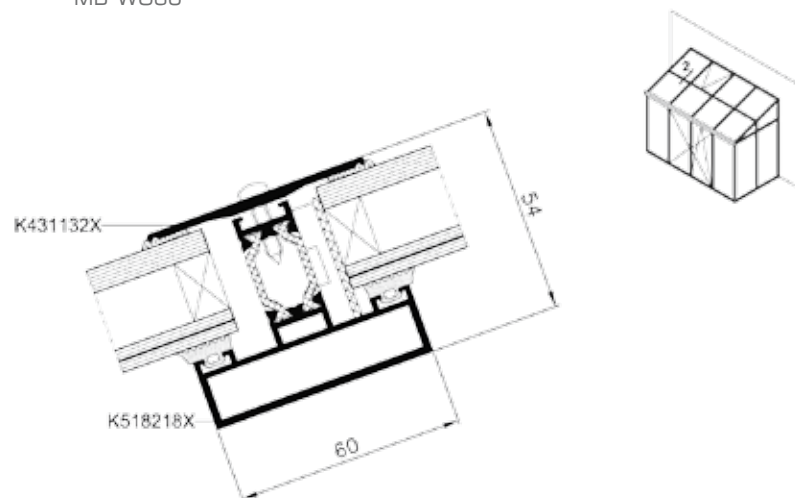
MB-WG60



Scale 1:2

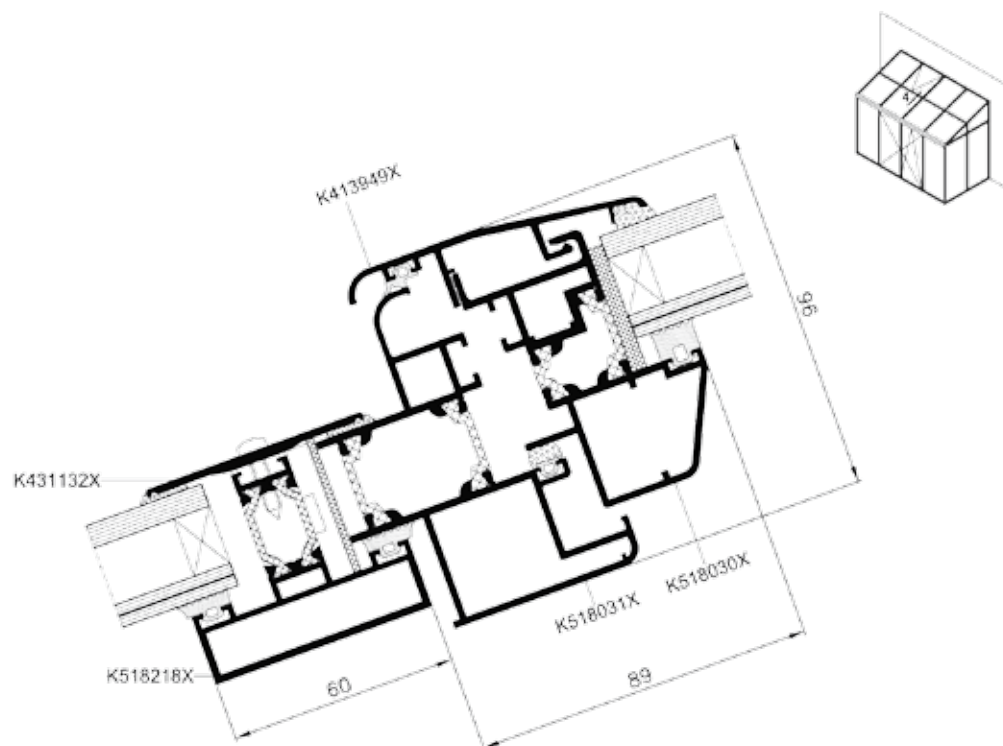
Purlin cross-section

MB-WG60



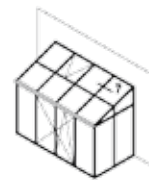
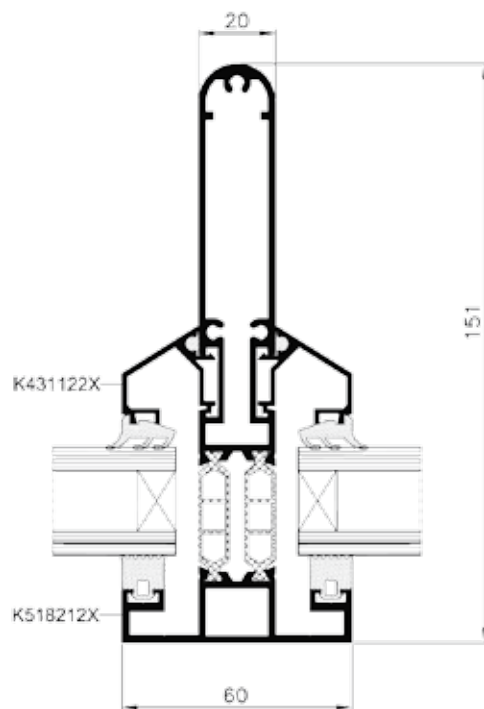
Purlin cross-section

MB-WG60



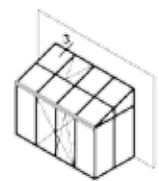
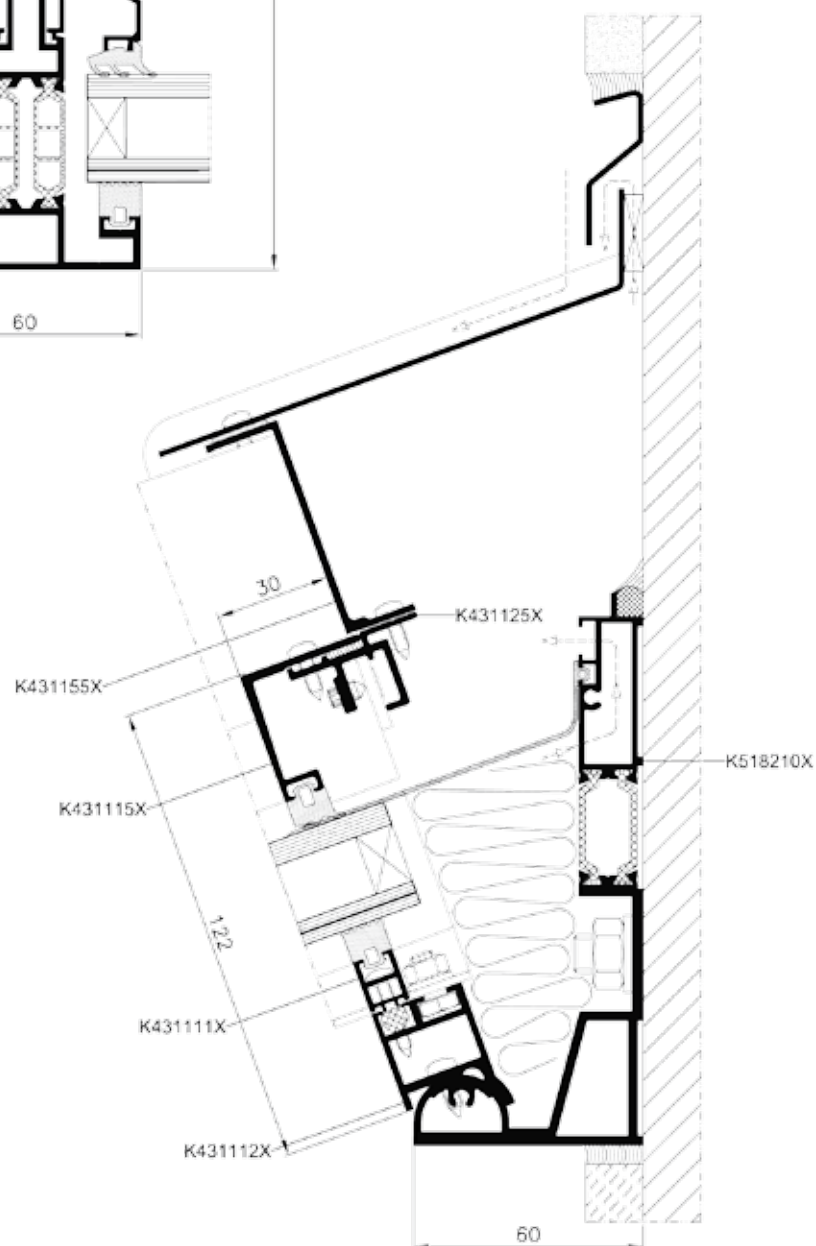
Rafter cross-section

MB-WG60



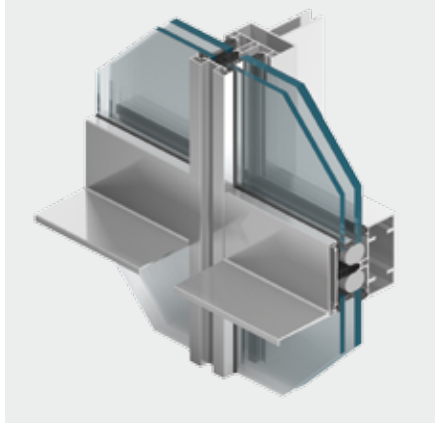
Wall beam cross- section

MB-WG60

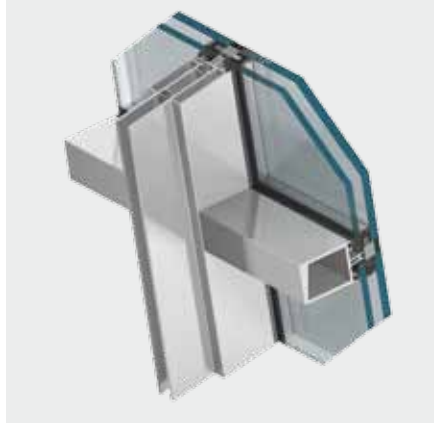


Scale 1:2

SYSTEM MB-SR80



SYSTEM MB-SG60



SYSTEM MB-SR60N



BESPOKE SOLUTIONS

More and more often contemporary architectural projects use concepts that require an individual approach to the curtain wall. Based on the experience of our design engineers and technical capabilities, we are able to quickly design and implement into production structures that meet the specific needs of architects and ensure proper technical parameters with respect to visual appearance and functionality. References of ALUPROF S.A. include a few dozen customized solutions for individual projects. Several examples of such structures are presented below.

One of the most important buildings, for which customized solutions in ALUPROF systems were designed was the Warsaw Chopin

Airport. The following curtain wall systems were designed for the airport: MB-SR80, MB-SR100 and MB-SG50.

The airport terminal uses MB-SR80 stick system curtain walling. The design of its profiles is a feature that deserves special attention.

The inclined external walls of the upper part of the airport pier use MB-SG60 revers curtain wall system.

Designed to fit the needs of the Hilton Hotel in Kiev, MB-SR60N system is intended for designing and fabricating fill and hung-type lightweight curtain walling, roofs, skylights and other spatial structures. The supporting profiles are characterised by a 60mm constant width and are flushed on the inside of the façade. The system allows the use of many types of opening elements on the façade from a wide range of Aluprof's window and door systems together with dedicated solutions for the stick system curtain walling: roof slope window and top hung and pull out casement.

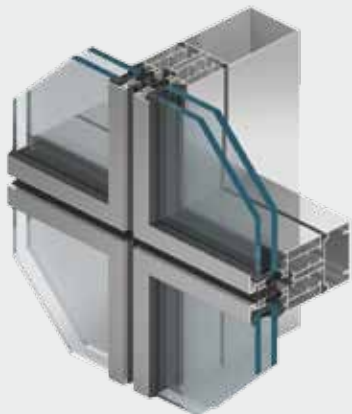


WARSAW CHOPIN AIRPORT, Warsaw, Poland
design / arch. Pierluca Roccheggiani, arch. Paweł Czaplicki

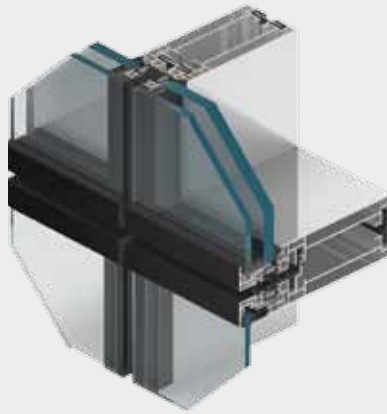


Hotel HILTON, Kijów
design / John Seifert Architects Ltd

SYSTEM MB-SR85 SEMI



SYSTEM MB-SE85 SG



SKY TOWER, Wrocław, Poland
design / Biuro Architektoniczne FOLD

On the outside, the system resembles semi-structural and element curtain walls, where every glazing frame is visible. There are mechanical Frames, made of thermally insulated profiles, are mechanically fixed to the stick support structure, which allows the use of a wide range of infills with single panes or insulated glass units. The profiles of mullions, transoms and frames were designed in such a way as to create a monolithic structure when joined together. Thanks to its well-thought design, the MB-SR85 SEMI system is not only visually appealing but also shows very high technical parameters. The solution was designed specially for the construction of buildings in the Pomeranian Science and Technology Park in Gdynia.

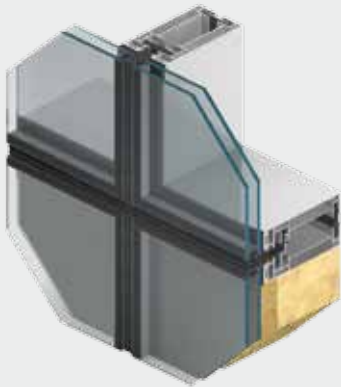
The 212m high SKY TOWER is the highest residential and commercial building in Poland. For the needs of this building, the structural element MB-SE85 SG curtain wall system was adopted to meet the requirements related to the visual quality, strength, high technical parameters and quick installation of segments without the use of traditional scaffolding. The system for anchoring the panels to the structure of roofs made of reinforced concrete was also customized.

For more information on our products see
Project Specific & Bespoke Solutions.



POMERANIAN SCIENCE AND TECHNOLOGY PARK,
Gdynia, Poland
design / AEC Krymow & Partnerzy

SYSTEM MB-SE80 SG

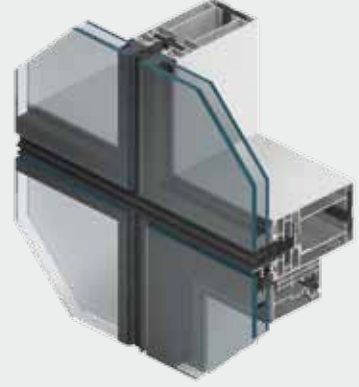


325 Lexington Avenue is one of the many typical high-rise buildings in New York. And it's yet another Aluprof systems-based project in the US. The unitized curtain wall MB-SE80 SG, designed especially for this project is an example of a system that meets the individual needs of the project both in terms of aesthetics and technical solutions. It allows a quick segment installation to the reinforced concrete frame. In terms of glazing technology, it is a fully structural, 4-edge SSG system that comes with customized bottom hung windows and foldable corner joints. The MB-SE80 SG system was tested at the National Certified Testing Laboratories in York by the standards applicable in the US. In addition to the parameters such as the tightness of the façade, the assumed resistance to tectonic movements was also confirmed. In such cases, the structure allows a vertical movement of segments in relation to each other, this within ± 5 mm.

325 Lexington Avenue, New York,
design / Time Square Development



SYSTEM MB-SE80 SG

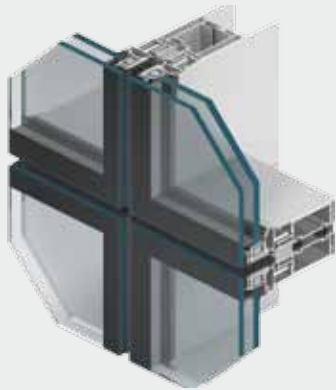


LIC MARRIOTT is a 106 m high, 31-storey building. Its design encompasses the unitized curtain wall MB-SE80 SG, which, in terms of glazing technology, is characterized by a fully structural, 4-edge SSG system. In order to meet project requirements, the curtain wall has been modified accordingly: sealing system and profiles' design have been changed. This enabled the structure to meet the required resistance to seismic displacement, and increased the level of tightness of the façade. Another customized aspect are bottom hung windows and angle connections, allowing the fabrication of the characteristic, concave portion of the building façade. In terms of compensation of tectonic movements, the construction allows vertical segment movements, increased to ± 13 mm. The MB-SE80 SG system provides a possibility to install special anchors for "climbing fixing", designed for façade maintenance teams.

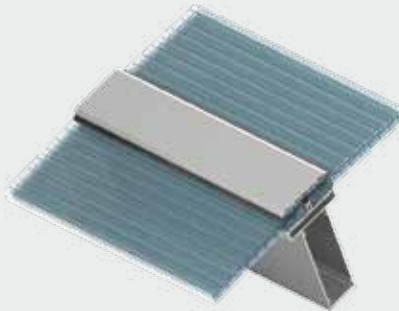


LIC MARRIOTT, Long Island City,
New York, design /
Handel Architects LLP

SYSTEM MB-SE95 CKK



ROOFING SYSTEM



PGE Arena stadium is yet another construction with a customized roofing system solution. Due to the unusual shape, and the lightness of the roofing, it was decided to use polycarbonate and aluminium profiles. The main task here was to design bulky, bending, T-shaped purlin profiles. Each element was given a different curvature, and the entire roof was to be totally tight, thus eliminating the risk of ingress of rainwater. This was made possible thanks to a double sealing system, that entirely covered the infills in the glazing groove.

PGE Arena, Gdańsk
design / RKW Rhode Kellermann Wawrowsky

Developed for the Centrum Kongresowe building in Cracow, the unitized curtain wall MB-SE95 CKK is adapted for quick segment assembly to the steel substructure using special connectors. In terms of glazing technology, it is a fully structural system and the glazing is fixed to the aluminium profiles using a special adhesive with no mechanical protection, and the façade itself has infills with tin or ceramic panels. The construction provides large opportunities in terms of development: it allows to create angle connections both with a smooth adjustable angle of $\pm 15^\circ$, as well as to deflect portions of the façade from the vertical by an angle of $12 - 25^\circ$. The MB-SE95 also gives the opportunity to replace external glazed modules without having to remove the façade segments' aluminium construction.



For more information on our products see
Bespoke Building Solutions Catalogue.

Centrum Kongresowe ICE, Cracow
design / Ingarden & Ewy Architekci,
Arata Isozaki & Associates

Windows for Passivhauses



MB-104 Passive

- SI and Aero window variants certified by the Passivhaus Institute Darmstadt
- very good thermal insulation of opening windows
 U_w od 0,53 W/m²K
- excellent weather tightness and thermal insulation
- wide range of glazing – up to 81 mm

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www.home.aluprof.eu

SYSTEMS

Door and Window



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 **ALUPROF**
ALUMINIUM SYSTEMS

NON-THERMAL SYSTEMS

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SYSTEMS



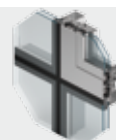
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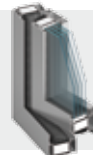
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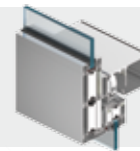
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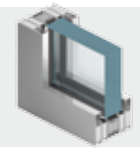
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SYSTEM MB-45

DOOR AND WINDOW SYSTEMS



The MB-45 system has been designed for internal use where thermal insulation is not required. i.e. various types of partition walls, windows, and doors. Additionally, sliding, swing and self-closing doors, enclosed entrance porches, shop windows, cash-desk boxes, display cabinets, etc. The system is also the basis for special solutions: MB-45D smoke-proof barriers and doors (class S30) and the MB-45S doors with clamp hinges. The versatility and attractiveness of the system is also enhanced by a wide selection of door sealing options, glazing beads or sills of various shapes and heights.

NON-THERMAL BARRIER

Lightweight, durable profile design

The MB-45 window system comes with a frame depth of 45 mm and a sash depth of 54 mm. The door system is 45 mm frame and sash. Depths of the sash and frame provide smooth external sightlines on the opening lights and single surface effect after closing the window and - with regard to the door - an aligned effect of leaf and outer frame surface. The profile dimensions results in a narrow sightline on our sturdy yet lightweight windows and doors suitable for all internal applications.

Option of bending profiles

An essential advantage of the MB-45 system is the possibility to bend profiles, e.g. of outer frames, sashes, leaves and cross pieces, which enables shaping various arches and arch structures.

Design compatibility

A beneficial feature of the system, as with a lot of our systems, is the compatibility with each other, such as the MB-59S, MB-60, MB-70 and MB-78El. The constructional design allows us to have many accessories which are suitable for a number of systems, e.g. common glazing beads, corners, sealing strips, glazing and closing gaskets, shared fixture, locks, hinges and many identical technological processes. For example; pinning connecting members of crosspieces and rails, gluing corner cleats, cutting out various recesses, etc. One of the effects of this unification process is the almost identical external and internal appearance of products used in the different systems of development.



Filharmonia Gorzowska, Gorzów Wielkopolski
design / BUDOPOL S.A.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the option to select from several variant solutions for different constructional details, e.g. bottom sealing of door leaves, sealing of sliding and swing doors, the shape of glazing beads, the shape and height of doorsills.

Freedom of hardware selection

The MB-45 construction has been adapted to typical hardware, locks and hinges, following European standards. Sections are equipped with grooves as to enable fixing of multi-point locking hardware and connecting members, as per EURO standard. Therefore, it is possible to meet the demands of our customers without changing the basic construction.

Colour palette

We carry a wide range of standard polyester powder coating colours ensuring that the large majority of projects are covered. All our sections are powder coated to a thickness of 60 microns as standard. We also have the option of silver and bronze anodising.

Technical parameters:

- Impact resistance:
Class 3, PN-EN 1192:2001
- Sound insulation: $R_w=45$ dB
(depending on the infill material)

SYSTEM MB-45D



SMOKE-PROOF BARRIERS AND DOORS

MB-45D structures are based on the MB-45 system and include partition walls with single- or double-leaf smoke-proof doors in the class Sm and Sa, according to PN-EN 13501-2. The fulfillment of door smoke-proofing quality mainly depends on the proper peripheral sealing in the leafs and installation of glazing and other infilling materials, as well as solutions for threshold gaskets.

SYSTEM MB-45S



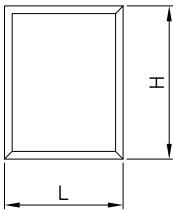
SLIM LINE DOOR SYSTEM

MB-45S doors are also available with 2 part butt hinges as part of the same range. The MB-45S system is intended for constructing cost-efficient doors equipped with butt hinges, featuring good functional parameters, as well as partition walls equipped with such doors. The constructional depth of profiles equals 45 mm. The MB-45S system features simple and quick prefabrication of products eliminating the majority of labour and time consuming mechanical workings. Due to the application of special grooves, the profile construction allows hinges, catches and locks to be fixed with minimal effort.

TECHNICAL SPECIFICATION	MB-45	MB-45S	MB-45D
Profile sizes, range of glazing			
Depth of frame (door / window)	45		
Depth of leaf (door / window)	45 / 54	45	
Glazing range mm (fixed window and door / opening window)	2 - 25 / 2 - 34	2 - 25	
Min visible width T-profile			
Door / window frame	66,5 / 43,5		
Door / window leaf	72 / 27,5		
Size limitations			
Maximum size of tilt turn window (HxW)	H up to 2400 mm (1850 mm), W up to 1250 mm (1600 mm)	-	-
Maximum size of door (HxW)	H up to 2400 mm (2200 mm), W up to 1250 mm (1400 mm)		
Max weight of doors / windows (kg)	120 / 130	130	120
Types of constructions			
Available solutions	Tilt window, turn window, tilt turn window, Doors open out and open in	Mortise doors, Partition walls with doors	Doors open out and open in
Approving documents			
ITB Technical Approval	AT-15-5176/2009		AT-15-5163/2009

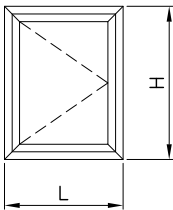
Max. dimensions of windows

Fixed window




Max. standard dimensions of windows result from maximal glass sizes.

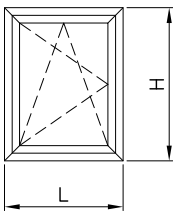
Turn-hung window



Hmax=2250 mm
Lmax=1300 mm


 - 130 kg

Tilt and turn window

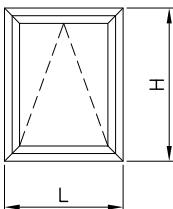


Hmax=2400 mm
Lmax=1250 mm


Hmax=1850 mm
Lmax=1600 mm

 - 90 kg/130 kg

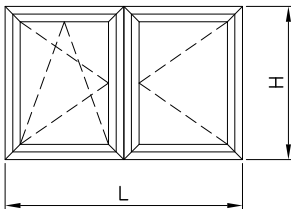
Tilt window




Hmax=1000 mm
Lmax=2150 mm


 - 130 kg


Double casement



Hmax=2250 mm
Lmax=2700 mm

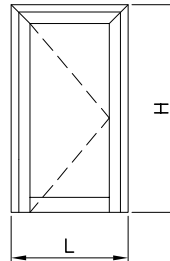
Turn-hung vent -  - 130 kg

Tilt and turn vent -  - 130 kg

 } Maximal vent weight


Max. dimensions of doors

Inside opening door,
internal development

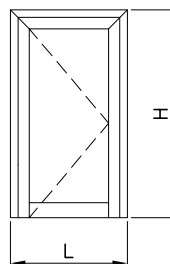


Hmax=2400 mm
Lmax=1250 mm

Hmax=2200 mm
Lmax=1400 mm


 -120 kg

Inside opening door,
external development

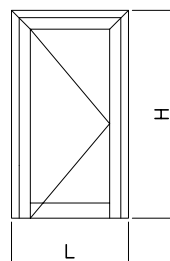


Hmax=2400 mm
Lmax=1200 mm

Hmax=2200 mm
Lmax=1300 mm


 -120 kg

Outside opening door,
internal development

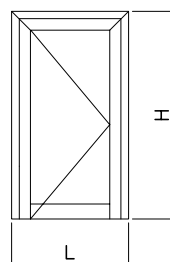


Hmax=2400 mm
Lmax=1250 mm

Hmax=2200 mm
Lmax=1400 mm


 -120 kg


Outside opening door,
external development



Hmax=2400 mm
Lmax=1200 mm

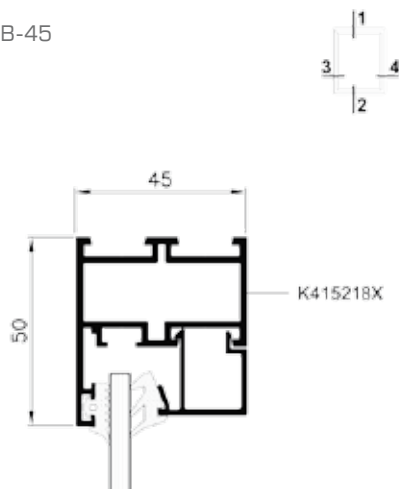
Hmax=2200 mm
Lmax=1300 mm

 -120 kg

 } Maximum weight of a door leaf

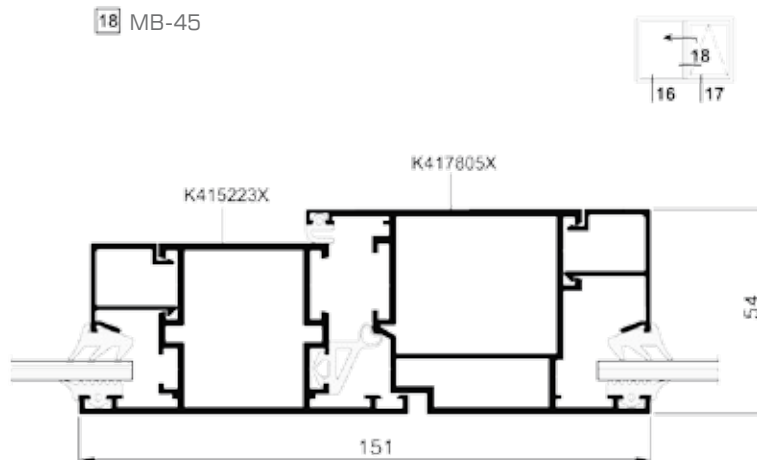
Fixed window - cross- section

1 MB-45



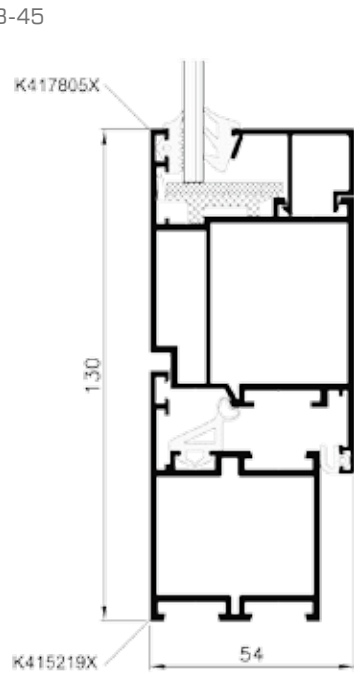
Opening window - cross- section

18 MB-45



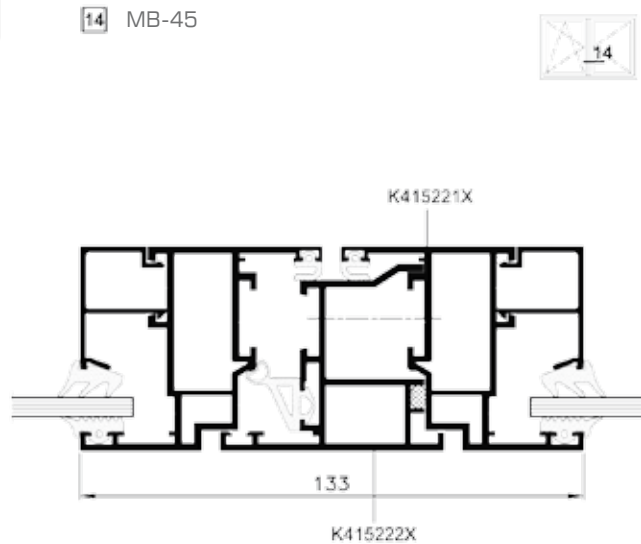
Tilt and slide window - cross-section

6 MB-45



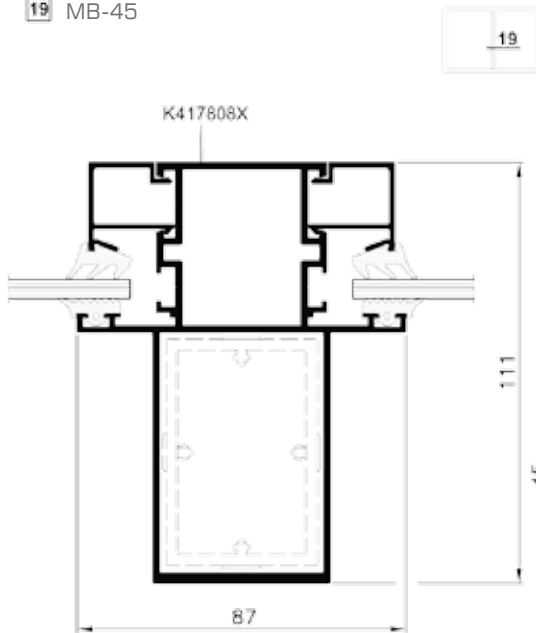
Opening window - cross- section

14 MB-45



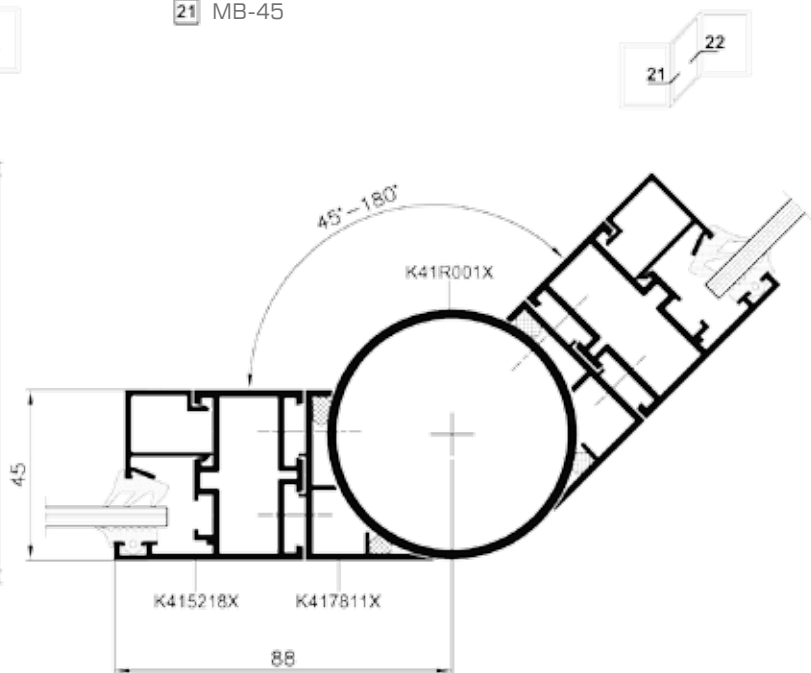
Reinforced mullion - cross section

19 MB-45



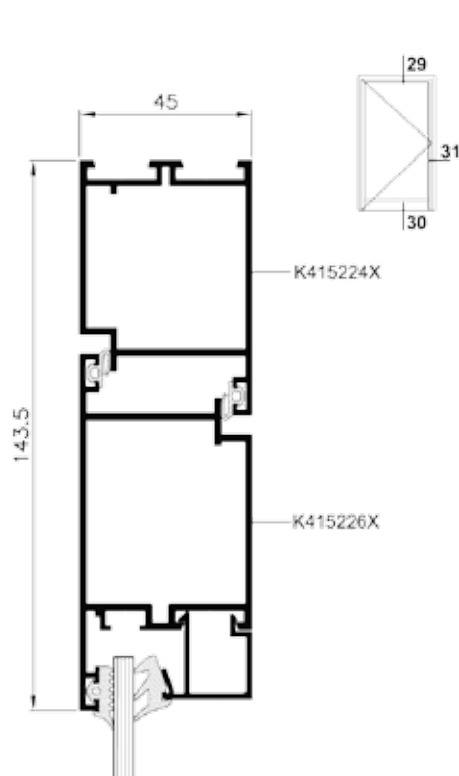
Adjustable corner connection - cross section

21 MB-45



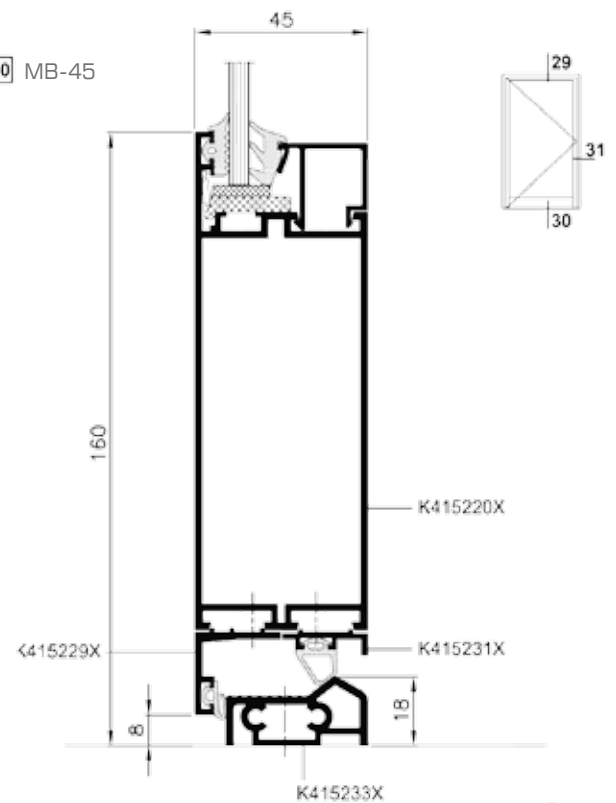
„Standard” single, active, outward opening door - cross-section

29 MB-45



„Standard” single, active, outward opening door - cross-section

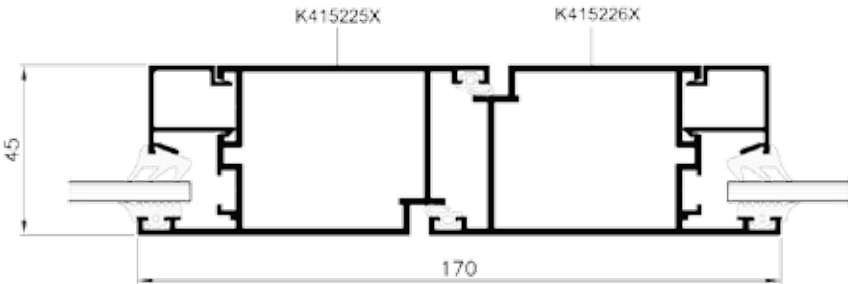
30 MB-45



Scale 1:2

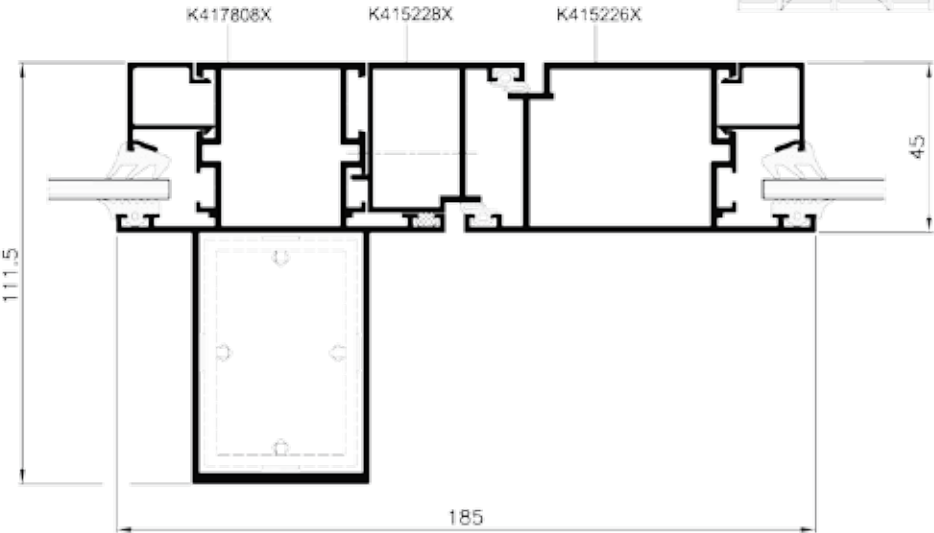
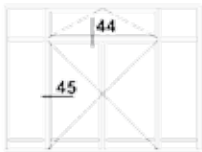
Double leaf door - cross section

35 MB-45



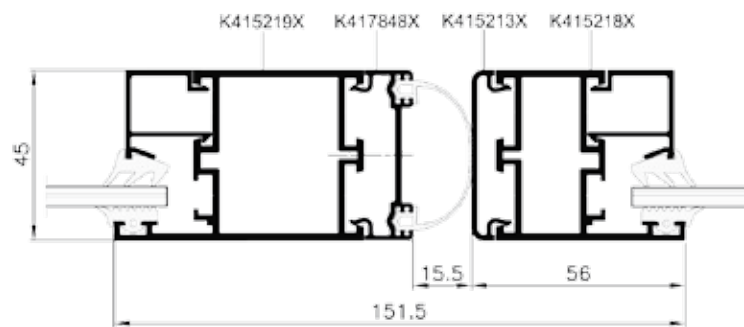
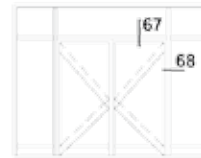
Display window with double door - cross section

45 MB-45

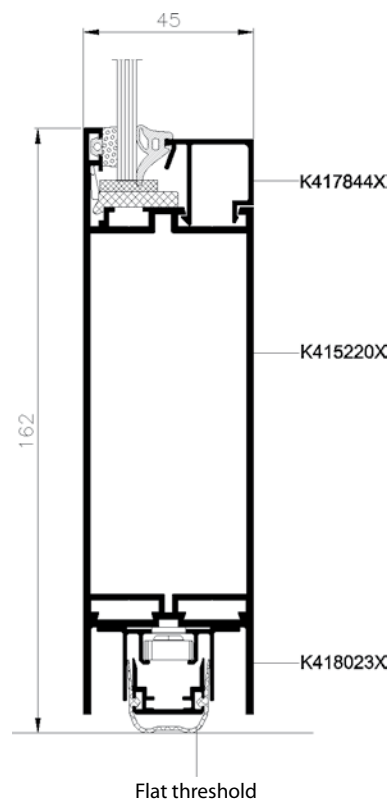
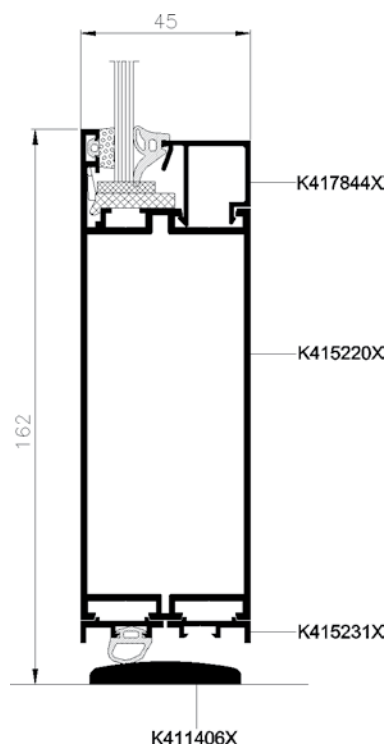


Swing door - cross - section

68 MB-45

Single outward opening
smoke-proof door - cross- section

5 MB-45D



Scale 1:2



MB-45 OFFICE system is designed for internal partition walls and distinguishes itself by the fact that a tempered glass can be its structural element. The details of this system allow to fabricate fixed partition walls and all-glass hinged and swing doors. The possibility of using the MB-45 in high ceilings areas with wide openings, makes this solution this ideal for shopping malls and contemporary office interiors.

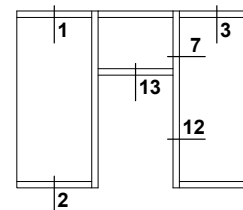
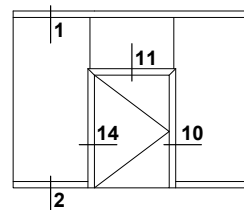
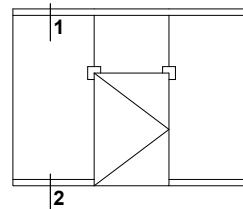
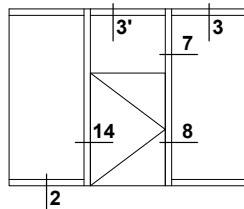
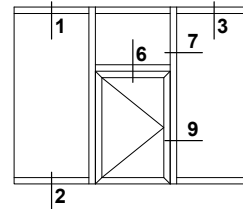
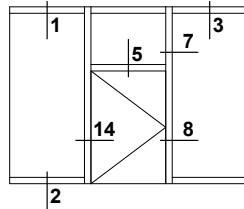
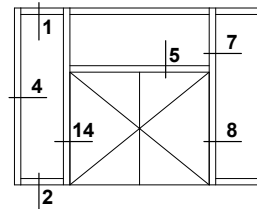
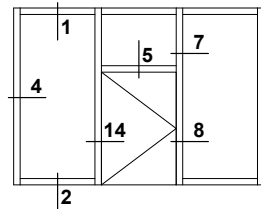
FIXED AND OPERABLE PARTITION WALLING SYSTEM

This system option comes with the same 45mm profiles' depth as the basic MB-45 system. Both solutions are fully compatible, making it possible to freely combine the profiles of both systems. The MB-45 OFFICE is based on a few standard profiles and appropriate adapter profiles giving wide choice of window frames, profile door frames and, transoms. Hinges, locks and closers available with the MB-45 OFFICE can be selected from range offered by Aluprof, Geze and WSS. The functionality of the MB-45 system allows to change the interior layout design by removing the connections and then re-assembling them i.e. with new angle or functions.

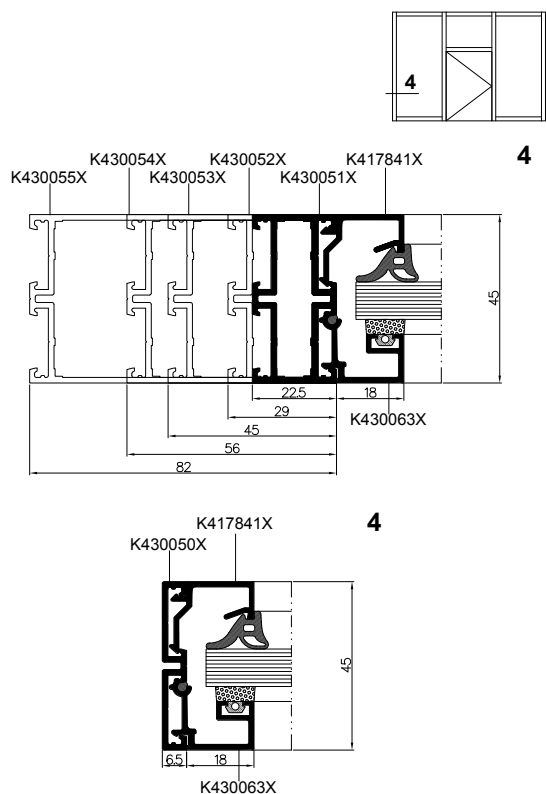
The MB-EXPO version with supporting aluminium structure can accommodate different types of panels and lazing: both single and double units, with thicknesses ranging from 2-25mm. The system is available with dedicated 8, 10 and 12mm thin bulky tempered glass. Units are installed using beads and glazing gasket. Glazing beads are available in two versions: Standard and Prestige, both box-type, which allows a robust and secured glass fixing.



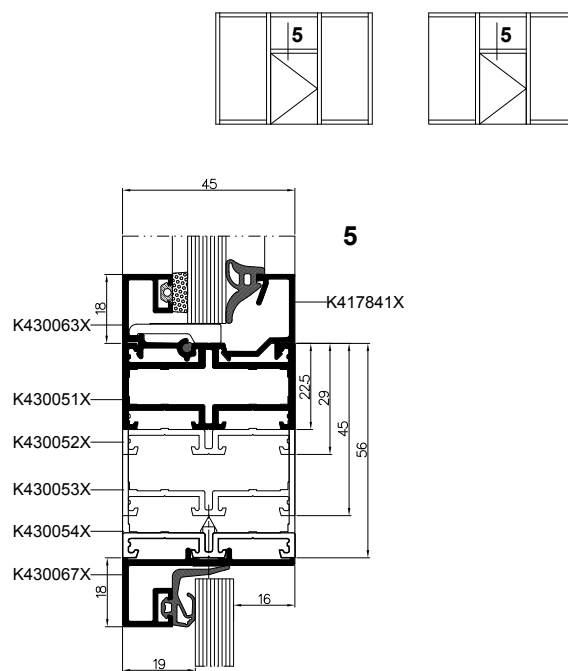
MB-OFFICE – Selected configurations



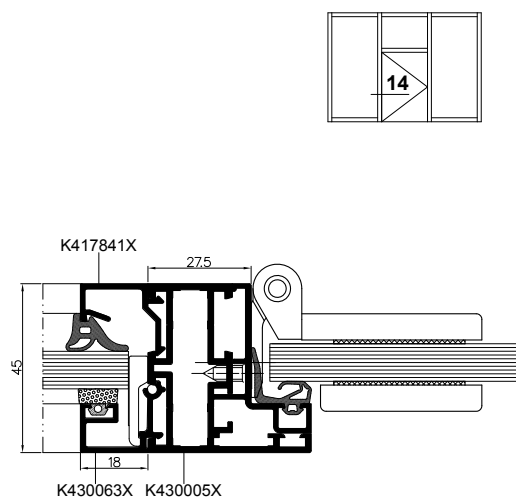
Shop front – side view



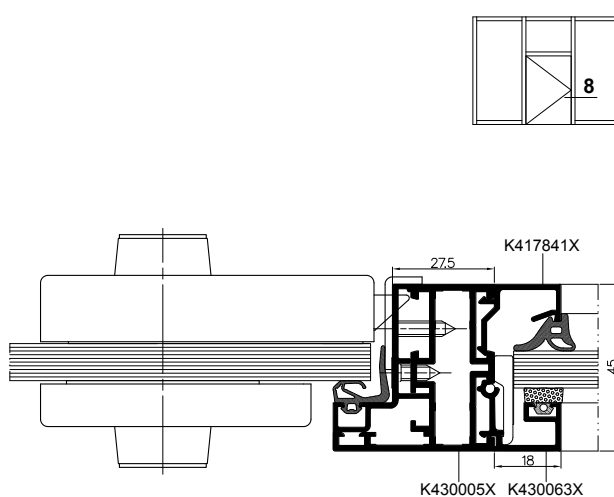
Door transom – section view



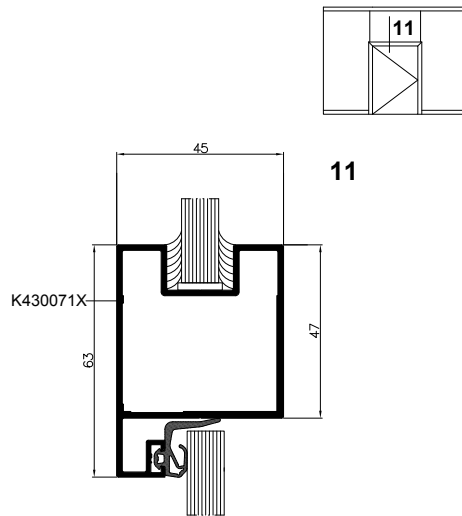
Shop front – side view



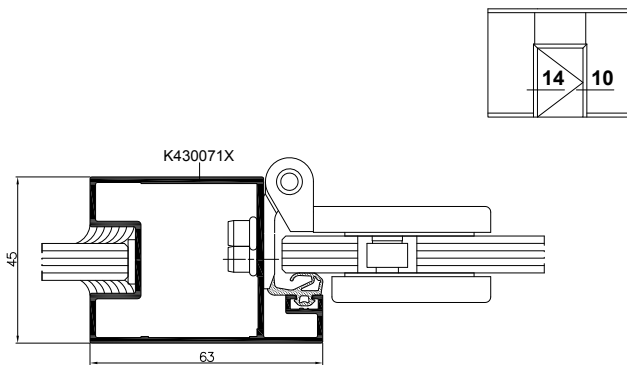
Door post – section view



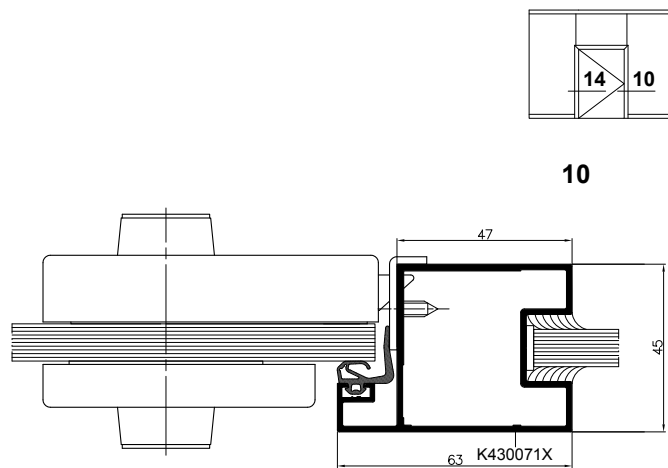
Door transom – section view



Door post – section view



Door post – section view





MB-EXPO Fixed and moveable partition walling system is developed for internal partition walls that distinguish themselves by a tempered glass units fixed in clamp profiles which is a structural element. The possibility of using the MB-45 in high ceilings areas with wide openings, makes this solution ideal for shopping malls and contemporary office interiors. The components of this system allow the fabrication of the fixed walls, glass hinged and swing doors and parked doors' segments – folding-sliding doors, that are described in a separate chapter. An important advantage of this system is its versatility and the possibility of using different hardware manufacturers.

FIXED AND MOVEABLE PARTITION WALLING SYSTEM WITH CLAMP PROFILES

The MB-EXPO system's maximum height is of about 4 m with maximum panels width up to 1,4m. It has two groups of profiles of different heights in the outside/inside view [from the floor level]: low - 36 mm and high - 100 mm. Profiles' structural depth of 33 mm for low profiles and 35 mm for high profiles, but there is possibility of in-lining by using wider decorative profiles.

The system can use tempered glass of the following thicknesses: 8, 10 and 12 mm. Due to the permissible dimensions of the structure, it is recommended to use the "suspended" glass.

The glass as the support element of the whole structure is fixed by the clamp in the upper set of profiles. The glazing gaskets are not visible, whichever the side. The height of the profiles and the depth of the structure can be increased by extended decorative profiles.

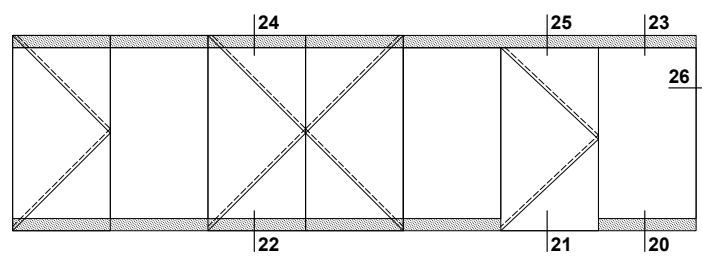
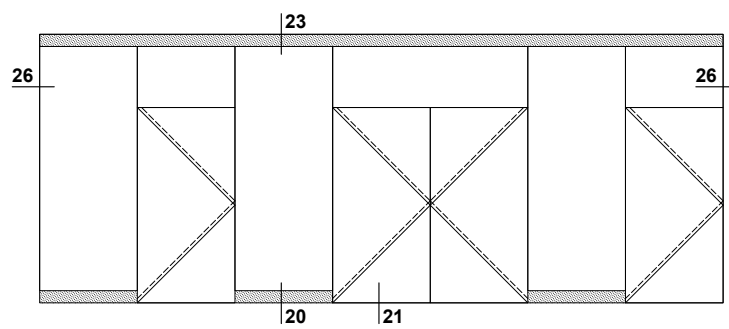
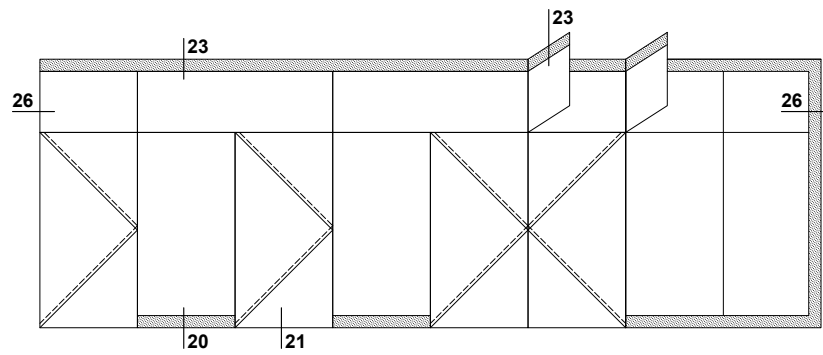
Using the MB-EXPO system allows to easily change the functionality of the premises and to divide space of the interiors. Also different finishes of aluminium decorative profiles are available on both sides ["dual-colour"] as well as the stainless steel strips. For 100 mm high profiles, it is possible to use lower brush seals to increase the tightness of the leaf. The profiles of this system, unlike many other similar solutions on the market, have a constant depth regardless of the thickness of the glass which makes the fabrication process easier. The profiles are designed to allow installation of typical locks, hinges,



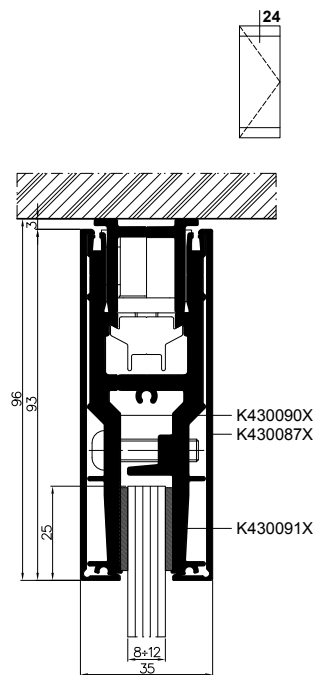
suspension brackets, parked systems, their installation requiring only minor adaptations. In this respect, system is very flexible – in terms of hardware, we can use products from different manufacturers. Its major advantage, in addition to high aesthetics and functionality of the

walling, is also a simple prefabrication and installation, which allows to carry out all the works on site with a few basic, portable devices.

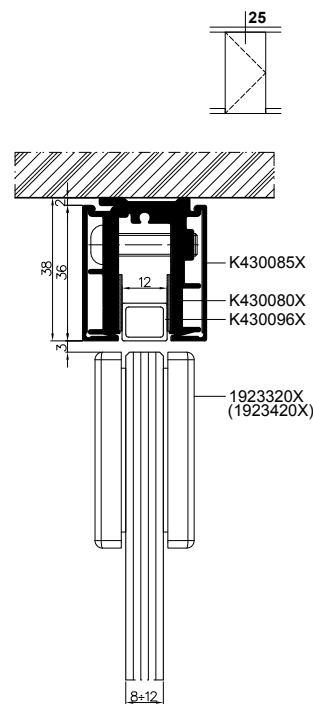
Selected configurations



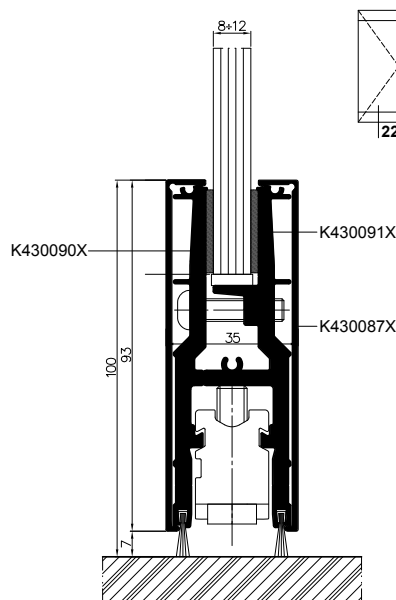
Door – upper cross section



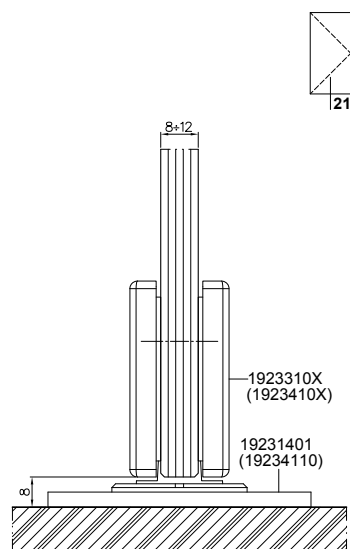
Door – upper cross section



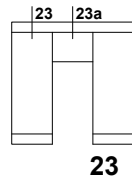
Door – lower cross section



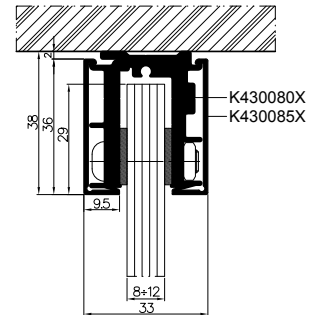
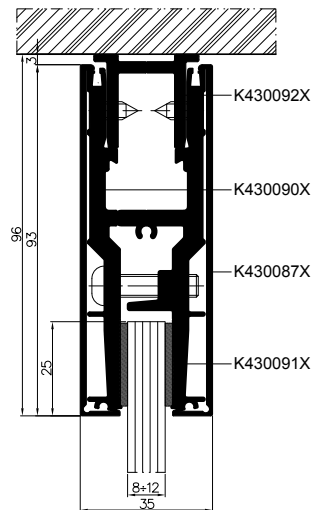
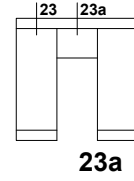
Door – lower cross section



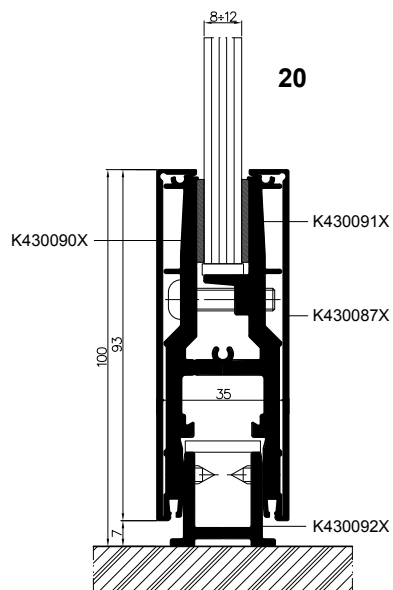
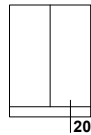
Shop front – upper cross section



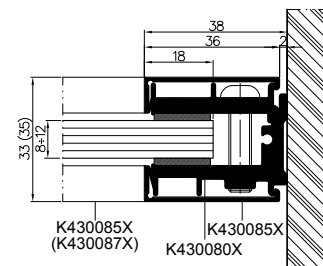
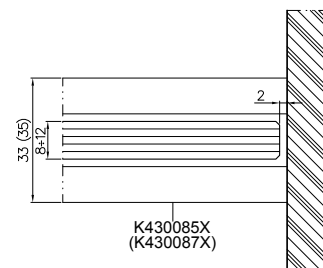
Shop front – upper cross section



Shop front – lower cross section



Shop front – side view





MB-EXPO Mobile system is designed for internal partition walls that distinguish themselves by the fact that a tempered glass pane can be their structural element. The possibility of using the MB-45 in high ceilings areas with wide openings, makes this solution ideal for shopping malls and contemporary office interiors. The components of this system allow the fabrication of the parked doors' segments – folding-sliding doors. An important advantage of this system is its versatility and the possibility of using different hardware manufacturers.

MOBILE PARTITION WALLING SYSTEM WITH CLAMP PROFILES

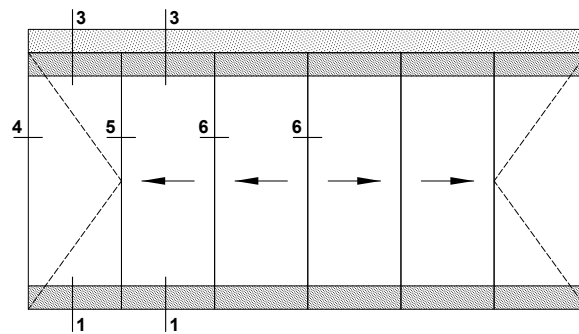
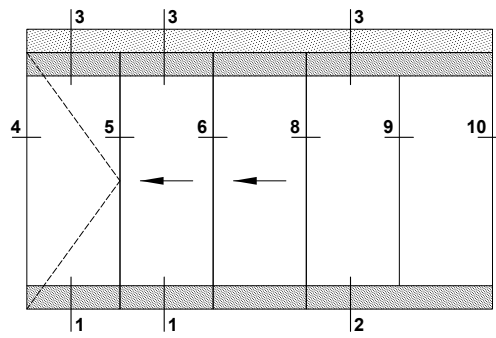
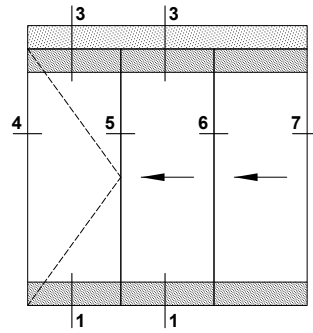
The MB-EXPO Mobile system includes 100 mm high profiles of a design depth of 35 mm. This depth doesn't change regardless of the glazing thickness. The maximum height of the door panels is 4 m and the maximum width is 1.5 m. Tempered glass of the following thickness can be used: 8, 10 and 12 mm. The main advantage of this system is the ability to easily change the functionality of the premises and the segmentation of the interior space.

The sections of the MB-EXPO Mobile systems are designed to allow installation of the hardware [locks, hinges, suspension brackets, parked systems] supplied by Aluprof and Geze. In order to increase the tightness of the panel, it is possible to use lower brush seals for profiles of a height of 100 mm.

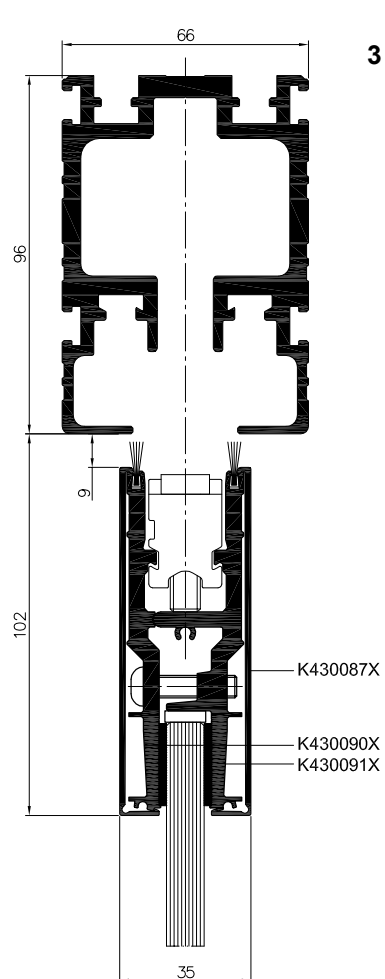
Glass units are support elements of the structure and so they are used in a "suspended" configuration. The fixing method is analogous to the basic version of this system: using the clamp in the upper set of profiles. The glazing gaskets remain invisible, whichever the side. With the basic MB-EXPO system, it shares colour choice and the simplicity of installation, that allows to carry out all the works on site.



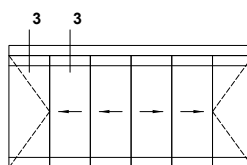
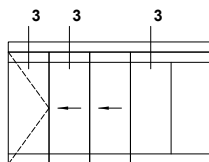
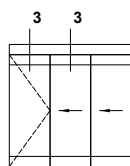
Mobile walling – Selected configurations



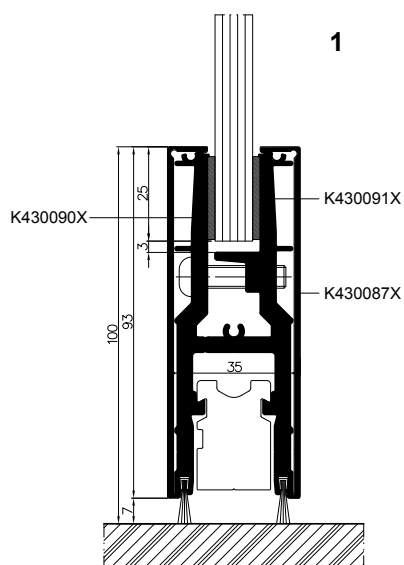
Mobile and door leaf – upper section



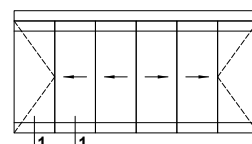
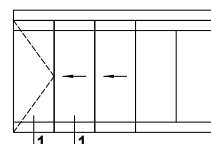
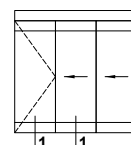
3



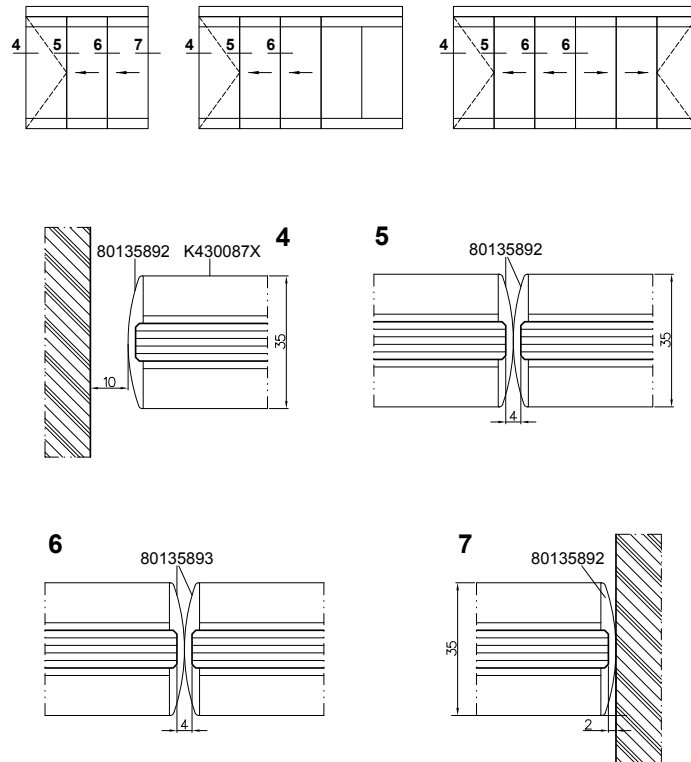
Mobile and door leaf – lower section



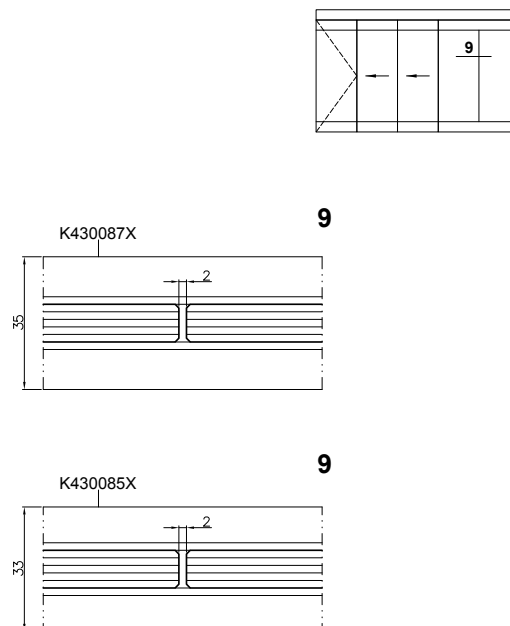
1



Leaves – horizontal sections



Shop front – horizontal sections



SYSTEM

MB-59S

MB-59S HI

DOOR AND WINDOW SYSTEMS



The MB-59S is a thermally broken, sound insulating window and door system. The depth of window profiles in this system is 50 mm for frames and 59 mm for opening lights. The external surfaces of these profiles lie in the same plane. The depth of door profiles is 50 mm for both outer frames and sashes. Thus, the alignment of the sashes and frames are achieved on both the internal and external side. Apart from standard windows and doors, the MB-59S is the basis for other systems such as MB-59S Casement windows opening outwards, MB-59S Pivot windows and MB-59SE cost-efficient doors. They are also available in high thermal insulation variety name HI.

WITH THERMAL BARRIER

Wide range of applications

The MB-59S is a modern architectural aluminium system designed to execute interior and exterior windows and doors requiring thermal and sound insulation. e.g. different types of windows, doors, enclosed entrance porches or shop windows.

Optimally selected profile shape

Basic system profiles have a three chamber structure. The constructional depth of window profiles equals 50 mm (frame), 59 mm (sash), whereas in the case of door profiles it is 50 mm and 50 mm respectively. Such depths of the sash and frame provide a flush finish surface when opening lights are closed. The door leaf will be aligned to the outer frame to create a flowing consistent screen. The design of the profiles enables us to build slim, lightweight and durable windows and doors.

Possibility of bending profiles

An essential advantage of the MB-59S system is the possibility to bend profiles of e.g. outer frames, sashes, leaves and crosspieces, which enables shaping various arches and arch structures.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the possibility to select from several variants of solutions for different constructional details, e.g. bottom sealing of door leaves, shape of glazing beads and the shape and height of doorsills.



MALTA OFFICE PARK, Poznań, Poland

design / Biuro Architektoniczne Litoborski + Marciniak

High thermal and acoustic insulation performance

The MB-59S system is characterised by a low overall heat-transfer coefficient, due to the use of thermal breaks and gaskets. Omega-shaped fibre glass reinforced polyamide thermal breaks of 16mm and 22mm width are available. The HPVC sill and EPDM gaskets ensure good thermal insulation of door leaves as well as water and air tightness. The system also ensures good sound insulation. The value of the R_w index depends on the glass unit and type of window or door used.

Excellent resistance to water and air infiltration

Tightness is secured due to the application of special EPDM synthetic rubber gaskets ensuring resistance to aging over the years' operation. External glass gaskets and window closing gaskets do not require trimming in the corners, they are mounted in a continuous way, by joining gasket ends in mid point of the upper rail of the window frame. The central gasket is trimmed at right angle and glued to the EPDM vulcanized corner cleats.

Each window or door structure of the MB-59S type is equipped with an efficient ventilation and drainage system. This helps deflect water from the glazing and out of the frame through drainage slots to the outside of the frame covered with plastic caps to provide aesthetic appeal. During testing tests, the system windows retained complete water tightness up to 60 dPa.

Designed compatibility

A characteristic feature of the system is its strict correlation with door-and-window systems, such as MB-45, MB-60, and MB-70. The constructional design allows us to have many accessories which are suitable for a number of systems, e.g. common glazing beads, corners, sealing strips, glazing and closing gaskets, shared fixture, locks, hinges and many identical technological processes. For example; pinning connecting members of crosspieces and rails, gluing corner cleats, cutting out various recesses, etc. One of the effects of this unification process is the almost identical external and internal appearance of products used in the different systems of development.

Wide glazing range

Glass panels and other infills are installed by means of glazing beads and gaskets. The system allows for the application of glazing thicknesses ranging between 5 mm and 40 mm in window casements, and between 5 mm and 31 mm in fixed windows and door leaves. Such a wide range of thicknesses for infills ensures the simple application of any standard glazing.

Freedom of hardware selection

The MB-59S system is well-adapted to accommodate fixtures, fittings, locks and hinges, complying with the necessary European Standards. The sections have profiled grooves, the dimensions of which allow for the use of multi-point locking system and connectors in accordance with the European Standard for both aluminium and plastic windows. Due to the application of special grooves, the construction of door profiles allows various types of catches, hinges and locks to be mounted with minimal working. Such solutions make it possible to meet the demands of our customers without changing the basic construction.

High safety of operation

The appropriate section thickness and optimal shape of frame and sash sections as well as proven results ensure excellent functional properties of windows and doors. These features were confirmed by approval tests carried out for both doors and windows.

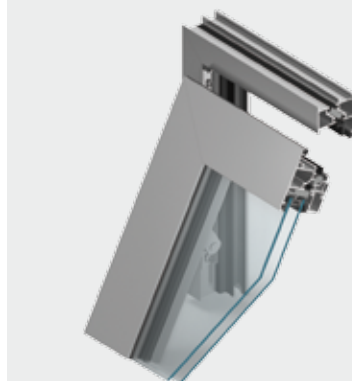
Technical parameters:

- Air infiltration:
Class 4, EN 1026:2001;
EN 12207:2001
- Rainwater resistance:
Class 9A, EN 1027:2001;
EN 12208:2001
- Wind load resistance:
Class C3, EN 12211:2001;
EN 12210:2001
- Sound insulation: $R_w=37$ dB
(depending on the infill material)
- Impact resistance: Class 3

SYSTEM

MB-59S CASEMENT

MB-59S CASEMENT HI



This system is used to make top hung windows and outward opening casement windows. Windows of this type can be built as singular units or fixed within a larger curtain wall.

The system allows for the glazing thickness between 4.5 mm and 40.5 mm in opening window and between 4.5 mm to 31.5 mm in fixed windows.

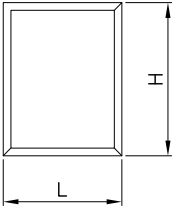
Technical parameters:

- Air infiltration:
Class 4, EN 1026:2001;
EN 12207:2001
- Rainwater resistance:
Class E1050, EN 1027:2001;
EN 12208:2001
- Wind load resistance:
Class C5, EN 12211:2001;
EN 12210:2001

TECHNICAL SPECIFICATION	MB-59S MB-59S HI	MB-59SE	MB-59S CASEMENT MB-59S CASEMENT HI	MB-59S PIVOT MB-59S PIVOT HI
Depth of frame (door / window)	50 mm / 50 mm	50 mm		
Depth of leaf (door / window)	50 mm / 59 mm	50 mm	59 mm	
Glazing rang (fixed window and door / opening window)	4,5 – 31,5 mm / 4,5 – 40,5 mm	4,5 – 31,5 mm	4,5 – 31,5 mm / 4,5 – 40,5 mm	4,5 – 31,5 mm
Min visible width T-profile				
Frame (door / window)	36,5 mm / 47,5 mm	45,5 mm	33,5 mm	47,5 mm
Leaf (door / window)	72,5 mm / 34,5 mm	67,5 mm	72,5 mm	77,5 mm
Size and weight limitations				
Maximum size of window (H×W)	H to 2400 mm W to 1250 mm	–	H to 2000 mm W to 2400 mm	
Maximum size of door (H×W)	H to 2300 mm W to 1100 mm	H to 2300 mm W to 1000 mm	–	–
Max weight (door / window)	100 kg / 130 kg	100 kg		180 kg
Types of constructions				
Solutions	Titl window, turn window, tilt and turn window, Doors open out and open in	Economy doors	Top or side hung window	Pivot window with horizontal or vertical applications

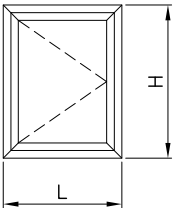
Max. dimensions of windows

Fixed window




Max. standard dimensions of windows result from maximal glass sizes.

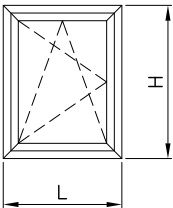
Turn-hung window




Hmax=1850 mm Lmax=1600 mm	Hmax=2250 mm Lmax=1100 mm
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 - 130 kg

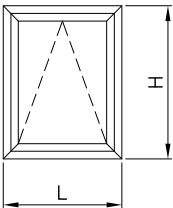
Tilt and turn window




Hmax=2400 mm Lmax=1250 mm	Hmax=1850 mm Lmax=1600 mm
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 - 90 kg/130 kg

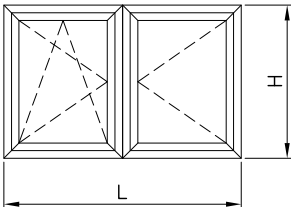
Tilt window




Hmax=2100 mm Lmax=1600 mm


 - 130 kg


Double casement



Hmax=2250 mm Lmax=2000 mm

Turn-hung vent -  - 130 kg

Tilt and turn vent -  - 130 kg


 } Maximal vent weight

Max. dimensions of windows

Outward opening awning window
with friction hinges



Hmax=2000 mm
Lmax=2400 mm

 - 100 kg

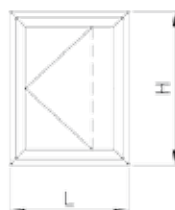
Outward opening awning window
with butt hinges



Hmax=1200 mm
Lmax=2400 mm

 - 90 kg

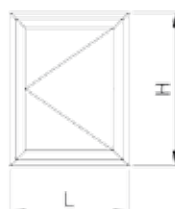
Outward opening casement window
with friction hinges



Hmax=2400 mm
Lmax=838 mm

 - 47 kg

Outward opening casement window
with butt hinges



Hmax=2400 mm
Lmax=1400 mm

 - 90 kg



Maximum weight of a casement


Max. dimensions of doors

Inside opening door

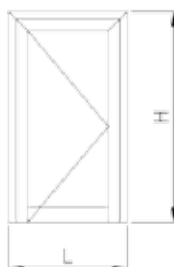


Hmax=2150 mm
Lmax=1100 mm

Hmax=2300 mm
Lmax=1000 mm


 - 100 kg


Outside opening door



Hmax=2150 mm
Lmax=1100 mm

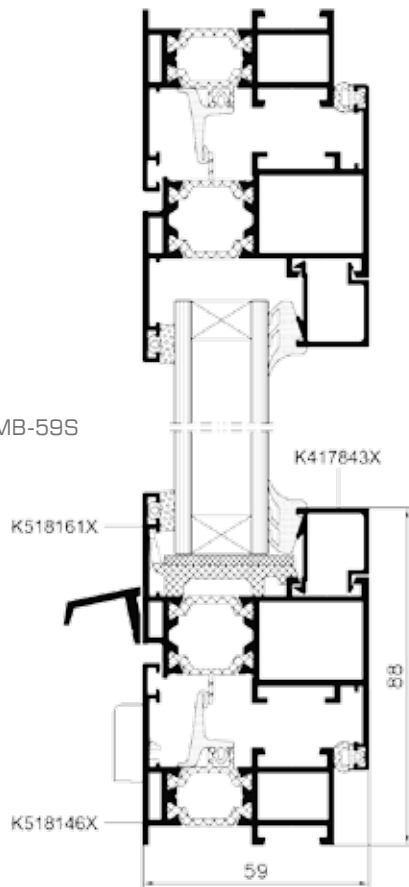
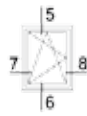
Hmax=2300 mm
Lmax=1000 mm

 - 100 kg

 } Maximum weight of a door leaf

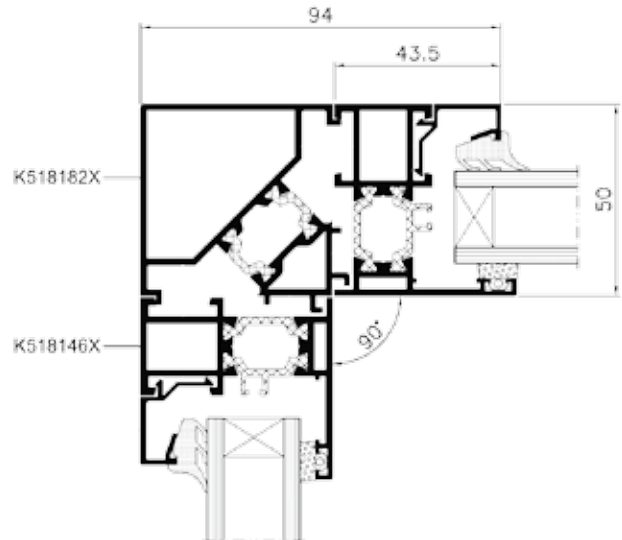
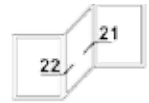
Active window - main cross-section

5 MB-59S



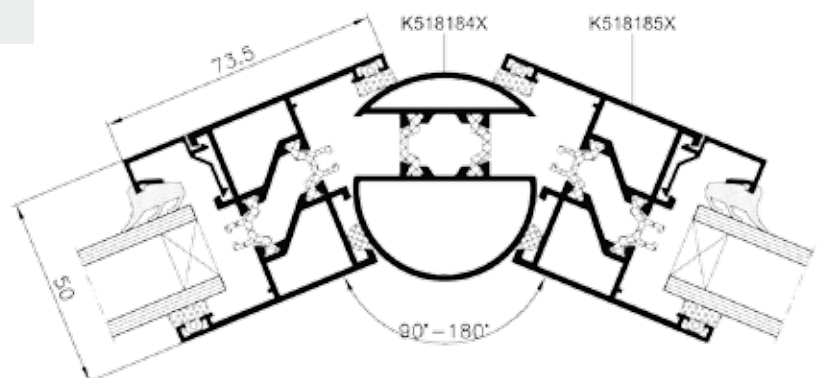
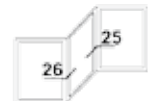
Angular connection - cross-section

21 MB-59S



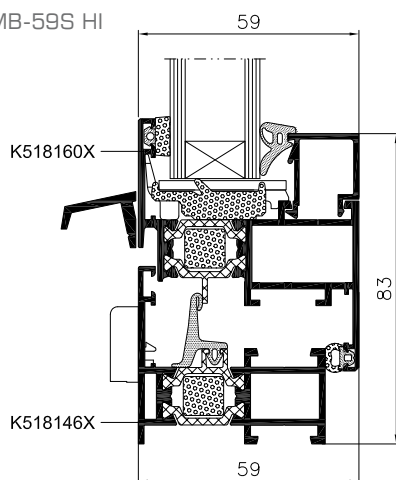
Angular connection - cross-section

25 MB-59S



MB-59S HI window - cross section

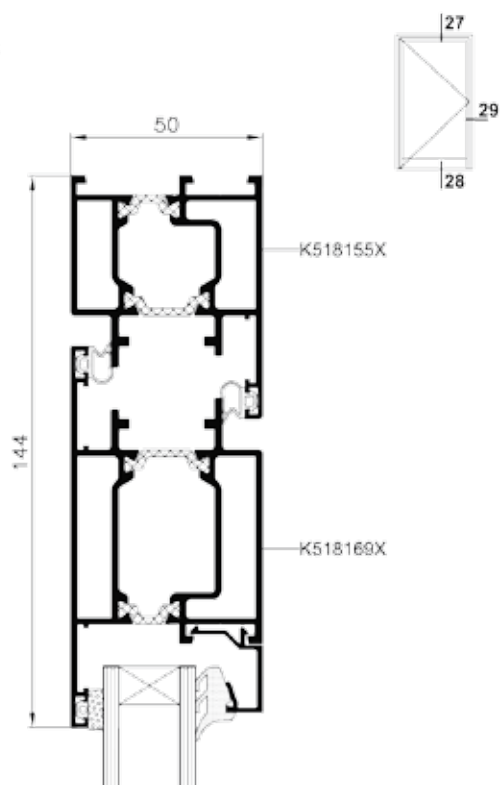
6 MB-59S HI



Scale 1:2

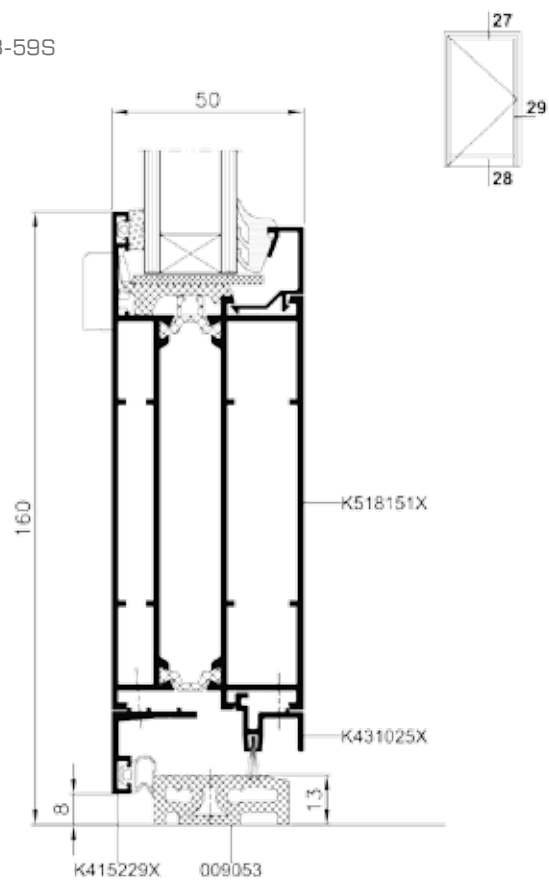
Single outward opening door
- cross-section

27 MB-59S



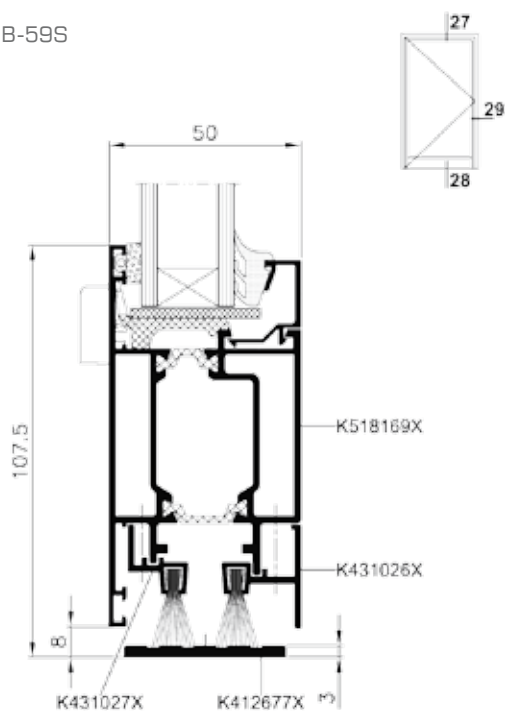
Single outward opening door
- cross-section

28 MB-59S



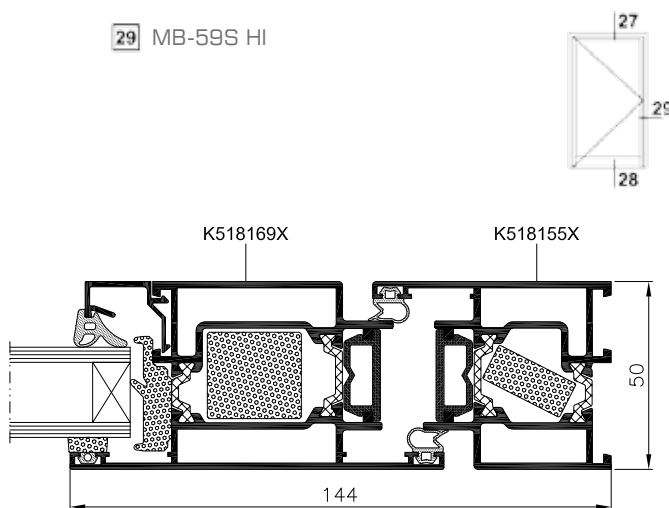
Single outward opening door
- cross-section

28 MB-59S



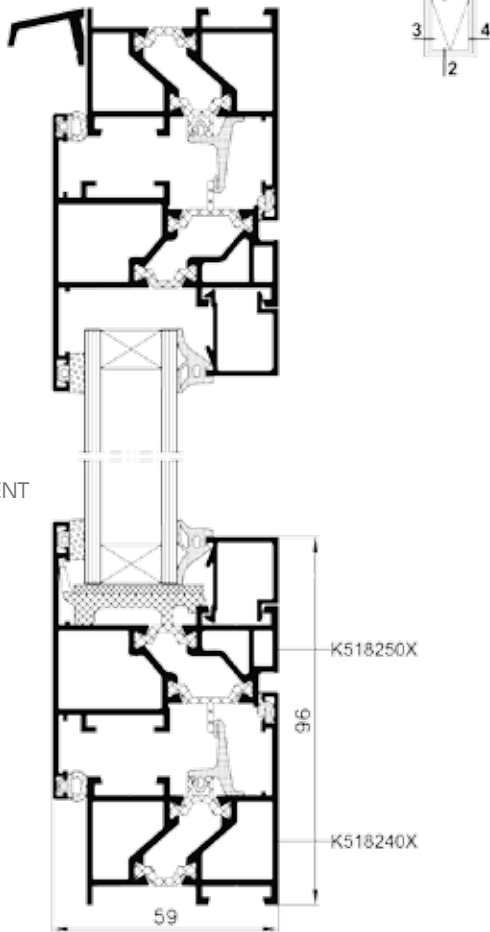
Single door open out
- cross section

29 MB-59S HI

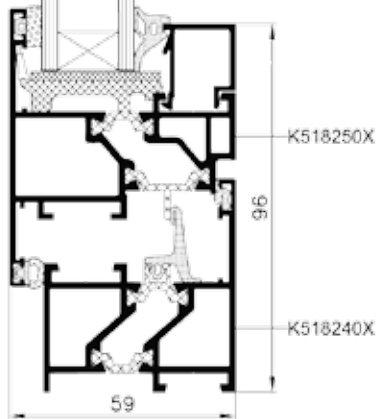


Outward opening window - cross-section

1 MB-59S CASEMENT

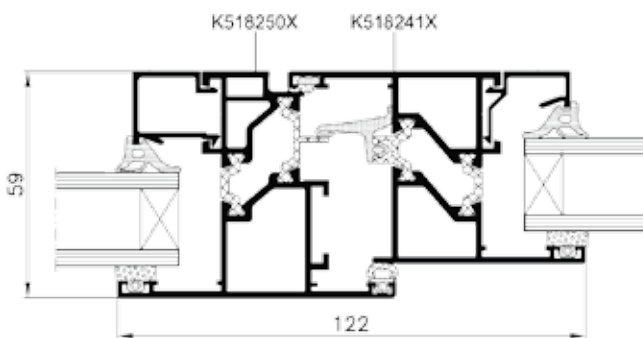
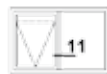


2 MB-59S CASEMENT



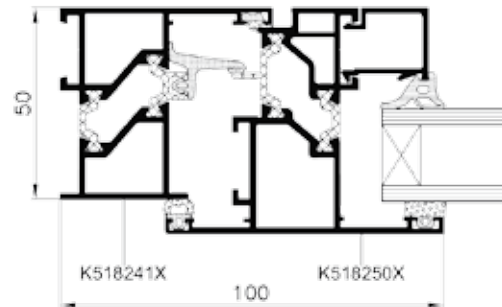
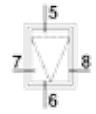
Outward opening window - cross-section

11 MB-59S CASEMENT



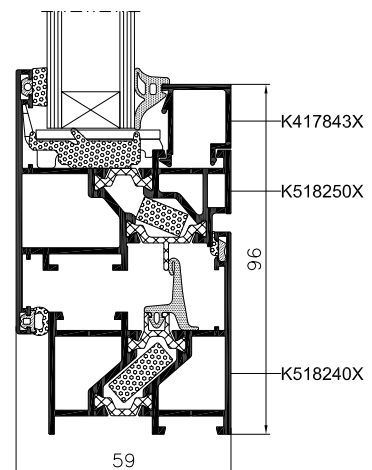
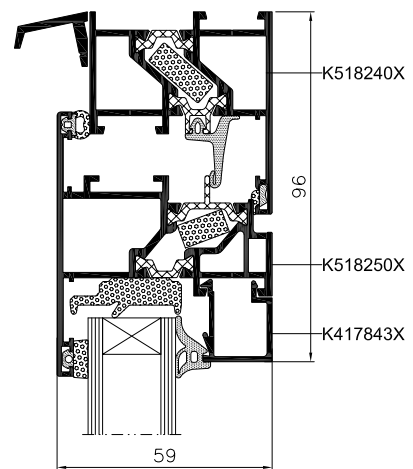
Outward opening window - cross-section

7 MB-59S CASEMENT



Outward opening window - cross-section

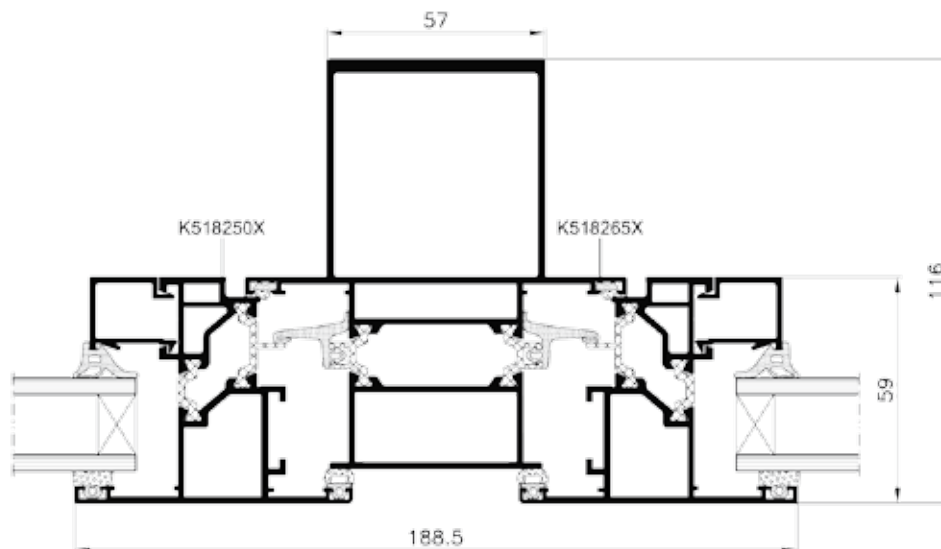
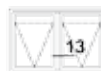
2 MB-59S CASEMENT HI



Scale 1:2

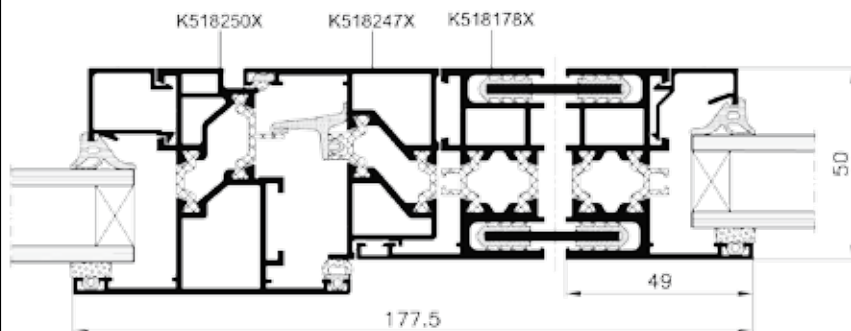
Reinforced mullion - cross-section

13 MB-59S CASEMENT



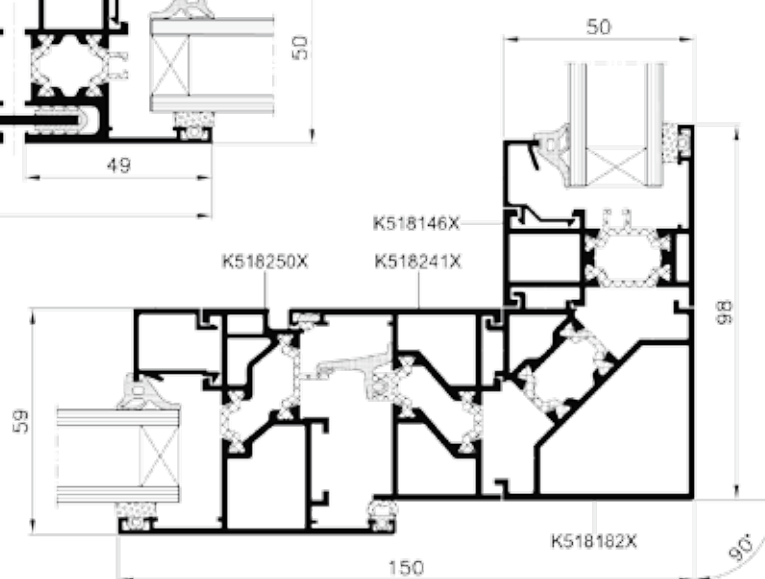
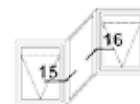
Expansion joint - cross-section

14 MB-59S CASEMENT



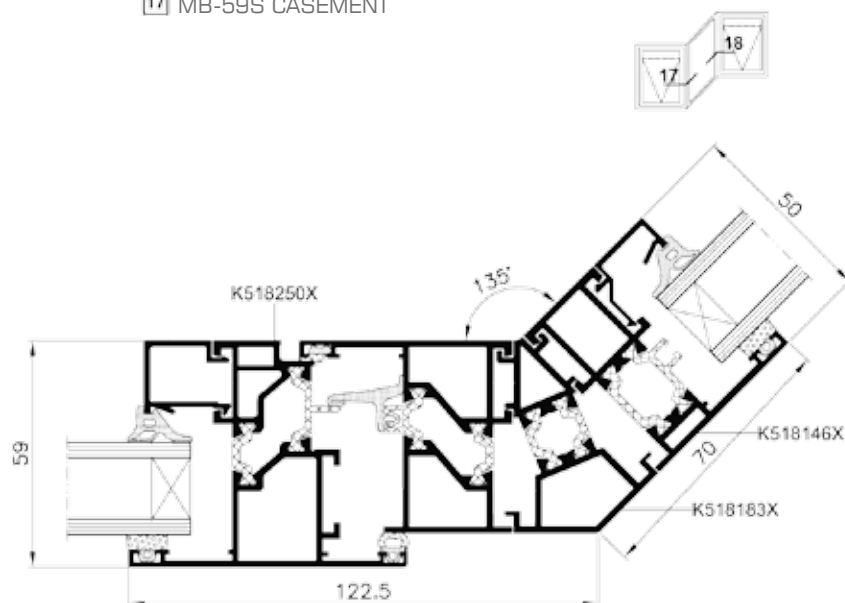
Angular connection - cross-section

15 MB-59S CASEMENT



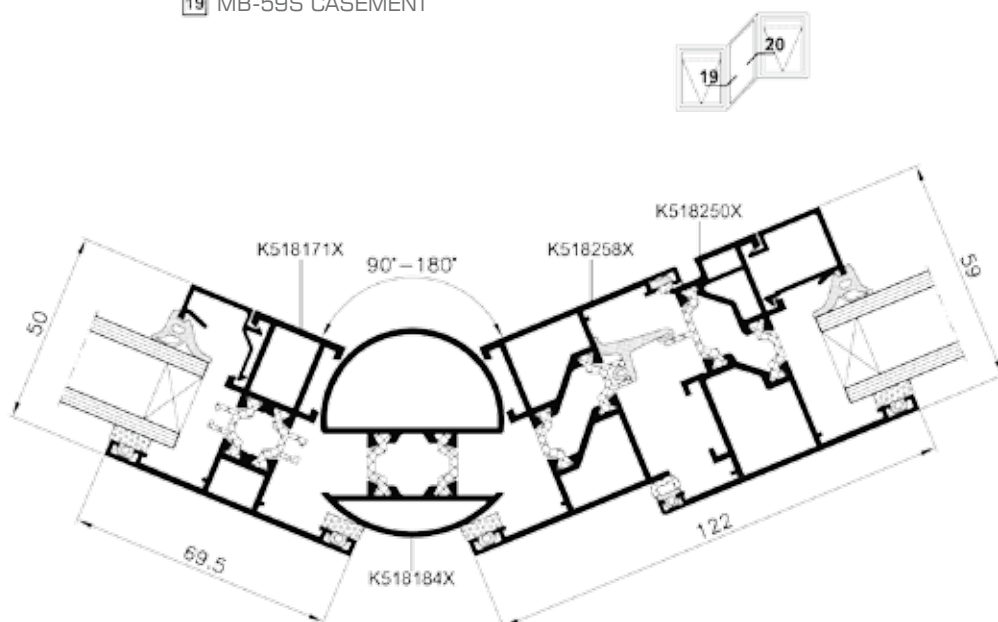
Angular connection - cross-section

17 MB-59S CASEMENT



Angular connection - cross-section

19 MB-59S CASEMENT



SYSTEM MB-60 MB-60HI

DOOR AND WINDOW SYSTEMS



MB-60 is a engineered aluminium system used to make external screens that require a high performing system both in thermal and sound insulation. It can be used in various applications such as windows and door of different types, enclosed entrance porches or spatial constructions. A characteristic feature of the system is its compatibility with the door-and-window systems MB-45 and MB-70. The MB-60 system can be the base for anti-burglary doors and windows. Additionally, other window versions are available in this system, e.g. MB-60US window with a hidden sash, MB-60 Pivot window and MB-60 Industrial, i.e. windows with the so-called "steel-like" appearance, useful for renovations of historic buildings. This system is also the basis for the construction of the MB-60EF window, designed for the MB-SR50 curtain wall and cost-efficient MB-60E doors. We also offer a HI version in most of our systems, which has an enhanced thermal insulation performance.

WITH THERMAL BREAK

Optimally selected profile shape

The system profiles have a three-chamber structure. The constructional depth of window sections is 60 mm (frame), 69 mm (casement), and of doors is 60 mm and 60 mm, respectively. With windows and doors closed, these depths of casement and frame sections give the effect of a single plane for windows and the effect of the leaf being flush with the frame surface for doors, when looking from the outside. The shape of profiles makes it possible to obtain slim and resistant window and door constructions.

Wide range of applications

The MB-60 system allows execution of a number of constructions, including large doors of the dimension 2800 x 3300 mm with leaf width 1500 mm.

Possibility of bending profiles

An advantage of the MB-60 system is the potential to bend the profiles, including frames, casements, and crosspieces, which enables execution of various arches and arch constructions.

High thermal insulation and weather tightness

A feature of the MB-60 system is it's low overall heat-transfer U coefficient due to the use of thermal breaks and gaskets. Thermal insulation is improved by placing special inserts in the central chambers of aluminium profiles. These inserts, due to a low value of the heat-transfer coefficient, reduce heat transfer through the profile. The central location of the



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Państwowej Wyższej Szkoły Informatyki i Przedsiębiorczości, Łomża
design / PW ARKON

inserts also decreases heat transfer by convection and thermal radiation. In the system, profiled omega-shaped glass fibre-reinforced polyamide thermal breaks 24 mm (windows) and 14 mm (doors) in width are used. The shape of breaks improves profile rigidity in relation to flat breaks and facilitates water removal from sections, thus ensuring proper thermal insulation under any weather conditions. A HPVC sill and EPDM gaskets ensure good thermal insulation of door leaves and water and air tightness.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the possibility to select from several variants of solutions for different constructional details, e.g. bottom sealing of door leaves, shape of glazing beads, and doorsill shapes and heights.

Excellent resistance to water and air infiltration

Tightness is ensured by the use of special EPDM gaskets, which provide resistance

to aging during long-term operation. The glass gaskets and the central gasket are cut at 45° and bonded in the corners. Cover gaskets do not require cutting in the corners. For the window casement, the gasket should be fixed in the middle of the upper rail. Every window and door of the MB-60 system has an effective ventilation and drain system to remove water from the pane chamber and the chamber between the casement and frame. The ventilation and drainage holes are covered with plastic shields on the outside. During the approval tests, the system windows retained complete water tightness up to 60 dPa.

Designed compatibility

A characteristic feature of the system is its strict correlation with the door-and-window systems MB-45, MB-59S, MB-70, and MB-78EI. As a result such a design concept makes it possible to obtain and use many compatible elements of these systems, such as shared glazing beads, corners, sealing strips, glass and cover gaskets, fixture, locks, and hinges and many identical manufacturing

processes such as pinning connecting members of crosspieces and rails, gluing corner cleats preceded by crimping or pinning, cutting out different recesses, etc. One of the effects of this unification process is almost identical external and internal appearance of products used in different systems of development.

Wide glazing range

Glass panels and other infills are installed by means of glazing beads and glass gaskets. The system allows for the use of glazing units of the thickness between 14 mm and 50 mm in window casings and between 5 mm and 41 mm in fixed windows and door leaves. Such a wide range of filling thicknesses ensures that all standard and non-standard glass panels can be fitted.

Colour palette

A wide choice of colours offered in the standard colour option meets the requirements of even the most demanding customers. Colour finishes are made by powder coating or anodising.

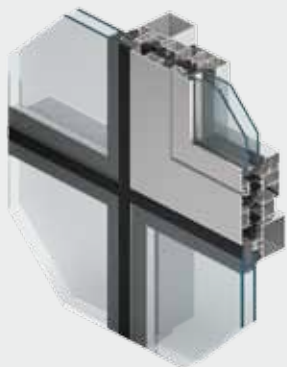


Wydział Zarządzania i Komunikacji Społecznej
Uniwersytetu Jagiellońskiego, Kraków
design / Agencja Projektowa Architektury EKSPÓ

TECHNICAL SPECIFICATION	MB-60 MB-60 HI	MB-60US MB-60US HI	MB-PIVOT	MB-60E MB-60E HI	MB-60EF MB-60EF HI
Profile sizes, range of glazing					
Depth of frame (door / window)	60 / 60	60			
Depth of leaf (door / window)	60 / 69	69		60	69
Glazing range mm (fixed window and door / opening window)	5 – 41 / 14 – 50	4 – 35 / 8 – 44	5 – 41 / 14 – 50	5 – 41	–
Min visible width T profile					
Door / window frame	51 / 47	75	60	41,5	72
Door / window leaf	72 / 29	34,6	60	67	72
Size and weight limitations					
Maximum size of window (HxW)	H do 2400 mm W do 1250 mm	H do 1900 mm W do 1100 mm	H do 2000 mm W do 2400 mm	–	H do 2400 mm W do 1250 mm
Maximum size of door (HxW)	H do 2400 mm W do 1200 mm	–	–	H do 2300 mm W do 1300 mm	–
Max weight of doors / windows (kg)	120 / 130	130	180	120	130
Types of constructions					
Available solutions	Tilt windows, turn windows, tiltturn windows, tilt sliding windows and doors, doors open in and open out	Fixed windows, tilt windows, turn windows, tiltturn windows	Pivot windows	Doors and window and door sets	Windows in curtain walls

PERFORMANCE	MB-60 MB-60 HI	MB-60US MB-60US HI	MB-PIVOT	MB-60E MB-60E HI	MB-60EF MB-60EF HI
Air Permeability	Class 4			Class 3	Class 4
Resistance to Windload	C5 EN 12211:2001; EN 12210:2001		Class C2 EN 12211:2001; EN 12210:2001	Class C1 EN 12211:2001; EN 12210:2001	Class C4 EN 12211:2001; EN 12210:2001
Impact Resistance	Class 3	–	–	Class 3	–
Watertightness	Class E900 EN 1027:2001; EN 12208:2001			Class E1200 EN 1027:2001; EN 12208:2001	
Thermal insulation U _f W/(m ² K)	from 1,4	from 1,7	–	from 2,8	–

SYSTEM MB-60EF MB-60EF HI



WINDOW SYSTEM VARIETY IN THE MB-SR50 EFEKT CURTAIN WALL

The system is compatible with our MB-SR50 EFEKT thermally broken curtain walling. As a result the curtain wall gains specific appearance, i.e. on the "all-glass" external surface of the curtain wall there is a clear outline of an aluminium window frame. External surfaces of window profiles and glass panels are flush.

Technical parameters:

- Air infiltration: Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance: Class E1200, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C4, EN 12211:2001; EN 12210:2001

SYSTEM MB-60US MB-60US HI



INVISIBLE SASH WINDOW SYSTEMS VARIETY

Functionality and aesthetics

- uniform external appearance of both fixed and active windows,
- fixed or inward opening windows casement, tilt and turn, double casement with a fixe floating mullion,
- installation in individual development or on aluminium curtain walls.

Glazing

- glazing range between 8-44 mm for active windows and 4-35 mm for fixe windows



UNIVERSITY, Gdańsk, Poland
design / STUDIO M

Technical parameters:

- Air infiltration: Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance: Class E900, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C5, EN 12211:2001; EN 12210:2001
- Sound insulation: do 35(-2;-5) dB



ASSECO, Rzeszów, Poland
design / Pracownia Projektowa Arch. A. Małek

SYSTEM MB-60 Industrial MB-60 Industrial HI



LISTED BUILDING RENOVATION SYSTEMS

On the basis of the basic MB-60 system, a supplementary window system was developed. In the INDUSTRIAL version of the MB-60 system window and door profiles with a thermal barrier have been enriched with additional decorative elements that refer in appearance to steel windows in buildings under conservation. The primary features of this system are the same as in the base version.

Manufaktura, Łódź

design / Sud Architectes
realizacja / Opal, Grodzisk Wilk.



SYSTEM MB-60E MB-60E HI



ECONOMY DOOR SYSTEMS

The MB-60E system is intended for doors with a thermal barrier as well as window sets incorporating a door unit. It allows clients to obtain a end product featuring good functional properties combined with high technical parameters, ensuring at the same time cost efficiency production, convenience and shorter time required for door installation.

Glazing

- glazing range between 5 and 41 mm

Functionality and aesthetics

- large allowable dimensions of the door leaf: 1300 x 2200 mm (1200 x 2300),
- max. weight of the door leaf: 120 kg
- possibility of fitting most types of hardware available on the market (locks, hinges, closers, etc.)

Technical parameters:

- Overall heat transfer coefficient: U_f from 2,8 W/m²K
- Air infiltration: Class EN3 1026:2001; EN 12207:2001
- Rainwater resistance: Class E1200, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C1, EN 12211:2001; EN 12210:2001
- Impact resistance: Class 3

SYSTEM MB-60 PIVOT



PIVOT WINDOW

The MB-60 Pivot system is used to make windows that require thermal and sound insulation, with a vertical or horizontal axis of rotation. A particular attention should be paid to dimensional ranges for pivot window casements: a window with a horizontal axis of rotation can be 800 - 2000 mm in height and 500 - 2400 mm in width. Max weight 180 kg.

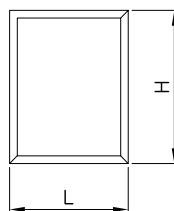
Technical parameters:

- Air infiltration: Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance: Class E900, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C2, EN 12211:2001; EN 12210:2001



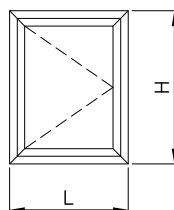
Max. dimensions of windows

Fixed window




Max. dimensions of windows result from maximal glass sizes.

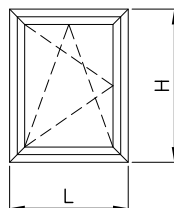
Turn-hung window



Hmax=2250 mm
Lmax=1300 mm

 - 130 kg

Tilt and turn window

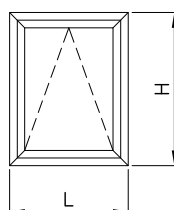


Hmax=2400 mm
Lmax=1250 mm


Hmax=1850 mm
Lmax=1600 mm

 - 90kg/130 kg

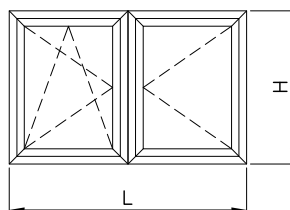
Tilt window




Hmax=1000 mm
Lmax=2150 mm


 - 130 kg


Double casement



Hmax=2250 mm
Lmax=2700 mm

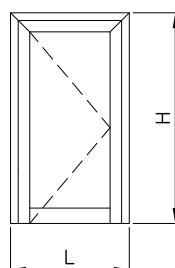
Turn-hung vent -  - 130 kg

Tilt and turn vent -  - 130 kg

 } Maximal vent weight


Max. dimensions of doors

Inside opening door

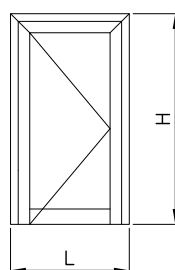


Hmax=2400 mm
Lmax=1200 mm

Hmax=2200 mm
Lmax=1300 mm


 -120 kg

Outside opening door

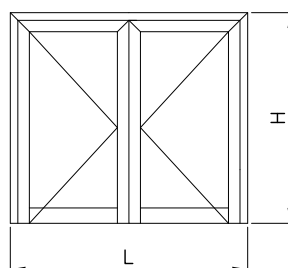


Hmax=2400 mm
Lmax=1200 mm


Hmax=2200 mm
Lmax=1300 mm


 -120 kg

Double door



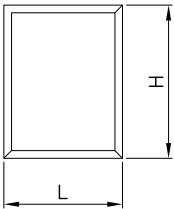
Hmax=3300 mm
Lmax=2800 mm

 -120 kg

 } Maximal vent weight

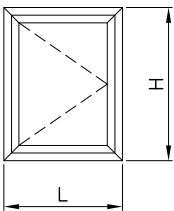
Max. dimensions of windows

Fixed window




Max. dimensions of windows result from maximal glass sizes.

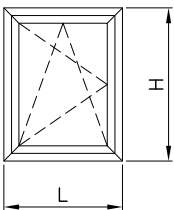
Turn-hung window



Hmax=1900 mm
Lmax=1000 mm


 - 130 kg

Tilt and turn window

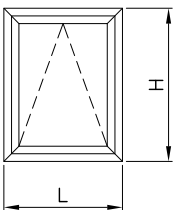


Hmax=1900 mm
Lmax=1100 mm


Hmax=1500 mm
Lmax=1400 mm

 - 130 kg

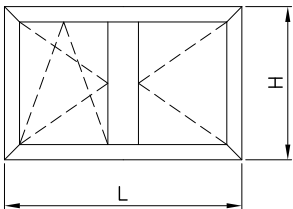
Tilt window




Hmax=1000 mm
Lmax=2150 mm


 - 130 kg


Double casement



Hmax=1900 mm
Lmax=2400 mm

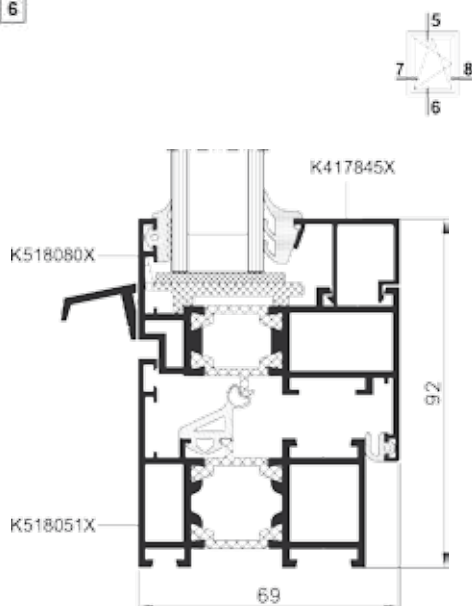
Turn-hung vent -  - 130 kg

Tilt and turn vent -  - 130 kg

 } Maximal vent weight

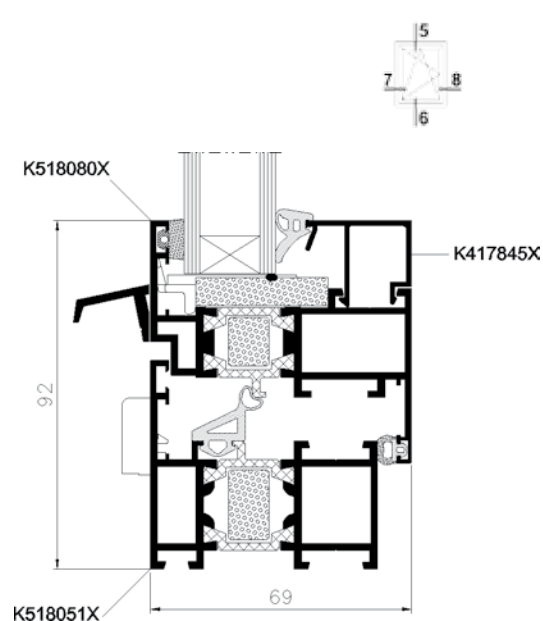
Active window MB-60
- cross- section

6



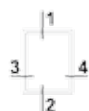
Active window MB -60HI
- cross- section

6

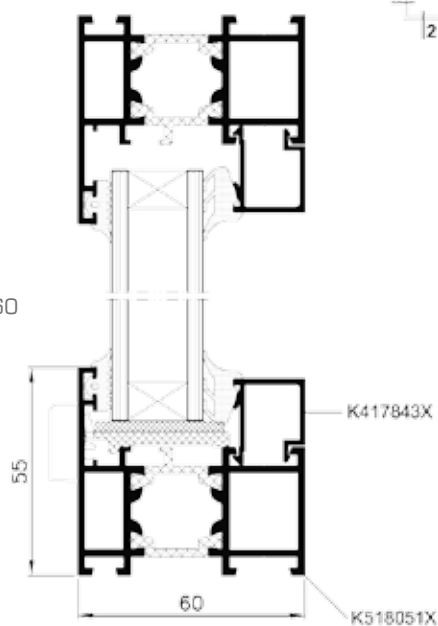


Fixed window - cross-section

1 MB-60

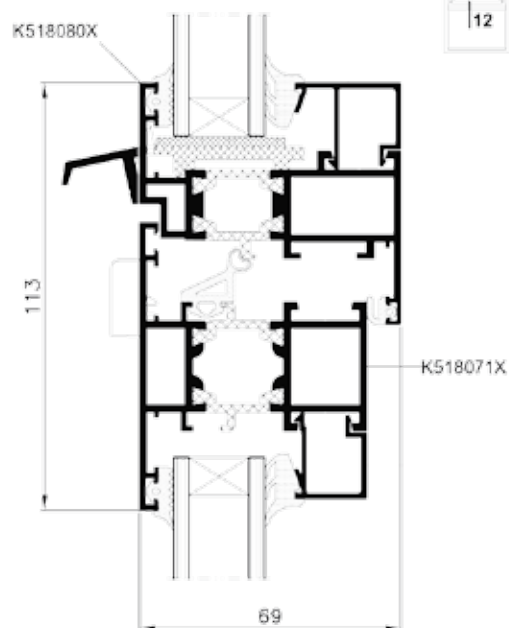


2 MB-60



Active window - cross-section

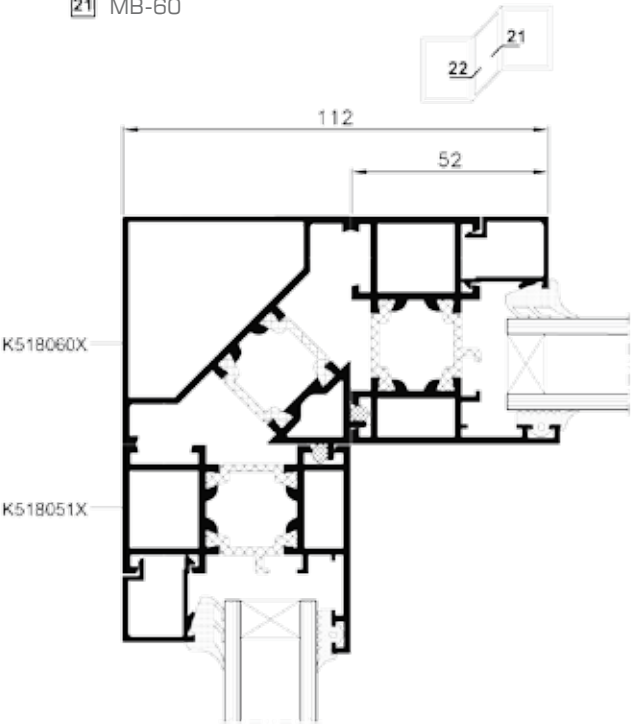
12 MB-60



Scale 1:2

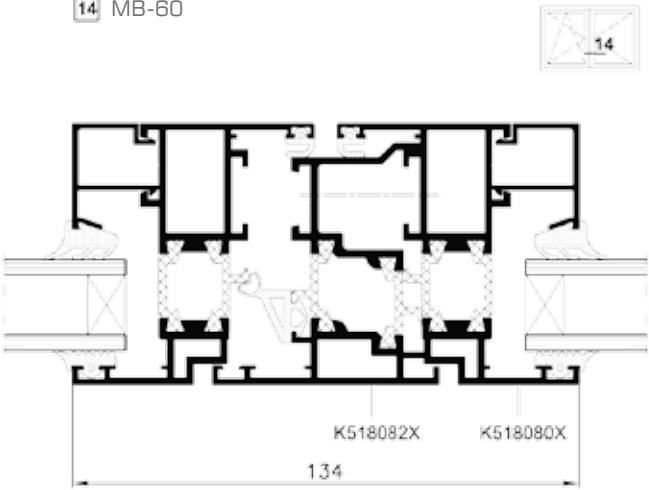
Angular connection - cross-section

21 MB-60



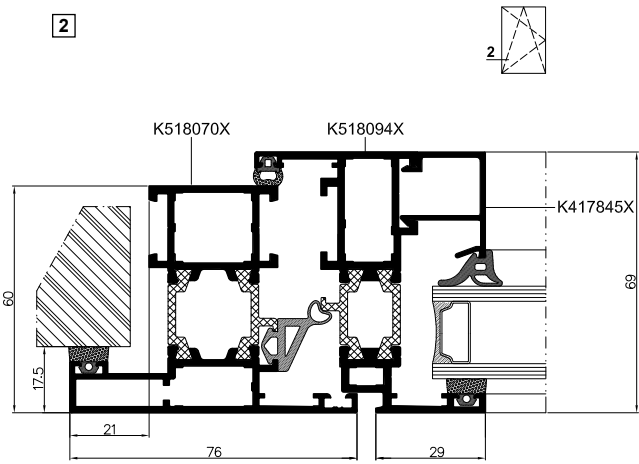
Active window - cross-section

14 MB-60



Window with renovation frame, view

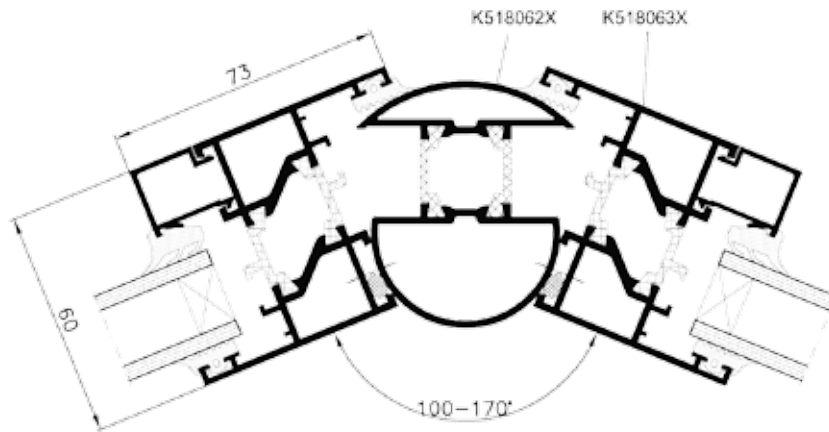
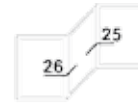
2



Scale 1:2

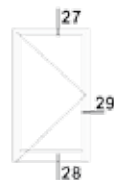
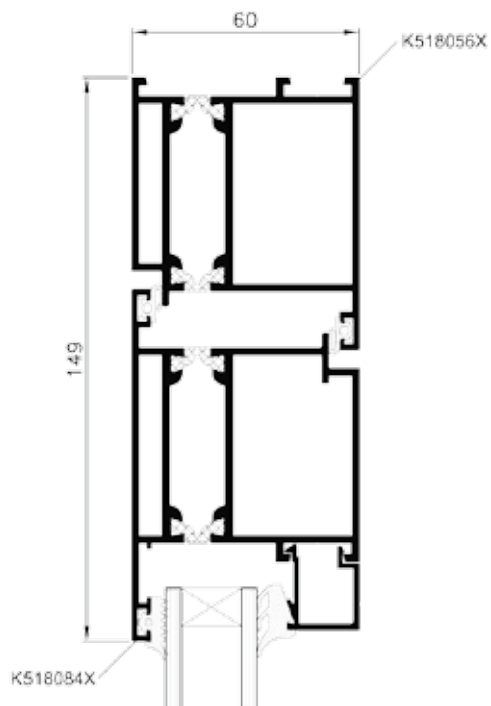
Angular connection - cross-section

25 MB-60

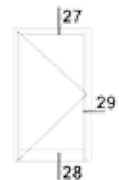
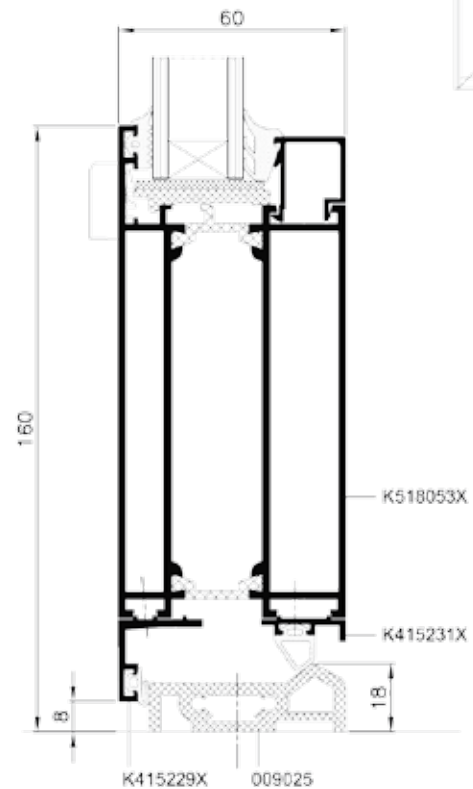


Outward opening door - cross-section

27 MB-60



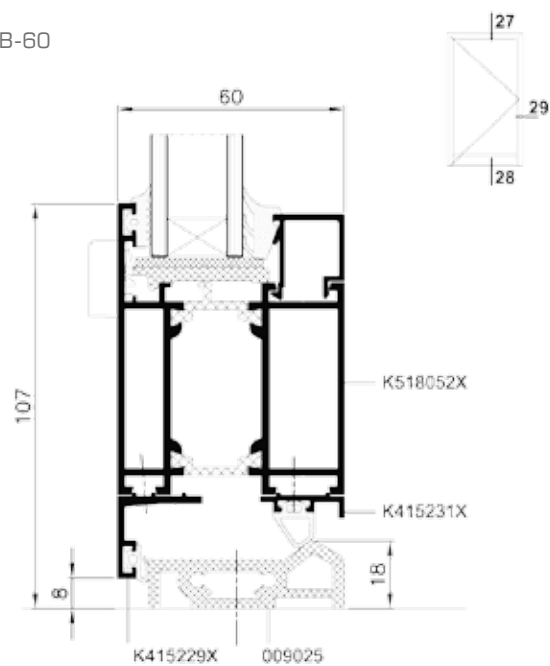
28 MB-60



Scale 1:2

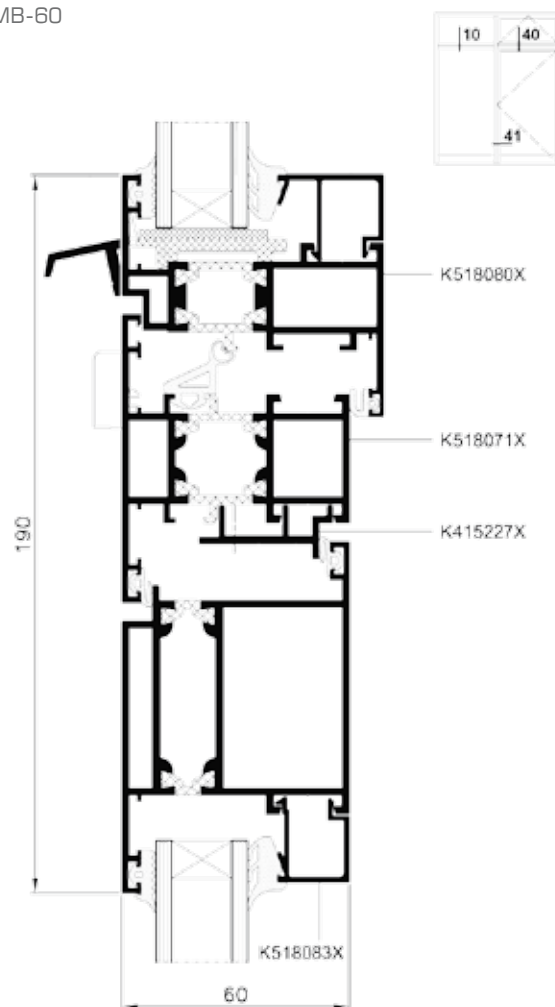
„Standard“ outward opening single door
- cross-section

28 MB-60



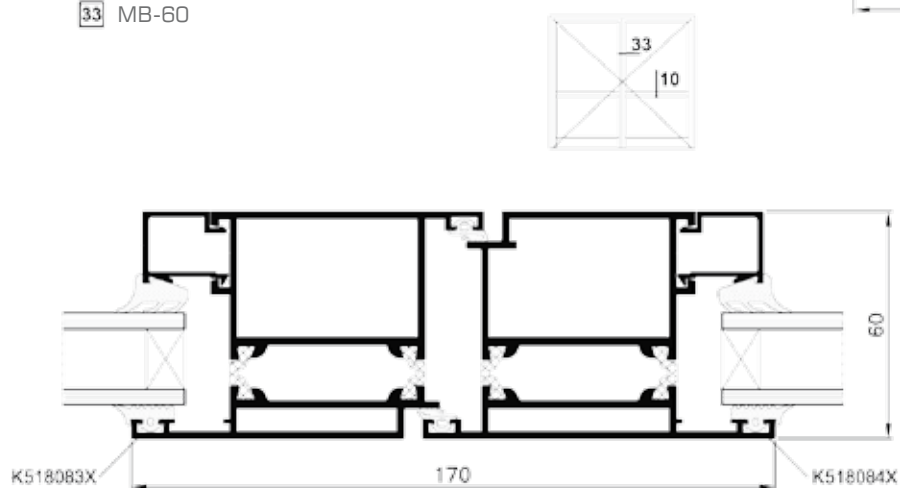
Display window with a transom window
- cross-section

40 MB-60



Double door - cross-section

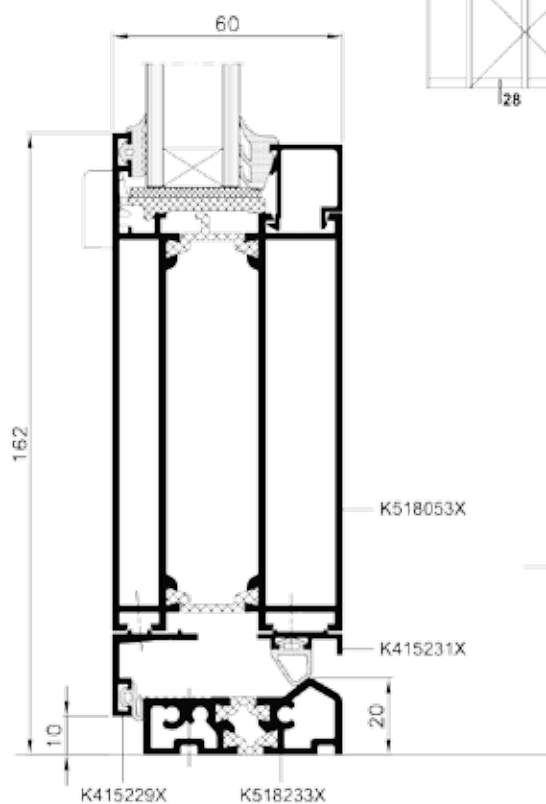
33 MB-60



Scale 1:2

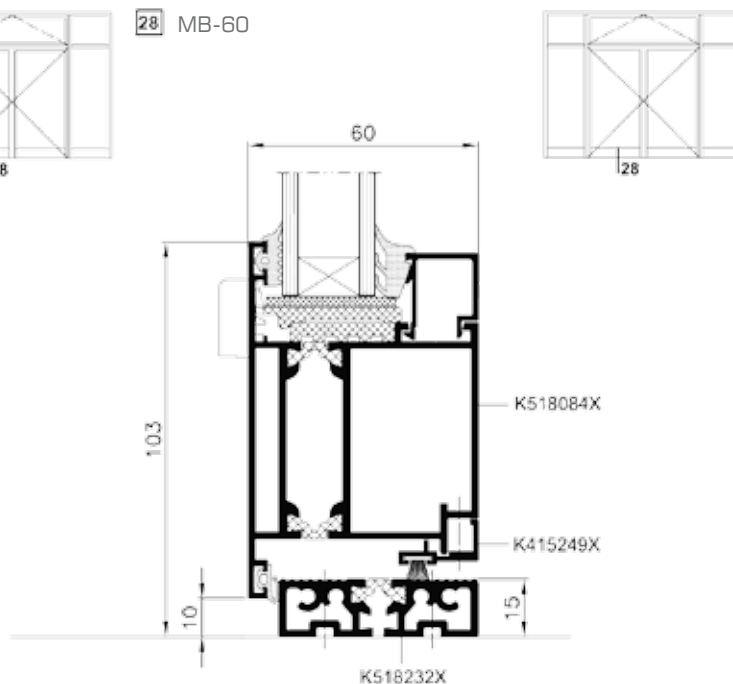
Display window with a double door
- cross-section

28 MB-60



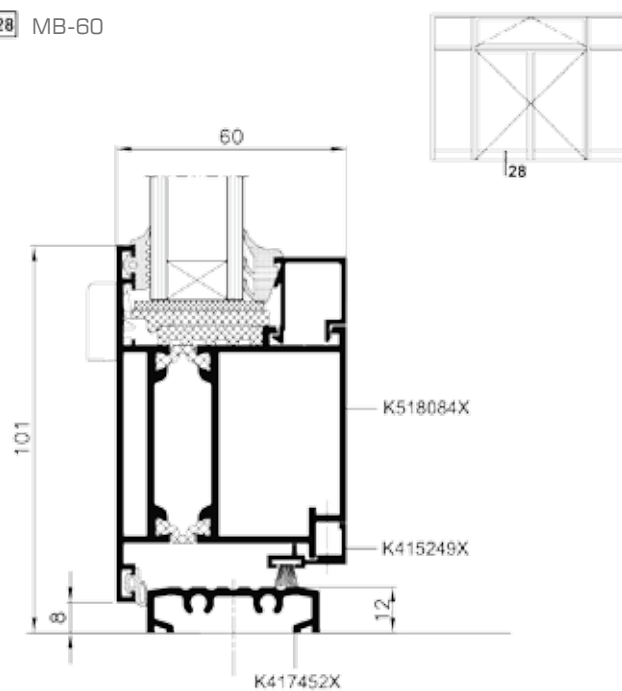
Display window with a double door
- cross-section

28 MB-60



Display window with a double door
- cross-section

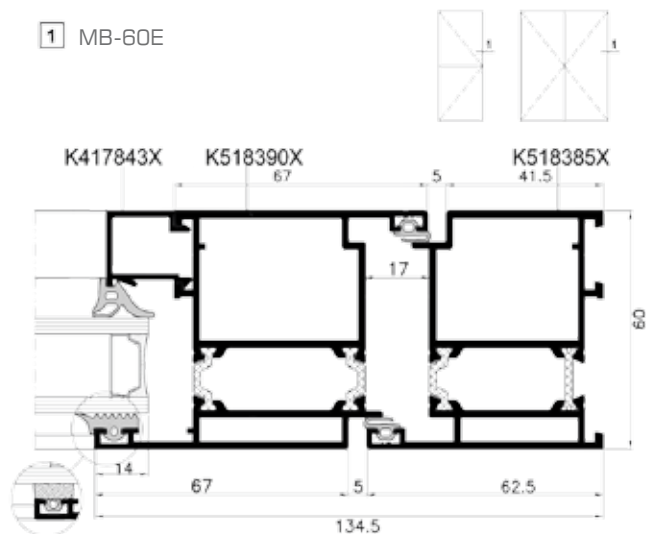
28 MB-60



Scale 1:2

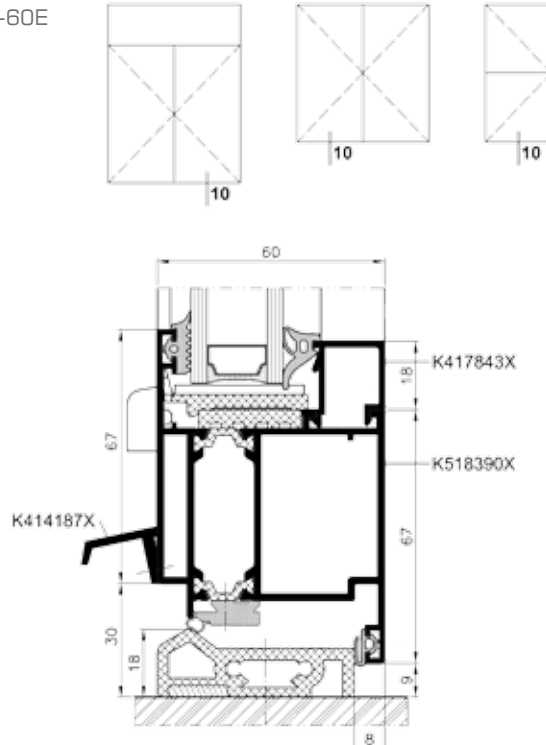
Cross-section of jambs of inward opening door

1 MB-60E



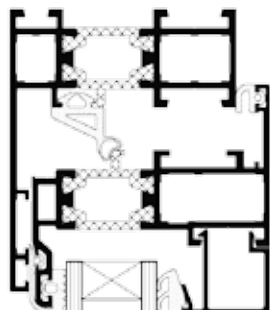
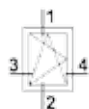
Cross-section of bottom rail in inward opening door

10 MB-60E



Active window - cross-section

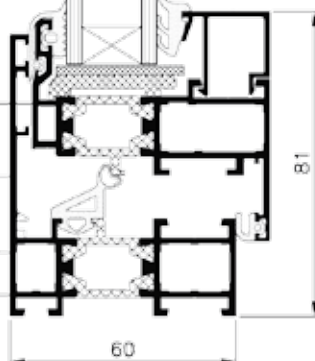
1 MB-60US



2 MB-60US

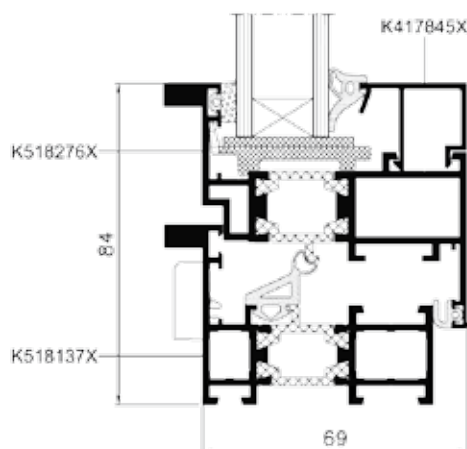
K518095X

K518067X



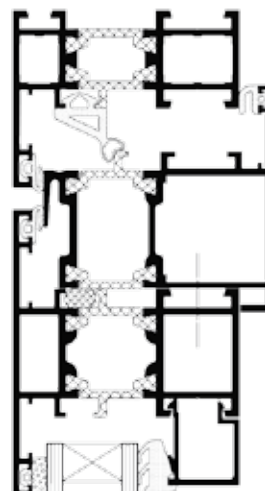
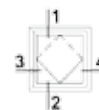
Active window - cross-section

2 MB-60 INDUSTRIAL



Pivot window with a horizontal axis of rotation - cross-section

1 MB-60 PIVOT



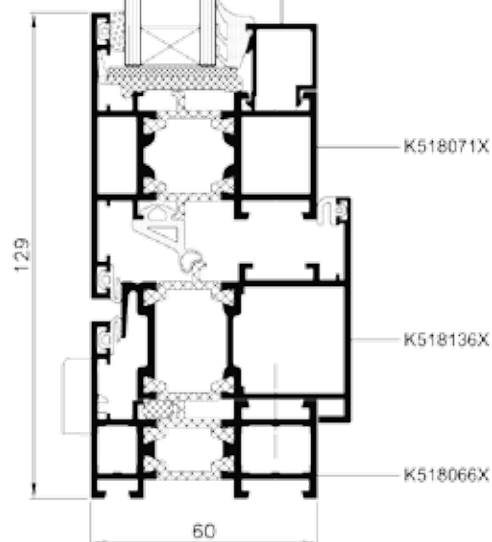
2 MB-60 PIVOT

K417843X

K518071X

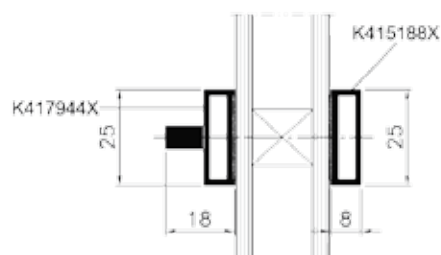
K518136X

K518066X



Glued astragal - cross-section

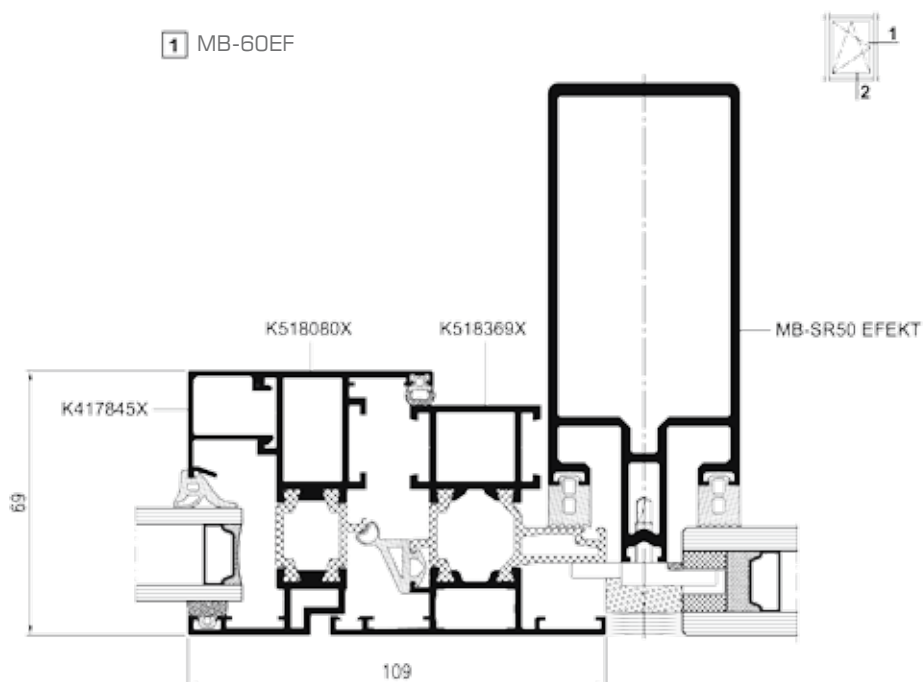
4 MB-60 INDUSTRIAL



Scale 1:2

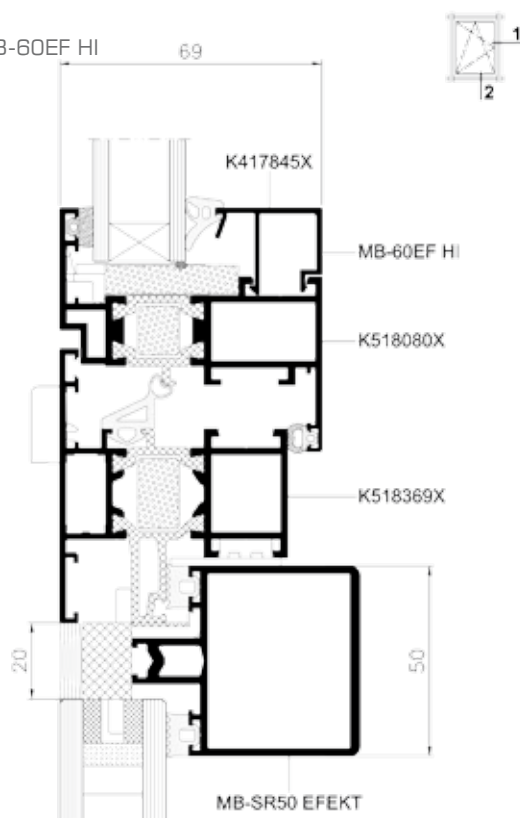
Active window - cross-section

1 MB-60EF



Active window - cross-section

2 MB-60EF HI



Scale 1:2

SYSTEM MB-70 MB-70HI



DOOR AND WINDOW SYSTEMS



The MB-70 door and window system with enhanced thermal insulation. The solutions based on MB-60 profiles featuring a three-chamber construction. The MB-70 system is not only characterised by a special construction of the thermal barrier but also by an innovative solution of two-component gaskets. Apart from anti-burglary doors and windows which can be built in this system anti-burglary products up to RC4 class, there are also available different versions of windows, such as the MB-70US / MB-70US HI with the so-called "hidden sash" and the MB-70 Industrial / MB-70 Industrial HI. The system is also the base for constructing the "cold-warm" curtain wall MB-70CW / MB-70CW HI.

WITH THERMAL BREAK

Optimally selected profile shape

The system profiles feature a three-chamber structure. The constructional depth of window sections is 70 mm (frame) and 79 mm (casement), while in the case of door sections it is 70 mm and 70 mm, respectively. With windows and doors closed, such depths of casement and frame sections give the effect of a single plane for windows and the effect of the leaf being flush with the frame surface for doors, when looking from the outside. The shape of profiles makes it possible to obtain slender and resistant window and door constructions.

High thermal and acoustic insulation

The MB-70 / MB-70HI is a system of low heat transfer coefficient: U_f - from 1.03 W/m²K. This is of great importance in an era of increasing demands for energy management and environmental protection. The system uses profiled, omega-shaped thermal breaks of a width of 34mm [windows] and 24mm [doors] of glass fiber reinforced polyamide.

Excellent resistance to water and air infiltration

The tightness is ensured by the use of special gaskets made of two-component synthetic rubber (EPDM) solid and cellular, which provides resistance to aging during long-term operation and a very good thermal insulation.



Bałtyckie Centrum Biznesu, Gdańsk
design / Biuro Projektów BASS

Possibility of bending profiles

An important advantage of the MB-70 system is the ability to bend frame, casement and batten plate profiles, which allows to fabricate various types of arches and arch structures.

Variety of solutions

Versatility and attractiveness of the system is even greater with the possibility to choose between several variants of solutions for different design details, such as the bottom seal of the

door leaf, glazing beads shape, shape and height of the doorsills.

Large glazing range

Glass panes or other infills are installed using beads and glazing gasket. The system allows the use of sets of glass of a thickness of 23 - 60mm in window casements and from 15 to 51mm in fixed windows | door leaves. This wide range of infill thickness guarantees the use of all standard and non-standard glass panes.

SYSTEM MB-70US MB-70US HI



INVISIBLE SASH WINDOW SYSTEMS VARIETY

Functionality and aesthetics

- uniform external appearance of fixed and active windows,
- fixed and inward-opening windows: casement windows, tilt-and-turn, double-casement with a fixed or floating mullion,
- different types of glazing beads: Standard, Prestige, Style,
- possibility of building two-colour constructions: profiles can have different colours outside and inside,
- installation in individual developments or on aluminium curtain walls.

MOKOTÓW PLAZA I, Warszawa
design / JPM Design & Build



SYSTEM MB-70 Industrial MB-70 Industrial HI



LISTED BUILDING RENOVATION SYSTEMS

Whether for renovating old steel windows or giving a stylish steel look to new-build, the MB-70 Industrial enables to keep with the original style, providing all the benefits of modern aluminum technology. Combining attractive design options with long term reliability, the system also features enhanced thermal insulation properties to ensure energy conservation.

SILESIA CITY CENTER, Katowice, Poland
design / STABIL, ARUP, BOSE



SYSTEM MB-70SG



INVISIBLE SASH AND NARROW FRAME

The MB-70SG window construction meets the aesthetic requirements of architects and end users in regards to a smooth even external appearance between fixed and opening lights. In its appearance, the system resembles a window with a hidden sash; however, the outside frame is considerably narrower than in the already well utilised MB-70US solution, as it is only 47 mm wide. To achieve such an effect, glazing technology has been changed – a glass panel is glued to the sash with structural silicone.

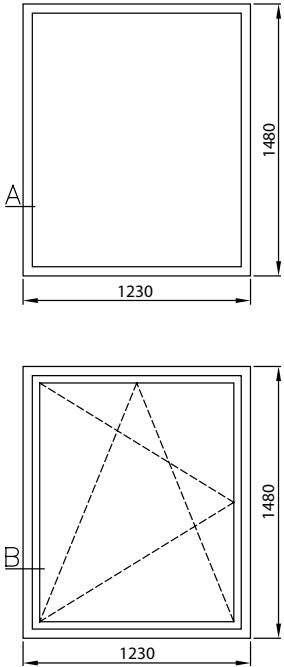
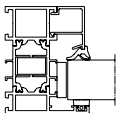
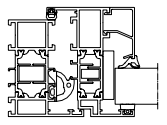
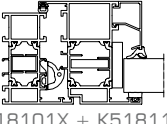
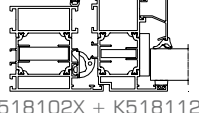
PLATINIUM BUSINESS PARK, Warsaw, Poland
design/ JEMS Architekci Sp. z o.o.



TECHNICAL SPECIFICATION	MB-70 MB-70 HI	MB-70US MB-70US HI	MB-70 Industrial MB-70 Industrial HI	MB-70SG	MB-70CW MB-70CW HI
Profile sizes, range of glazing					
Depth of Frame (door / window)	70 / 70	70			
Depth of Leaf (door / window)	70 / 79	79			
Glazing range mm (fixed window and door / opening window)	15 - 51 / 23 - 60	9 - 45 / 18 - 54	15 - 51 / 23 - 60	18 - 54	9 - 45 / 18 - 54
Min visible width T profile					
Door / window frame	51 / 47	75	47	47	78,5
Door / window leaf	72 / 32	-	32	-	34,6
Size and weight limitations					
Maximum size of window (HxW)	H to 1100 mm W to 1250 mm	H to 2100 mm W to 1400 mm	-	H to 2400 mm W to 2000 mm	-
Maximum size of door of door (HxW)	H to 2400 mm W to 1300 mm	-	-	-	-
Max weight of doors / windows	120 / 130	130	-	130	-
Types of construction					
Available solutions	tilt window, turn window, tilt&turn window, doors open in and open out	fixed window, tilt window, turn window, tilt&turn window	fixed window, tilt&turn window	turn window, tilt window, tilt&turn window	fixed window, tilt&turn window

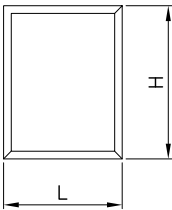
PERFORMANCE	MB-70 MB-70 HI	MB-70US MB-70US HI	MB-70 Industrial MB-70 Industrial HI	MB-70SG	MB-70CW MB-70CW HI
Air Permeability	Class 4, EN 1026:2001; EN 12207:2001				
Resistance to windload	Class C5 / EN 12211:2001; EN 12210:2001			Class C5 EN 12211:2001; EN 12210:2001	
Watertightness	Class E1200 EN 1027:2001; EN 12208:2001			E750 EN 1027:2001; EN 12208:2001	
Thermal Insulation U_f (W/m ² K)	from 1,0	from 1,5	from 1,9	from 2,2	from 1,4

Examples of heat transfer coefficients U_w

WINDOWS SCHEMES	SECTION A OR B	Value U_w [W/m ² K]		
		Glass with Chromatech Ultra frame		
		Double chamber		Single chamber
		$U_g=0,5$	$U_g=0,7$	$U_g=1,0$
	 K518101X	0,8	1,0	1,2
	 K518101X + K518111X	1,0	1,1	1,3
	 K518101X + K518112X	1,0	1,1	1,3
	 K518102X + K518112X	1,0	1,1	1,3

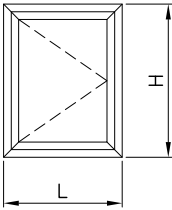
Max. dimensions of windows

Fixed window




Max. dimensions of windows result from maximal glass sizes.

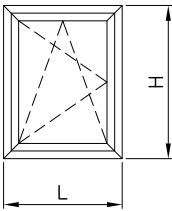
Turn-hung window



Hmax=2250 mm
Lmax=1300 mm


 - 130 kg

Tilt and turn window

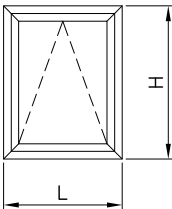


Hmax=2400 mm
Lmax=1250 mm


Hmax=1850 mm
Lmax=1600 mm

 - 90 kg/130 kg

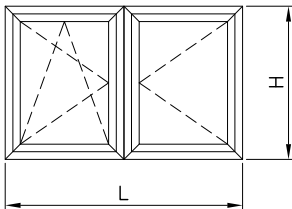
Tilt window




Hmax=1000 mm
Lmax=2150 mm


 - 130 kg


Double casement



Hmax=2250 mm
Lmax=2700 mm

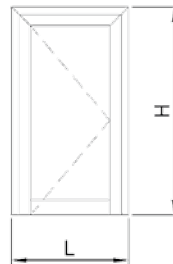
Turn-hung vent -  - 130 kg

Tilt and turn vent -  - 130 kg

 } Maximal vent weight


Max. dimensions of doors

Inside opening door

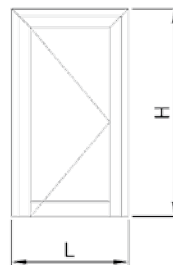


Hmax=2400 mm
Lmax=1200 mm

Hmax=2200 mm
Lmax=1300 mm


 -120 kg


Outside opening door



Hmax=2400 mm
Lmax=1200 mm

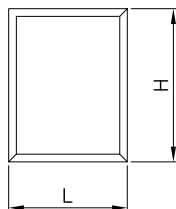
Hmax=2200 mm
Lmax=1300 mm

 -120 kg

 } Maximal vent weight

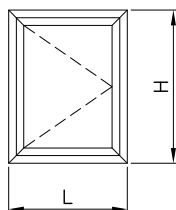
Max. dimensions of windows

Fixed window




Max. dimensions of windows result from maximal glass sizes.

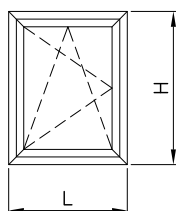
Turn-hung window



Hmax=1900 mm
Lmax=1000 mm


 - 130 kg

Tilt and turn window

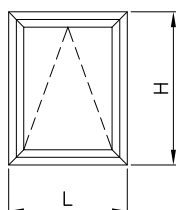


Hmax=1900 mm
Lmax=1100 mm


Hmax=1500 mm
Lmax=1400 mm

 - 130 kg

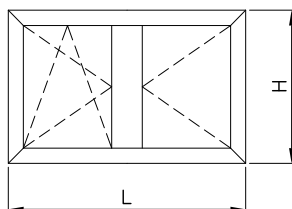
Tilt window




Hmax=1000 mm
Lmax=2150 mm


 - 130 kg


Double casement



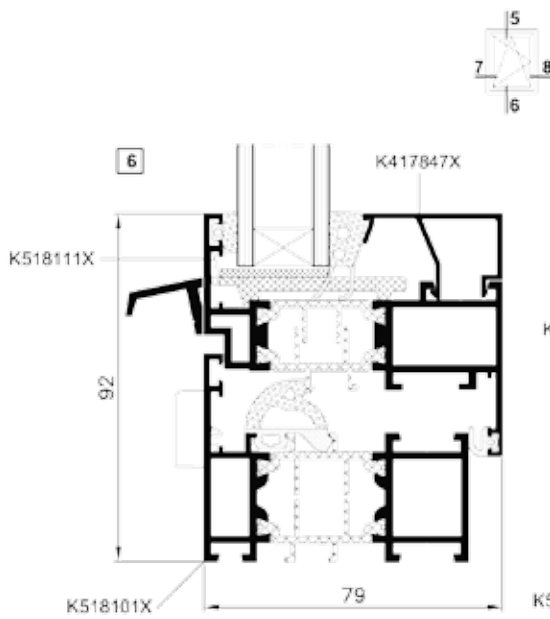
Hmax=1900 mm
Lmax=2400 mm

Turn-hung vent -  - 130 kg

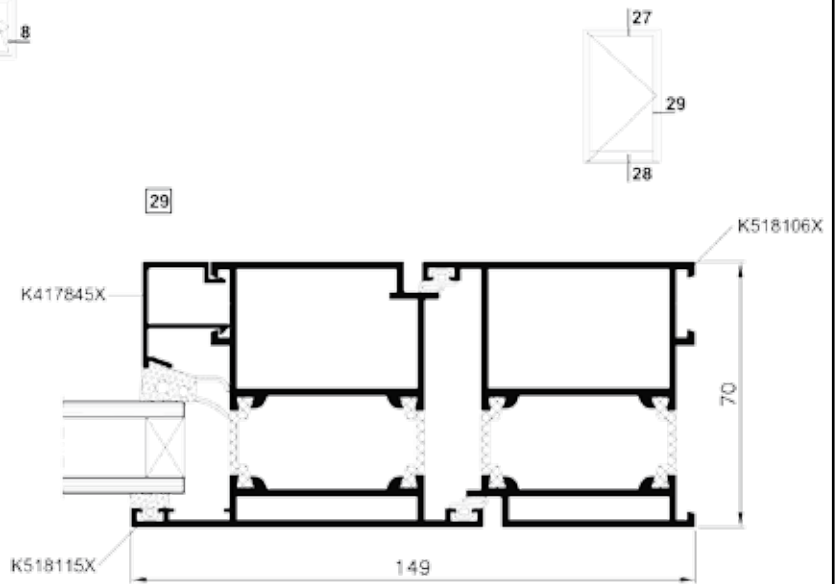
Tilt and turn vent -  - 130 kg

 } Maximal vent weight

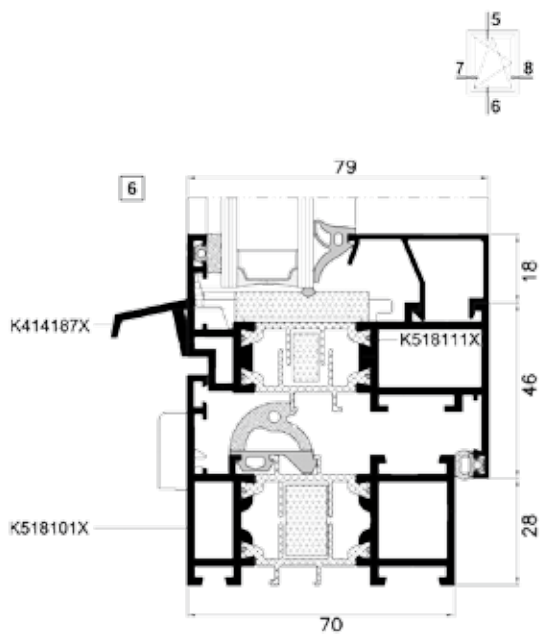
Active window MB-70 - cross-section



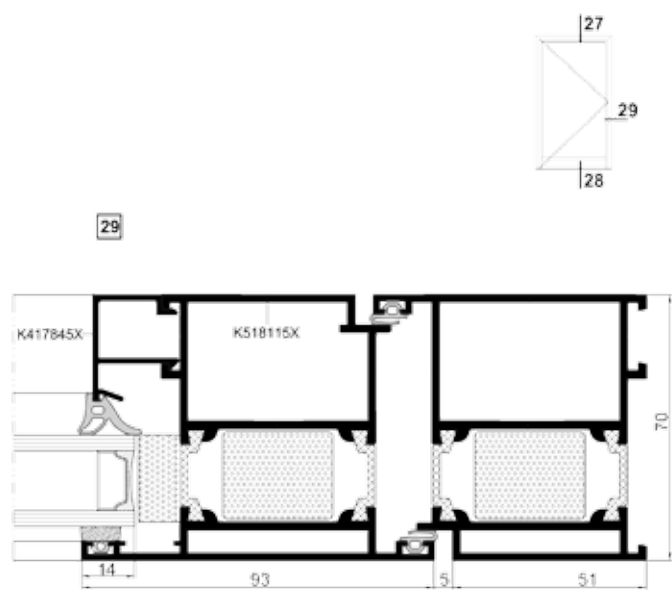
MB-70 door - cross-section



Active window MB-70HI - cross-section

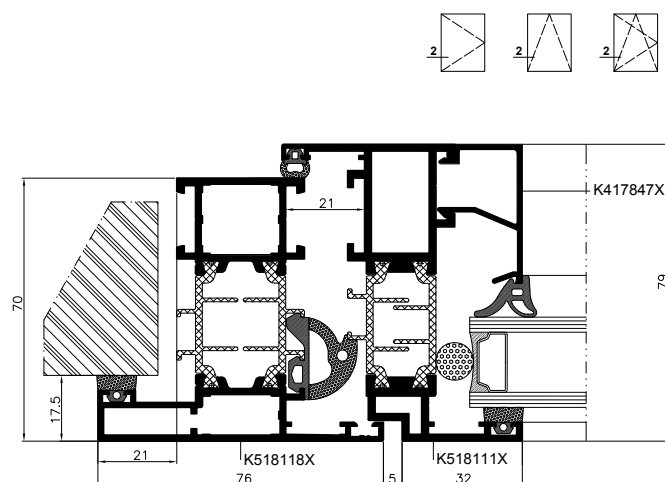


MB-70HI door - cross-section

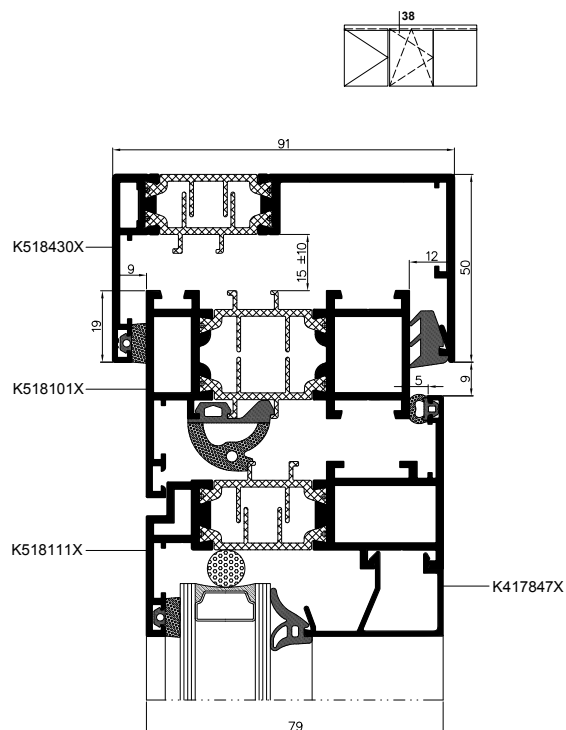


Scale 1:2

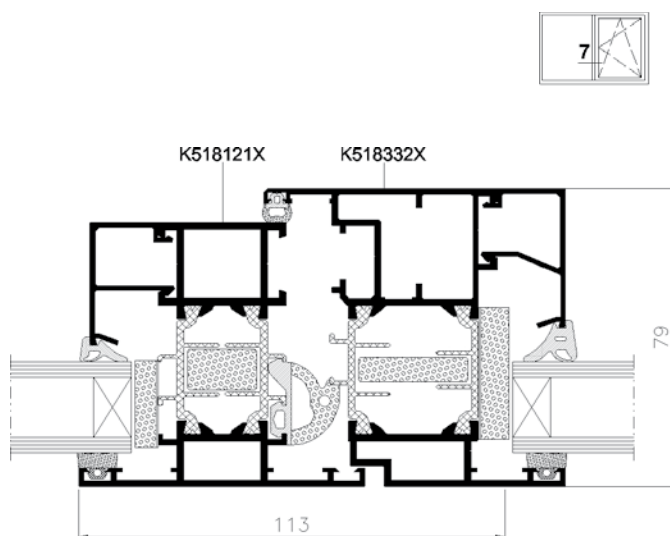
Window with renovation frame, view



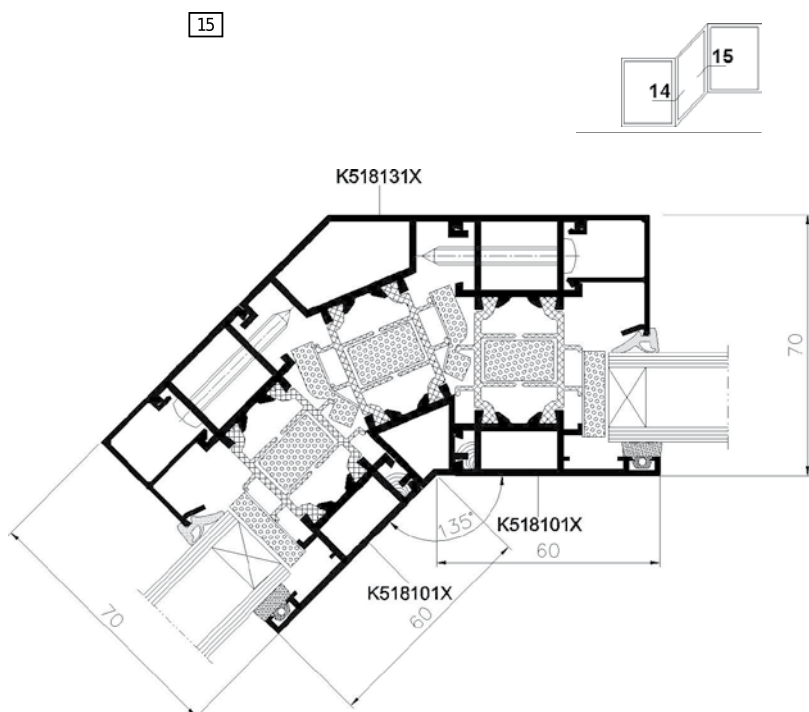
Expansion joints, view



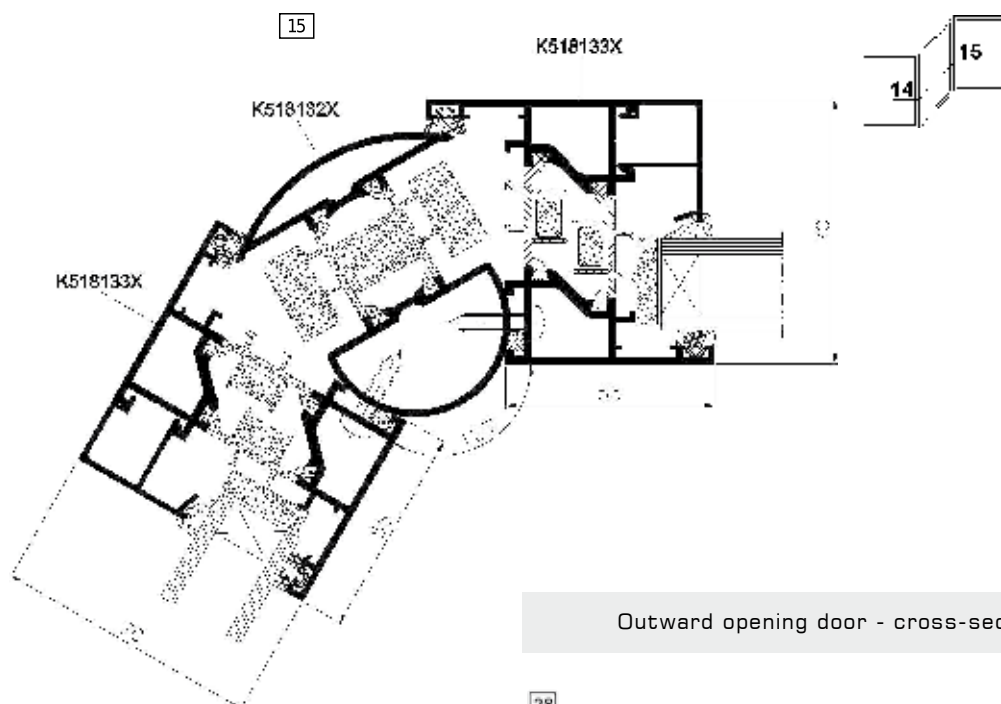
Tilt and slide window - cross-section



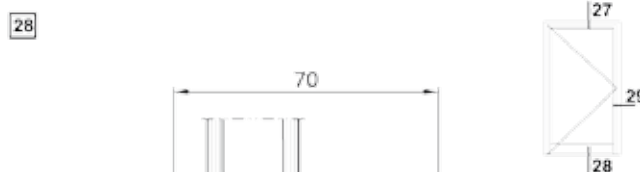
Angular connection - cross-section



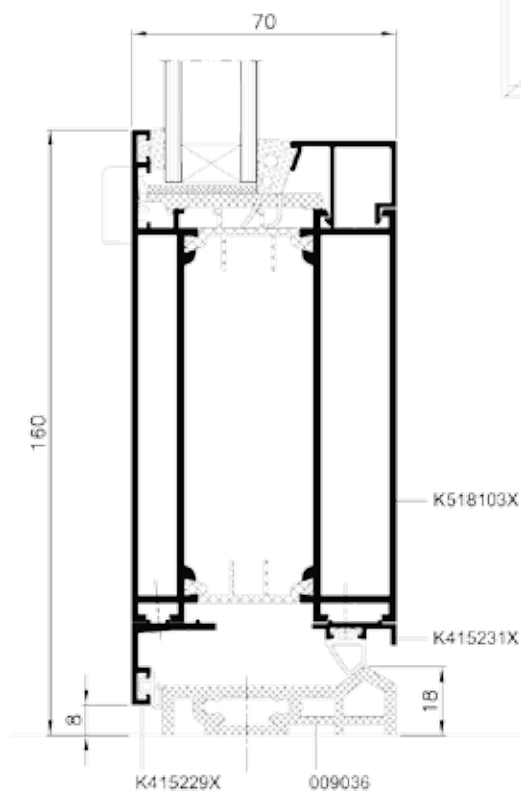
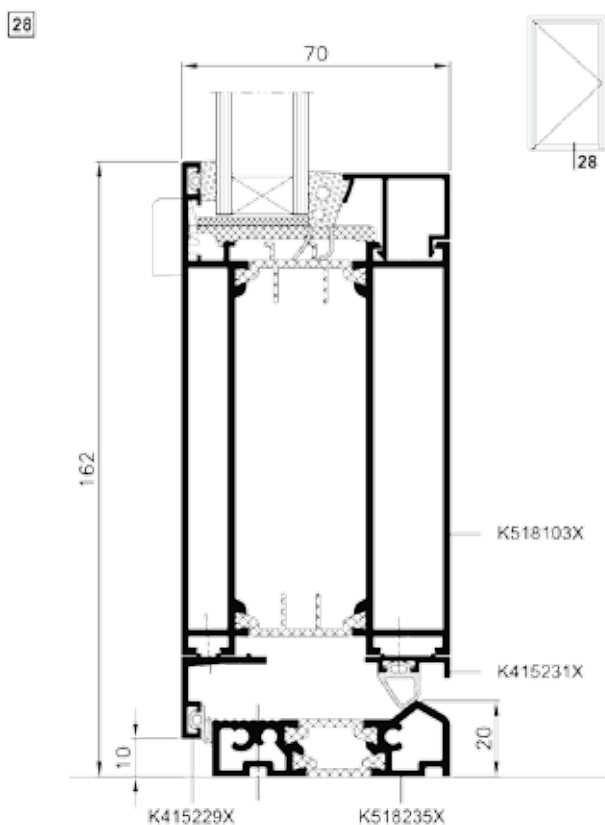
Angular connection - cross-section



Outward opening door - cross-section



Outward opening door - cross-section

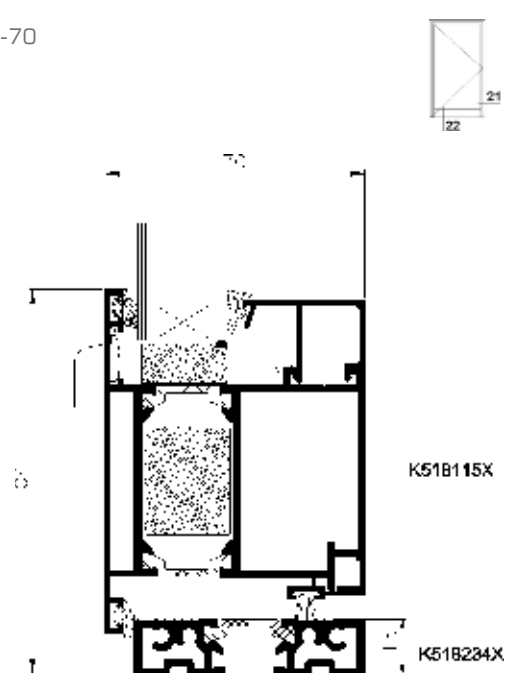
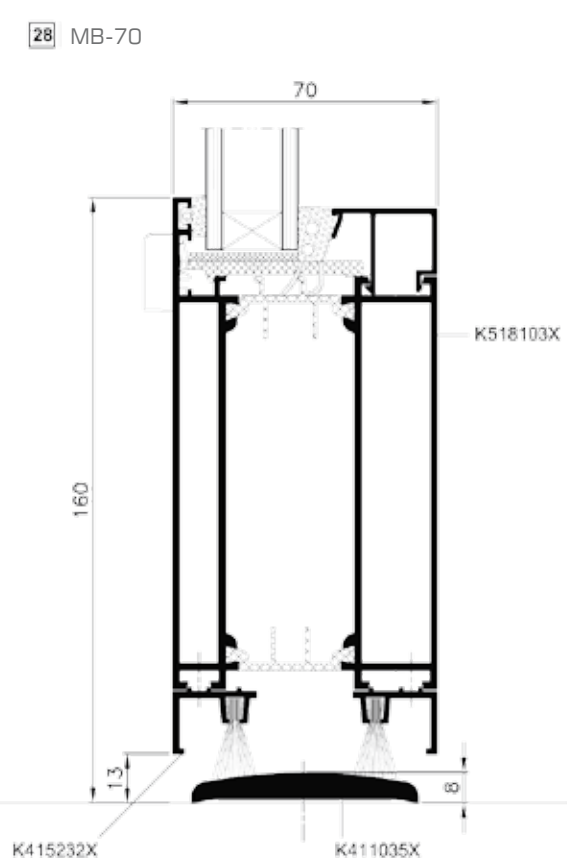


Outward opening door - cross-section

Outward opening door - cross-section

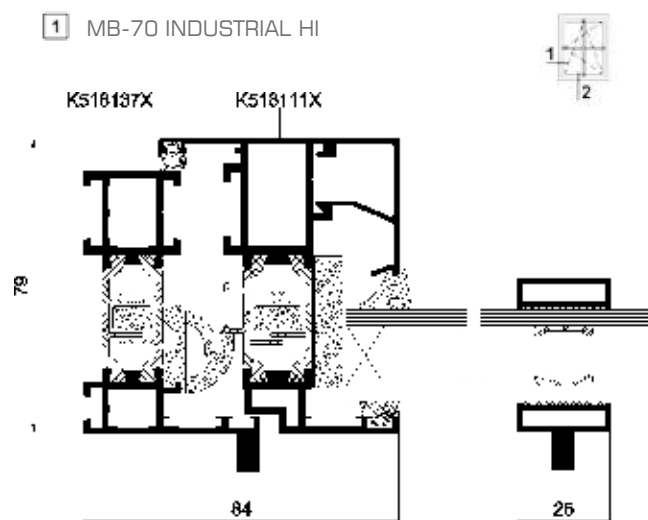
28 MB-70

22 MB-70



Active window - cross-section

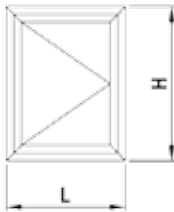
1 MB-70 INDUSTRIAL HI




Scale 1:2

Max. dimensions of windows

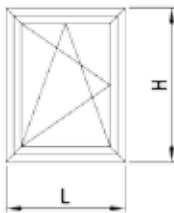
Casement window




Hmax=2000 mm Lmax=1600 mm	Hmax=2400 mm Lmax=1350 mm
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 - 130 kg

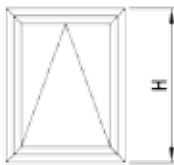
Tilt and turn window




Hmax=2000 mm Lmax=1600 mm	Hmax=2400 mm Lmax=1350 mm
------------------------------	------------------------------


 - 130 kg

Hopper window



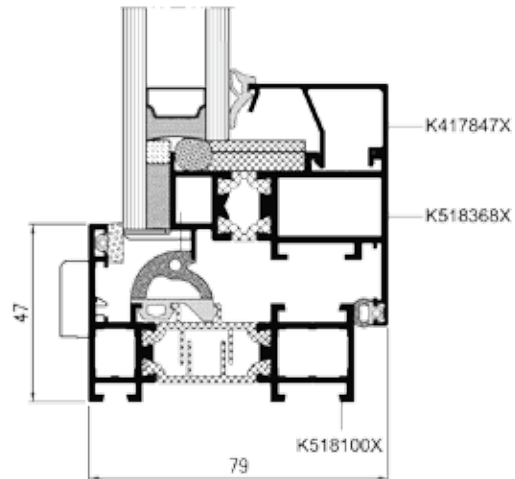
Hmax=2400 mm Lmax=2000 mm

 - 130 kg

 } Maximum weight of infills

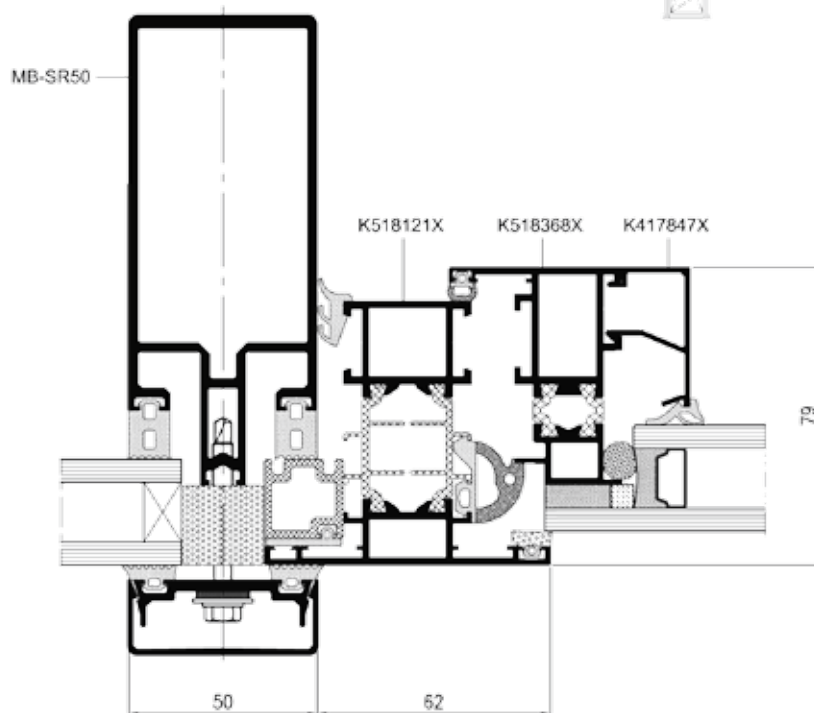
Active window - cross-section

2 MB-70SG



MB-70SG window in the MB-SR50HI façade

3 MB-70SG



Scale 1:2

SYSTEM MB-86 ST/SI MB-86 AERO

**RECOMMENDED
FOR ENERGY-EFFICIENT
CONSTRUCTIONS**

DOOR AND WINDOW SYSTEMS



A window and door system with very good parameters for the needs of various users. The construction of the profiles is available in 3 versions, depending on the requirements related to heat energy savings: ST, SI and AERO. MB-86 is the only aluminum system for windows in the world which makes use of aerogel – a material with excellent thermal insulation properties. The benefits of the MB-86 also include the high strength of the profiles, allowing the construction of large and heavy windows.

SYSTEM WITH A THERMAL BREAK

System features:

- A wide range of sections guarantees the desired visual qualities and structural strength. The system includes a wide range of profiles for frames, leafs, batten plates, reinforced mullions and angular braces, which offer good flexibility while designing buildings and minimize the necessity of using additional braces for large windows or display windows.
- Wide thermal spacers with a new shape, allowing the use of additional barriers in the profile insulation section. Thermal spacers occupy the central chamber of MB-86 profiles and are 43, 42 or 30,5 mm wide. Depending on the system version, additional elements can be used between them to improve thermal insulation: SI includes plastic or metal sheet partitions, while Aero includes special aerogel inserts.
- A double-component central gasket provides excellent sealing and thermal insulation in the space between the leaf and frame.
- A wide range of glazing allows the use of all types of triple-glazed units, sound-proof or anti-burglar glass.
- Glazing beads are available in three lines: Standard, Prestige and Style. Most strips in the Standard and Prestige versions are closed profiles, which ensures the secure fixing of infills and improves the anti-burglar qualities of the structure. Internal glazing gaskets are set deep in the beads so they are barely visible from outside.



- The shapes of the profiles are adjusted to the installation of various types of peripheral fittings, including hidden hinges. The use of typical fitting grooves in window leafs allows the installation of most available fittings, designed both for aluminum and PVC windows.
- Profile drainage is available in two options: traditional, with a visible decorative cap for the drain opening or hidden.

Regional Teaching, Conference,
Library and Administration Centre
at the University of Technology, Rzeszów, Poland

design / Biuro Projektów Budownictwa
Ogólnego BUDOPOL



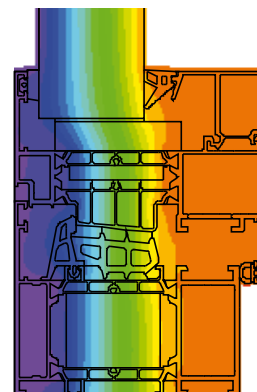
MB-86 ST window



MB-86 SI window



MB-86 Aero window

isothermal lines in
MB-86 AERO window

Examples of heat transfer coefficients U_w

WINDOWS SCHEMES	SECTION A OR B		Value U_w [W/m ² K]		
			Glass with Chromatech Ultra frame		
			Double chamber		Single chamber
			$U_g=0,5$	$U_g=0,7$	$U_g=1,0$
	MB-86 ST	 K518612X	0,77	0,94	1,23
		 K518612X + K518702X	0,90	1,04	1,29
	MB-86 SI	 K718612X	0,74	0,91	1,20
		 K718612X + K718702X	0,85	0,99	1,24
	MB-86 AERO	 K818612X	0,72	0,88	1,16
		 K818612X + K818702X	0,80	0,93	1,19



MB-86 ST door



MB-86 SI door

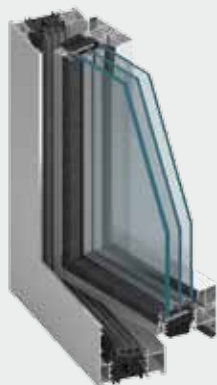


MB-86 Aero door

Examples of heat transfer coefficients U_D

WINDOWS SCHEMES	SECTION A OR B		Value U_D [W/m ² K]		
			Glass with Chromatech Ultra frame		
			Double chamber		Single chamber
			$U_g=0,5$	$U_g=0,7$	$U_g=1,0$
	MB-86 ST	 K518731X+K518746X+K518770X	1,19	1,32	1,54
	MB-86 SI	 K718731X+K718746X+K718770X	1,07	1,20	1,41
	MB-86 SI+	 K718731X+K718746X+K718770X	0,98	1,11	1,33
	MB-86 AERO	 K818731X+K818746X+K818770X	0,88	1,02	1,23

SYSTEM MB-86US



CONCEALED CASEMENT WINDOW

A characteristic feature of this solution is its appearance: the profile of the sash is concealed behind the frame profile and the glass surfaces laid in openable and fixed sections lie in one plane. This makes the openable and fixed lites look the same on the outside.



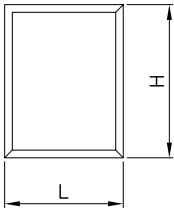
MB-86 AND MB-86 US specifications

TECHNICAL SPECIFICATION	MB-86 WINDOWS	MB-86 DOOR	MB-86US
Depth of frame (mm)	77	77	77
Depth of leaf (mm)	86	77	80,8
Glazing range (frame / leaf)	frame: 13,5 - 58,5 leaf: 21 - 67,5	13,5 to 58,5	frame: 7 - 52 leaf: od 15 - 60
Size and weight limitations			
Maximum size (HxW)	H to 2800 mm W to 1700 mm	H to 3000 mm W to 1400 mm	H to 2500 mm W to 1600 mm
Max weight (kg)	150	200	150

PERFORMANCE	MB-86 WINDOWS	MB-86 DOOR	MB-86US
Air Permeability	Class 4, PN-EN 12207:2001	Class 3, PN-EN 12207:2001	Class 4, PN-EN 12207:2001
Watertightness	Class E 1500, PN-EN 12208:2001	Class 5A (200 Pa), PN-EN 12208:2001	Class E 1350, PN-EN 12208:2001
Thermal insulation window U_f W/(m ² K)	MB-86 ST from 1,39 MB-86 SI from 0,92 MB-86 AERO from 0,57	MB-86 ST from 2,16 MB-86 SI from 1,76 MB-86 SI+ from 1,49 MB-86 AERO from 1,22	MB-86US ST from 1,03 MB-86US SI from 1,01 MB-86US AERO from 0,86
Resistance to windload	Class C5, PN-EN 12210:2001	Class C1/B2, PN-EN 12210:2001	Class C5, PN-EN 12210:2001

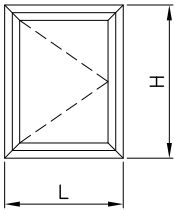
Max. dimensions of windows

Fixed window




Max. dimensions of windows result from maximal glass sizes.

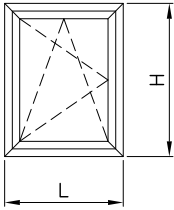
Turn-hung window




Hmax=2800 mm	Hmax=2150 mm
Lmax=1300 mm	Lmax=1700 mm

 - 150 kg

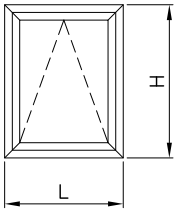
Tilt and turn window




Hmax=2800 mm	Hmax=2150 mm
Lmax=1300 mm	Lmax=1700 mm

 - 150 kg

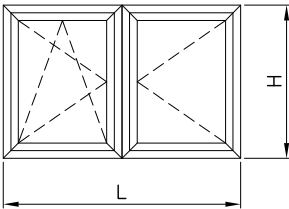
Tilt window




Hmax=2400 mm	Hmax=1300 mm
Lmax=1600 mm	Lmax=2400 mm


 - 130 kg


Double casement



Hmax=2650 mm	Hmax=1900 mm
Lmax=2550 mm	Lmax=3050 mm

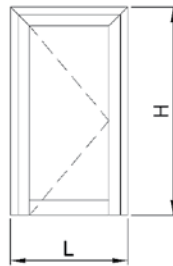
Turn-hung vent -  - 150 kg

Tilt and turn vent -  - 150 kg


 } Maximal vent weight

Maximum standard dimensions of the door

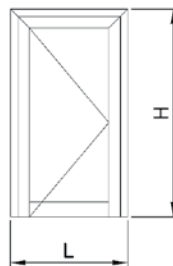
Inward openable




Hmax=3000 mm
Lmax=1400 mm


 - 200 kg

Outward openable

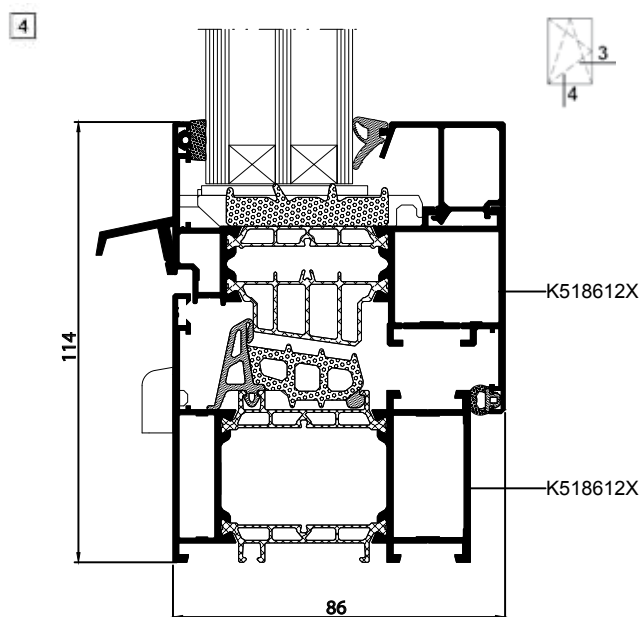


Hmax=3000 mm
Lmax=1400 mm

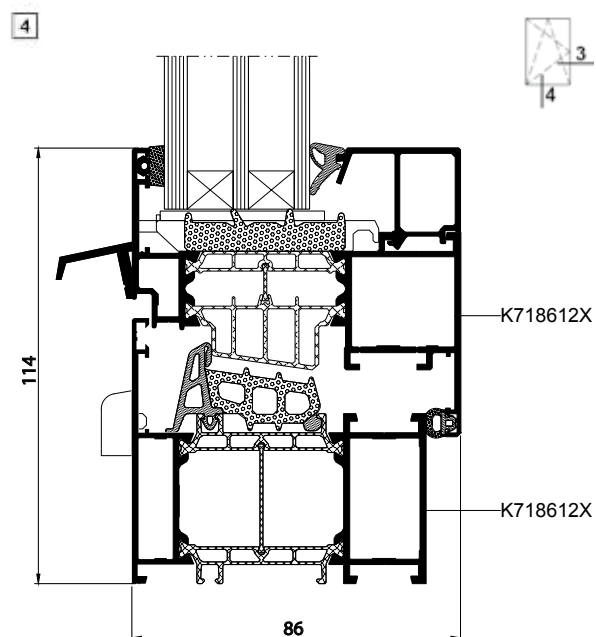
 - 200 kg

 } Maximum leaf weight

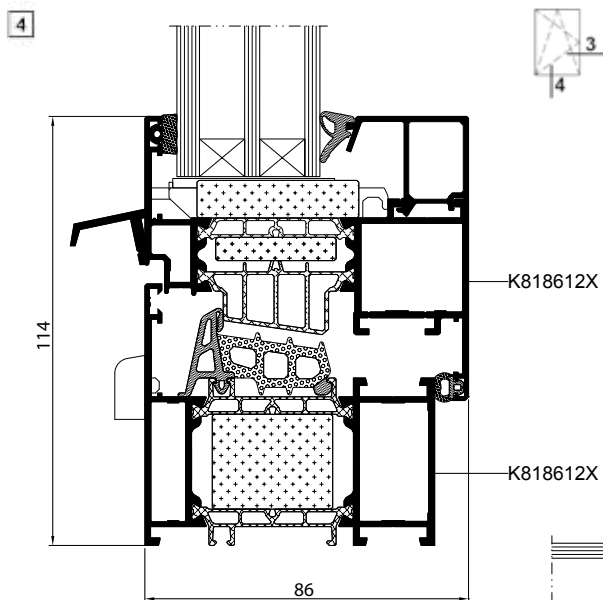
Opening window MB-86 ST



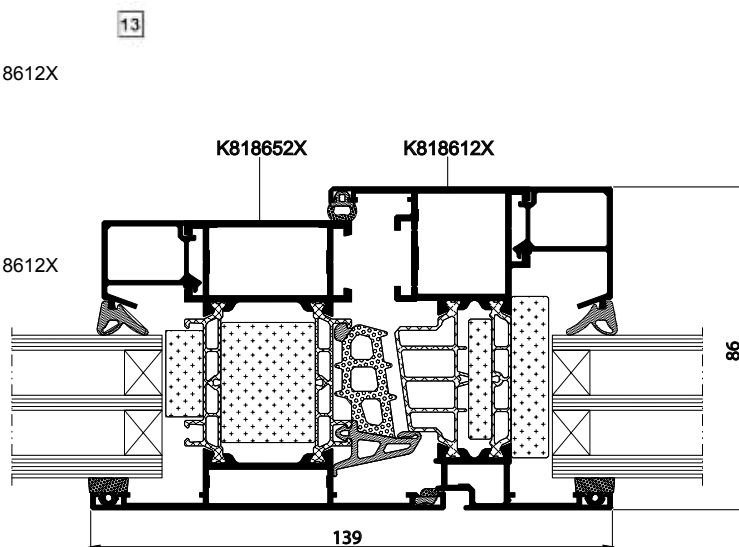
Opening window MB-86 SI



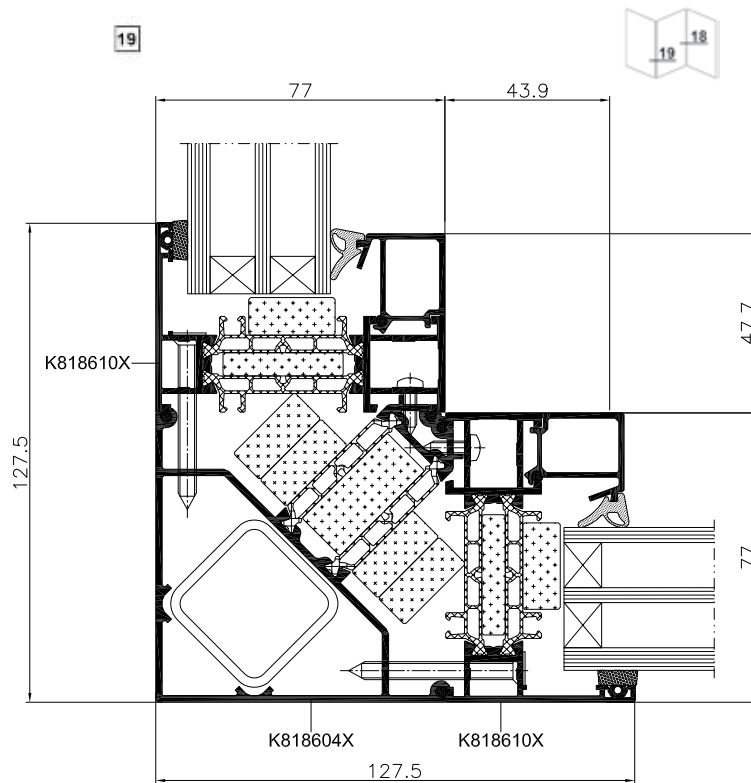
Opening window MB-86 AERO



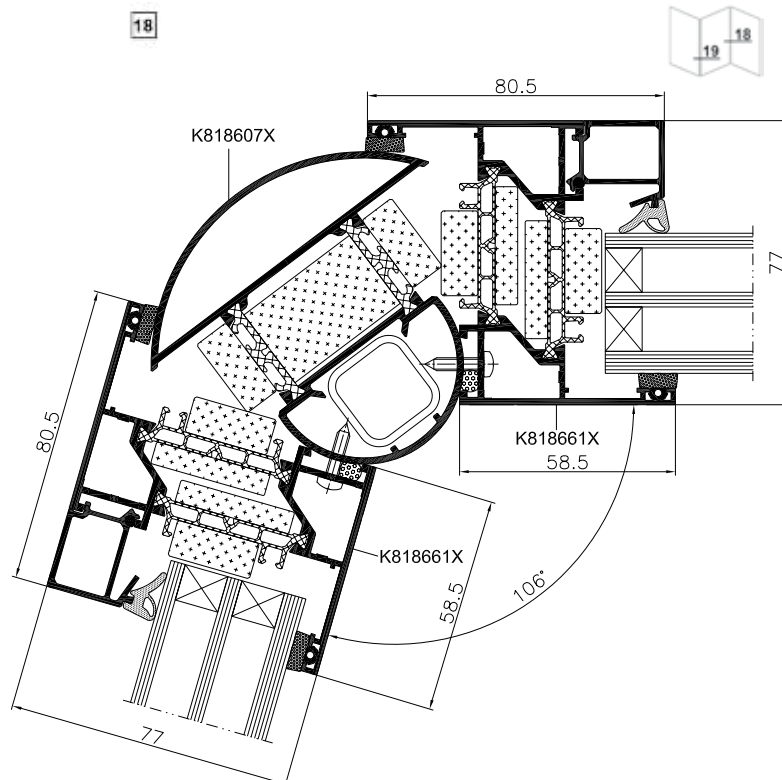
Opening-fixed windows MB-86 AERO



Windows corner connections MB-86 AERO

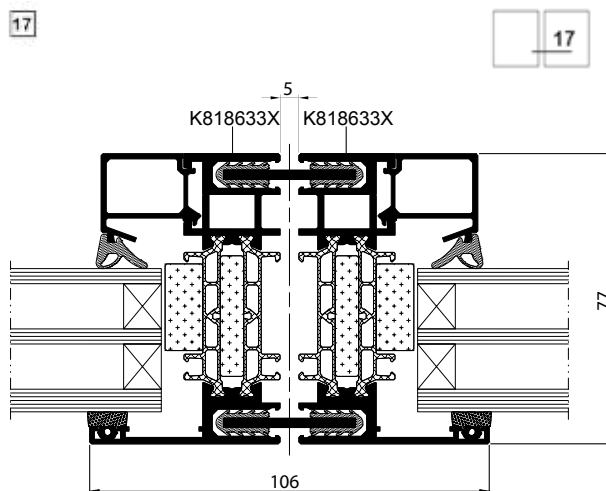


MB-86 AERO tilt and slide window with reinforced mullion



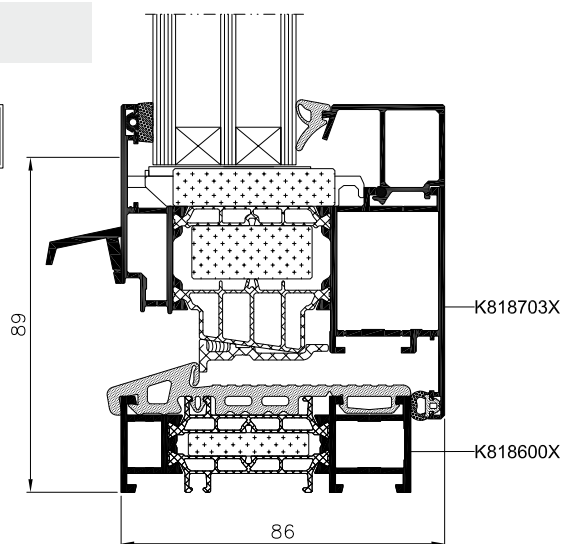
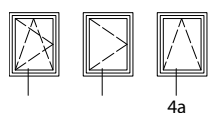
Scale 1:2

Expansion connection MB-86 AERO



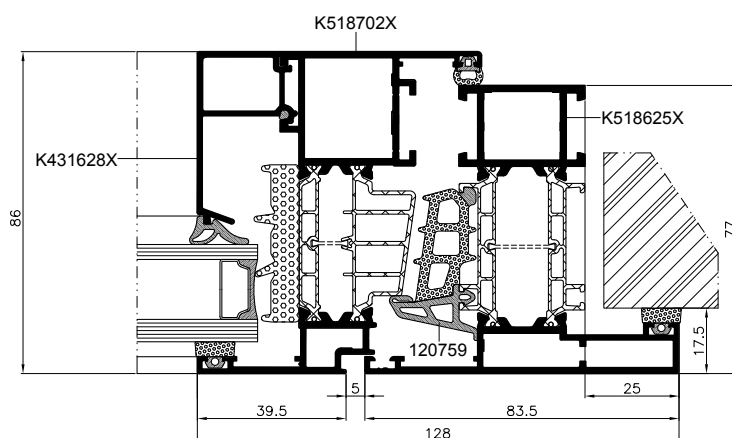
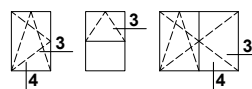
MB-86 AERO balcony door with low threshold

4a

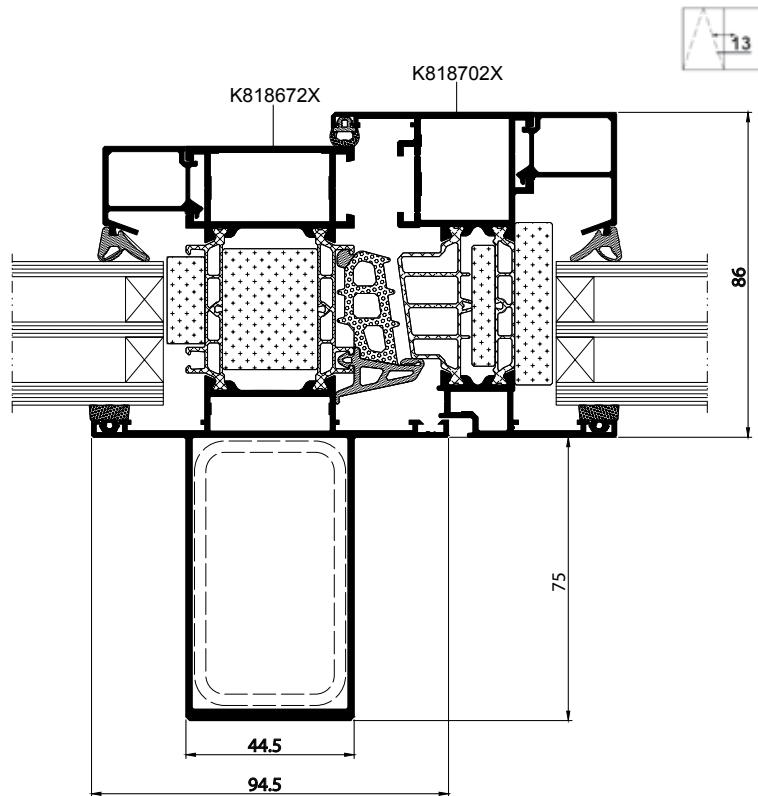


Openable window with renovation frame, view

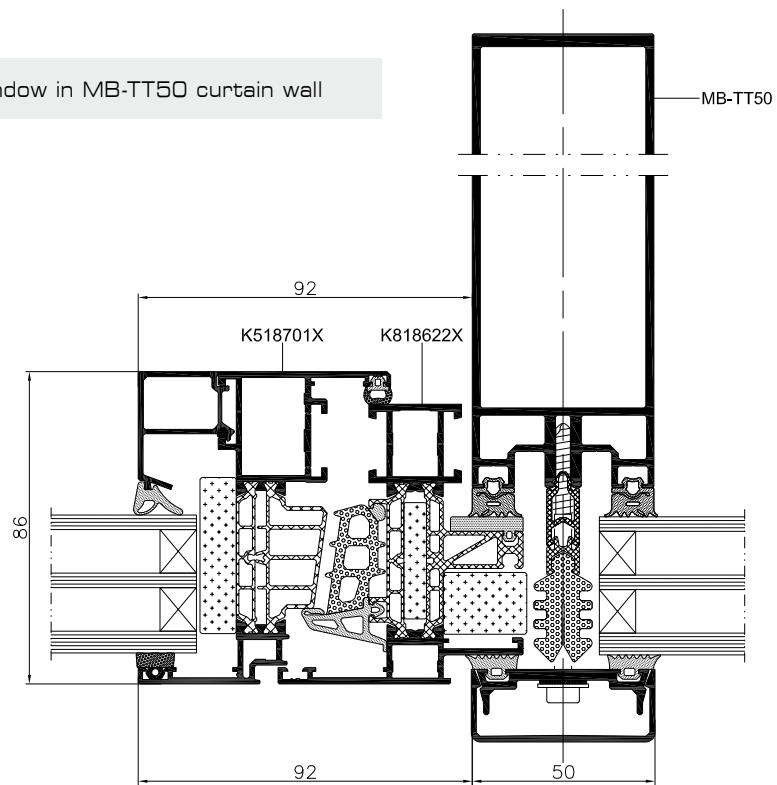
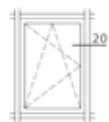
3



MB-86AREO Tilt&Slide window
with reinforced mullion

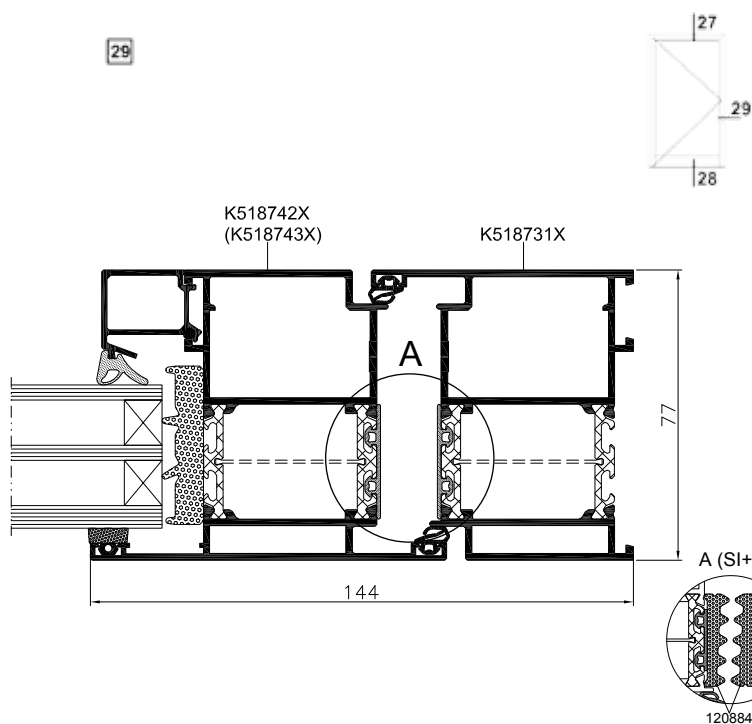


MB-86AREO window in MB-TT50 curtain wall

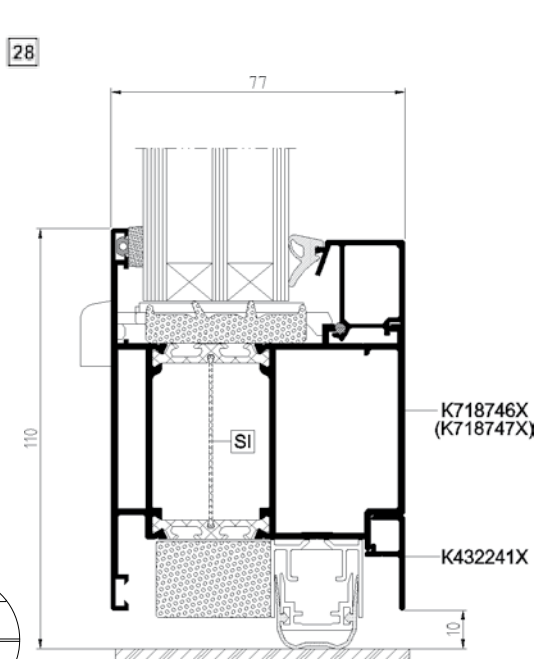


Scale 1:2

MB-86 ST/SI door section

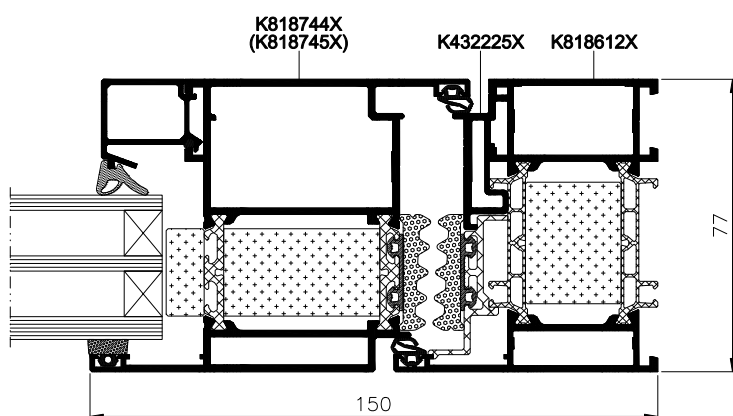


MB-86 AERO door threshold section



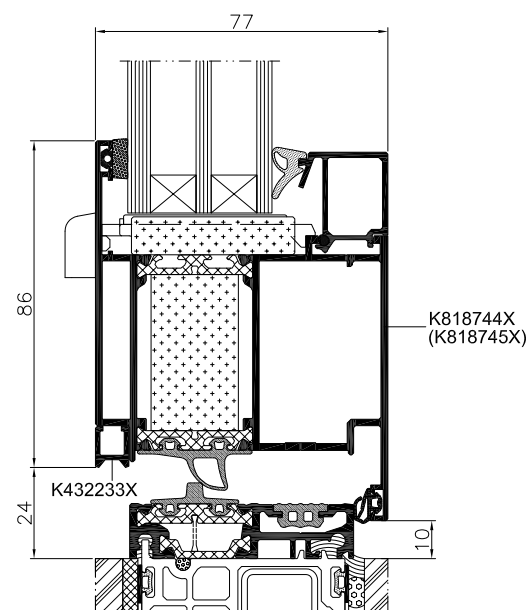
Cross-section through the MB-86 AERO door
in continuous shopfront

35

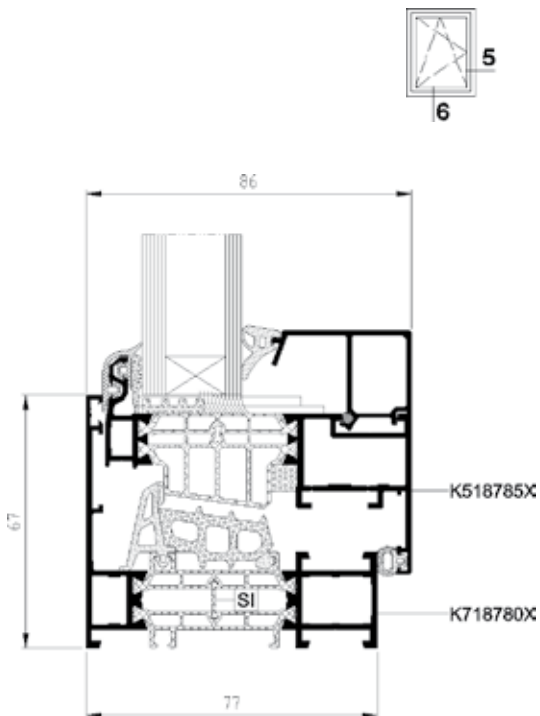


Cross-section through the MB-86 AERO
door threshold

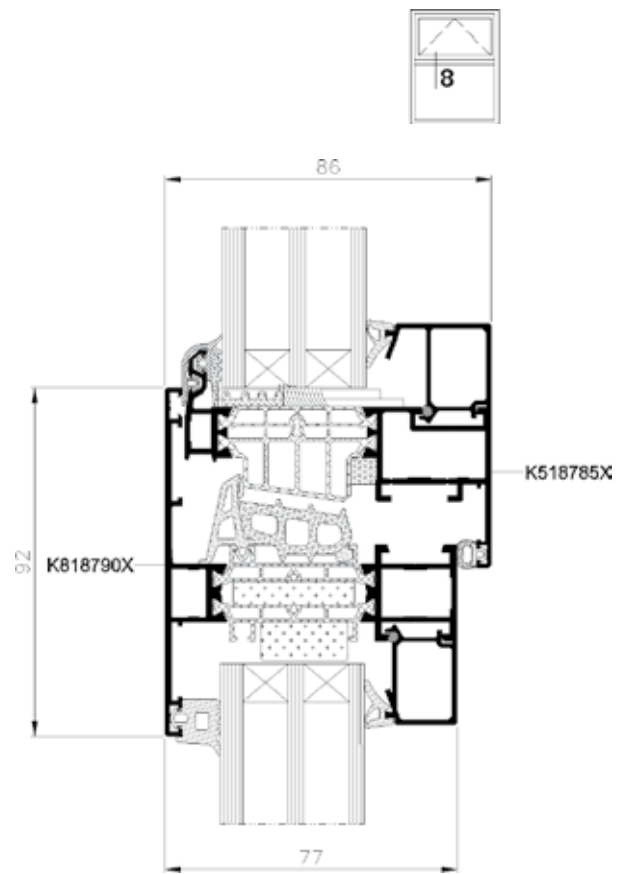
36



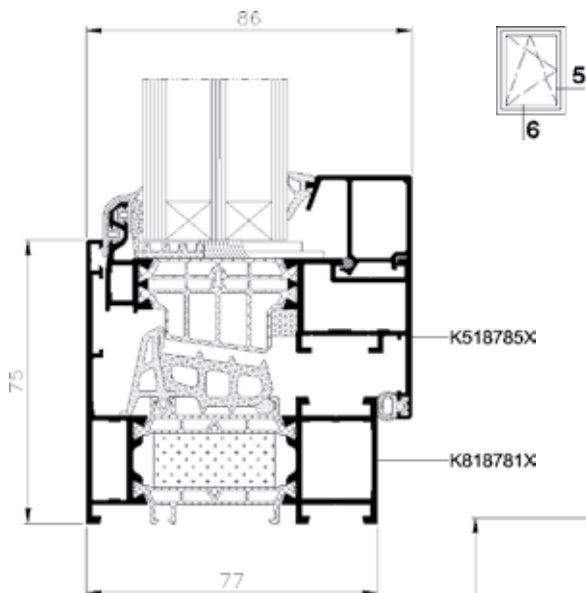
MB-86US ST/SI openable window, view



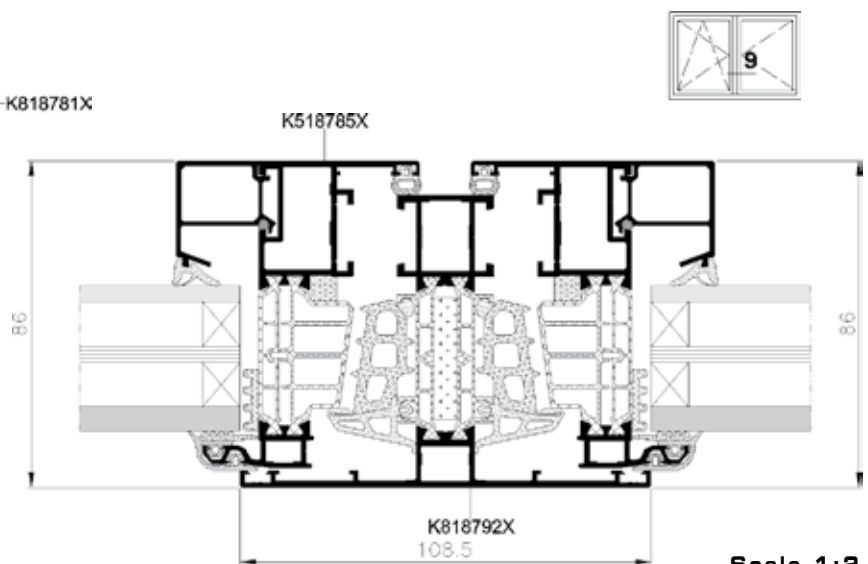
MB-86US AERO fixed and openable window, view



MB-86US openable window, view



MB-86US AERO openable 2-casement window, view



Scale 1:2

SYSTEM
MB-104 PASSIVE

DOOR AND WINDOW SYSTEMS



Thanks to its excellent thermal performances, thermally broken window-door system MB-104 Passive meets all the requirements for the building elements used in passive buildings. This was confirmed by certificates granted by the Passive House Institute PHI Darmstadt. This system is intended for fabrication of external structure elements such as various types of windows, doors, anterooms, shop fronts and spatial structures, which are highly robust and characterized by excellent water and air tightness, and thermal & acoustic insulation performance.

WITH THERMAL BREAK

Window profiles' design depth: 95 mm (frame), and 104 mm (vent). The profiles have three-chambered structure, their central part being an insulation chamber between thermal breaks of a width of 61 or 60 mm. The system is available in two variants that differ by degree of thermal protection: MB-104 Passive SI & MB-104 Passive AERO. In that second variant, the central chamber of the profiles is filled with a special airgel insert, known for its excellent thermal insulation performance.

Of a closed shape, glazing beads, both in Standard (rectangular) and Prestige (rounded) version, allow to fix the infill in a durable manner, which greatly facilitates the fabrication of high security constructions. Wide range of glazing allows the installation of all types of triple or quadruple, acoustic or security glazing units available on the market. Possible ranges of thickness are: for frames – from 25.5 to 72 mm, casement – from 34.5 to 81 mm.

Using typical "Euro" grooves in fittings allows the installation of most of the available fittings, designed both for aluminium and PVC windows. MB-104 Passive system-based windows can be equipped with concealed or classic butt hinges, and various handles. The drainage of the profiles can be performed as concealed or front faced, capped variant. High weather tightness performance, and an excellent thermal insulation can be achieved through a specially-shaped 2-component central gasket (with cellular isolation element), and glazing & rebate gaskets.



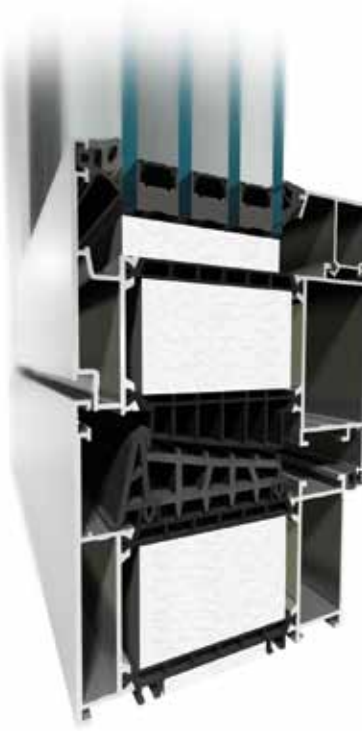
The performances of MB-104 Passive-based windows & doors exceed the most stringent requirements of applicable standards and building regulations. Both variants have been granted certificates by the Passive House Institute PHI Darmstadt. This confirms that the heat transfer coefficient for windows with triple glazing units and warm edge spacer, reaches, for openable windows, casement size 1230 x 1480 mm, the U_w value of $<0.80 \text{ W/(m}^2\text{K)}$, which make them a perfect match with passive buildings. Depending on the size and type of glazing, thermal insulation of the

MB-104 Passive AERO-based windows can reach overall U_w value starting from $0.53 \text{ W/(m}^2\text{K)}$.*.

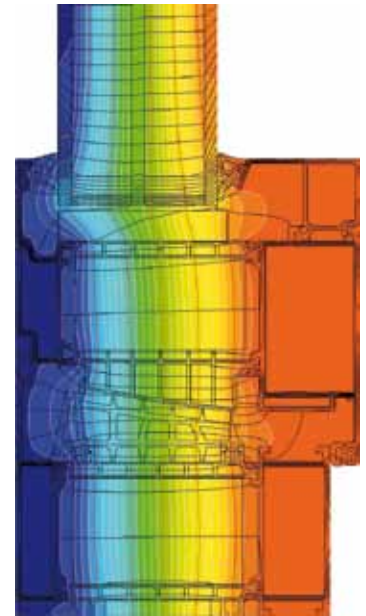
[* U_w for MB-104 Passive Aero-based openable window, vent size 1700 x 2100 mm, with glazing $U_g = 0.4 \text{ W/(m}^2\text{K)}$].



MB-104 SI window

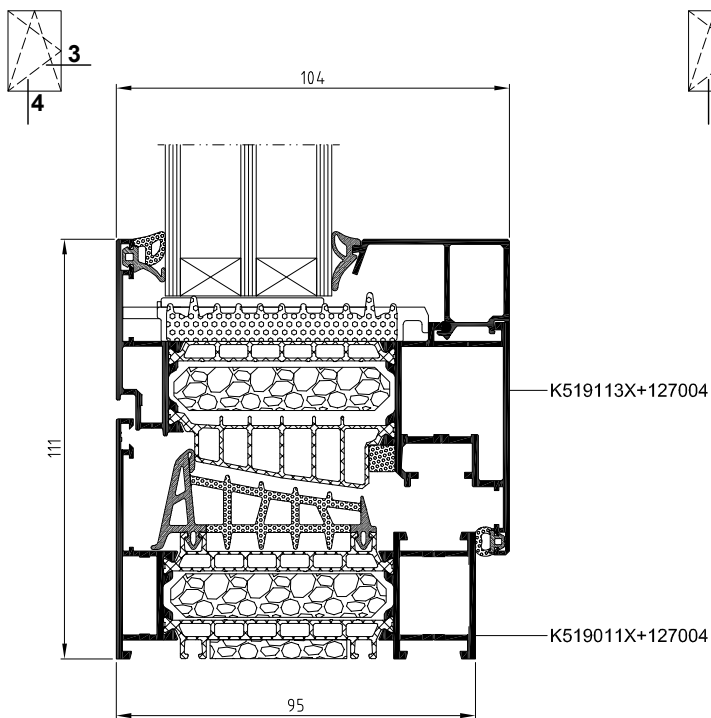


MB-104 Aero window

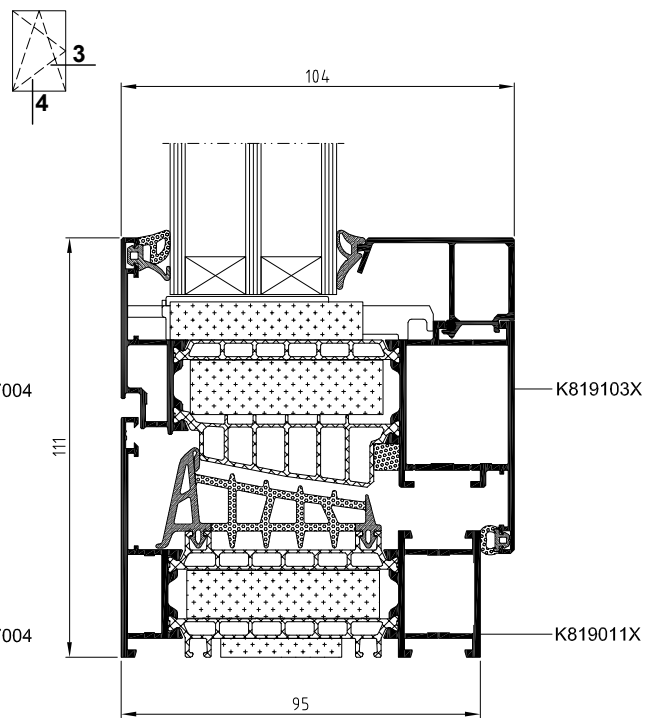


Isotherm distribution in the window

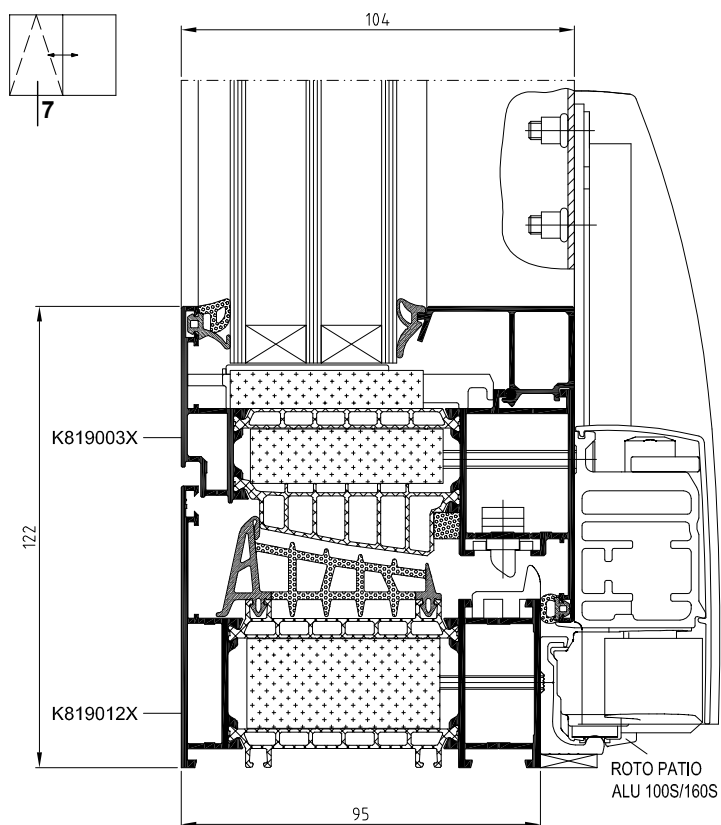
MB-104 Passive SI openable window



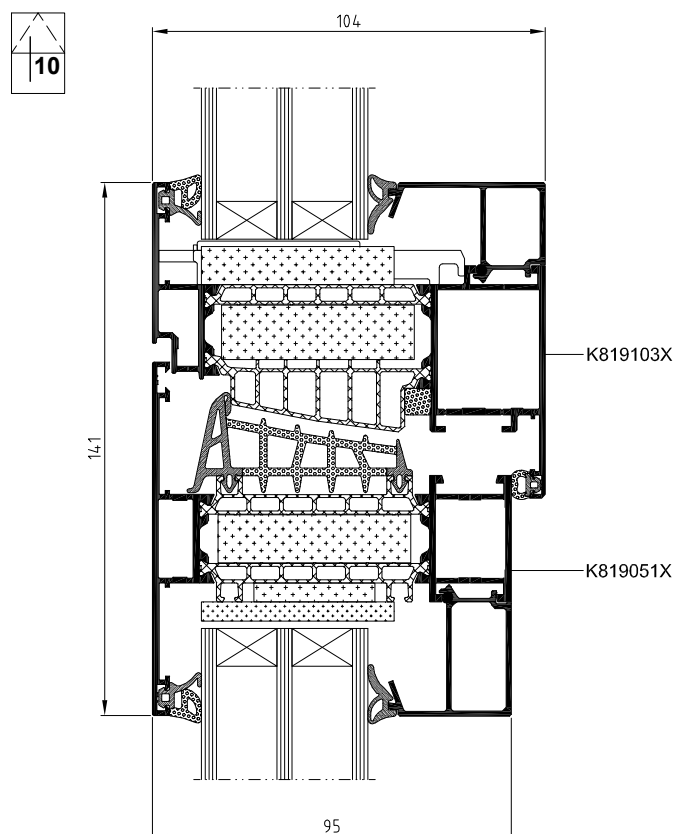
MB-104 Passive Aero openable window



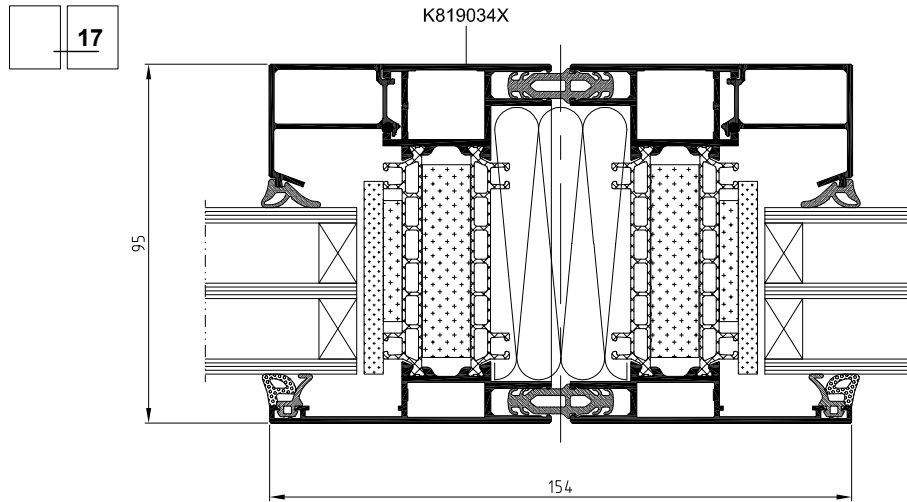
MB-104 Passive Aero tilt-and-slide window



Section view: MB-104 Passive Aero window transom

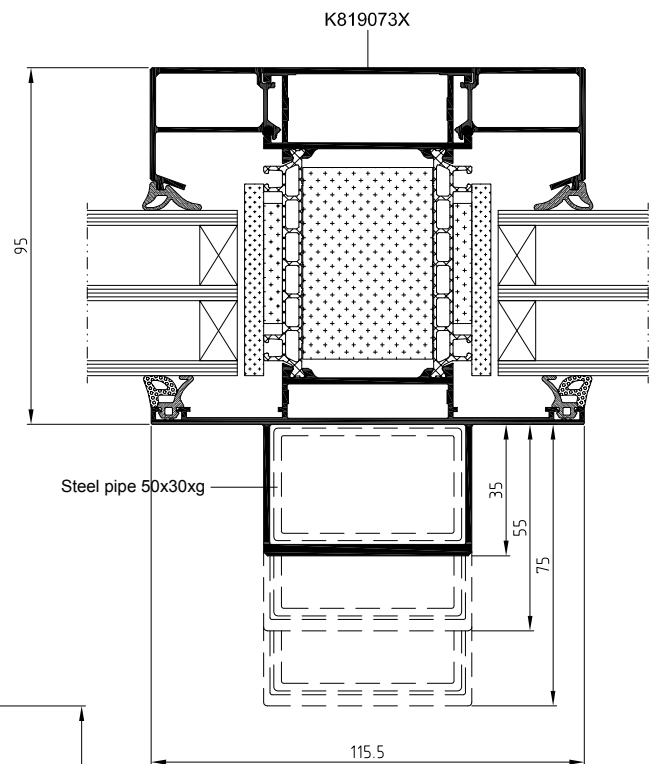


Expansion joint



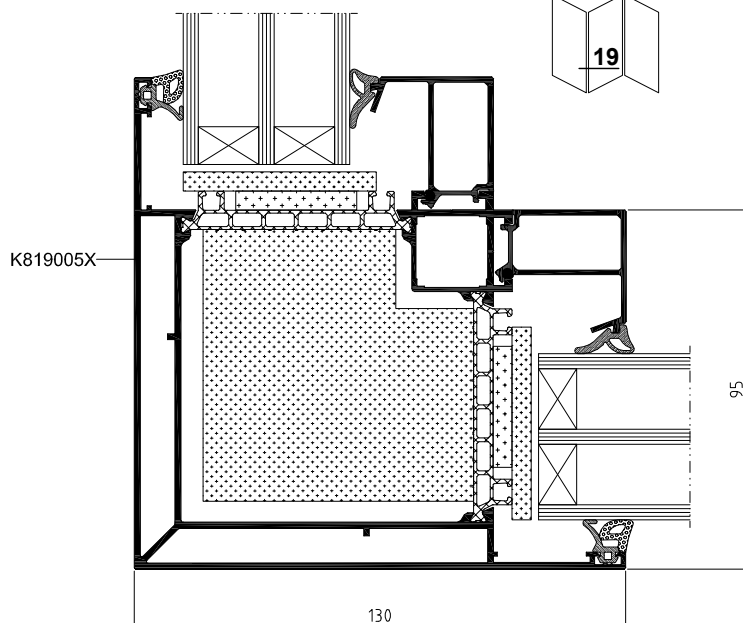
Section view: reinforced stud

14
15



Section view: corner stud 90°

19



Scale 1:2

PANEL DOOR

DOOR SYSTEMS



The solution is based on the MB-86 system of thermally insulated aluminium profiles, the most technologically advanced door system in the Aluprof range. The leaf profile has been adapted, enabling an interface with specially made door panels, for a variety of different looks. The panels provide a desirable, flush finish with the door frame on the outside face, & can be used in association with load-bearing profiles, by way of gluing the panel on one or two sides. The possibility of using concealed hinges, additionally enhances the aesthetic value of the doors.

Modernity, style & excellent appearance for years.

The associated techniques for the inclusion of different shapes within the panels, makes for a variety of decorative applications, together with integral glazing, provides an endless number of combinations, variations & styles, in order to meet all preferences. With this, such doors can be used in modern dwellings & developments, as well as in more traditional or classical style architecture. The characteristics of this door provide an attractive entrance & added charm to any building, with the potential to create a focal attention based on the chosen design used. The door panels are made of both a solid & weather-resistant material; external components can be coated with a special coating or alternatively the base material may contain Epoxy resins, all for the purpose of maintaining & preserving the representative appearance for a long time. It is also possible to apply unique Teflon paints, a form of "self-cleaning" finish intended to minimise the unwanted adhesion of dirt & grime.

In two words: ideal doors

Aluprof's panel doors are defined by both an elegant appearance, & high technical performance. The performance parameters & design of the system make possible to use the door in higher than usual traffic locations, & is ideal for use in the larger glass facade retail developments, if so desired. The PANEL DOOR can provide a great deal of freedom & versatility to the entrance of any building. It is the ideal solution for homeowner's who see their house as not just somewhere to live.



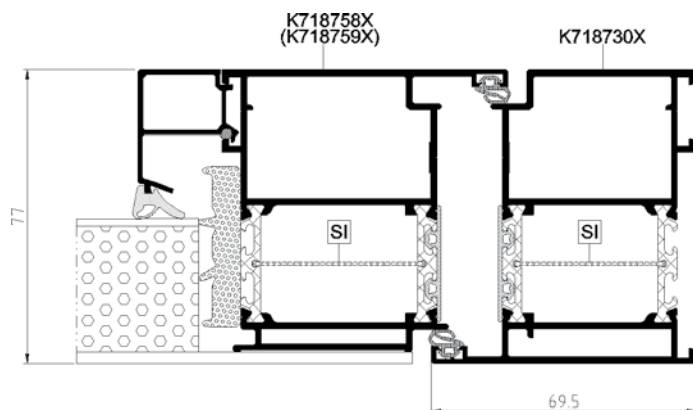
SPECIFICATIONS

Frame/leaf depth	77 mm
Filling panel thickness	22 – 77 mm
Maximum leaf dimensions (H × W)	L to 1400 mm, W to 2600 mm

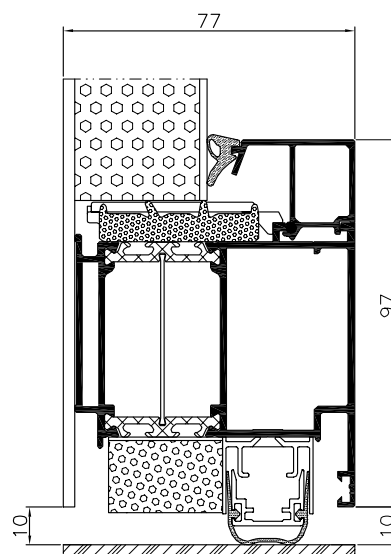
TECHNICAL PARAMETERS

Air permeability	Class 3, PN-EN 12207:2001
Water tightness	Class 6A (250 Pa), PN-EN 12208:2001
Wind resistance	Class C5/B5, PN-EN 12210:2001
Thermal insulating power	U _D up to 0,65 W/m²K

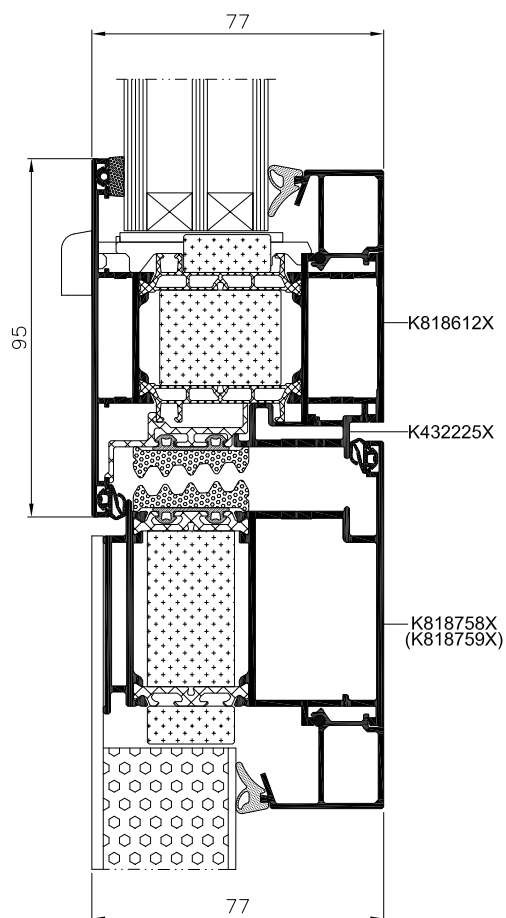
Cross-section through the MB-86 ST / SI panelled door in individual buildings (1-sided panel)



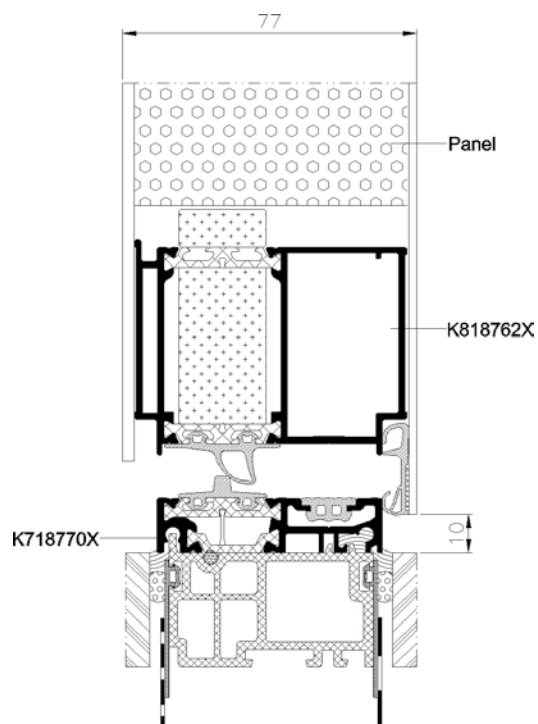
Cross-section through the MB-86 ST / SI panelled door threshold (1-sided panel)



Cross-section through the MB-86 AERO panelled door in continuous shopfront (1-sided panel)



Cross-section through the MB-86 AERO panelled door threshold (2-sided panel)



Scale 1:2

SYSTEM

MB-77HS

MB-77HS HI

DOOR AND WINDOW SYSTEMS



The MB-77HS "Lift & Slide" door product is an ideal solution for connecting interior space rooms or conservatories with the outside balcony, terrace or garden area. Providing both a smooth & silent slide action operation, it can bring the benefits of a beautiful day outside, into the living space. In addition, & by way of its design & operation, the MB-77HS is a great space saving opening & does not encroach the free space beyond the internal or external confines of the frame, without any compromise.

LIFT & SLIDE DOOR WITH ENHANCED THERMAL PERFORMANCE

Providing excellent weather tightness together with enhanced thermal performance, the MB-77HS complies with all of the requirements associated with this product type. Available in two different options, with regard to the level of thermal performance, the MB-77HS is further categorised as "ST" and "HI," standard or highly insulated. The design & arrangement of the system profiles enable luxurious openings of large dimensions, accommodating double & even triple glass unit compositions, which in conjunction with the constituent parts & innovative technical solutions, help achieve a high level of thermal & acoustic performance. Due to the system properties, & rigorous performance proven through a stringent testing regime, the MB-77HS is ideally suited to many domestic & retail applications, providing a comfortable, safe working, cost effective & low maintenance solution for the end user.



Features of systems MB-77HS:

- durable and slender profiles enable screens of a low-threshold door of the weight of the leaf of up to 400 kg, height – up to 3.2 m and width - up to 3.3 m.
- a wide range of glazing options, allowing application of double or triple glazed units combined with thermal breaks as well as additional inserts, enable achieving high thermal and acoustic insulation of the door.
- for aesthetic values glazing beads come in three options: Standard (rectangular), Prestige (rounded) and Style (shaped)

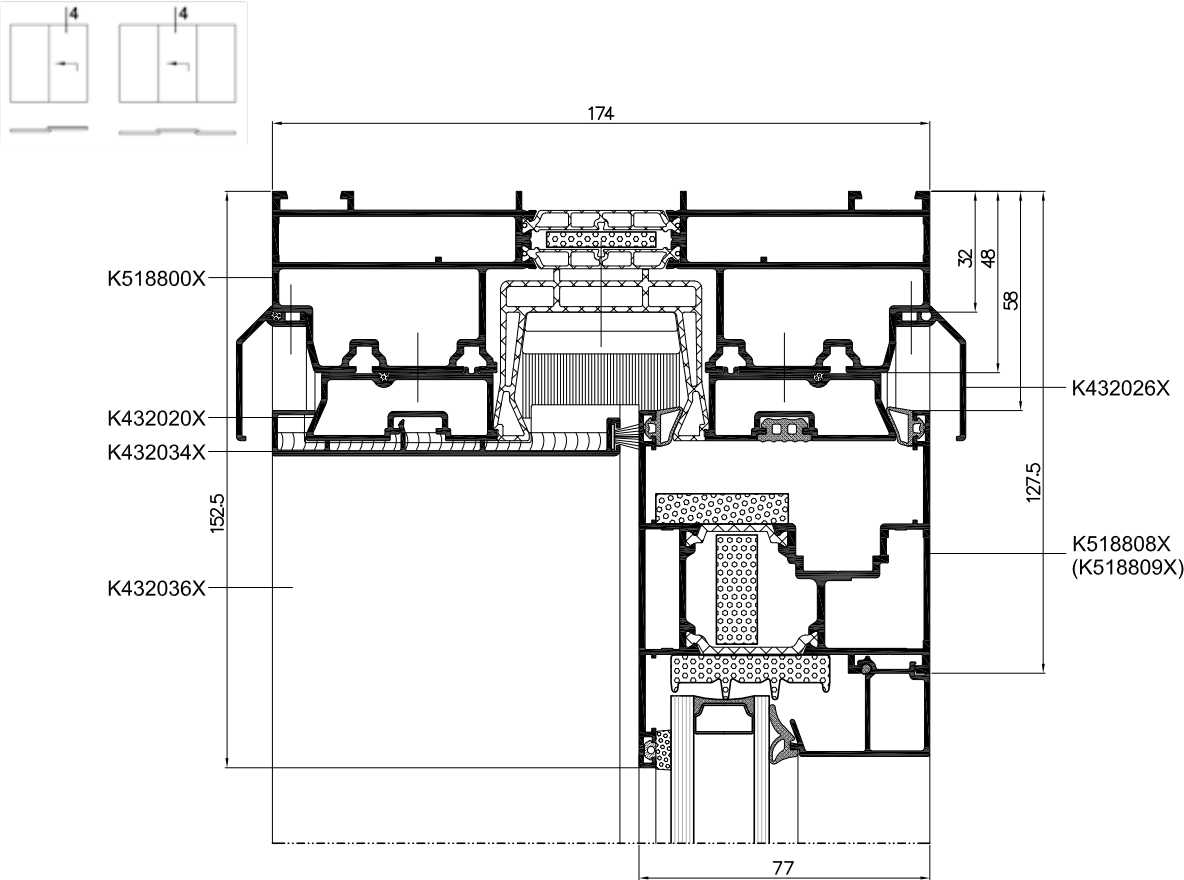
- closed shape of glazing beads and anti-jemmy details provide enhanced security properties without altering any essential constructional elements of the door.
- unique shape of closing and glazing gaskets and quality hardware ensure top end weather and air tightness performance
- profiles adapted to accommodate a number of manually or automatically operated hardware available on the market

- a large degree of compatibility with the MB-86 system creates an aesthetic combination of the MB-77HS doors with windows and using the same components in fabrication process
- a wide range of colour schemes allows for arrangement of doors to meet any individual requirements

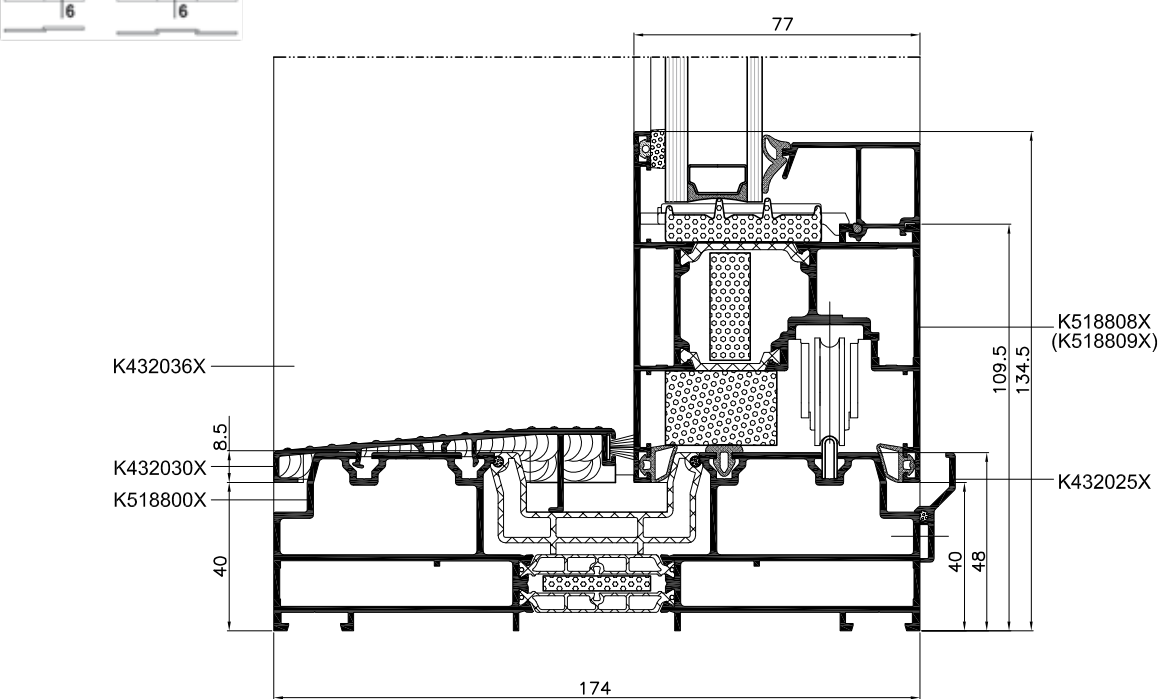
Lift& slide doors types MB-77HS / MB-77HS HI



Door top rail - cross- section

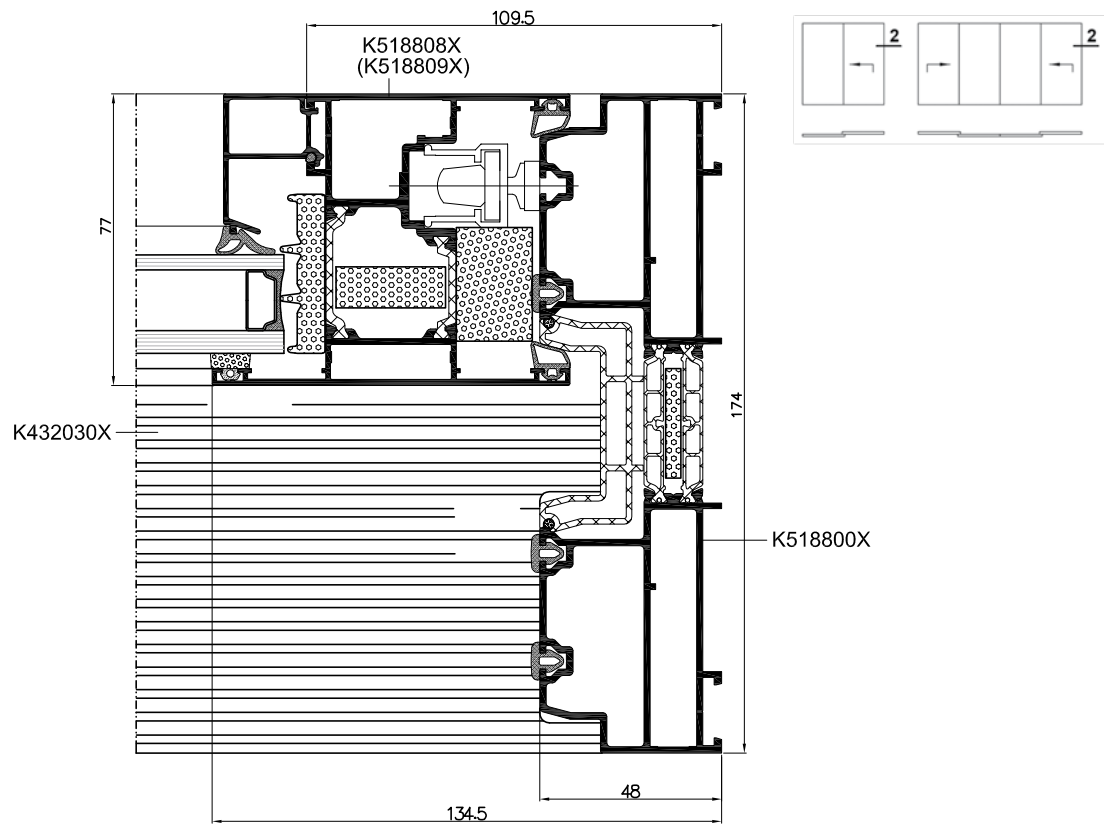


Cross - section of door bottom rail

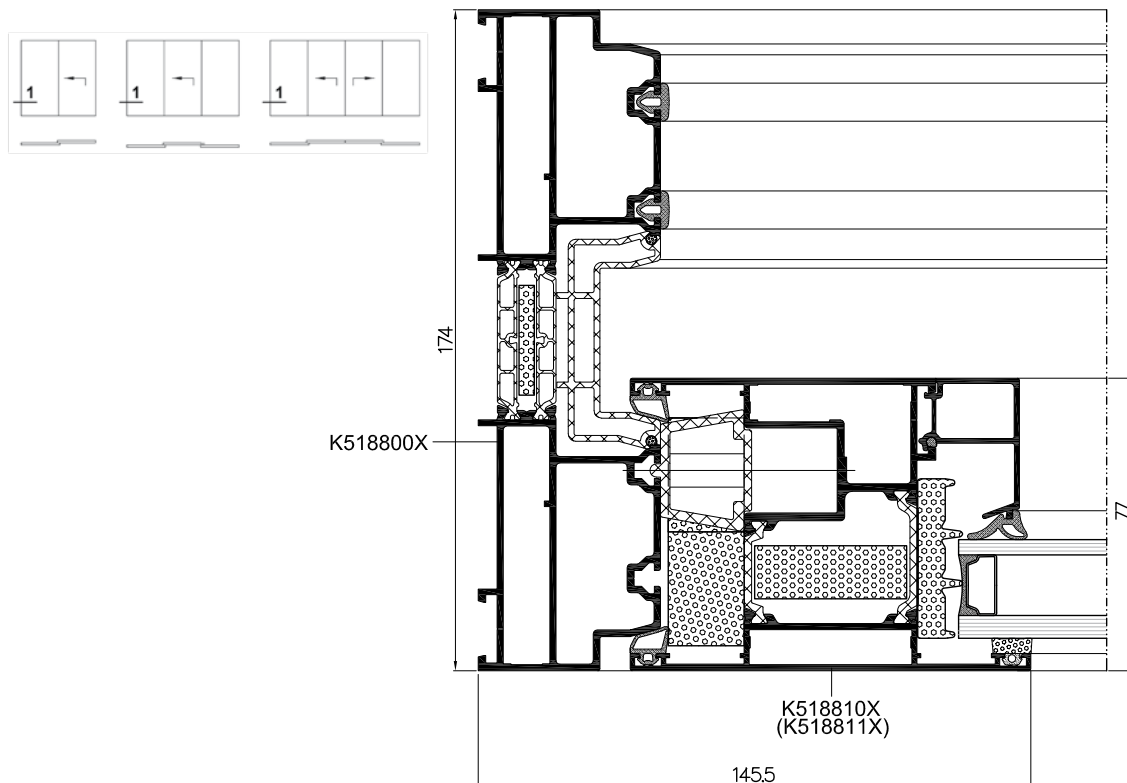


Scale 1:2

Side door - cross- section

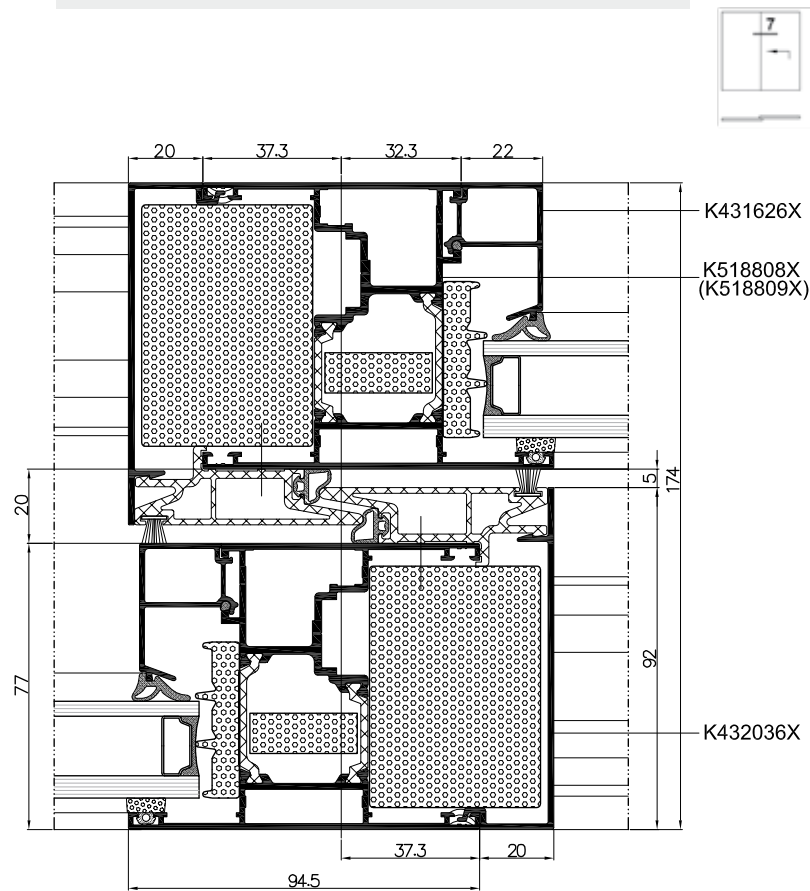


Side door - cross- section

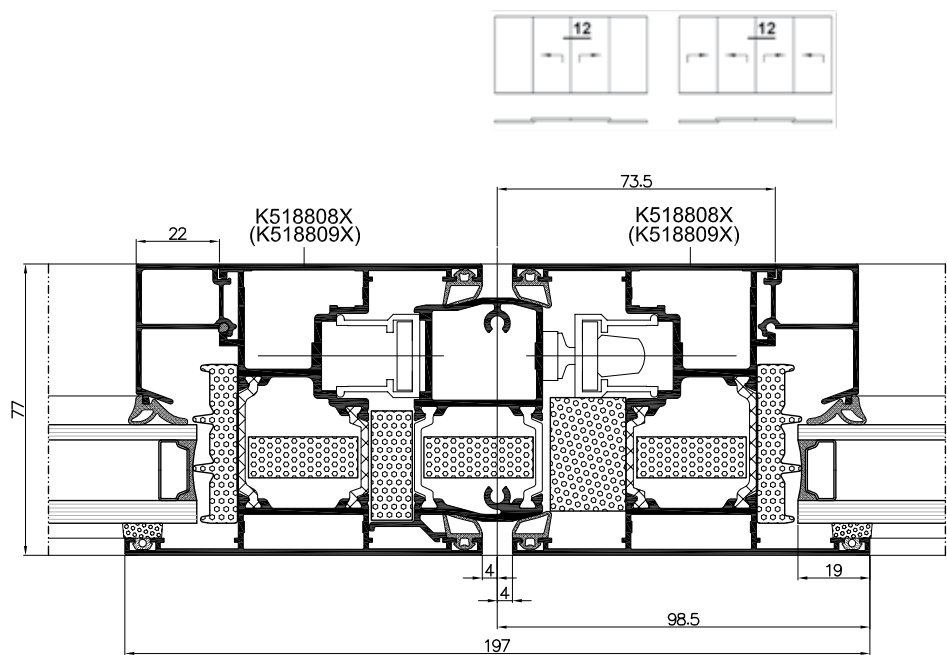


Scale 1:2

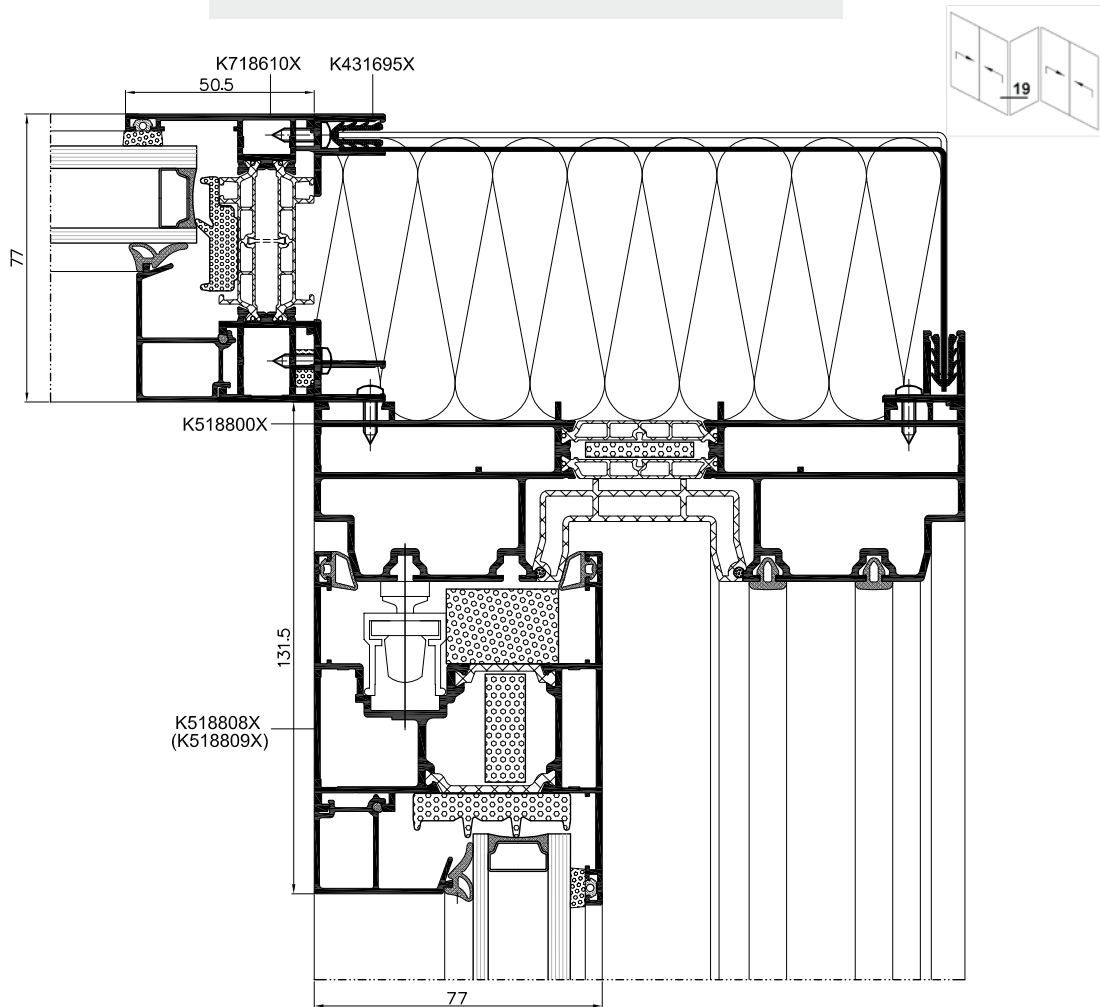
Cross - section of jambs of door



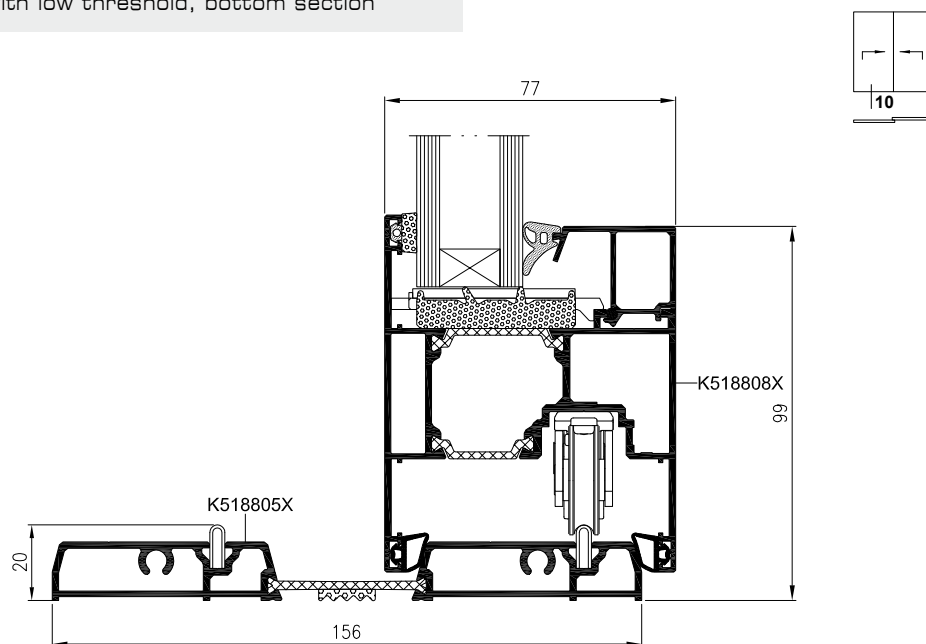
Jambs of door - cross- section



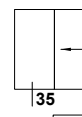
Cross - section of 90° mullion

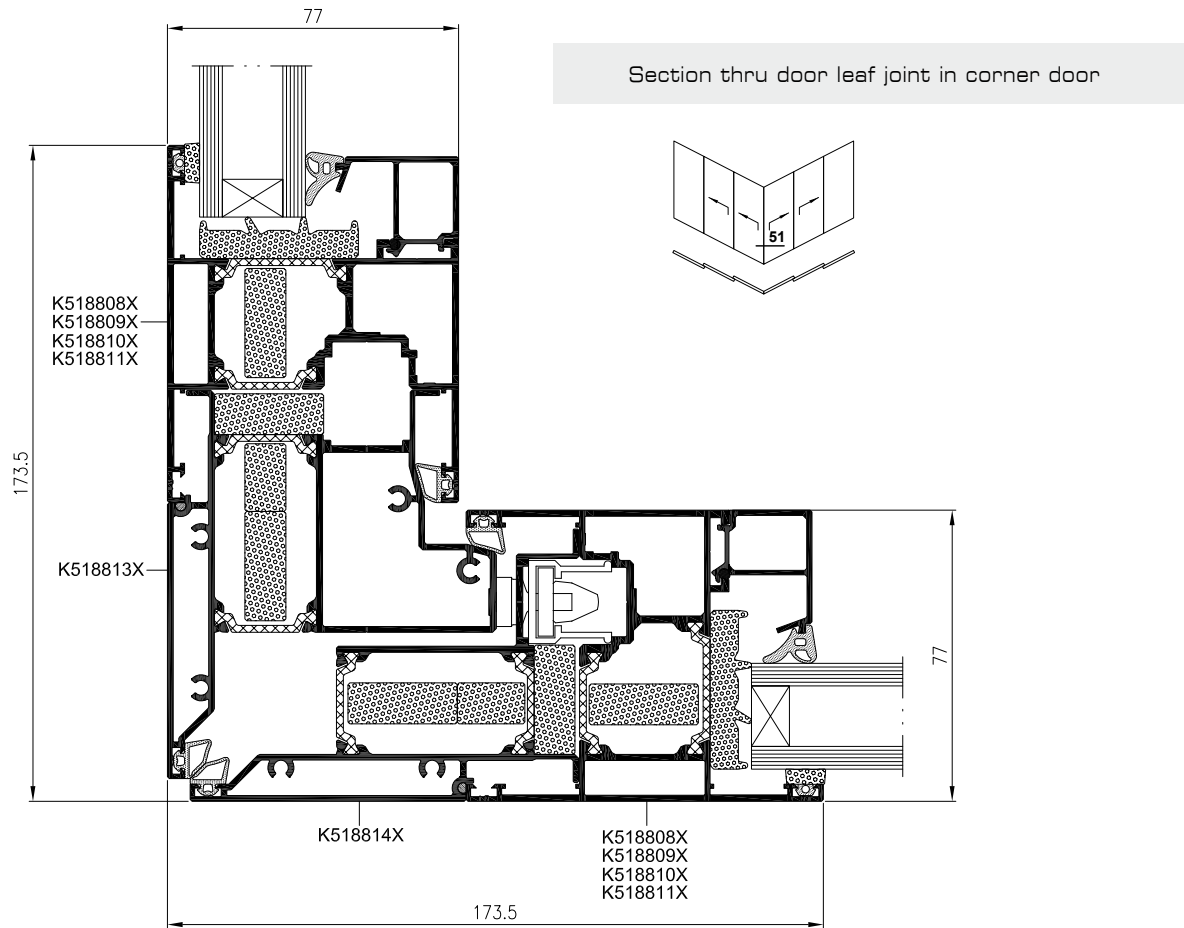


Doors with low threshold, bottom section

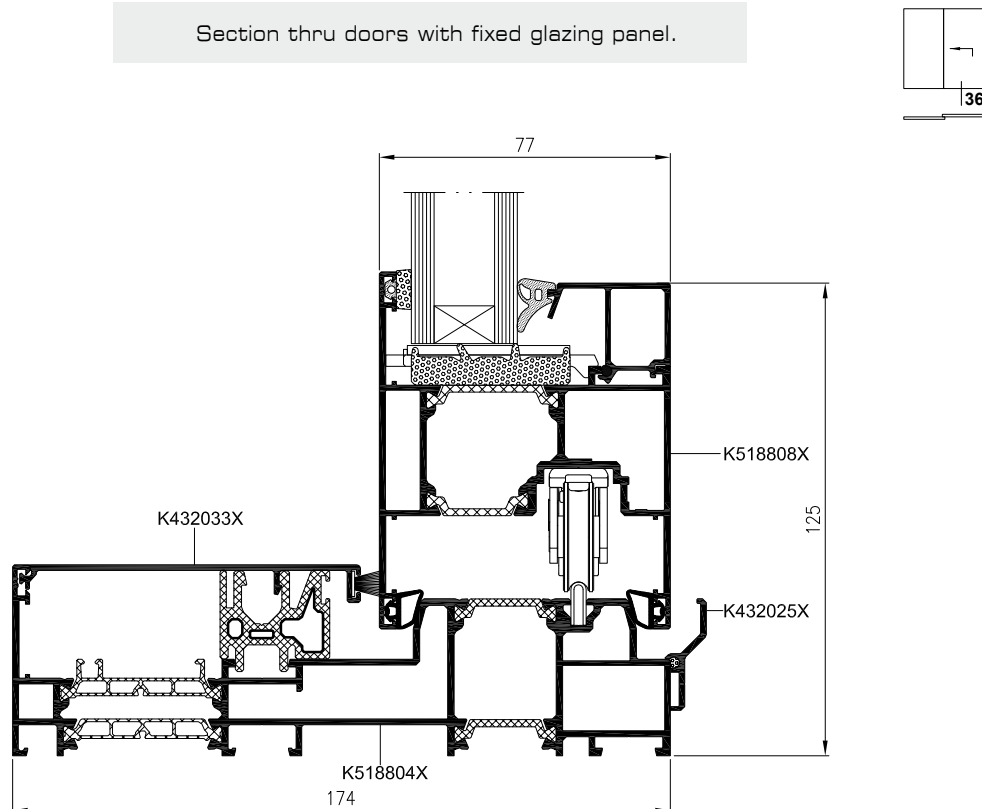


Scale 1:2



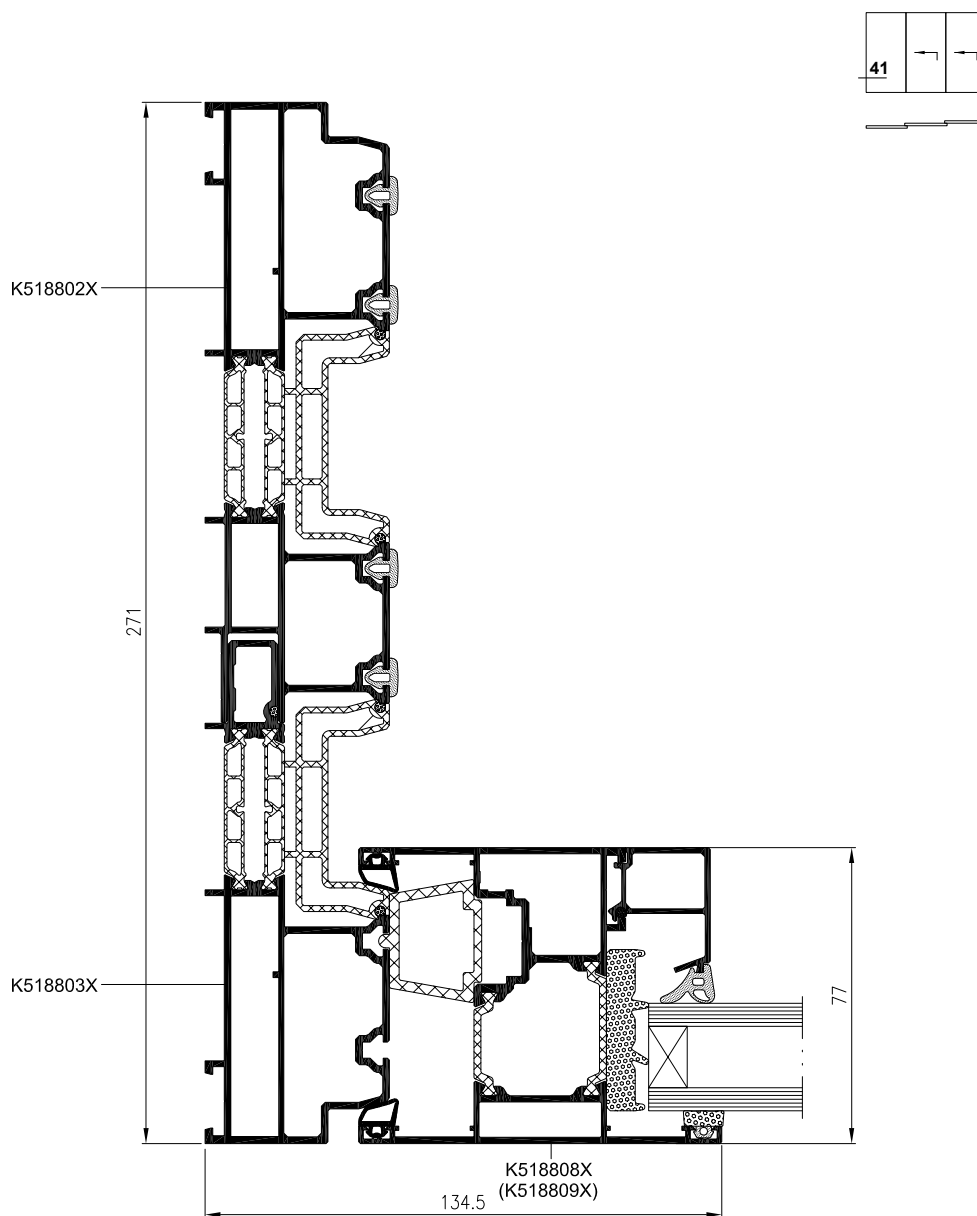


Section thru doors with fixed glazing panel.



Scale 1:2

Section thru triple track frame



SYSTEM MB-SLIDE



SYSTEM MB-SLIDE ST



SLIDING DOORS

Sliding doors, especially the ones of large dimensions, visually "enlarge" the living space by connecting it with an outside terrace or a garden. The MB-SLIDE, MB-SLIDE ST systems are designed to construct thermally insulated sliding doors and windows, which may be built in brick walls, aluminium curtain walls, winter gardens or window display constructions based on the MB-59S or MB-59S Casement elements.

Wide range of applications

The MB-Slide and MB-Slide ST sliding door systems offer a wide range of space arrangement possibilities with maximum dimensions of leaves: H: 2600 mm, L: 1800 mm, max. weight 160 kg. There are available different constructional variants from 2 to 6 modules. They may be fitted with glazing sets up to 26 mm wide.

Construction

Constructional depth of leaf profiles is 37 mm (apart from horizontal profiles in the MB-Slide ST) and of frames 50 mm and 97 mm for double track frames and triple-track frames respectively. The same depth of basic double-track frames in the MB-Slide system and window or door frames of such systems as MB-59S, MB-59S Casement, MB-59S Pivot and MB-59SE allow to directly join products based on these systems. Frames of depth over 50 mm may be joined with each other via a special strengthened intermediate mullion.

Tightness and thermal insulation

Sliding door constructions ensure very good technical parameters: plastic thermal breaks guarantee suitable thermal insulation of aluminium profiles, while sliding brush gaskets or gaskets made of thermoplastic elastomer TPE, combined with EPDM cover and glazing gaskets, enable obtaining high tightness of the construction.

Diversity of solutions

The basic difference between the MB-Slide and MB-Slide ST systems lies in the construction of leaf profiles as well as in the technology of production and glazing. MB-Slide leaf profiles feature 3-chambered construction, they are trimmed at the angle of 45° and connected by means of suitable corner cleats. Then, the corners are crimped. Thus formed frame is then glazed and the glass panel is secured with glazing strips and gaskets. In the case of MB-Slide ST the profiles have single chamber construction and they are joined by screwing vertical and horizontal profiles together by means of appropriate screws. Glass panel installation is performed at the stage of connecting leaf profiles.

Compatibility with other systems

Both sliding door systems are compatible, to a large extent, with other systems manufactured by ALUPROF S.A. Assuming such a constructional concept enables application of a number of common profiles, accessories and technological processes. All components of sliding door systems are compliant with the applicable standards.

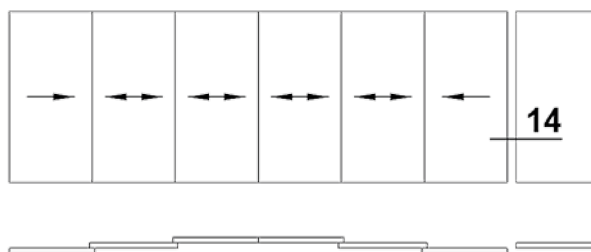
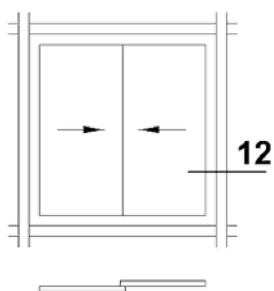
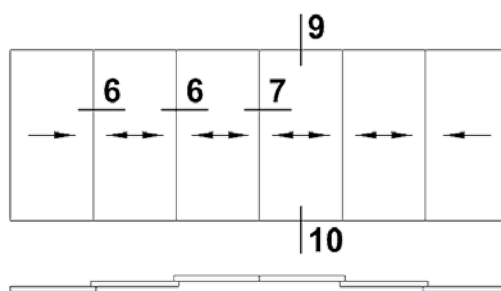
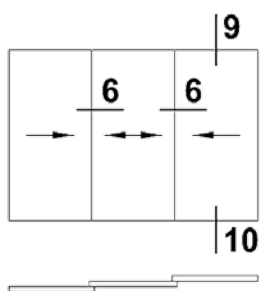
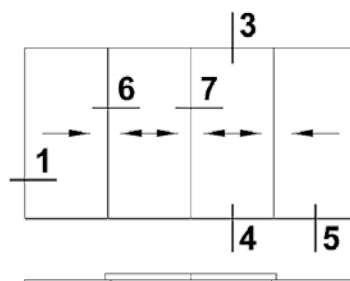
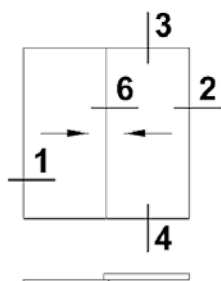
Functionality and aesthetics

A wide range of Sobinco and Giesse hardware can be accommodated into the sliding door systems. Depending on the applied system various accessories and elements can be used in sliding operation. They can be fitted with mosquito screen modules. There is also an option to build two-colour construction.

Technical parameters:

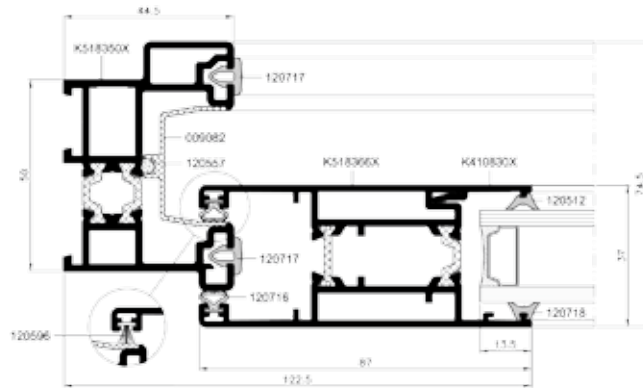
- Overall heat transfer coefficient:
 U_f from 2,61 W/m²K
- Air infiltration:
Class 4, EN 1026:2001;
EN 12207:2001
- Rainwater resistance:
Class 7A, EN 1027:2001;
EN 12208:2001
- Wind load resistance:
Class 3C/4B, EN 12211:2001;
EN 12210:2001

Examples of constructions



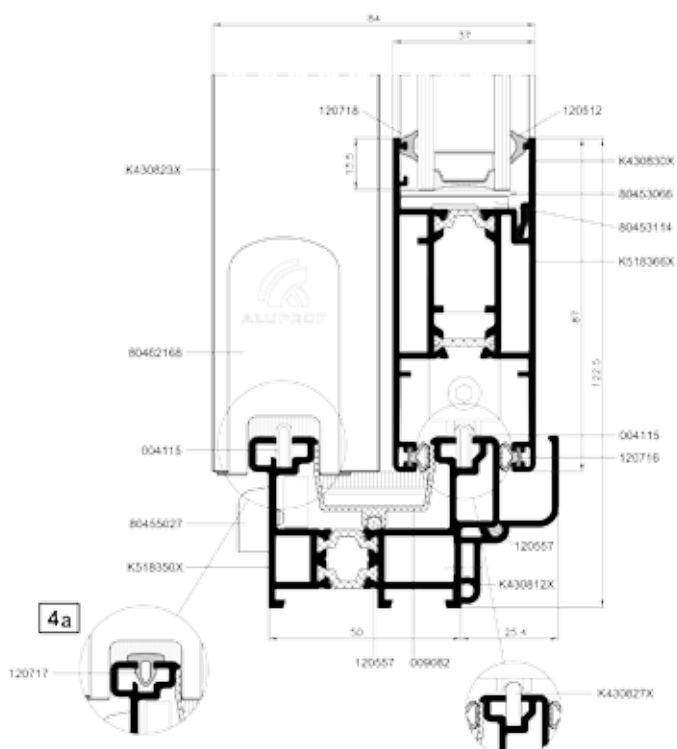
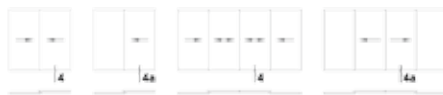
Cross-section of door jambs

1



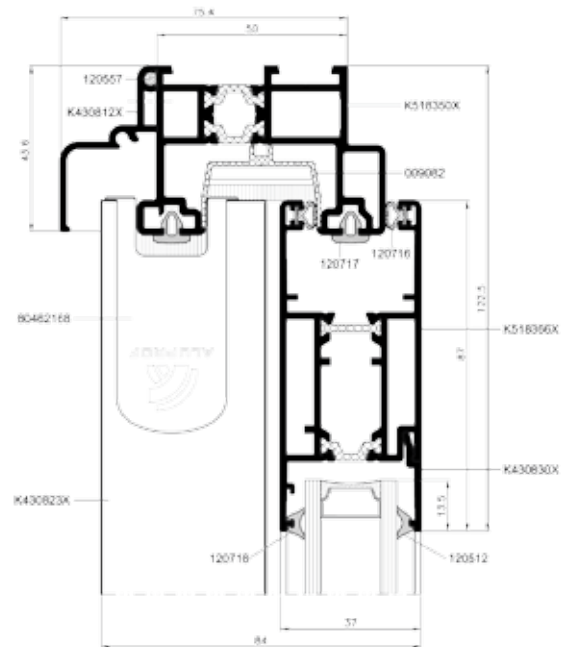
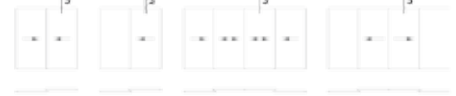
Cross-section of door bottom rail

4

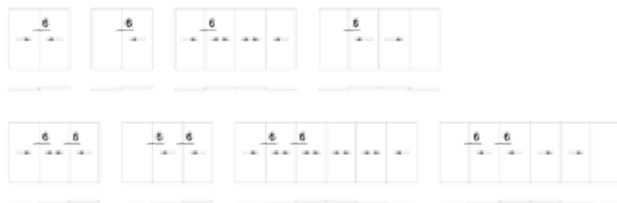


Cross-section of door upper rail

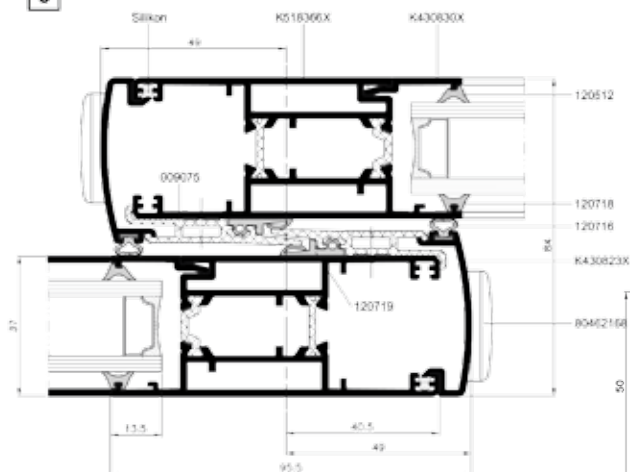
3



Cross-section of door jambs

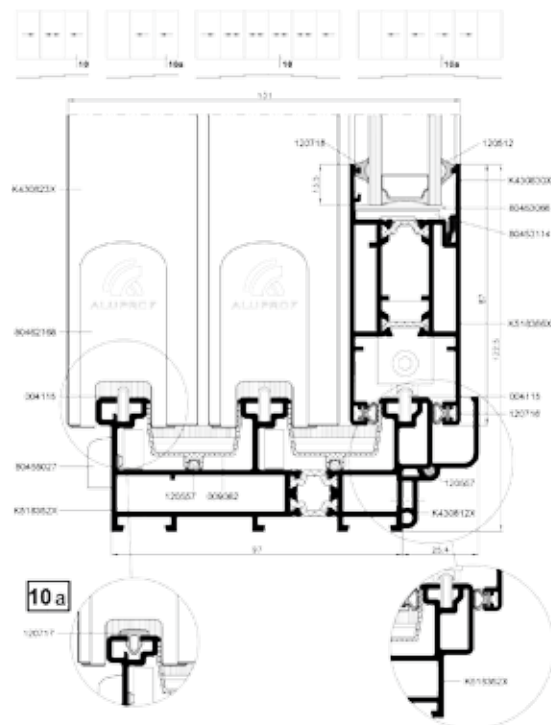


6



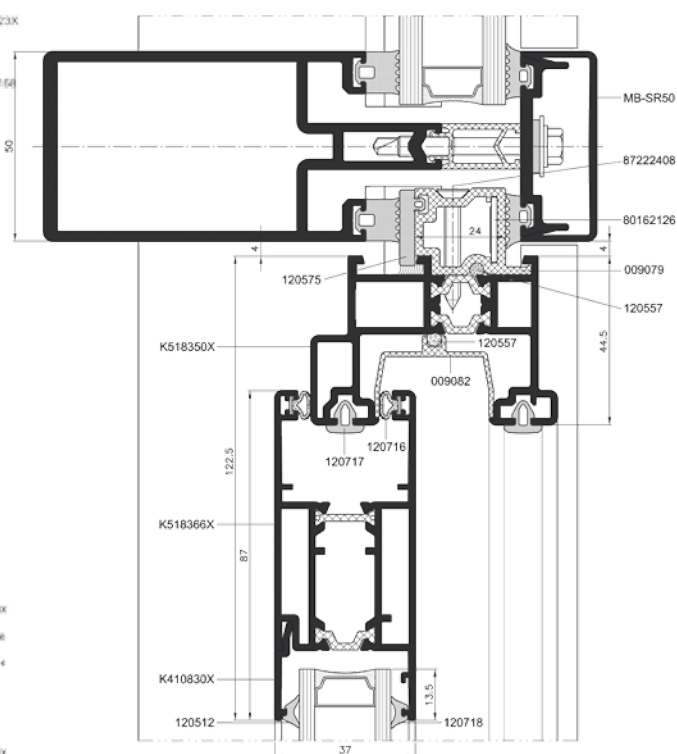
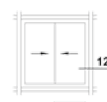
Cross-section of door bottom rail

10



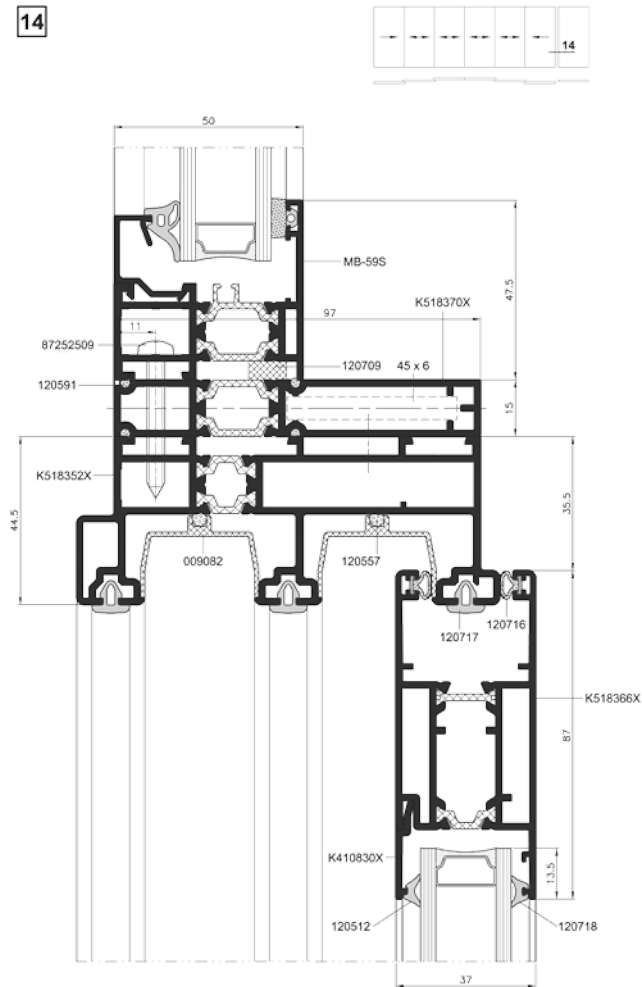
Cross-section of door in MB-SR50

12



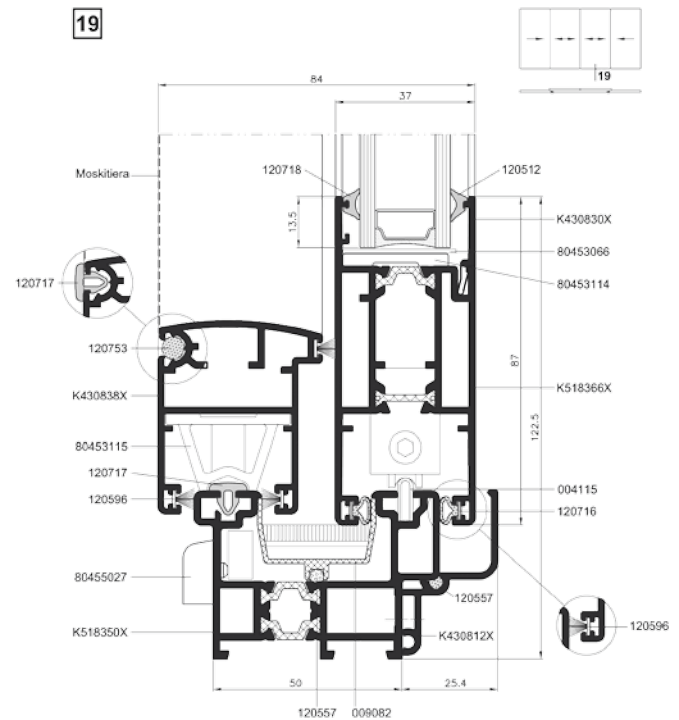
Cross-section of frame connection

14



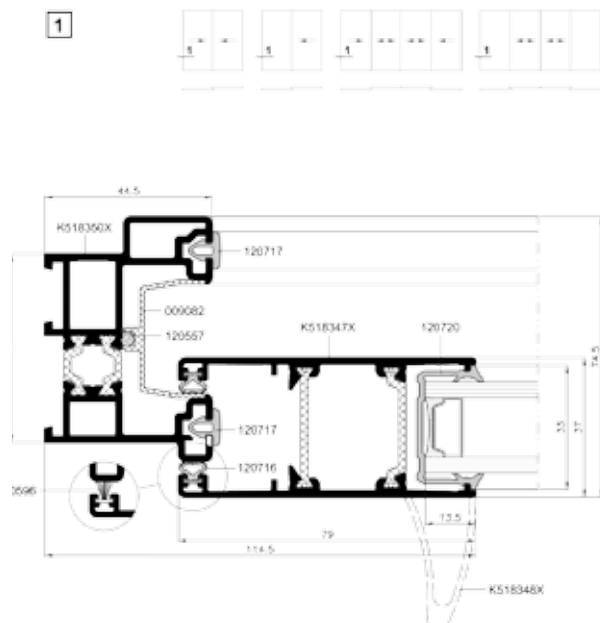
Cross-section of door bottom rail with a mosquito screen

19

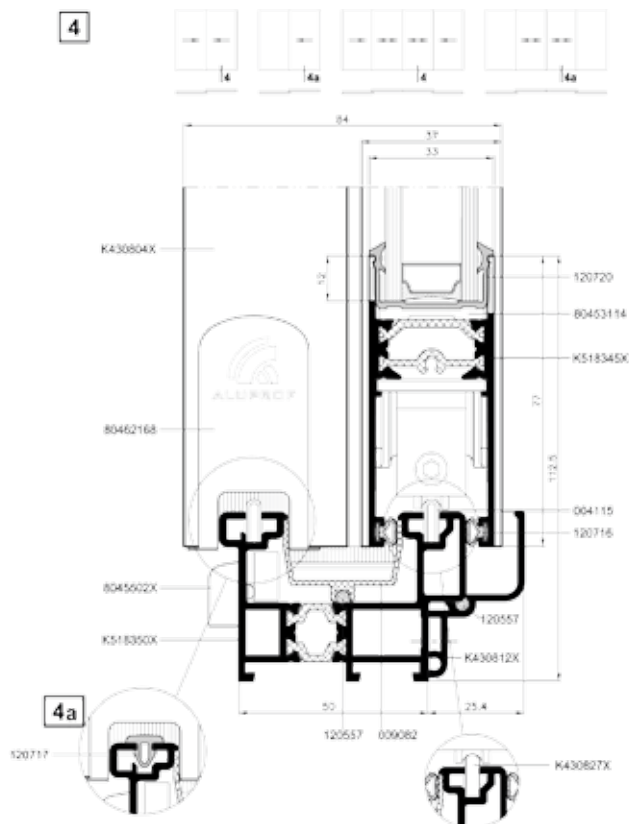


Scale 1:2

Cross-section of door and window jambs



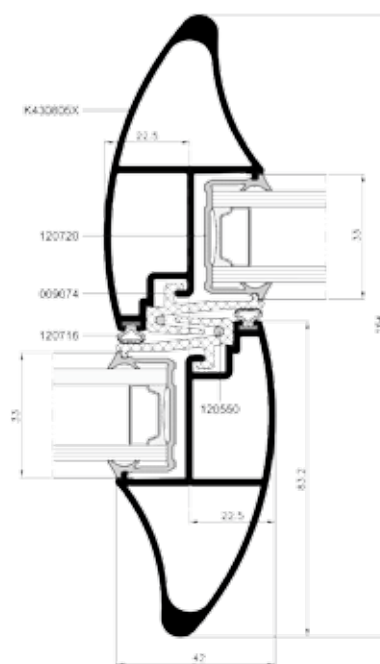
Cross-section of door and window
bottom rail



Cross-section of door
and window jambs



Cross-section of door jambs



Scale 1:2

FOLDING DOOR

DOOR AND WINDOW SYSTEMS



This engineered system has been designed for aluminium folding doors that require thermal insulation. The system is available in inward opening doors (on the basis of the MB-59S, MB-60, MB-70 systems), as well as outward opening doors (based on the MB-59S Casement system).

Diversity of solutions

The basic profiles used in the fabrication of folding doors feature a three-chamber design. The section depth of profiles depends on the selected system and ranges from 50 mm (frame), 59 mm (leaf) in the case of the MB-59S and MB-59S Casement systems - to 70 mm and 79 mm respectively in the case of the MB-70. In particular systems various options of doorsills and ways methods of doorsill fixing may be selected. Base systems also make it possible to choose from a selection of different glazing beads (options: Standard, Prestige and Style) as well as different types of gaskets.

Very good thermal and sound performance

Depending on applied underlying system, the construction may fulfill the requirements of thermal protection for building. Gaskets made from synthetic rubber EPDM guarantee very good thermal insulation of the door leaves and tightness to water and air infiltration. The system also features high sound insulation performance. The value of coefficient R_w depends, above all, on the applied profiles and glass panels.

High tightness to water and air infiltrations

Due to the application of window profiles and special EPDM gaskets, the tightness of folding doors is the same as of active windows of the system they are based on. Every system in external development must be equipped with efficient water deflection and ventilation system in the glass chamber and the space between the leaf and the frame. Ventilation and drainage holes are protected from the outside with plastic shields.

Freedom of hardware selection

Frame and leaf profiles are equipped with moulded grooves of the dimensions suitable to accommodate multi-point security locking hardware and connecting members compliant with the EURO standard. Folding doors are fitted with well-proven Roto hardware: Roto Patio 6080 (folding leaves and active leaf) and ALU 540i (active tilt and turn leaf). The guide rail may be mounted either on the upper frame profile (top hung) or at the doorsill (bottom hung).

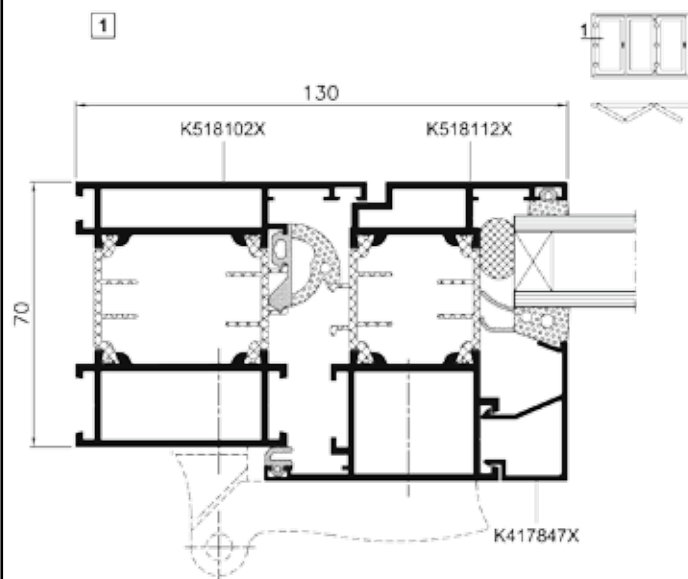
Large allowable dimensions functionality of the construction

The length of the guide rail, which predetermines the total width of the door may be up to 6000 mm. The leaf weight mounted on ROTO PATIO 6080 hardware may be up to 80 kg (active leaf). The width of an active leaf: maximum 1230, of a folding leaf: maximum 930 mm. The maximum height of leaves is 2430 mm. Allowable weight of an active tilt and turn leaf mounted on Roto ALU 540i fittings is 130 kg and its dimensions may be as follows: maximum width: 1600 mm and maximum height: 2400 mm.

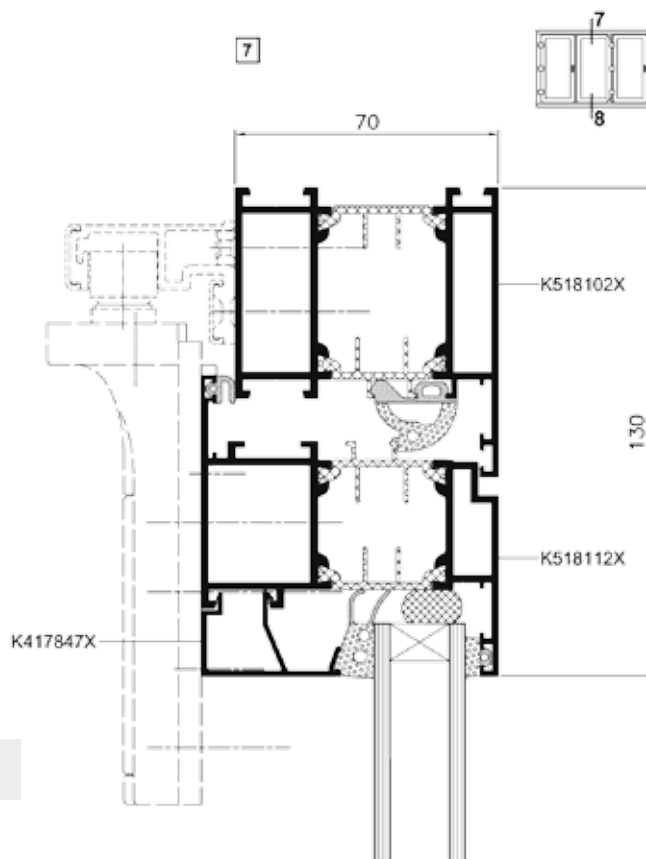
Wide glazing range

The construction, depending on the applied base system makes it possible to apply glass panels and glazing units ranging from 4.5 mm (MB-59S) to 60 mm (MB-70).

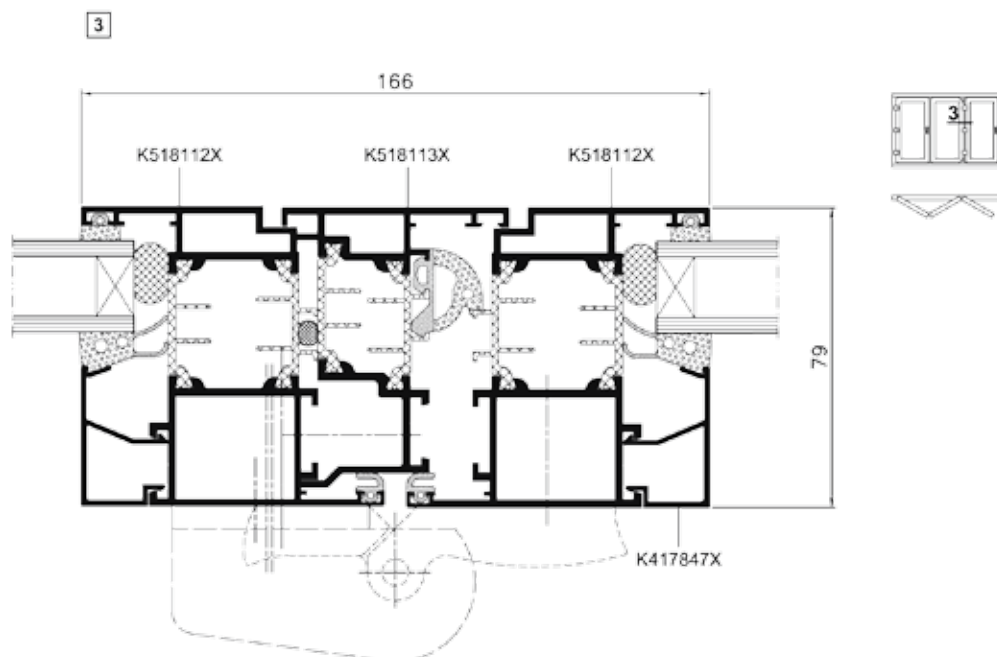
Cross-section of folding inward opening door



Cross-section of folding inward opening door

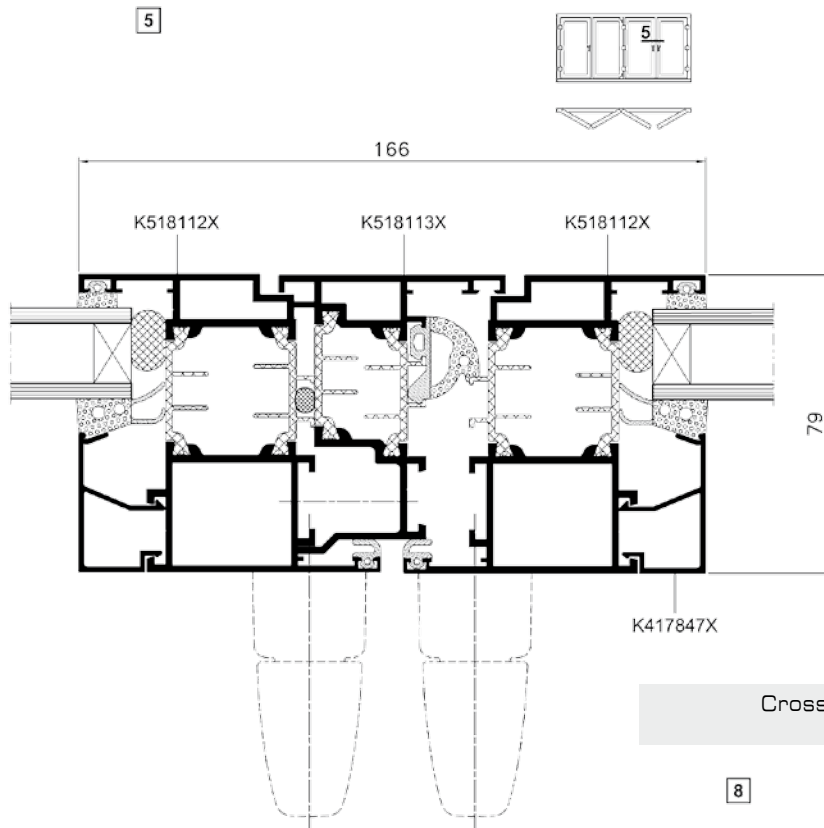


Cross-section of folding inward opening door

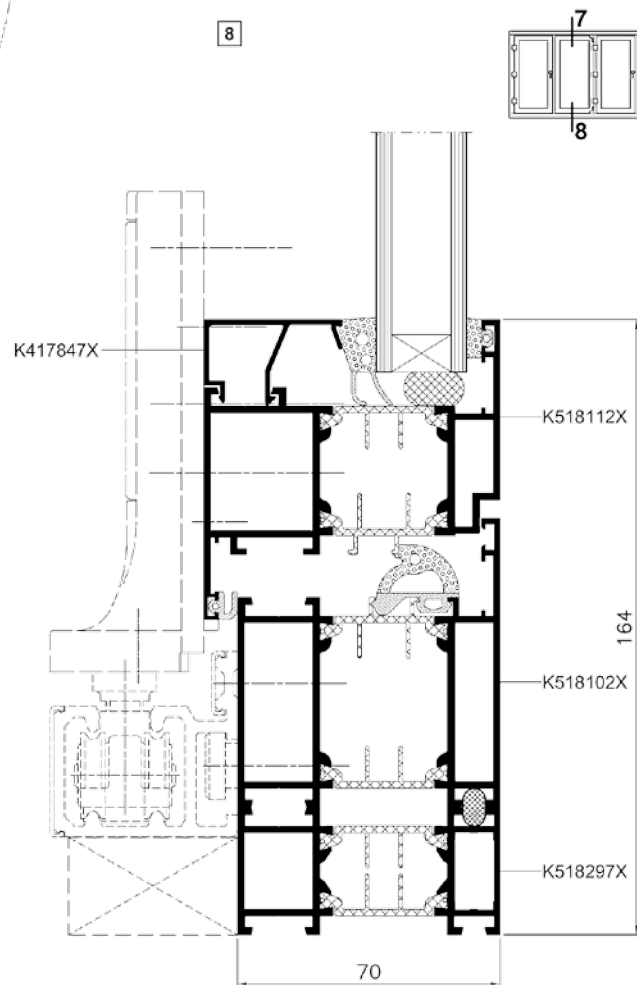


Scale 1:2

Cross-section of folding inward opening door



Cross-section of folding inward opening door



Scale 1:2

SYSTEM MB-DPA

DOOR AND WINDOW SYSTEMS



Sliding doors provide an aesthetic, safe and comfortable solution for their users. In view of their properties they find application both in small objects, as well as in large office buildings and shopping centres. The construction of the MB-DPA system enables execution of doors in two variants: they may be built of thermally insulated profiles belonging to the MB-59S Casement system or from profiles without a thermal break, which are a part of the MB-45 system. Among assets of this solution are large allowable dimensions and weight of the construction: the leaves may be up to 3000 mm wide and weigh up to 200 kg.

AUTOMATIC AND MANUAL SLIDING DOOR

Construction

The constructional depth of profiles equals 50 mm in the case of thermally insulated profiles and 45 mm in the case of uninsulated profiles. The MB-DPA sliding doors may be fitted in different types of development: they can be installed directly in masonry or in glazed internal partitions of the MB-45 system, in glass and aluminium curtain walls or in display window structures, built either of profiles of the MB-59S, MB-60 or MB-70 systems, depending on thermal insulation requirements. The Aluprof door and window systems may come with wide crosspiece and frame profiles, which allow mounting most of sliding-door automatic gear available on the market. The gear may be freely selected, independent of the type of development.



A wide range of infills

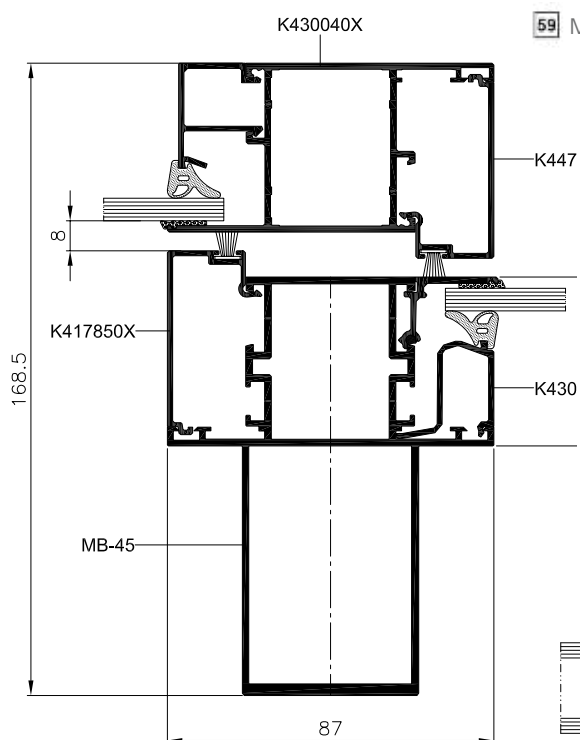
Depending on the choice of variant and requirements, the door leaves may be filled with either single glass panes or with insulating glass units. Glazing range for infills ranges between 4.5 mm and 31.5 mm.

Comfort and safety of use

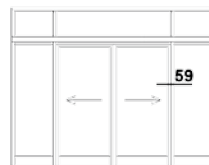
Due to their principle of operation, sliding doors are space-efficient and ensure safety of operation and in automatic version they provide their user full comfort of passage devoid of any architectural barriers. However, in view of a lack of

the threshold, doors installed in external developments should be protected against direct exposure to rain water.

Sliding door - view

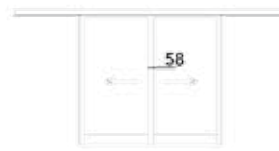
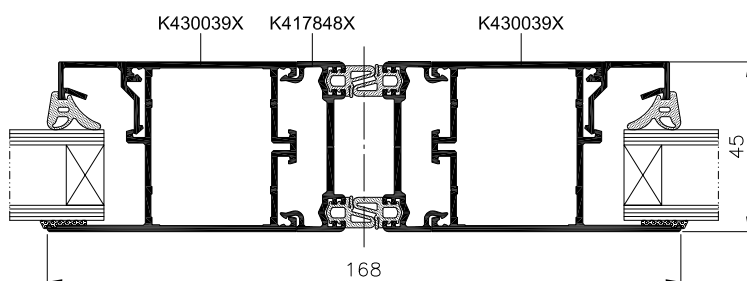


59 MB-45



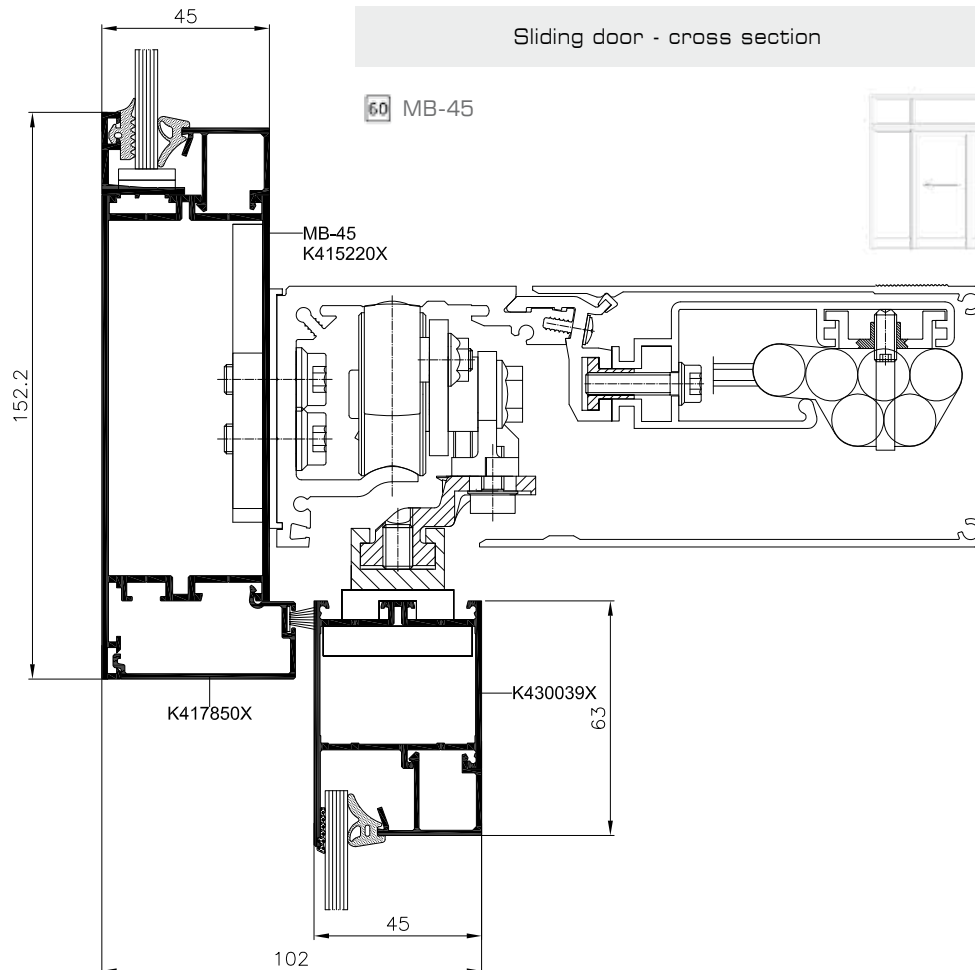
Sliding door - cross section

58 MB-45



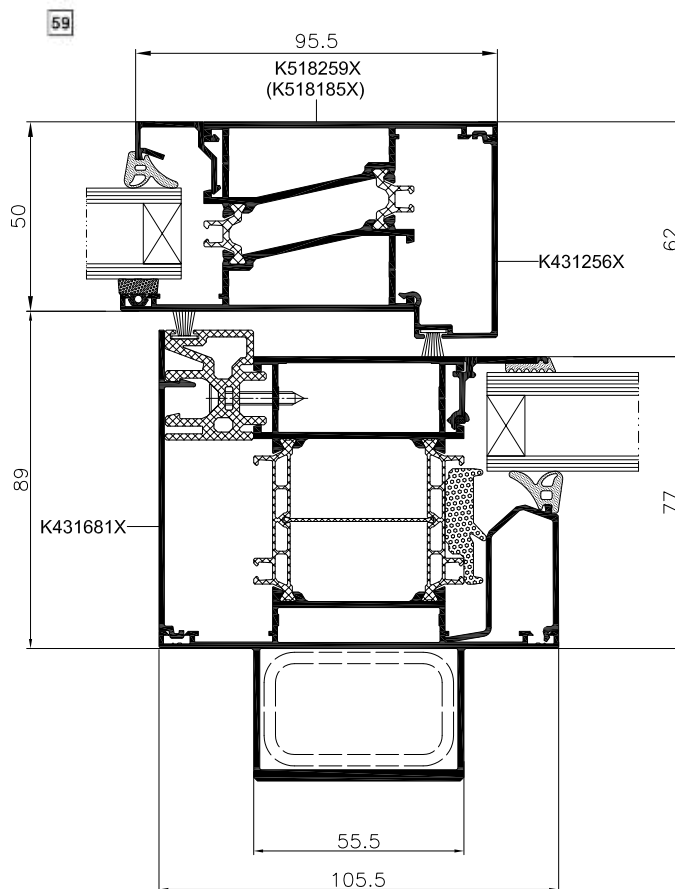
Sliding door - cross section

60 MB-45

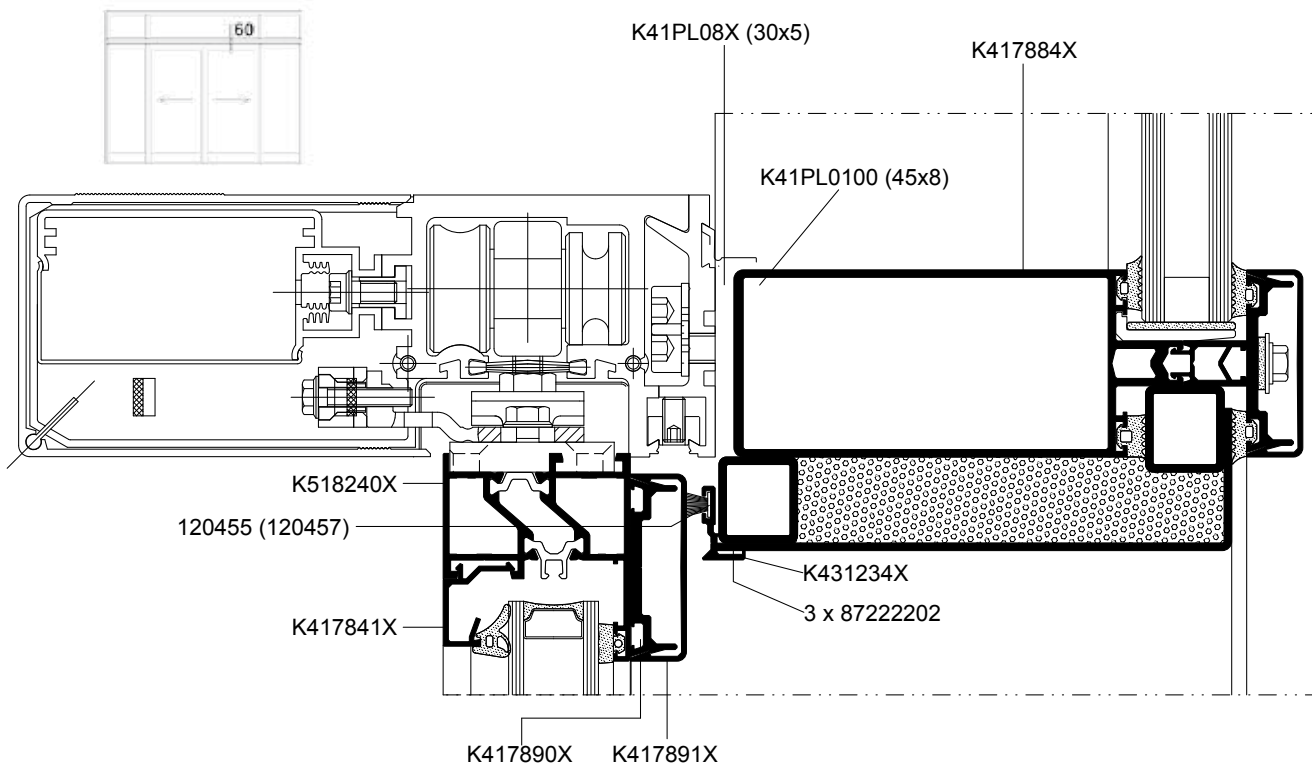


Scale 1:2

DPA doors in MB-86 screen - section



DPA doors in MB-SR50 curtain wall - section



Scale 1:2

WINDOWS AND SMOKE VENTS

SMOKE EXHAUST SYSTEMS



Windows and smokevents have a specific role in ensuring safety and comfort of the building residents. If chosen wisely, windows and smoke vents can become elements of the gravitational ventilation system and help to quickly get rid of smoke and toxic gases hazardous to health and life. Smoke exhaust joinery based on MB aluminium systems comes fitted with specialized openers and control systems and has been tested and certified to EN 12101-2. Variety of solutions makes our product well suited for individual or joint integration (with aluminium façades, roof glazings). Our smoke exhaust and ventilation system is supplemented by fresh air doors or windows.

Functionality and good appearance

- wide range of solutions based on i. a. MB-60, MB-60US, MB-70, MB-70US, MB-86, MB-86US window systems or on façade-dedicated window structures
- various opening options: side or inward bottom/top hung casement but also roof slope windows used in sloped façades or skylights
- reliable, silent mechanisms, different types of actuators (chain, spindle or rack)
- possibility of using single, double or triple operators of an opening force up to 3,000N, in synchronized "Tandem"-type systems
- mechanisms allowing windows to open wide
- additional functionalities and security features such as "High Speed" functionality, protection against crushing, extra interlocks
- good appearance and possibility of using small openers, disposed parallelly to the surface of the window
- integration with power supply, control and protection systems e.g. emergency power supply, coupling with the building's ventilation system

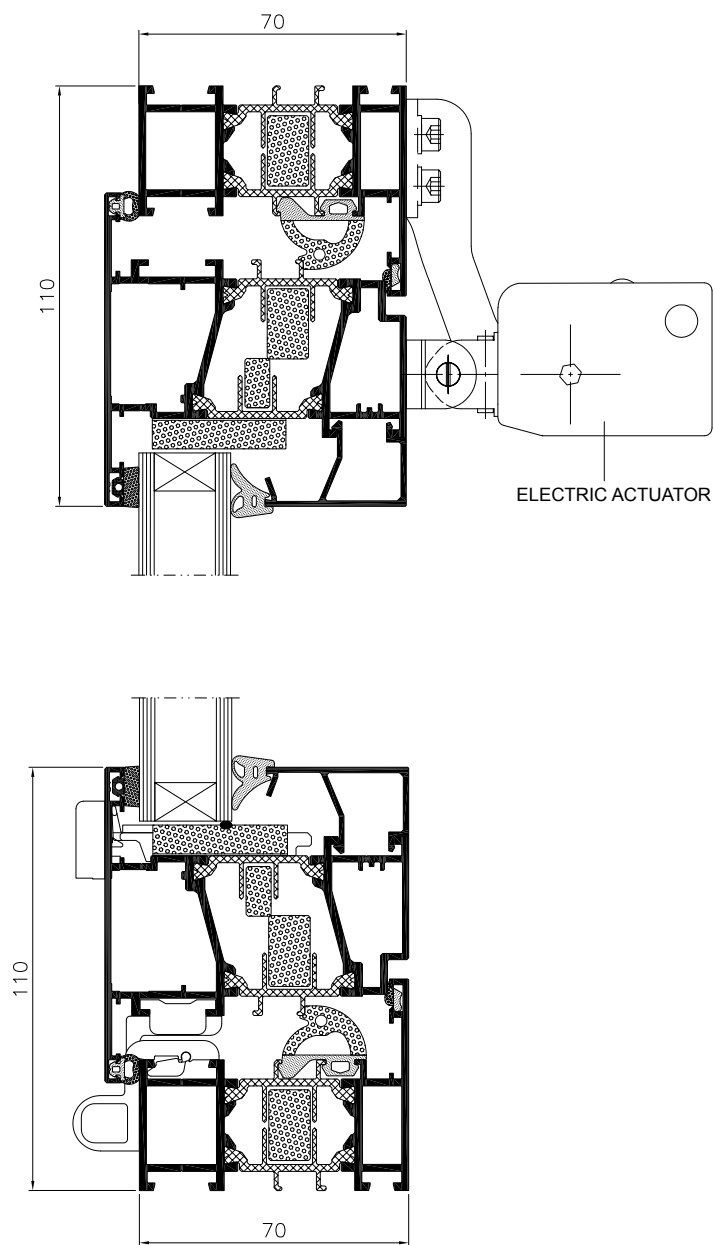


PLAZA SOSNOWIEC
design / Architekci PALLADO SKUPIN
Biuro Projektów Architektonicznych Sp. z o.o.

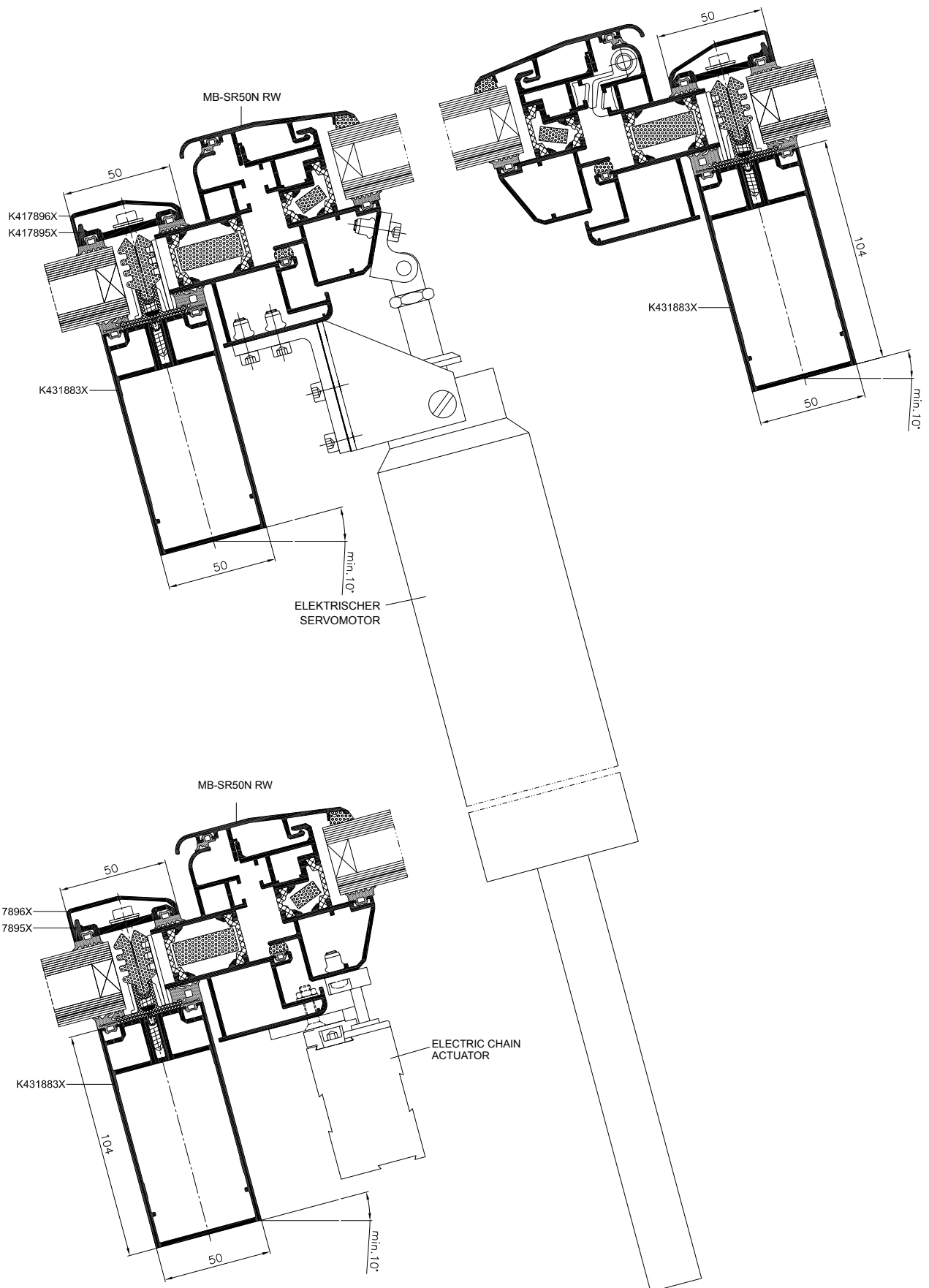
TECHNICAL SPECIFICATION

Maximum dimensions of the casement [horizontal view]	L up to 2500 mm, H up to 1600 mm
Maximum dimensions of the casement [vertical view]	L up to 1600 mm, H up to 2500 mm
Maximal dimensions of the roof window	L up to 1500 mm, H up to 2200 mm or L up to 2200 mm, H up to 1500 mm
Max. area of the 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°

MB-70HI smoke exhaust window, views



Smoke exhaust window, views

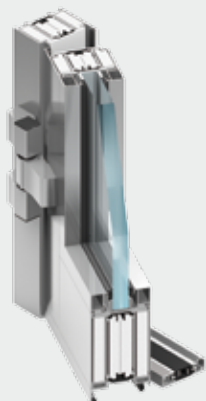


Scale 1:2,5

SYSTEM MB-78EI



FIRE RESISTANT CONSTRUCTIONS



The MB-78EI firewall system is used to construct exterior and interior firewalls with single and double-leaf doors with fire resistance class of EI15, EI30, EI45, or EI60, according to B-02851-1:1997. The MB-78 EI firewall system is used to construct exterior and interior firewalls with single and double-leaf doors featuring fire resistance class of EI15, EI30, EI45, EI60 or EI90 according to B-02851-1:1997 and EN 13501-2:2005. The construction of the MB-78 EI system is based on aluminium profiles with a thermal break. The constructional depth of the profiles is 78 mm. The profiles are characterised by a low overall heat-transfer coefficient U_f due to the use of, among other things, special profiled thermal breaks 34 mm wide. The system allows glazing with any standard fireproof glass pane of the appropriate class (infill thickness between 8 and 49 mm). Within his system it is also possible to built smoke-proof constructions, which come in several options. Bending profiles and building arch constructions is also possible.

FIREWALLS WITH DOORS

Wide range of applications

MB-78EI EI is a modern firewall system used to make exterior and interior firewalls with single and double-leaf doors featuring fire resistance class of EI15, EI30, EI45, or EI60.

Optimally selected profile shape

The system profiles have a three-chamber structure. The constructional depth of profiles is 78 mm. The door leaf and frame surfaces are flush with the wall both outside and inside. The shape of profiles makes it possible to built slender and durable window and wall constructions.

High fire resistance and smoke tightness

Depending on the construction variant and the type of panes (infills) installed, the fire resistance of the MB-78EI system can be **EI15, EI30, EI45, EI60** or **EI90**. According to this classification, fire resistance relates to fire insulation and tightness. It is obtained, inter alia, by insertion of profiles into internal chambers and fire resistance components into the spaces between these profiles. The system also features high smoke tightness classifications according to EN13501-2:2003 – classes **Sm** and **Sa**. The classification according to UA GS VII.01/98 is **S30**. The system is classified as non-fire propagating (NRO).



High thermal and sound performance

The MB-78EI system is characterised by a low overall heat-transfer coefficient U due to the application of special thermal breaks and gaskets. The value of overall heat transfer coefficient U_f starts from 1,60 W/m²K. Omega-shape profiled thermal breaks 34 mm wide are used in the system. Such shape of breaks improves profile rigidity in relation to flat breaks and facilitates water removal from sections, thus ensuring proper thermal insulation under any weather conditions. A thermally insulated sill and EPDM

gaskets ensure good thermal insulation of door leaves and water and air tightness. The system also ensures good sound insulation. The value of the R_w index depends on the pane and type of door used.

High tightness to water and air infiltrations

Tightness is ensured by the use of special EPDM gaskets to provide resistance to aging during long-term operation. Glass gaskets are trimmed at the angle of 45° and bonded in the corners, while



cover gaskets do not require corner trimming. This method of glazing ensures excellent water and air tightness. Every construction of the MB-78EI system, for external applications, has an effective ventilation and drain system to remove water from the pane chamber and the chamber between the leaf and frame.

High tightness to water and air infiltrations

Tightness is ensured by the use of special EPDM gaskets to provide resistance to aging during long-term operation. Glass gaskets are trimmed at the angle of 45° and bonded in the corners, while cover gaskets do not require corner trimming. This method of glazing ensures excellent water and air tightness. Every construction of the MB-78EI system, for external applications, has an effective ventilation and drain system to remove water from the pane chamber and the chamber between the leaf and frame.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the possibility to select from several variants of solutions for different constructional details, e.g. bottom sealing of door leaves or the shape and height of doorsills.

Wide glazing range.

Freedom of hardware selection

The MB-78EI construction has been adapted to typical hardware, locks and hinges, following European standards. Sections are equipped with grooves of such dimensions as to enable fixing of multi-point locking hardware and connecting members, as per EURO standard. Thus, it is possible to meet the demands of our customers without changing the basic construction

Flexible glazing

MB-78EI system can be glazed with package of thickness between 6mm and 49.5mm

- single glass units in accordance with EN 357:2005
- double glazing units in accordance with EN 1279-1:2006 and EN 1279-5+A1:2009, with fire rated glass internally and safety glass externally
- multi-layer panels made of two aluminium or steel sheets of relevant thickness and gyp-rock or Promatec insulation between with additional mineral wool layer of 70 kg/m³ minimum density if required.

Fire rated glass range

tested and approved to be used with MB-78EI system includes:

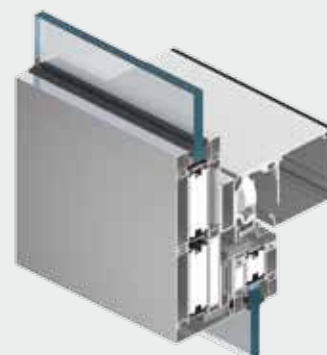
- Pyrobel of thickness between 9.3-30.4 mm
- Polflam of thickness between 21-32 mm
- Swissflam of thickness between 14-25 mm
- Contraflam Lite of thickness between 13-22 mm
- Contraflam 30 of thickness between 16-20 mm
- Contraflam 60 of thickness between 25-35 mm
- Pyrostop of thickness between 15-45 mm
- Pyrodur of thickness between 9-13 mm
- Promaglas of thickness between 17-30 mm
- Pyranowa of thickness between 15-27 mm
- Fireswiss of thickness between 15-28 mm

Technical parameters:

- Air infiltration:
Class 2 PN-EN 12207:2001
- Water tightness: Class 5A,
PN-EN 12208:2001
- Wind resistance:
2400[Pa], EN 12179:2002,
EN13116:2004
- Sound insulation:
 $R_w = 41$ dB (subject to the glazing package being used)



SYSTEM MB-78EI DPA



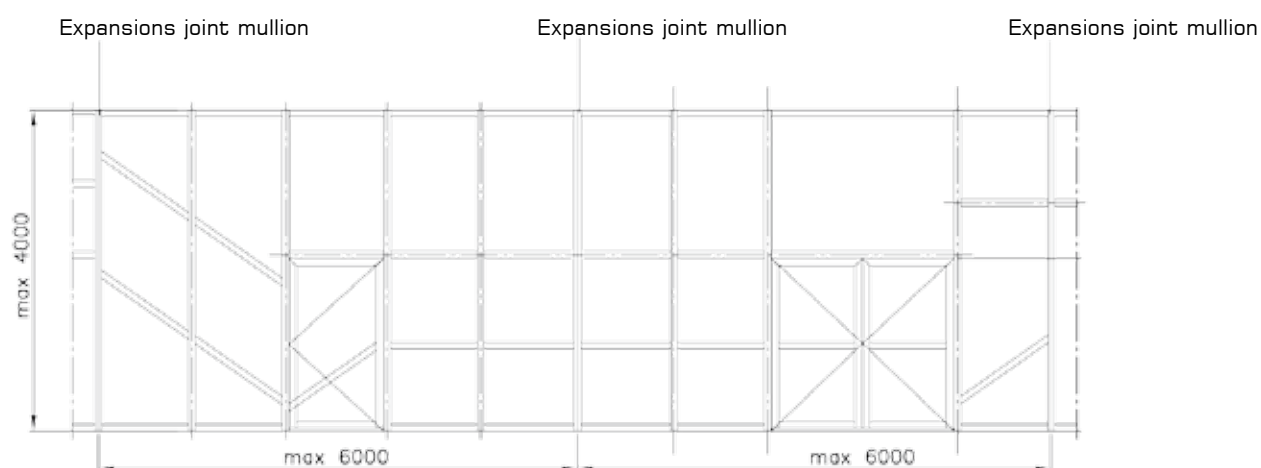
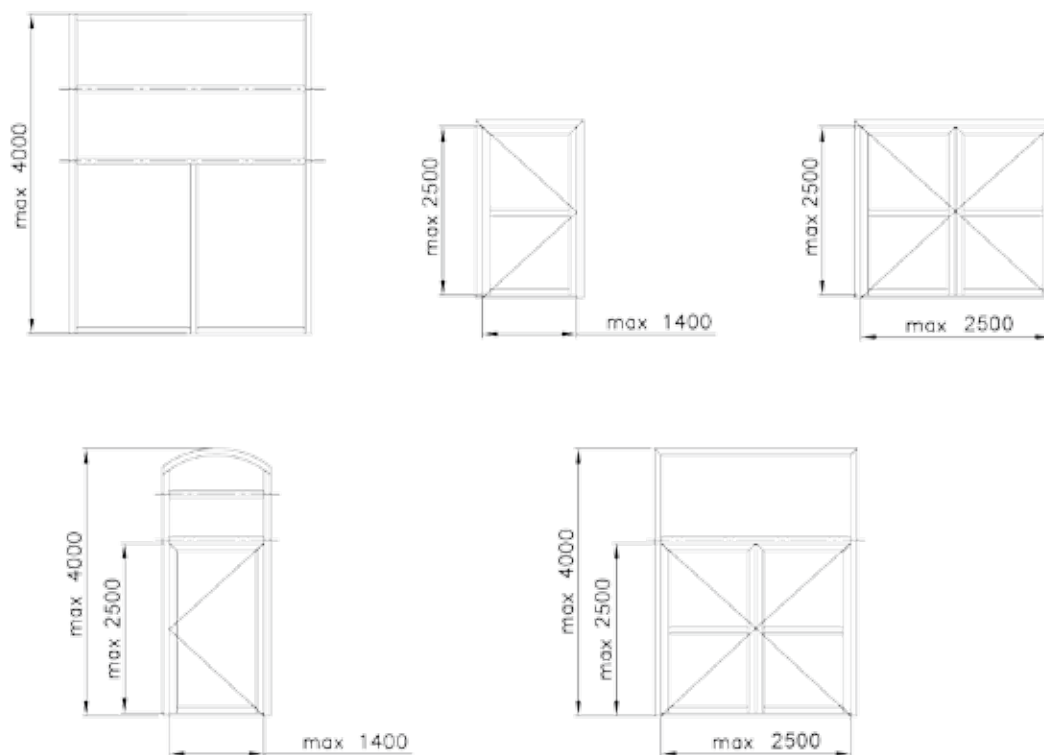
AUTOMATIC SLIDING FIRE DOORS

The MB-78EI DPA system is used for internal or external fire barriers with automatic sliding single- or double-leaf doors in the class EI15 or EI30.

The applied motor allows the efficient and failure-free operation of doors with a leaf weight of up to 200 kg. The maximum size of the structure in a door opening:

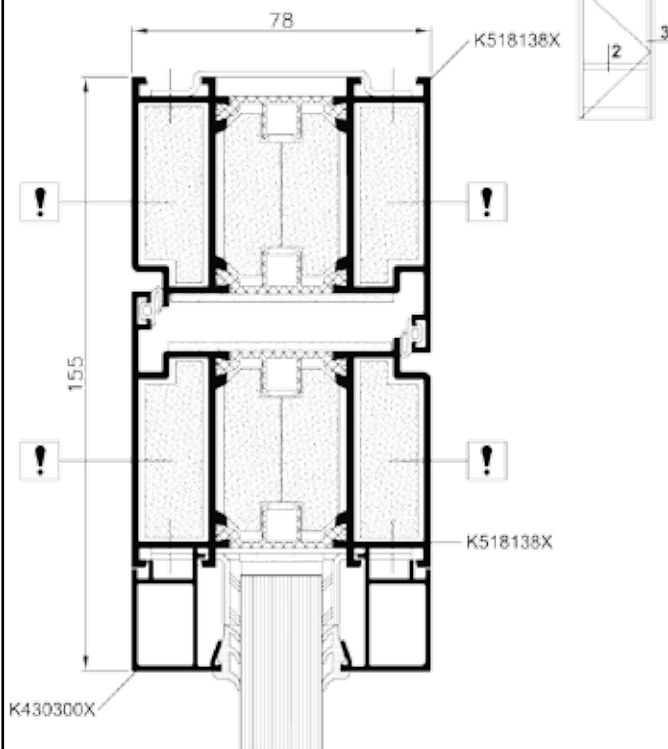
- height of 1-leaf and 2-leaf doors:
up to 2450 mm.
- width of 1-leaf doors: up to 1100 mm.
- width of 2-leaf doors: up to 2125 mm.

EI 15, EI 30, EI 45, EI 60. Maximum dimensions of wall segments.



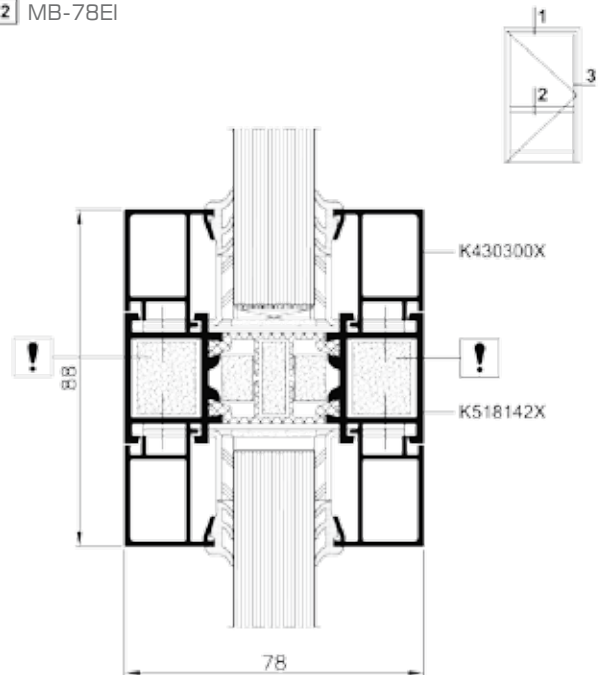
Single outward or inward opening door
- cross-section

1 MB-78EI



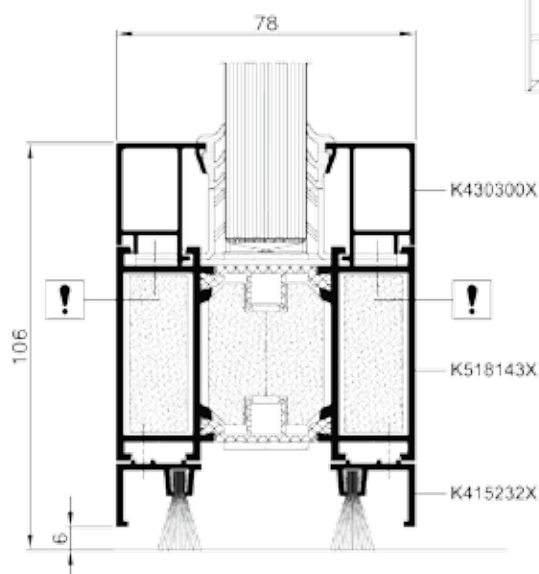
Single outward or inward opening door
- cross-section

2 MB-78EI



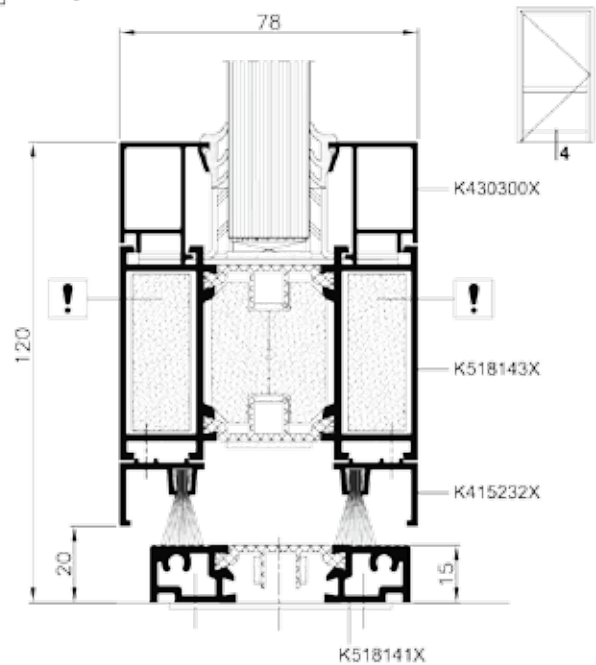
Single outward or inward opening door
- cross-section

4 MB-78EI



Single outward or inward opening door
- cross-section

4 MB-78EI



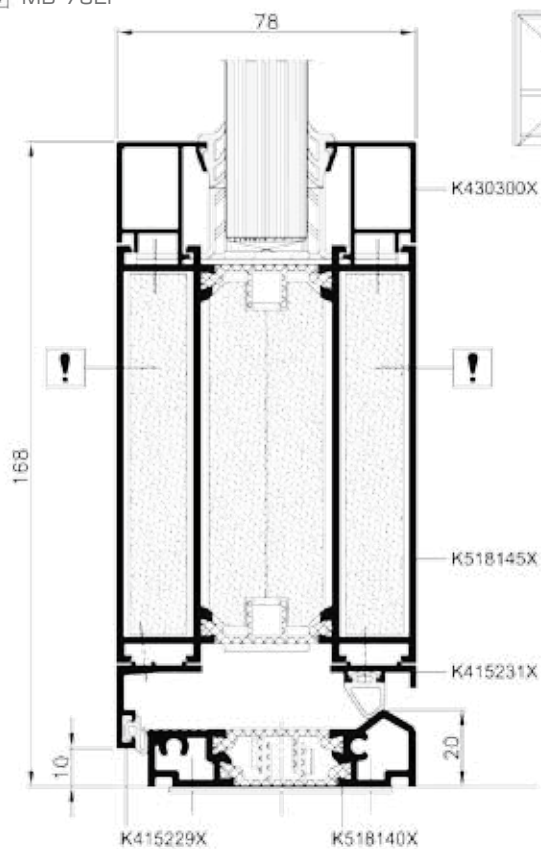
Applicable only for EI45 | EI60

Scale 1:2

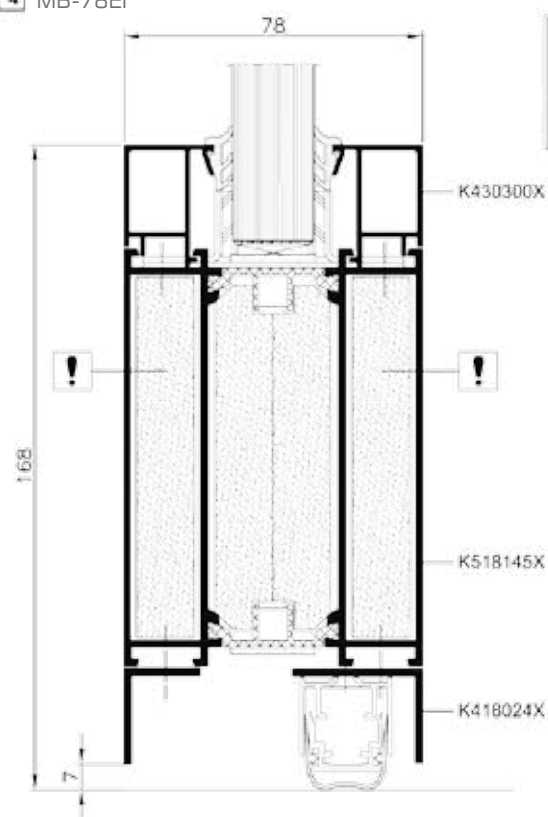
Single outward or inward opening door
- cross-section

Single outward or opening door
- cross-section

4 MB-78EI

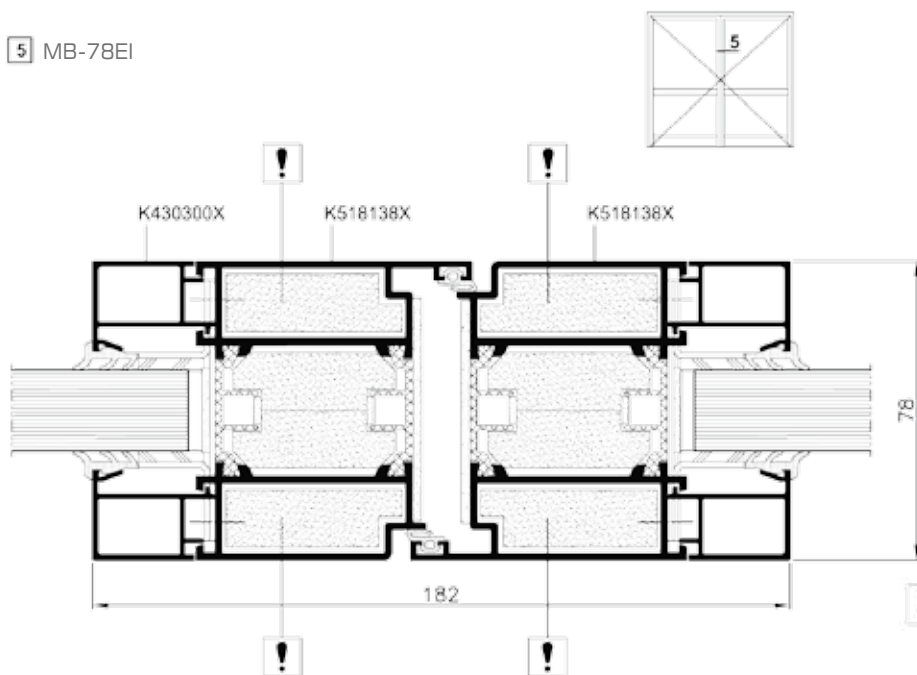


4 MB-78EI



Double door - cross-section

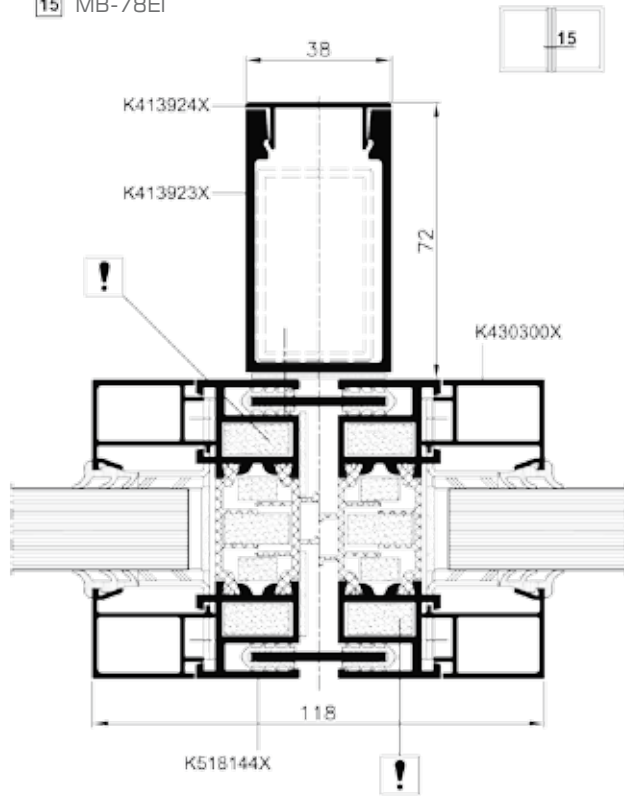
5 MB-78EI



! Applicable only for EI45 | EI60

Expansion - cross- section

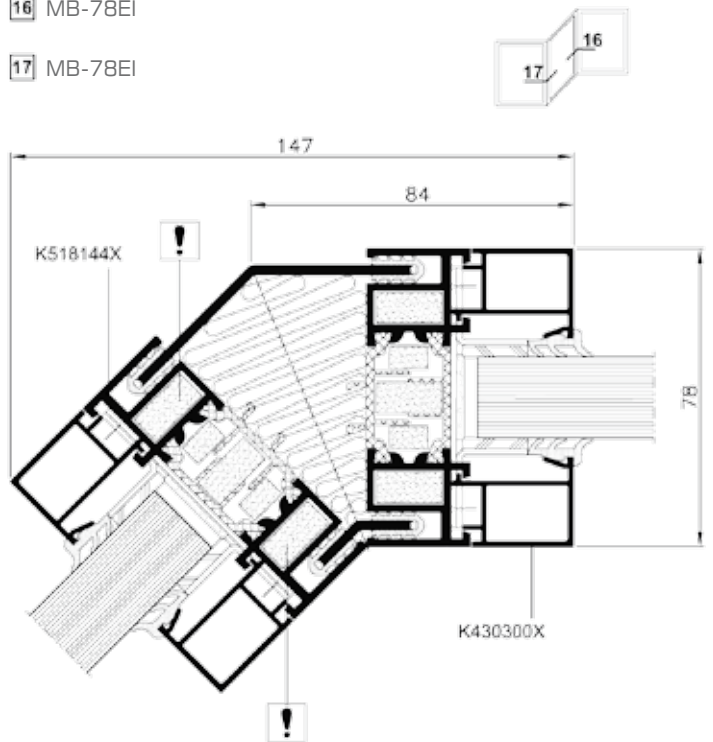
15 MB-78EI



Angular connection - cross- section

16 MB-78EI

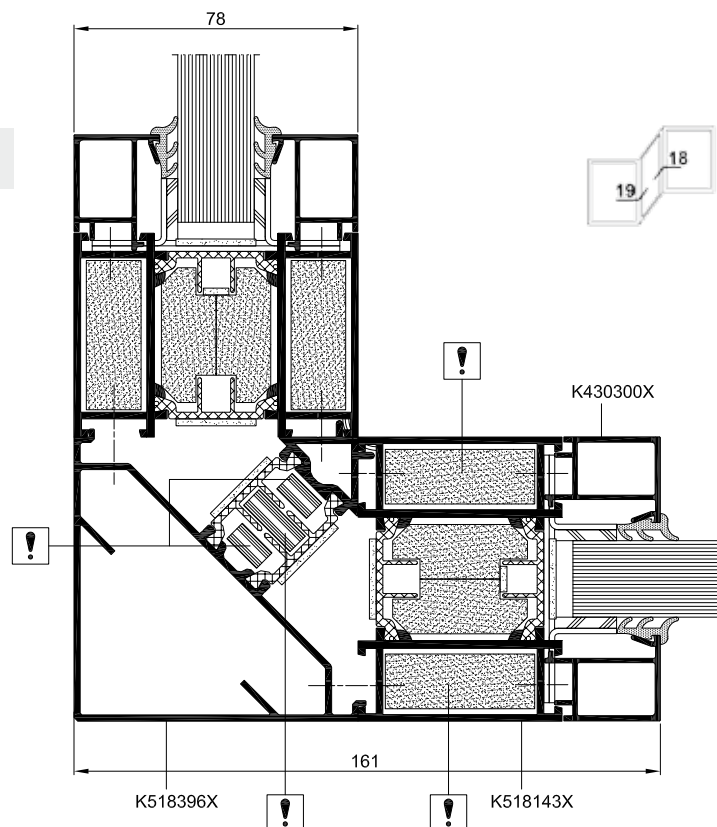
17 MB-78EI



Angular connection - cross- section

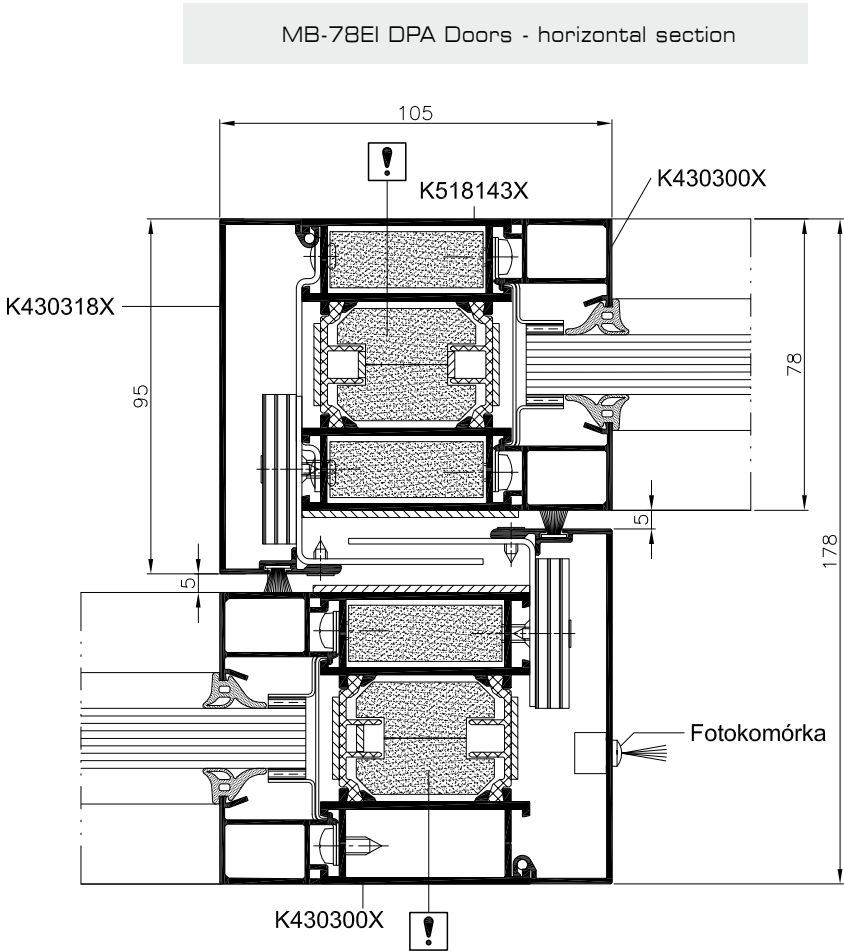
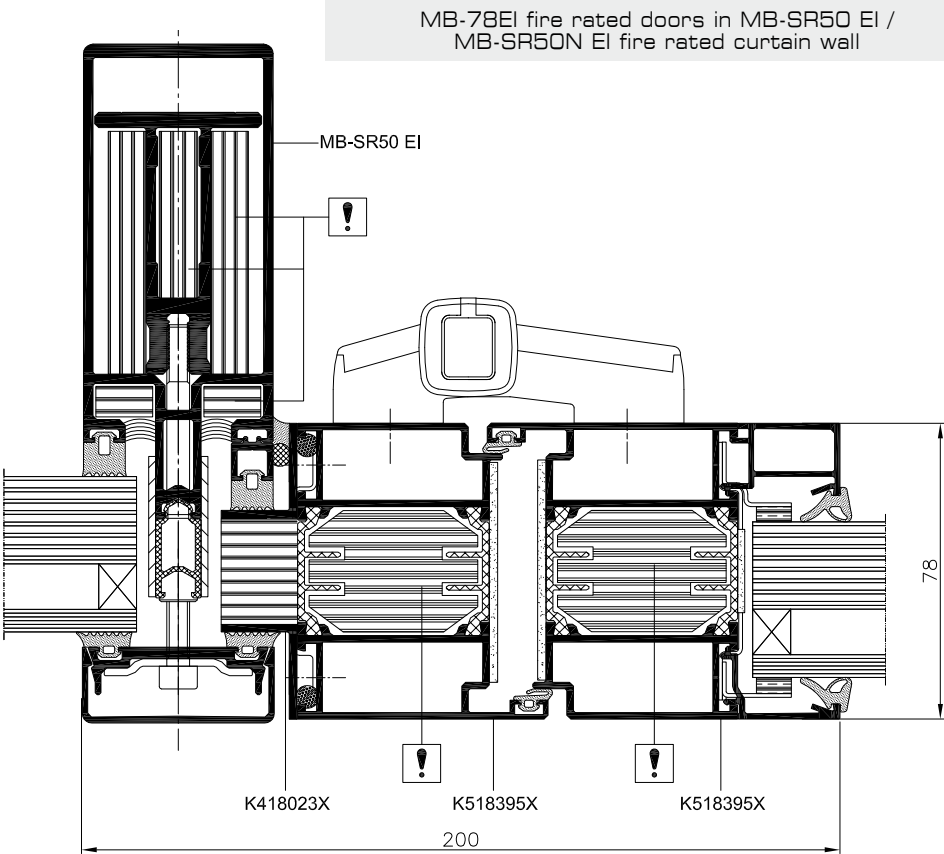
18 MB-78EI

19 MB-78EI



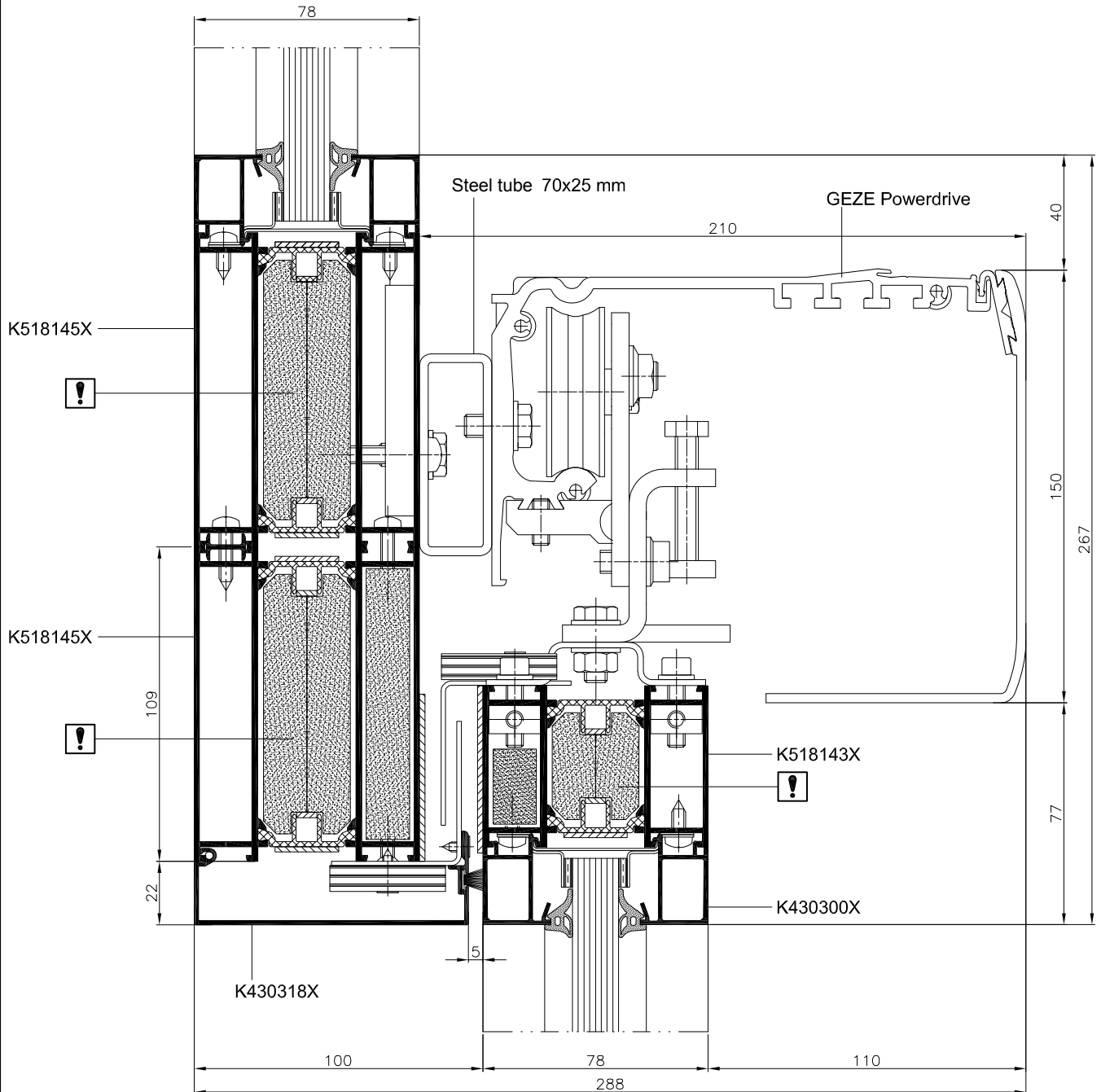
Applicable only for EI45 | EI60

Scale 1:2



Scale 1:2

MB-78EI DPA sliding doors - vertical section



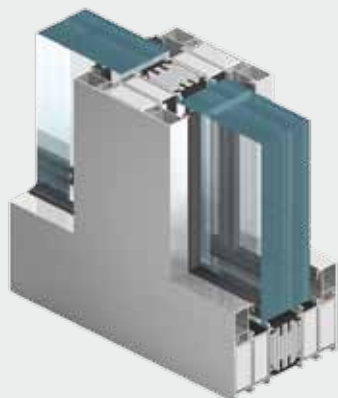
Scale 1:2

SYSTEM

MB-118EI



FIRE-RESISTANT STRUCTURES



MB-118 EI is a system for external or internal fire walls with a fireproofing classification of EI120. It is based on the MB-78EI system of fire partitions with doors, which provides here most of the components, including glazing beads, cooling inserts, expanding foam tapes, seals and most accessories. The system is classified as fire-retardant; it can be also used for smoke-tight structures.

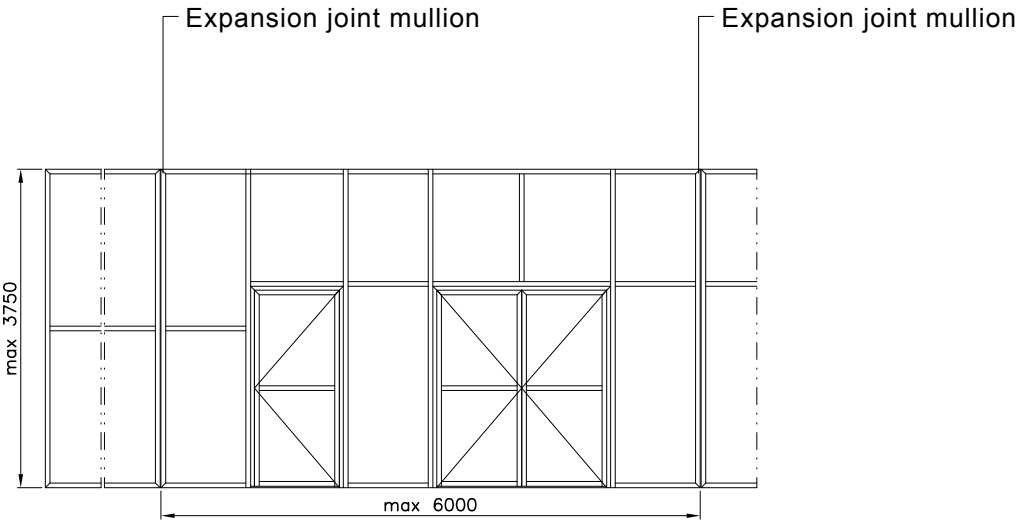
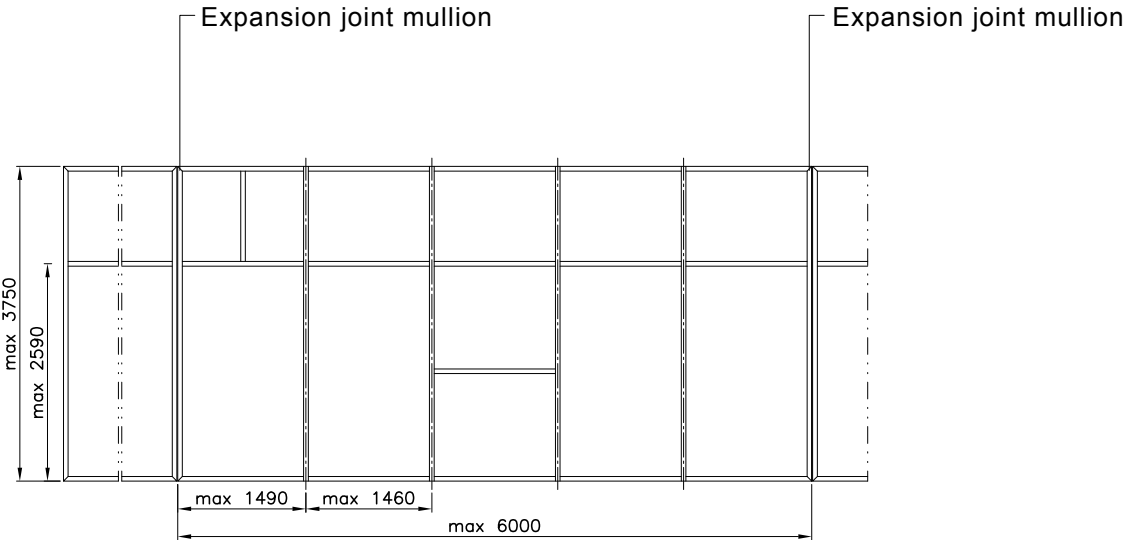
FIRE PARTITIONS

MB-118EI features:

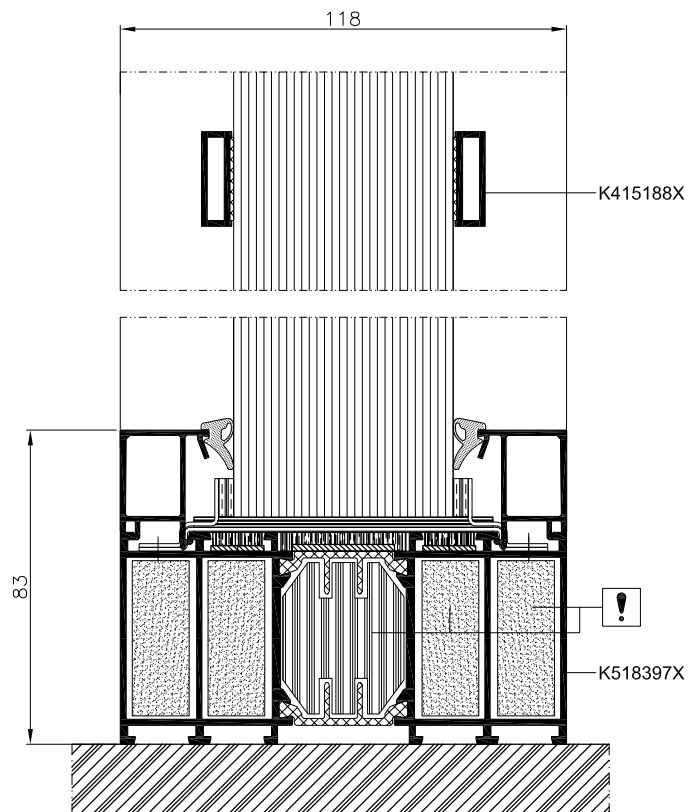
- Design depth of profiles is 118 mm
- The system is based on five-chamber aluminum profiles with a 34 mm wide thermal spacers.
- The internal chambers of the profiles and insulating spaces between the profiles include fire insulation elements. On the external surfaces, additional foam tapes are mounted, which expand under high temperatures.
- The glazing range for MB-118EI partition walls covers a infill thickness of 48-84 mm. Depending on the function of the building, single fire-resistant panes or glazing units with fire-resistant glass can be used.
- The fire-resistance of MB-118EI walls is classified EI120 for both external and internal fire.
- It is possible to use decorative muntins.
- Technical approval ITB AT-15-6006/2012.
- The construction technology is the same as for the MB-78EI system.



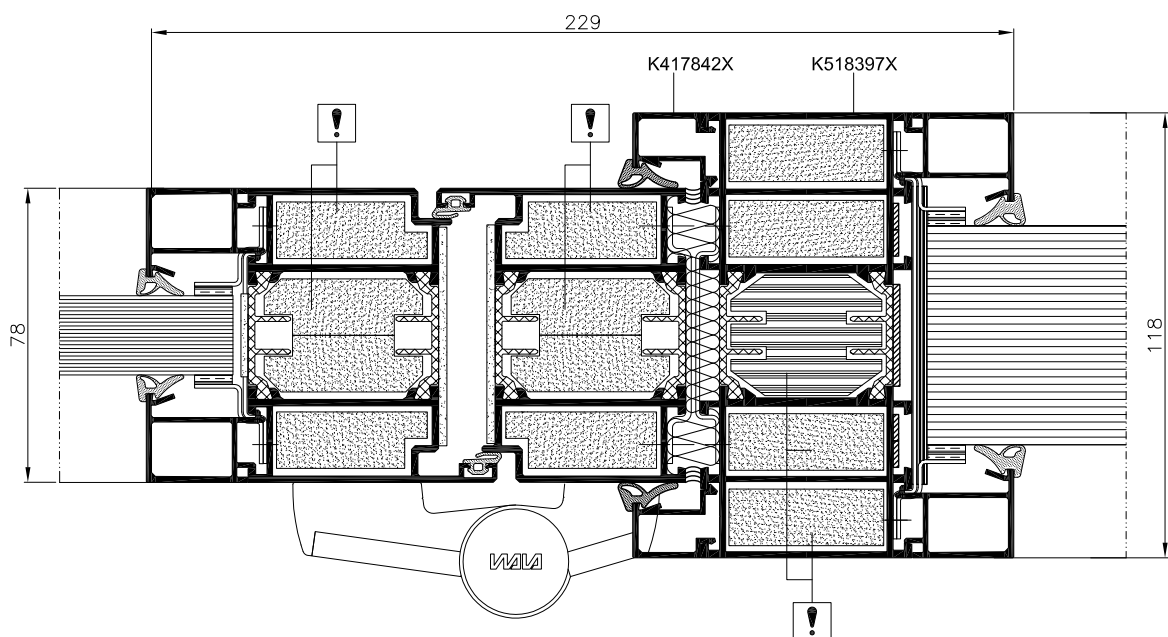
Maximum sized of the screen



Section through bottom rail



Section through the joint of MB-118EI screen with MB-78EI doors



roller shutters and gates
SYSTEMS



www.aluprof.eu

 **ALUPROF**

ROLLER SHUTTERS SYSTEMS

S Y S T E M S

FRONT MOUNTED SHUTTERS

→ 189

FRONT MOUNTED
ROLLER SHUTTER SYSTEMS

SK and SKP

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ROLLER SHUTTER SYSTEMS

SKO and SKO-P

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TOP MOUNTED ROLLER
SHUTTER SYSTEMS

SP and SP-E

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TOP MOUNTED ROLLER
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SKT OPOTERM

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SHUTTER SYSTEM

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MB-SUNSHADES

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FRONT MOUNTED ROLLER SHUTTER SYSTEMS

SK and SKP

ROLLER SHUTTERS SYSTEMS



Functionality

The adaptation system is designed for use in existing buildings. The roller shutter is rolled up into an aluminium box placed on the wall or in the reveal. The box is then a decorative element, matched to the appearance of the building. One of the solutions is the possibility

to use a mosquito net installed in the rollershutter box (Moskito system). The integrated system ensures independent operation of a roller shutter and an anti-insect net.

Design

The roller-shutter profiles are made of highgrade aluminium sheet covered with a twolayer varnish coat in the PU/PA system, characterised by enhanced resistance to abrasion and weather conditions. Due to the filling foam, the profiles feature good thermal and sound insulating performance. SK system boxes are made of high-grade aluminium sheet, like roller-shutter profiles, which are protected with two-layer coating in the PU/PA system.

Comfort of operation

Roller shutters come as manually operable or with an electrical drive connected to the control system, which secures high comfort of operation.

Advantages of application

The well-thought-out construction of roller shutters and appropriately selected materials provide effective protection against uninvited guests. In addition, they constitute excellent thermal insulation, thus allowing significant heating costs efficiency in winter, whereas in summer they reduce the temperature to which rooms heat up. Their integration with the Moskito system adds extra protection of the building interior against insects, while unobstructed access of light and air is still ensured.

Colour scheme

A wide range of colours in the standard colour chart allows for meeting the requirements of the most demanding customers. The colour finish of the surface is applied by powder coating.

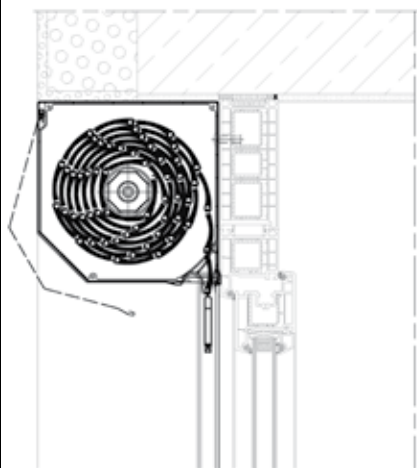
Requirements

Roller shutters of the ALUPROF systems have a Initial Type Testing, made by the accredited laboratory and rendered accessible recipients of systems.

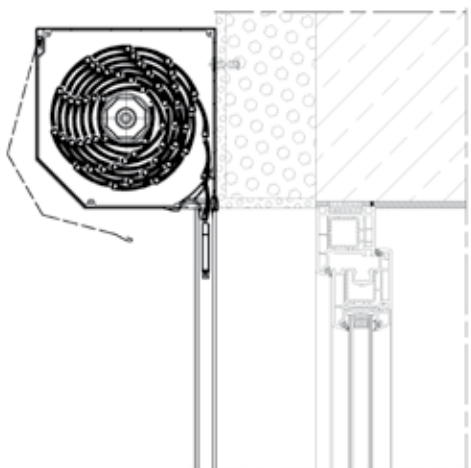


Roller shutter - instalation examples

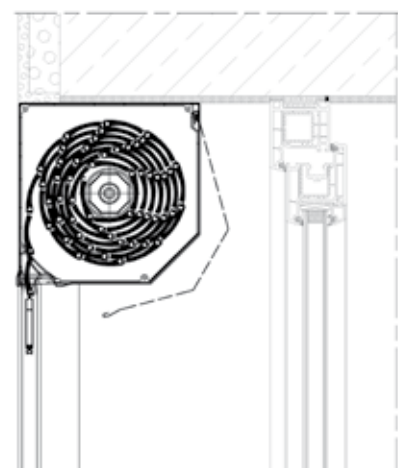
SK VARIANT 1



SK VARIANT 2

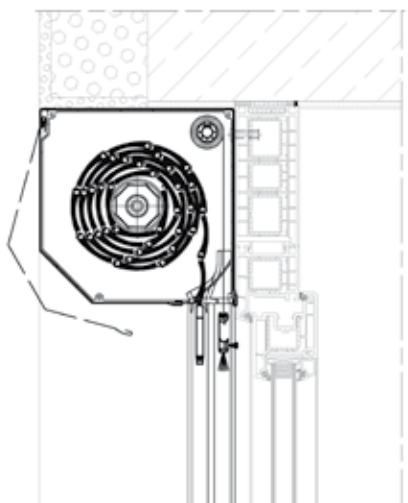


SK VARIANT 3

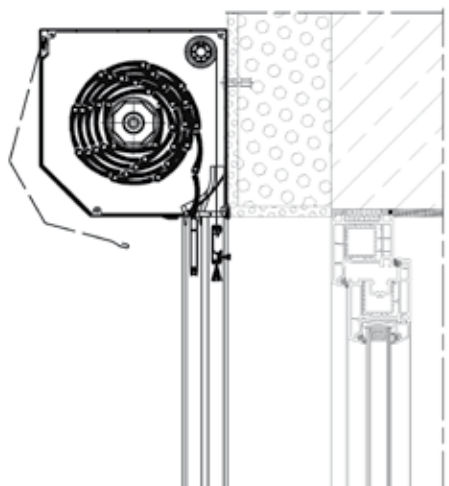


Roller shutter with mosquito net
- instalation examples

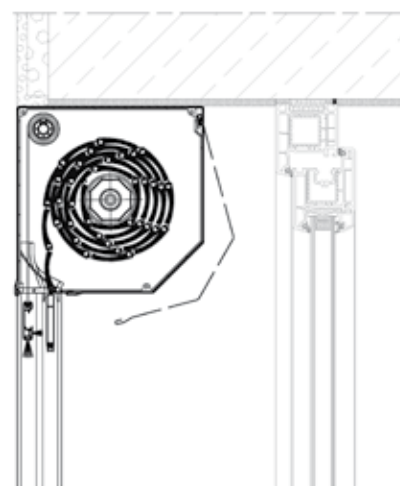
SK + MKT VARIANT 1



SK + MKT VARIANT 2

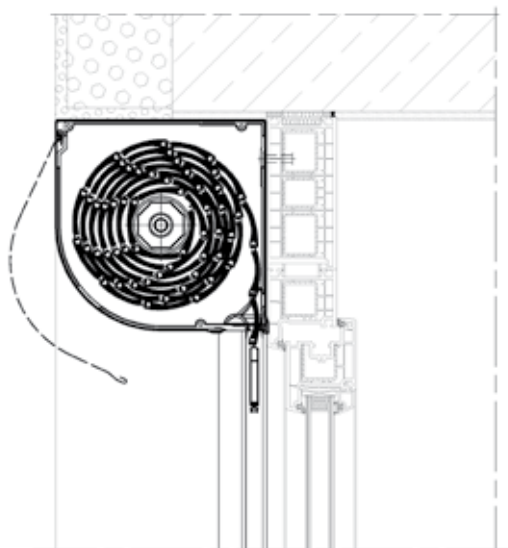


SK + MKT VARIANT 3

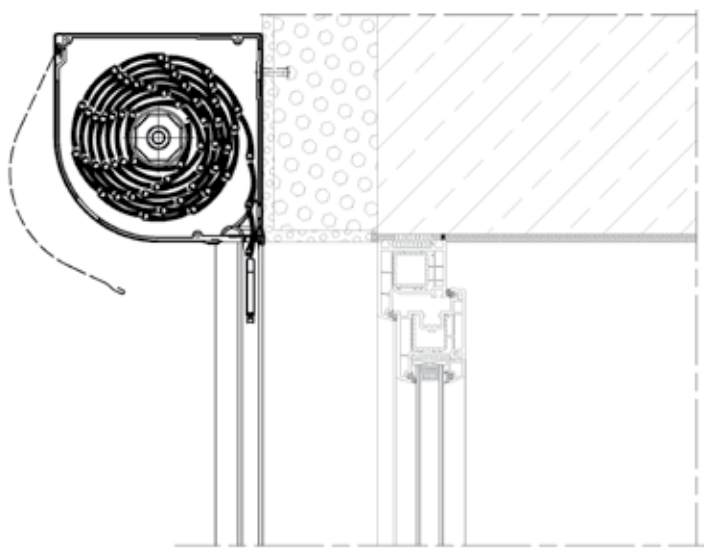


Roller shutter - instalation examples

SKP VARIANT 1

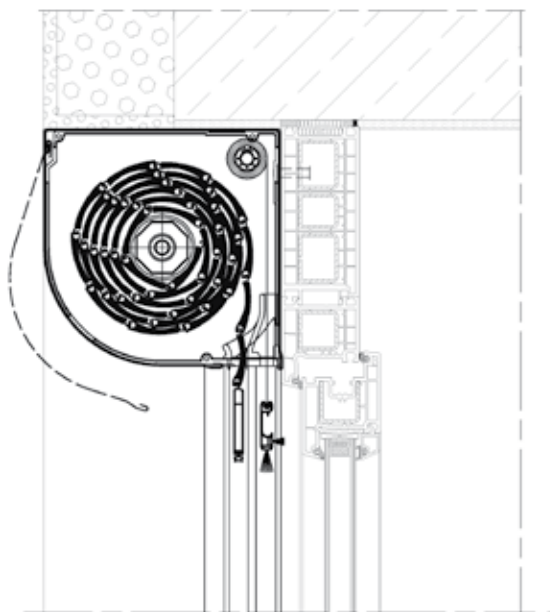


SKP VARIANT 2

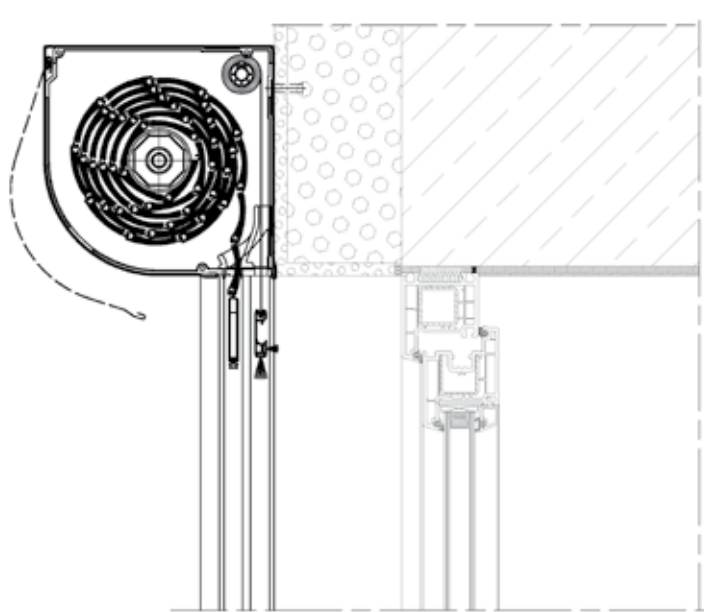


Roller shutter with mosquito net
- instalation examples

SKP + MKT VARIANT 1



SKP + MKT VARIANT 2



FRONT MOUNTED ROLLER SHUTTER SYSTEMS

SKO and SKO-P

ROLLER SHUTTERS SYSTEMS



Functionality

The adaptation system is designed for use in existing buildings. The roller shutter is rolled up into an aluminium box placed on the wall or in the reveal. The box is then a decorative element, matched to the appearance of the building. One of the solutions is the possibility to apply a mosquito net installed in the roller-shutter box (Moskito system). The integrated system ensures independent operation of a roller shutter and an anti-insect net.

Design

The roller-shutter profiles are made of high-grade aluminium sheet covered with a two-layer varnish coat in the PU/PA system, characterised by enhanced resistance to abrasion and weather conditions. Due to the filling foam, the profiles feature good thermal and sound insulating performance. Round, extruded boxes of the OWAL system feature very good resistance and long life, ensuring at the same time high safety and protection level. The aesthetic and functional OWAL system is achieved due to the application of a rounded guide rail cover.

Comfort of operation

Roller shutters come as manually operable or with an electrical drive connected to the control system, which secures high comfort of operation.

Advantages of application

The well-thought-out construction of roller shutters and appropriately selected materials provide effective protection against uninvited guests. In addition, they constitute excellent thermal insulation, thus allowing significant heating costs efficiency in winter, whereas in summer they reduce the temperature to which rooms heat up. Their integration with the Moskito system adds extra protection of the building interior against insects, while unobstructed access of light and air is still ensured.

Colour scheme

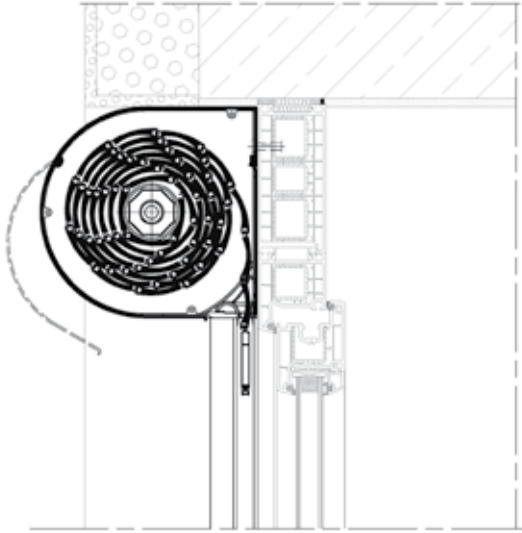
A wide range of colours in the standard colour chart allows for meeting the requirements of the most demanding customers. The colour finish of the surface is applied by powder coating.

Requirements

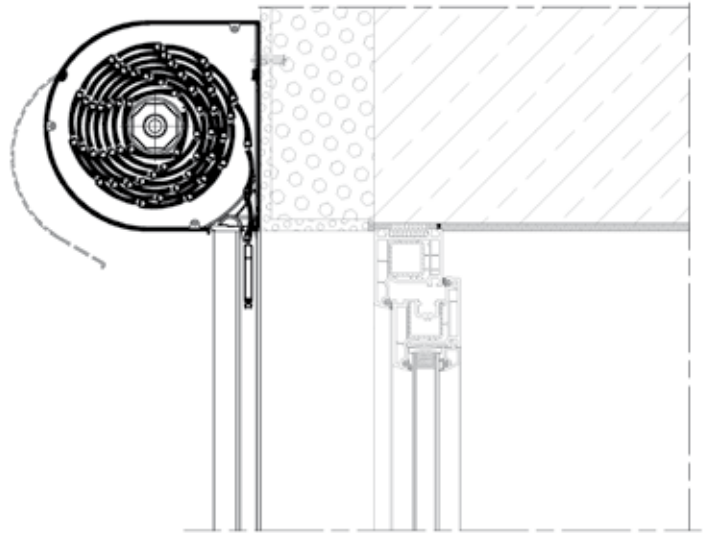
Roller shutters of the ALUPROF systems have a Initial Type Testing, made by the accredited laboratory and rendered accessible recipients of systems.



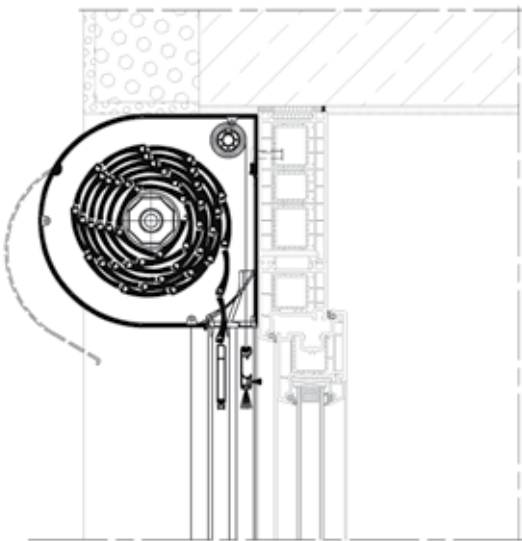
SKO VARIANT 1



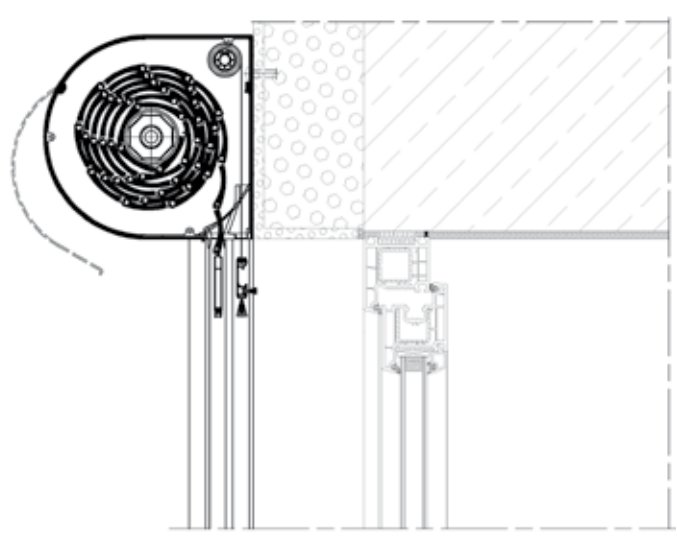
SKO VARIANT 2



SKO + MKT VARIANT 1

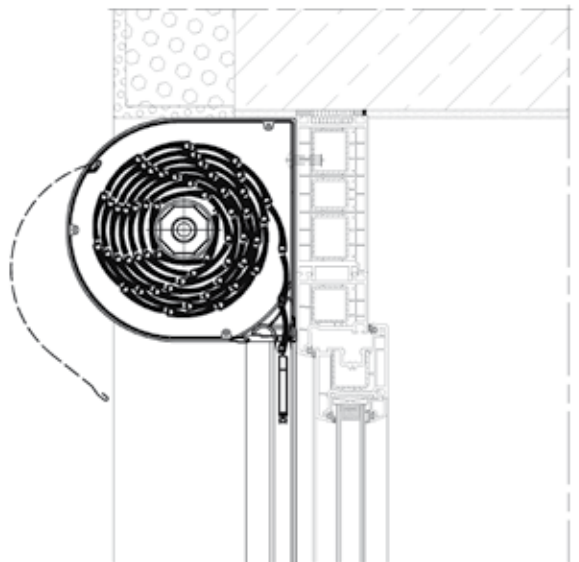


SKO + MKT VARIANT 2

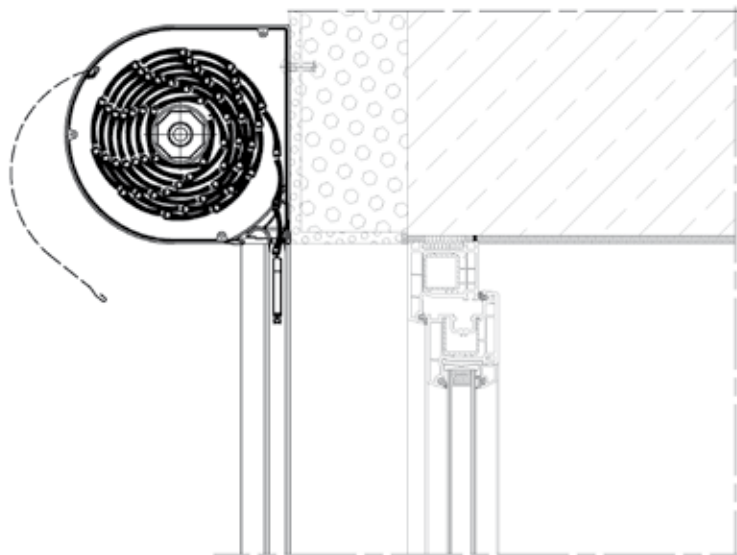


Roller shutter - instalation examples

SKO-P VARIANT 1

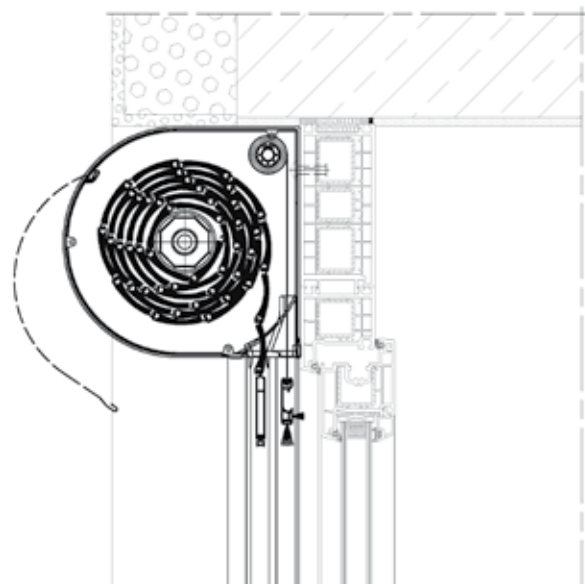


SKO-P VARIANT 2

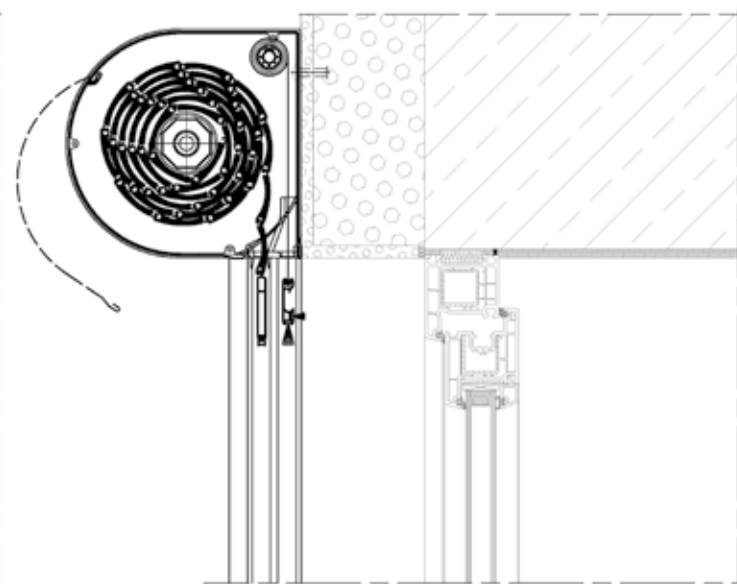


Roller shutter with mosquito net
- instalation examples

SKO-P + MKT VARIANT 1



SKO-P + MKT VARIANT 2



TOP MOUNTED ROLLER SHUTTER SYSTEMS

SP and SP-E

ROLLER SHUTTERS SYSTEMS



Functionality

The under plaster system SP / SP-EKO is designed for use at the stage of building erection. It allows architects and designers to take advantage of optimal solutions. Application of the system in already existing facilities is possible after making some necessary changes in the header section. The system offers an option to use a mosquito net installed in the roller-shutter box (Moskito system). The integrated system ensures an independent operation of a roller shutter and an anti-insect net.

due to which it remains an imperceptible element of the curtain wall. The SP / SP-EKO system elements do not interfere with the construction of the window, door or header - thus the energy balance of the building is not disturbed.

Comfort of operation

Roller shutters come as manually operable or with an electrical drive connected to the control system, which secures high comfort of operation.

Colour scheme

A wide range of colours in the standard colour chart allows for meeting the requirements of the most demanding customers. The colour finish of the surface is applied by powder coating.

Requirements

Roller shutters of the ALUPROF systems have a Initial Type Testing, made by the accredited laboratory and rendered accessible recipients of systems.

Design

The roller-shutter profiles are made of high-grade aluminium sheet covered with a two-layer varnish coat in the PU/PA system, characterised by enhanced resistance to abrasion and weather conditions. Due to the filling foam, the profiles feature good thermal and sound insulating performance. The roller-shutter box built under the header is an integral part of the curtain wall. The face of the box constitutes at the same time the base for any finishing material (e.g. plaster, clinker),

Advantages of application

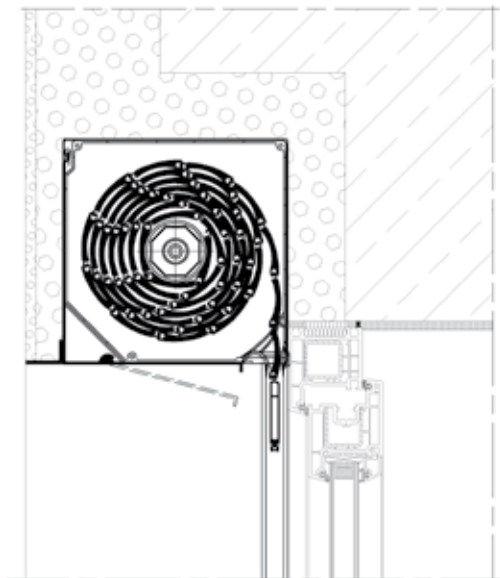
The well-thought-out construction of roller shutters and appropriately selected materials provide effective protection against uninvited guests. In addition, they constitute excellent thermal insulation, thus allowing significant heating costs efficiency in winter, whereas in summer they reduce the temperature to which rooms heat up. Their integration with the Moskito system adds extra protection of the building interior against insects, while unobstructed access of light and air is still ensured.

Switches keys and key

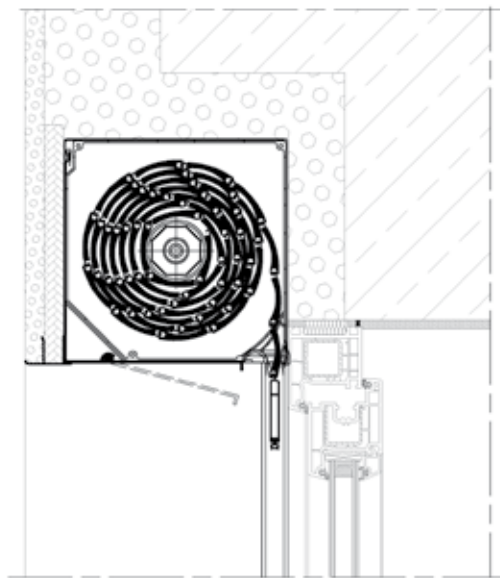


Roller shutter - instalation examples

SP VARIANT 1

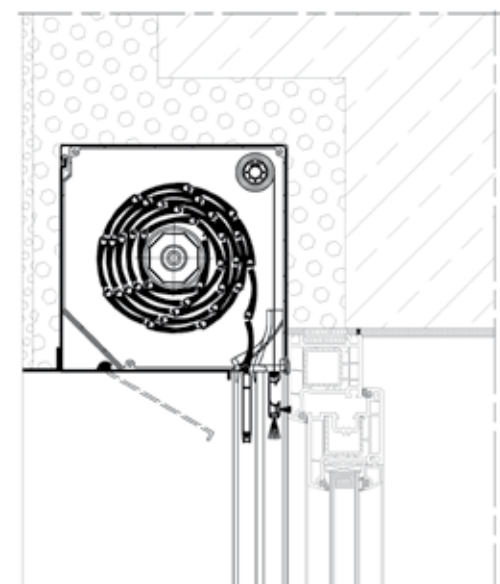


SP VARIANT 2

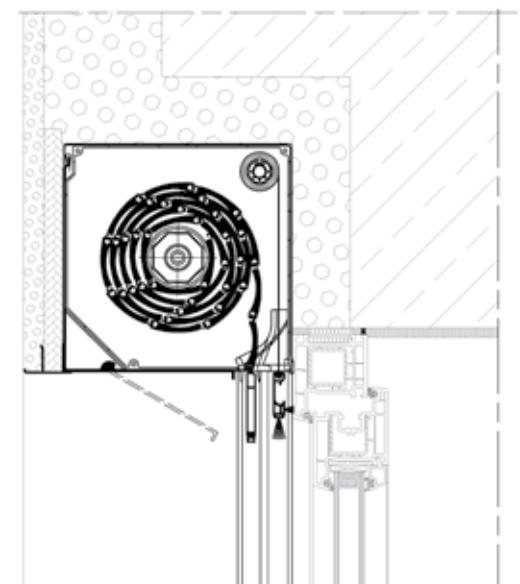


Roller shutter with mosquito net
- instalation examples

SP + MKT VARIANT 1

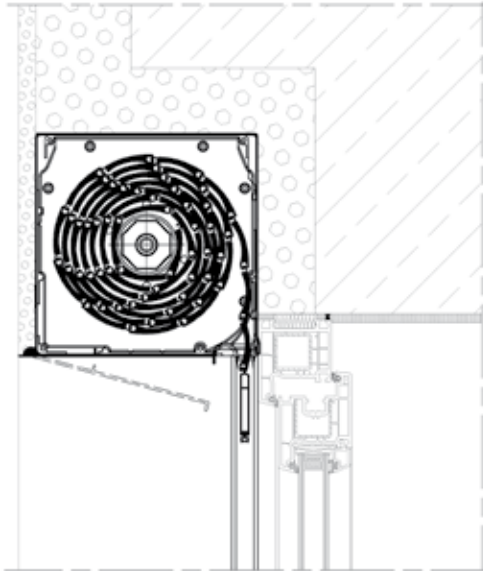


SP + MKT VARIANT 2

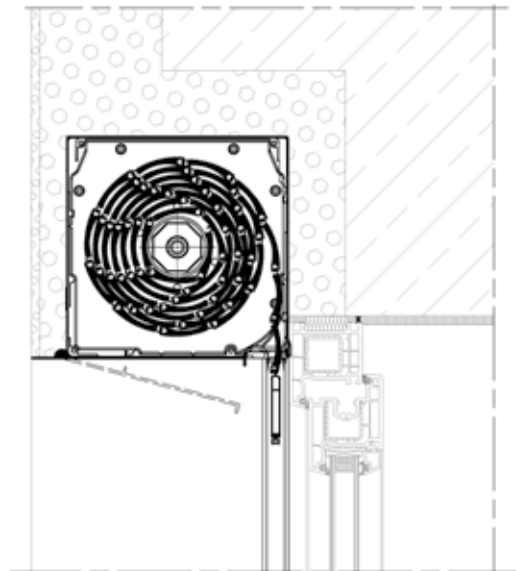


Roller shutter - installation examples

SP-E VARIANT 1

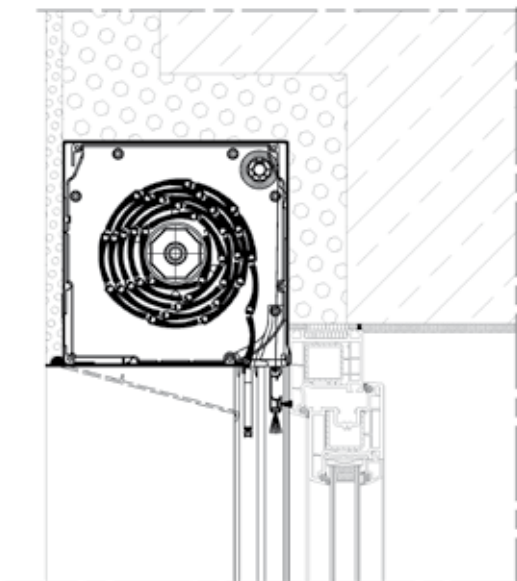


SP-E VARIANT 2

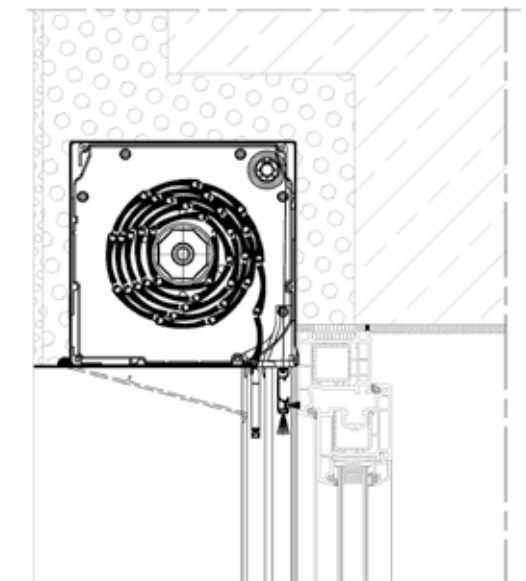


Roller shutter with mosquito net
- installation examples

SP-E + MKT VARIANT 1



SP-E + MKT VARIANT 2



TOP MOUNTED ROLLER SHUTTER SYSTEMS

SKN B+H

ROLLER SHUTTERS SYSTEMS



Functionality

The SKN B+H system is designed for use at the stage of building erection. It allows architects and designers to take advantage of optimal solutions. SKN B+H boxes are ready-made constructional elements to be applied by architects and building contractors.

Design

The roller-shutter profiles are made of high-grade aluminium sheet covered with a two-layer varnish coat in the PU/PA system, characterised by enhanced resistance to abrasion and weather conditions. Thanks to the filling foam, the profiles feature good thermal and sound insulating performance.

The box made of hard foamed polystyrene ensures the appropriate level of thermal insulation and a trouble-free finish for the curtain wall. The SKN B+H system elements do not interfere with the construction of the window, door or header - thus the energy balance of the building is not disturbed.

Comfort of operation

Roller shutters come as manually operable or with an electrical drive connected to the control system, which allows a high comfort of operation.

Advantages of application

The well-thought-out construction of roller shutters and appropriately selected materials provide effective protection against uninvited guests. In addition, they constitute excellent thermal insulation, thus allowing significant heating costs efficiency in winter, whereas in summer they reduce the temperature to which rooms heat up.

Colour scheme

A wide range of colours in the standard colour chart allows for meeting the requirements of the most demanding customers. The colour finish of the surface is applied by powder coating.

Requirements

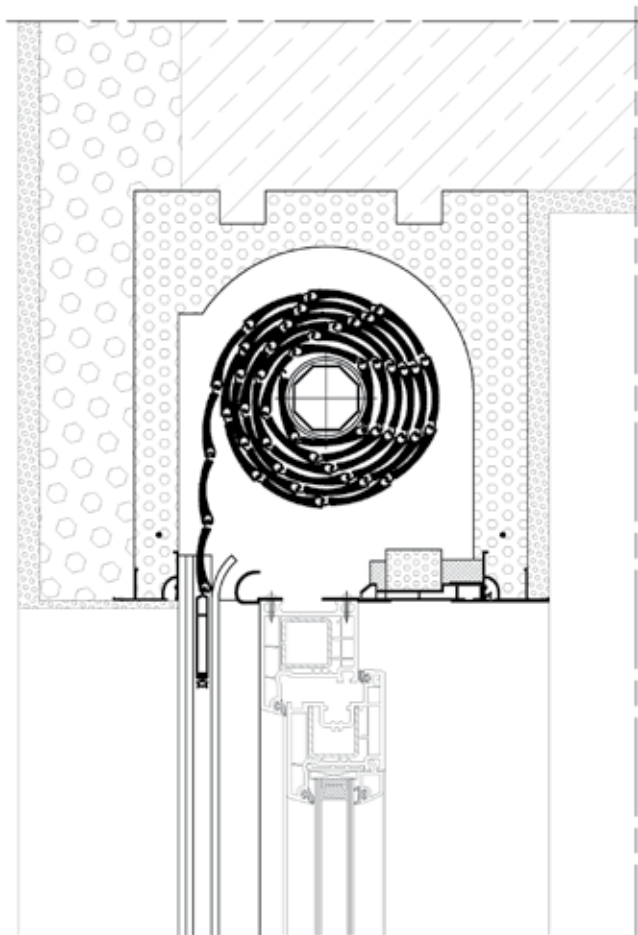
Roller shutters of the ALUPROF systems have a Initial Type Testing, made by the accredited laboratory and rendered accessible recipients of systems.

motor

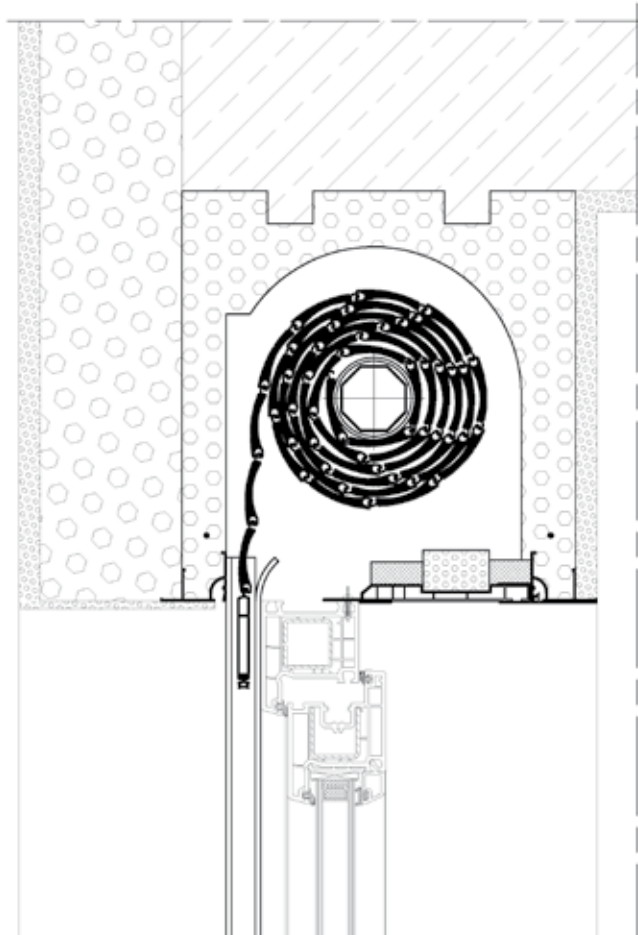


Roller shutter - installation examples

SKN B+H VARIANT 1



SKN B+H VARIANT 2



SKT OPOTERM

PVC roller shutter system

ROLLER SHUTTERS SYSTEMS



Functionality

The on-window mounted system is designed for use both at the stage of building erection as well as in existing buildings. It allows architects and designers to take advantage of optimal solutions. The construction of the system enables the shutter box development from both sides and from one side. There is possible also the installation without any development. The system offers an option to use a mosquito net installed in the rollershutter box (Moskito system). The integrated system ensures an independent operation of a roller shutter and an anti-insect net.

Design

The roller-shutter profiles are made of highgrade aluminium sheet covered with a two layer varnish coat in the PU/PA system, characterised by enhanced resistance to abrasion and weather conditions. Due to the filling foam, the profiles feature good thermal and sound insulating performance. The internal insulation of the shutter box ensures that the energy balance of the building is not disturbed. Shutter box build in under the lintel is an integral part of a building. Front of the box is a base for any finishing material (ex. plaster, clinker, Styrofoam) so it stays an invisible part of the curtain wall. Elements of the SKT system do not interfere in the construction of windows, doors and lintel.

Special features

- Three box sizes in two versions: with or without the mosquito net.
- Possibility to use the Moskito system,

which can be integrated with every roller shutter profile (PAU 37 – PA 55).

- Inspection cover at the bottom or in the front of the box. Very simple way of changing the manner in which the box is inspected, without the need to use any extra components and protected by the European Patent.
- Optimum thermal insulation. Two-part internal thermal insulation of the box to allow free service access from its bottom or front. End stop of the bottom and upper part of thermal insulation to allow moving its elements. The bottom part of thermal insulation overlaps a part of the window frame to minimise heat losses.
- Complete sealing of the roller shutter. The use of brush weather seals on both sides of the roller shutter curtain to a large extent reduces air permeability and minimise heat losses.
- Adaptive profiles suitable for most window systems.
- Reverse T-shaped plaster strip with increased stiffness in white colour and covered by renolit coating, available in a wide range of veneers.
- System to block the mosquito net bottom strip in its upper position.

Comfort of operation

Roller shutters come as manually operable or with an electrical drive connected to the control system, which allows a high comfort of operation. Advantages of application The wellthought-out construction of roller shutters and appropriately selected materials provide effective protection against uninvited guests. In addition, they constitute excellent thermal insulation, thus allowing

significant heating costs efficiency in winter, whereas in summer they reduce the temperature to which rooms heat up. Their integration with the Moskito system adds extra protection of the building interior against insects, while unobstructed access of light and air is still ensured.

Utility values

OPOTERM roller shutters provide excellent thermal insulation, making it possible to significantly reduce heating costs in winter and perfectly protect the interior from excessive heating in summer. In addition, the well-thought-out roller shutter construction and its full integration with the MOSKITO system keeps the building's interior free from insects, while at the same time maintaining access to light and air.

Colour scheme

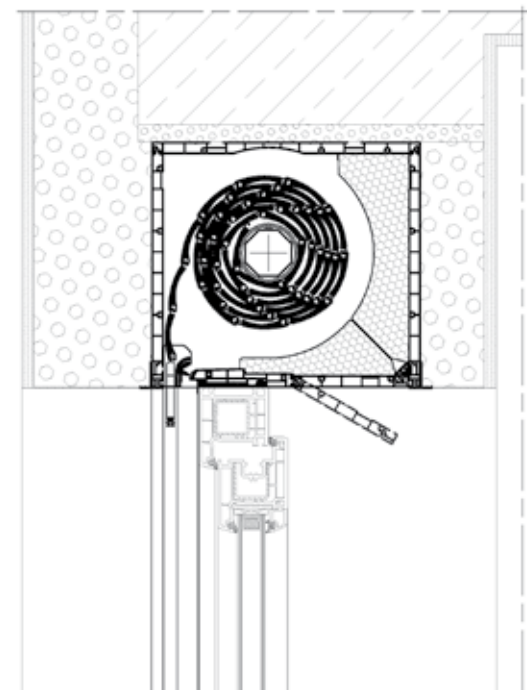
A wide range of colours in the standard colour chart allows for meeting the requirements of the most demanding customers. The colour finish of the surface is applied by powder coating.

Requirements

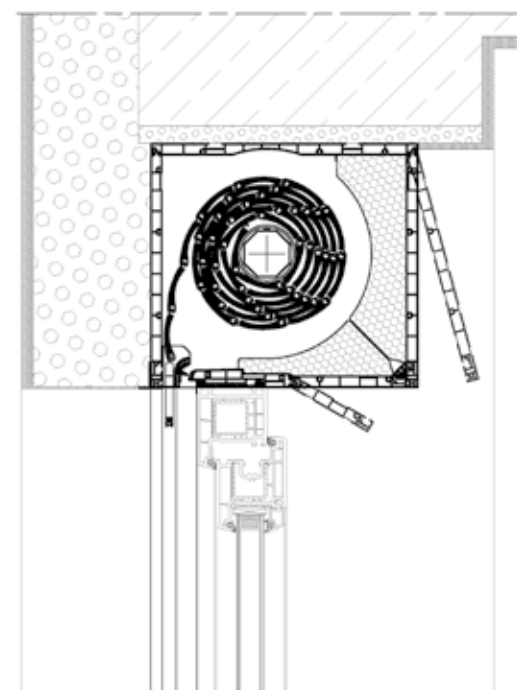
Roller shutters of the ALUPROF systems have a Initial Type Testing, made by the accredited laboratory and rendered accessible recipients of systems.

Roller shutter - instalation examples

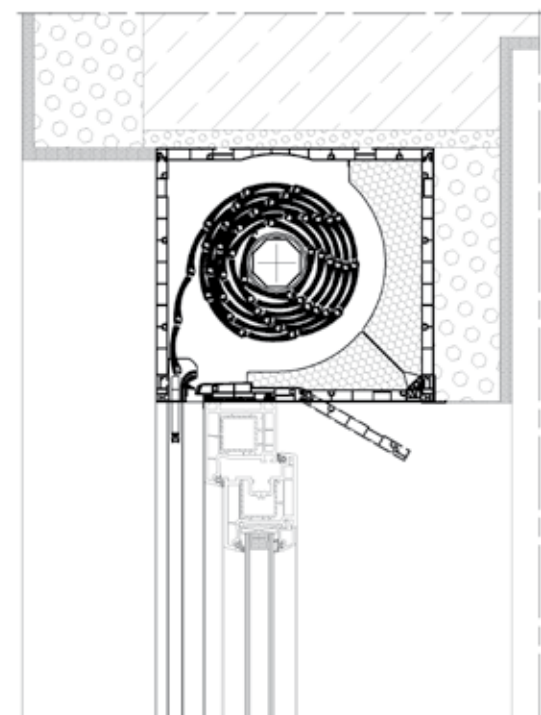
SKT VARIANT 1



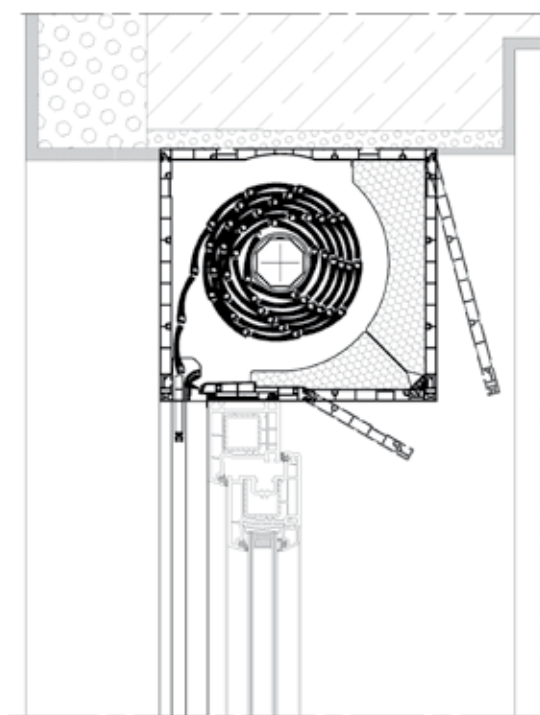
SKT VARIANT 2



SKT VARIANT 3

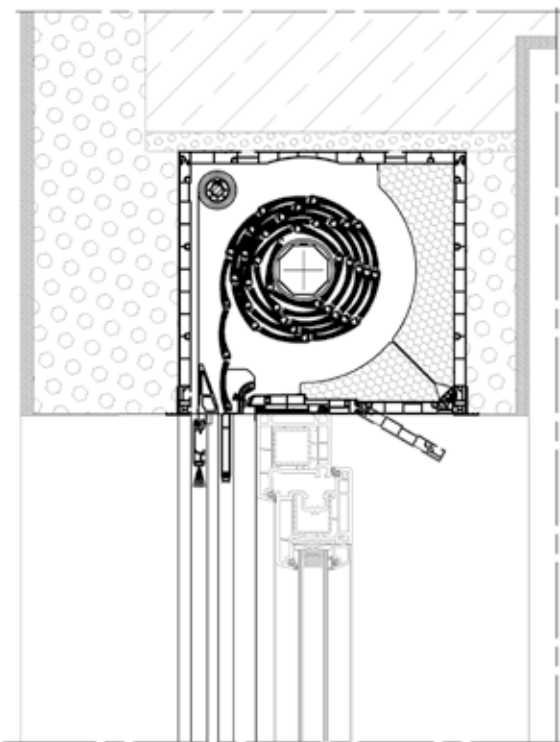


SKT VARIANT 4

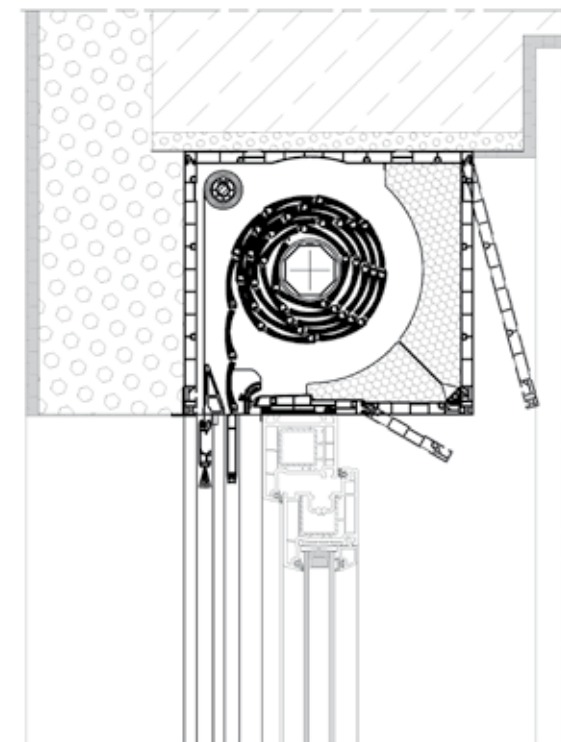


Roller shutter - instalation examples

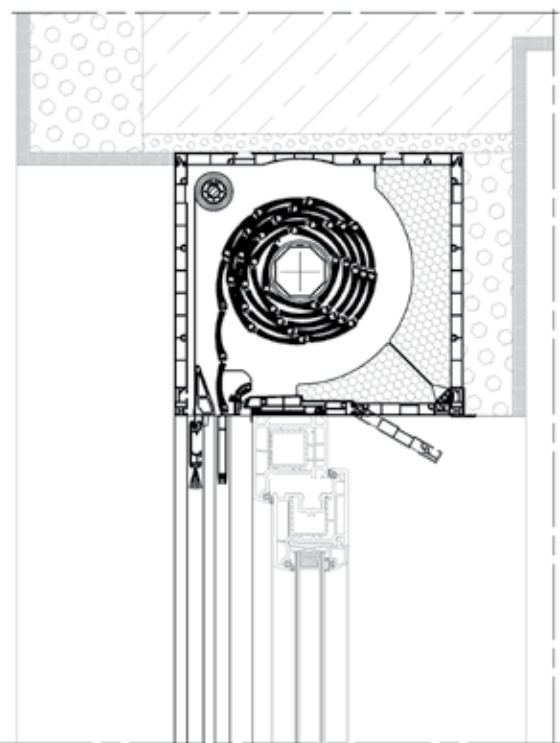
SKT + MKT VARIANT 1



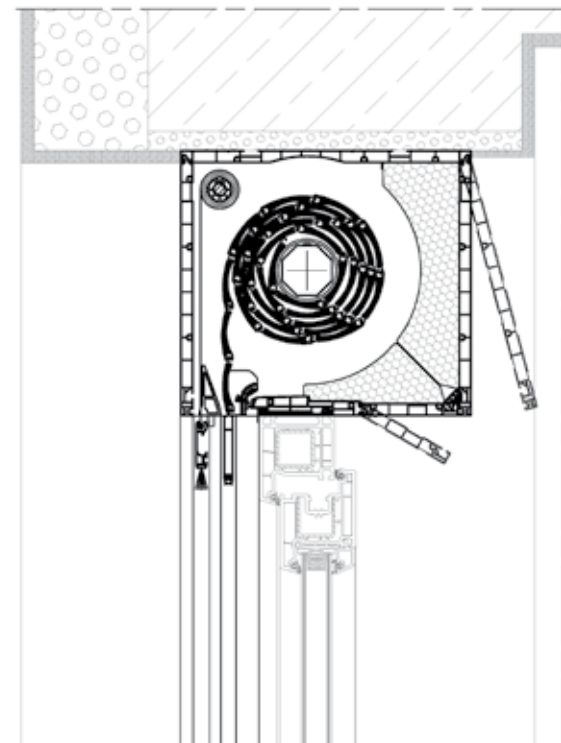
SKT + MKT VARIANT 2



SKT + MKT VARIANT 3



SKT + MKT VARIANT 4



TOP-MOUNTED SYSTEM

SKT OPOTERM WITH AIR INLET

ROLLER SHUTTERS SYSTEMS



Functionality

Using the EAH air inlet allows to supply fresh air to the building. Even with the windows shut tight, this still allows to supply fresh air on a continuous basis, in level consistent with relevant regulations. EAH are to be used with top installed window shutters. The EAH humidity sensitive air inlet can be used with all size SKT OPOTERM system roller-boxes, with or without fly screens. The air inlet can be fitted on the existing or on a new shutter.

Design

The device consists of a casing, a moveable damper and a humidity sensor, as well as an operator making it possible to close the vent almost fully [optional]. The humidity sensor is a polyamide tape which controls the device. As the humidity changes, the tape length alters, causing the opening in the damper to narrow or widen and introducing an increased or reduced stream of air into the room at the same time. There is also an option to have the EAH fitted with an operator which means that the device can be closed manually almost completely. The aperture is located in the upper section of the air inlet.

Comfort of operation

The air inlet is controlled automatically and does not require power supply. When relative humidity varies, the device mechanically controls the opening: the higher the humidity, the more the air inlet opens and a larger influx of air flows into the room. It is also possible to manually set the aperture at the "minimum" position (optional).

Advantages of application

The Aluprof EAH humidity sensitive air inlet analyses changes in the room's humidity level and supplies the quantity of air that is currently needed. Using air inlets make it possible to reduce the energy loss related to ventilating unused interior spaces and ensures the requisite exchange of air in interior spaces in use. The device is installed in the roller-box above the window and has an upward facing air outlet. As a result, the air from outside is not directed straight at the people using the room, which increases their comfort. In addition, the optional aperture can be closed almost completely, reducing the flow of air to the minimum.

Colour range

The EAH air inlet is available in white.

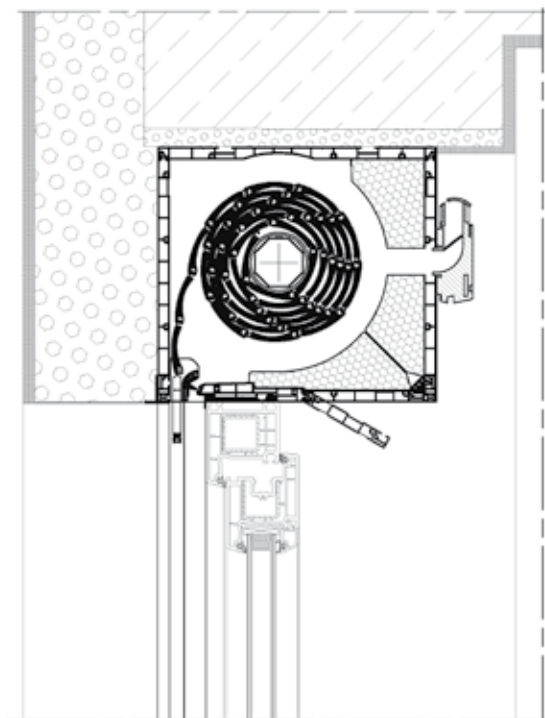
Requirements

The EAH air inlet, fitted in the SKT OPOTERM top-installed roller shutter, has received an excellent opinion from the Acoustic Department of Poland's Building Research Institute.

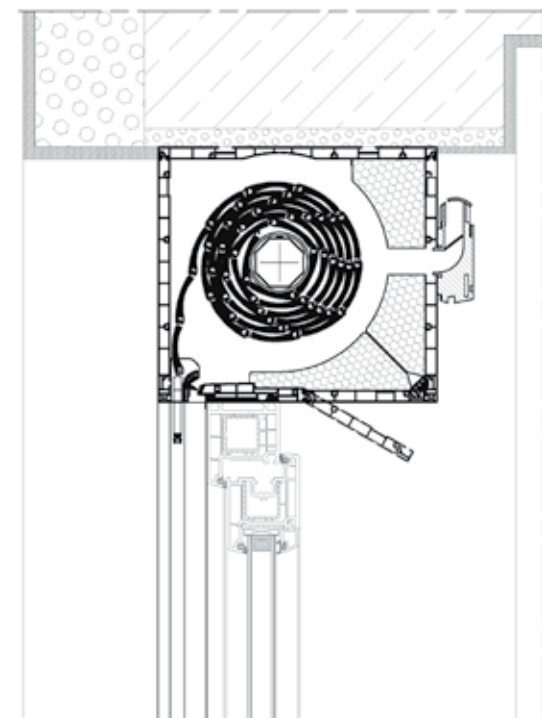


Roller shutter with air inlet - construction examples

SKT + EAH VARIANT 1

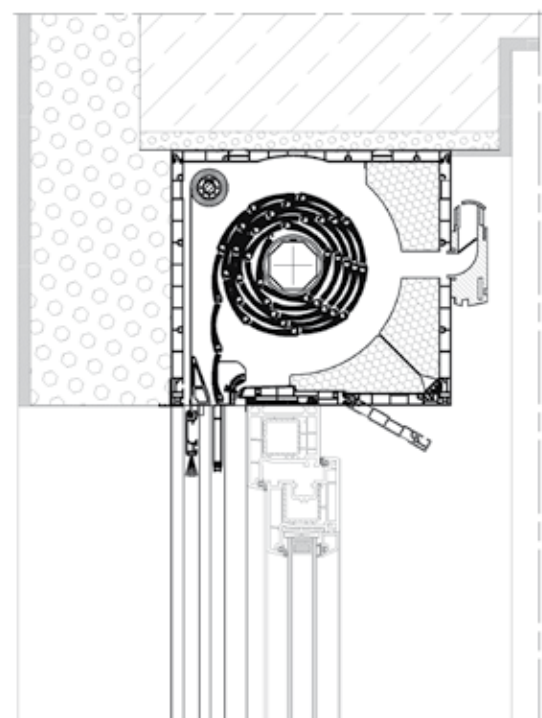


SKT + EAH VARIANT 2

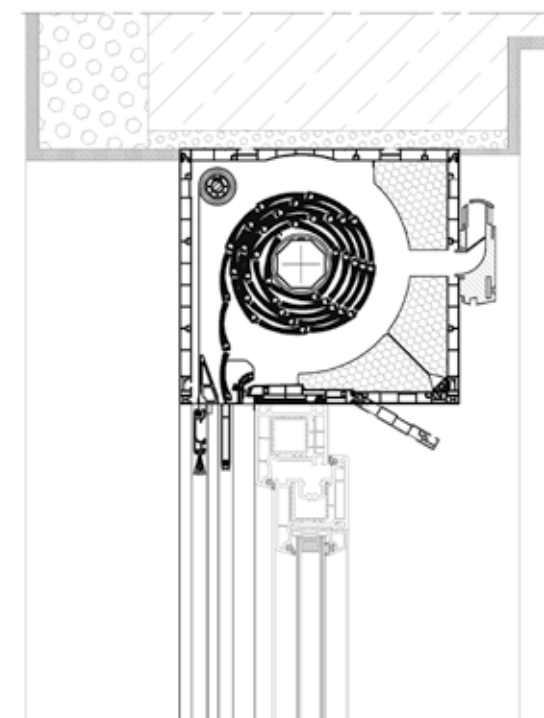


Roller shutter with fly screen and air inlet - construction examples

SKT + MKT + EAH VARIANT 1



SKT + MKT + EAH VARIANT 2



SYSTEM

ANTI-BURGLAR

ROLLER SHUTTERS SYSTEMS



Designed for users with special requirements for home safety. As a manufacturer of shutter systems, we decided to go a step further and offer a product that would be an excellent decorative element and yet provide efficient protection against burglary at the same time.

Construction and functionality

Modern design, functionality, easy installation and operation, as well as its visual appeal, enable the right shutter to be chosen to meet the requirements of the building and curtain wall color. In such a product, individual components, e.g. guides, are provided with special reinforcement to eliminate the risk of bending and taking roller profiles out. Additionally, an adequately strong construction protects the shutter against impact. A ratchet mechanism installed in the lower section of the shutter prevents the opening of a closed curtain, which guarantees security for the house. The shutters are made of aluminum, so they are light, resistant to weather and easy to maintain.

In an unoccupied house, roller shutters protect the windows and balcony from the eyes of potential burglars and the property from theft. Thanks to special insulation, the house is also protected against excessive sunlight and heat.

Special features of the system:

- solid construction of the curtain eliminates the risk of damage
- reinforced construction of guides
- ratchet mechanism in the lower section
- reinforced bottom strip

User properties

The anti-burglar roller shutters can be adapted to various systems, in which the curtain is rolled back into an aluminum box installed on the wall or frame. The technology and well-thought out design allow the boxes to be concealed as much as possible. A wide range of compatible systems ensure aesthetic compatibility with the curtain wall.

Color palette

The profiles are available in a wide range of colors, therefore, they can perfectly match the windows and doors.

Requirements

Anti-burglar roller shutters based on Aluprof systems are type-tested in an accredited laboratory according to PN-EN 1627:2011 to confirm compliance with the requirements for class RC3.



ROLLER SHUTTERS WITH CURTAIN

S_ONRO®

ROLLER SHUTTERS SYSTEMS



Functionality

The Aluprof s_onro® roller shutters with curtain is designed for use in existing and newly build developments. The curtain profiles can completely exclude external light from a room or other interior space. They can also protect the room from overheating in the sun's rays, while letting in some important amount of light (up to 20% of the curtain surface can be transparent). In addition, their unique form plays a decorative role, providing a definite enhancement to the overall aesthetics of a building.

Construction details

The curtain is made using highly stable, dihedral, rolled aluminium profiles. They contain a light perforation which fulfils the additional function of facilitating the exchange of air. The volume of light is regulated by closing individual profiles up to the point where a total blackout is obtained inside the room. The standard curtain can be immobilised on both sides and to its full height, which secures the profiles, preventing them from shifting in relation to each other.

The state-of-the-art shape of the profiles, with a geometry corresponding to the very latest requirements as regards the permeation of light brings savings on electricity.

Easy to use

The roller shutters can be controlled manually or by means of an electric drive connected to the control system for ease of use.

Practical values

The s_onro® profiles curtain will work without drawbacks in conjunction with roller shutter systems such as the SK, SKP, SKO and SKO-P adaptive systems and the top-mounted systems (SP, SP-E). The degree to which the curtain is open during the day is flexible and can be adapted to suit individual requirements simply by opening or closing it further. When the angle at which the sun's rays are falling exceeds 20°, the s_onro® profiles prevent any direct sunlight whatsoever from entering the room, while simultaneously guaranteeing the possibility of seeing out.

Colour range

S_onro® profiles are available in the standard colours of silver, white, grey and anthracite grey.

Requirements

The Aluprof s_onro® roller shutters with curtain hold initial type testing certification according with the product standard.



THE FIXED INSECT SCREEN

MRS

FRAMED MOSQUITO SCREEN SYSTEMS



Functionality

The system of framed mosquito screens excellently protects rooms against insects. The frame can be fixed using internal aluminum corner joints of a snap or screw type. The offer also includes external plastic corner joints in various colors. The system is compatible with most window profiles. Fixing brackets are offered in five sizes.

Construction

The frame profile is made of strong extruded aluminum with a modern shape and powder coated surface. The profile is offered in two versions: with a "fin" abutting the window frame and without the "fin", with a place for a brush weatherseal, used for a fully enclosed window frame.

Comfortable operation

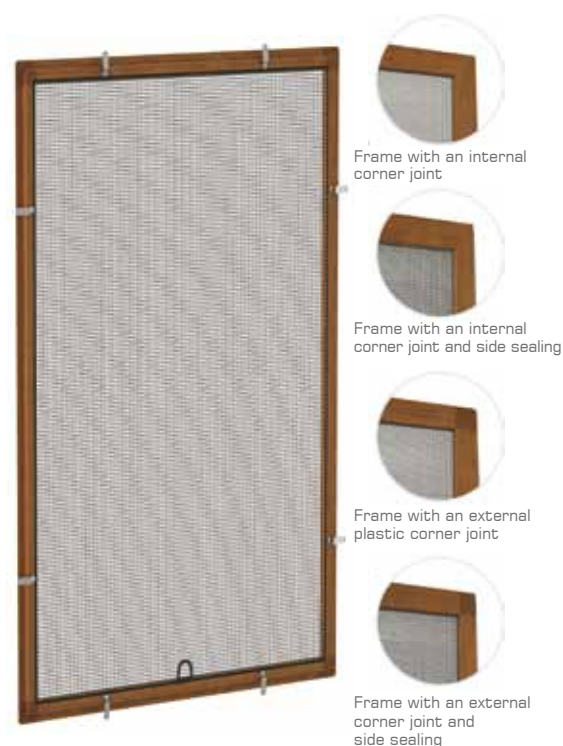
The framed mosquito screen is installed on the external side of the window frame. With the use of noninvasive rotary joints, the screen can quickly and easily be mounted and dismantled, while keeping the full functionality of the windows.

User properties

The well-thought out design of the mosquito screen and properly selected materials provide effective protection against insects, without blocking the light and air.

Color palette

A wide range of standard colors will satisfy the most demanding customers. The color coats are applied with the following methods, depending on customer needs: powder coating and Decoral paints.



THE SWING INSECT SCREEN

MRO

FRAMED MOSQUITO SCREEN SYSTEMS



User properties

The well-thought out design of the mosquito screen and properly selected materials provide effective protection against insects, without blocking the light and air. The screen is equipped with a handle for opening and a magnet for keeping the closed position, as a standard.

Color palette

A wide range of standard colors will satisfy the most demanding customers. The color coats are applied with the following methods, depending on customer needs: powder coating and Decoral paints.

Functionality

Mosquito screens with opening frames excellently protect rooms against insects without having any impact on the operation of the balcony door. The frame can be fixed using internal aluminum corner joints of a snap or screw type (set screws). Additional reinforcement, mounted by snap joints, make it possible to install larger frames.

Construction

The frame profile is made of strong extruded aluminum profile with a modern beveled shape that nicely matches current door frames.

Comfortable operation

The mosquito screen with an opening frame is installed directly onto the door frame using hinges with a door closer, with a simple design allowing the adjustment of the spring tension with an Allen key. The infill panel in the lower section of the leaf protects the net against damage when opening.



A hinge with a closer allows easy control of the spring tension using an Allen key. It is possible to install the hinge in two planes. The system has been patented.



The mosquito screen is provided with a nice, ergonomic handle. Profiles are extended by with the use of snap joints, which enables a larger leaf size to be obtained in a simple way.



Easy installation of the frame with an internal corner joint and set screws.



The infill panel in the lower leaf part is to protect the net against damage while opening.

THE SLIDING INSECT SCREEN

MRP

FRAMED MOSQUITO SCREEN SYSTEMS



Functionality

The system of mosquito screens with a sliding frame protects rooms against insects and is used in large, glazed niches of buildings, terraces and conservatories. The screen panel slides between the upper and lower guide. The lower section includes a roller with a mechanism for the smooth adjustment of the tilt angle for each leaf. Additional reinforcement, mounted by snap joints, makes it possible to install larger frames.

Construction

The frames and guides are made of strong extruded aluminum profiles with a modern shape, finished with a coat of increased resistance to abrasion and weathering. The shape of the main profile eliminates the need for additional brackets. The frame and leaf of the screen are fixed with internal corner joints. The mosquito screen can be installed in a three section version.

Comfortable operation

The mosquito screen with a sliding frame is fixed directly to the frame or jamb. A wide range of guides allows the use of different installation versions on all types of windows and frames, without blocking the external roller blinds.

User properties

The well-thought out design of the mosquito screen and properly selected materials provide effective protection against insects, without blocking the light and air. Each screen leaf is additionally sealed with brush weatherstrips. The system also includes a braking device to slow down the roller close to the extreme position and a stopper to prevent the screen from hitting the guide.

Color palette

A wide range of standard colors will satisfy the most demanding customers. The color coats are applied with the following methods, depending on customer needs: powder coating and Decoral paints.

Optional installation in three rows.

The guide is used to position and secure the leaf.



Each leaf is provided with a brush seal.

The frame and leaf are fixed with internal corner joints offering high durability and an aesthetic finish.

Additional reinforcement of a framed screen is installed by the use of snap joints, so the surface of a leaf can be easily expanded.



Functionality

The roller shutter garage door can be mounted in already existing facilities as well as in those that are being built. One of the advantages of their application is the economy of space. The door operable in the vertical plane is a good solution when the driveway to the garage is short or comes directly from the street. It significantly improves the driver's safety, as the raised curtain of the door does not limit visibility.

Design

Depending on the overall dimensions and conditions of installation, it is possible to mount the roller shutter garage door on brackets and in a box. The door profiles are made of high-grade aluminium sheet. This sheet is covered with a two-layer varnish coat in the PU/PA system, characterised by enhanced resistance to abrasion and weather conditions. Due to the filling foam, the profiles feature good thermal and sound insulating performance. Sufficient amount of fresh air can be provided by application of ventilation profiles in the door curtain. You can also use glazed profiles to fill the interior with natural light.

With regard to the manner of fitting a winding tube roller shutter garage door fall into two categories:

- sitting on brackets: BGR/KNB,
- in a box: BGR/SK.

Comfort of operation

The electrical drive allows for the use of a remote control. The radio-wave control allows the door to be opened and closed without the need to leave the car. It is particularly useful in the evening, when it is raining, or in winter.

Safety

In accordance with the applicable standards, the roller shutter garage door is standard-equipped with the anti drop device. Can be retrofitted with protection against crushing when closing and motion sensing devices. In the event of power failure, the roller shutter garage door can be opened with the emergency manual drive. The electromagnetic brake of the roller shutter garage door drive and the locking hangers efficiently thwart any attempts to lift the curtain.

Colour scheme

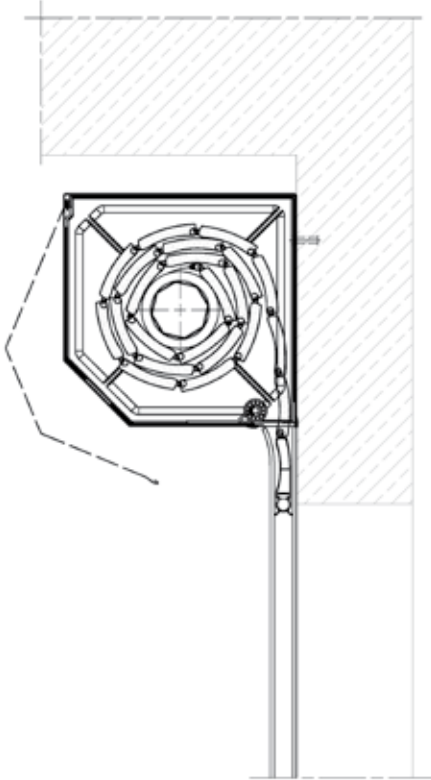
A wide range of colours in the standard colour chart allows for meeting the requirements of the most demanding customers. The colour finish of the surface is applied by powder coating.

Requirements

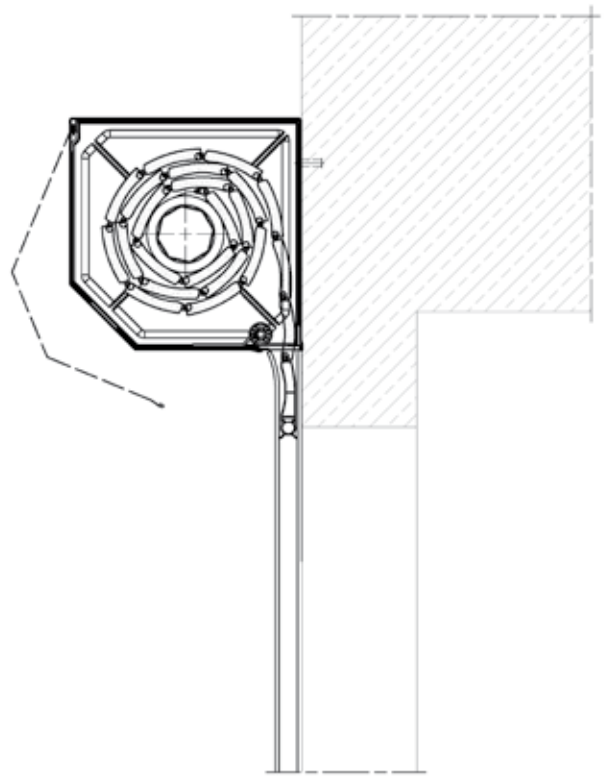
Roller shutter garage doors of the ALUPROF systems have a Initial Type Testing, made by the notified body and rendered

Gate system - installation examples

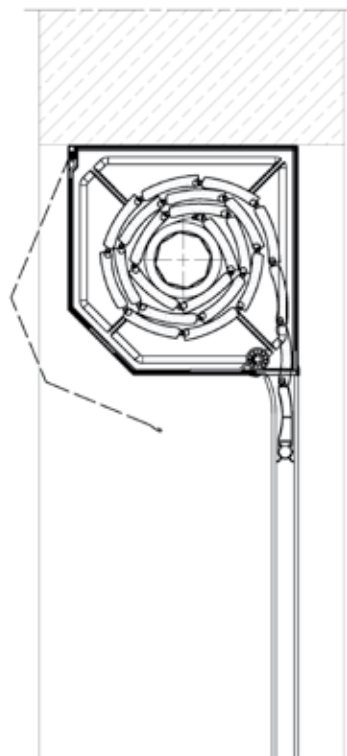
in SK 250 and SK 300 VARIANT 1



in SK 250 and SK 300 VARIANT 2

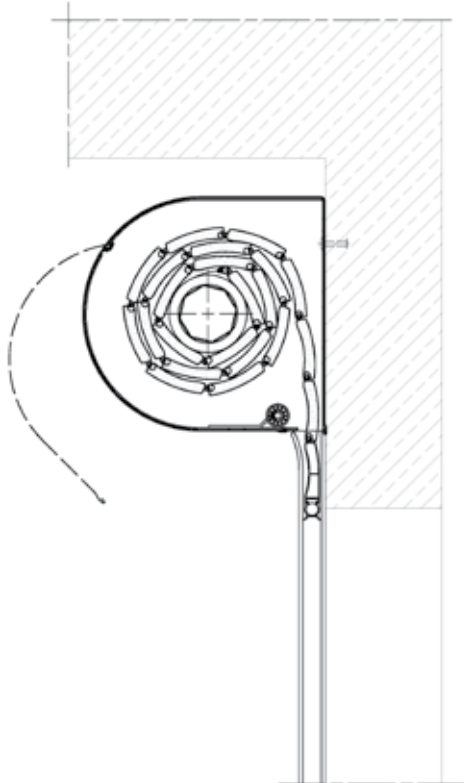


in SK 250 and SK 300 VARIANT 3

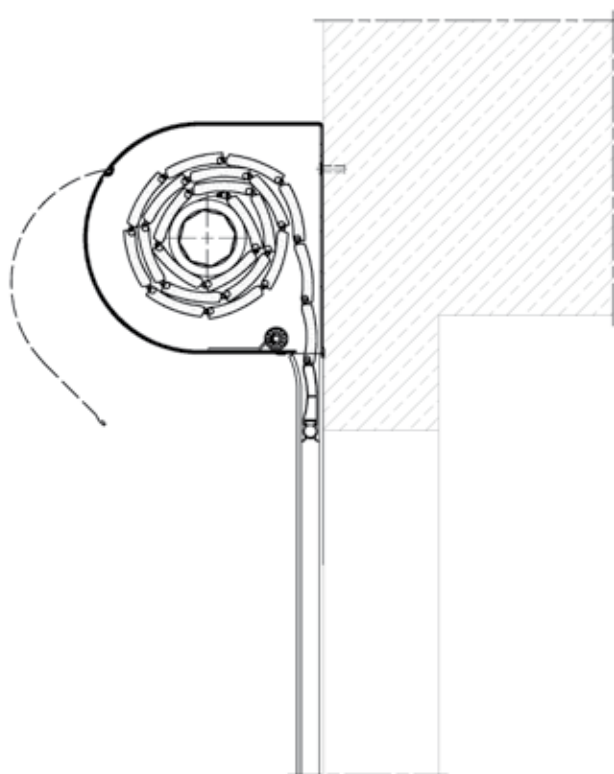


Gate system - instalation examples

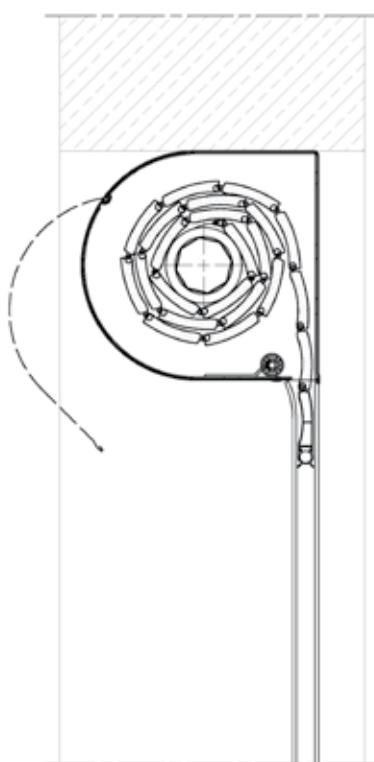
in SK 350 VARIANT 1



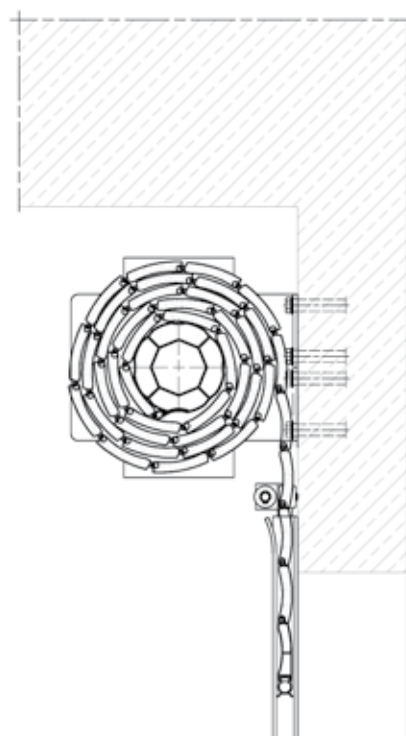
in SK 350 VARIANT 2



BGR/SKO-P VARIANT 3



KNB driving console





Comfort of operation

Industrial roller shutter doors provide primary protection for building apertures in industrial halls, warehouses or commercial and serviceproviding buildings against unauthorised entry, break-ins or weather conditions. These are external doors, situated behind the opening of the building, inside the facility. They may also be utilized as internal doors.

Comfort of operation

The industrial roller shutter door can be mounted in already existing facilities, as well as in those that are being erected. The door operation is controlled with a switch located inside the building. When necessary, the radio-wave control or other selected combinations of control devices can also be applied to improve the comfort of operation.

Requirements

Industrial roller shutter doors of the ALUPROF systems have a Initial Type Testing, made by the notified body and rendered accessible recipients of systems.

Construction

The door curtain is made of PE 100 extruded aluminium profile. The shape and thickness of its walls were selected so that the curtain made from it is stable and resistant to mechanical damage. Profiles and guide rails are powder coated in a wide range of RAL colours. The curtain is rolled up into a steel winding tube sitting on the brackets that are its support and bearings. For doors mounted within the area of the header, attention should be paid to the minimum height of the header that is required to mount the door.

With regard to the type of applied brackets industrial roller shutter doors fall into two categories:

- sitting on travelling brackets: BPR/KNJ,
- sitting on fixed brackets: BPR/KNS.

Safety

In accordance with applicable standards, the industrial roller shutter door is standardequipped with the anti drop device. Can be retrofitted with protection against crushing when closing and motion sensing devices. In the event of power failure, the roller shutter garage door can be opened with the emergency manual drive.

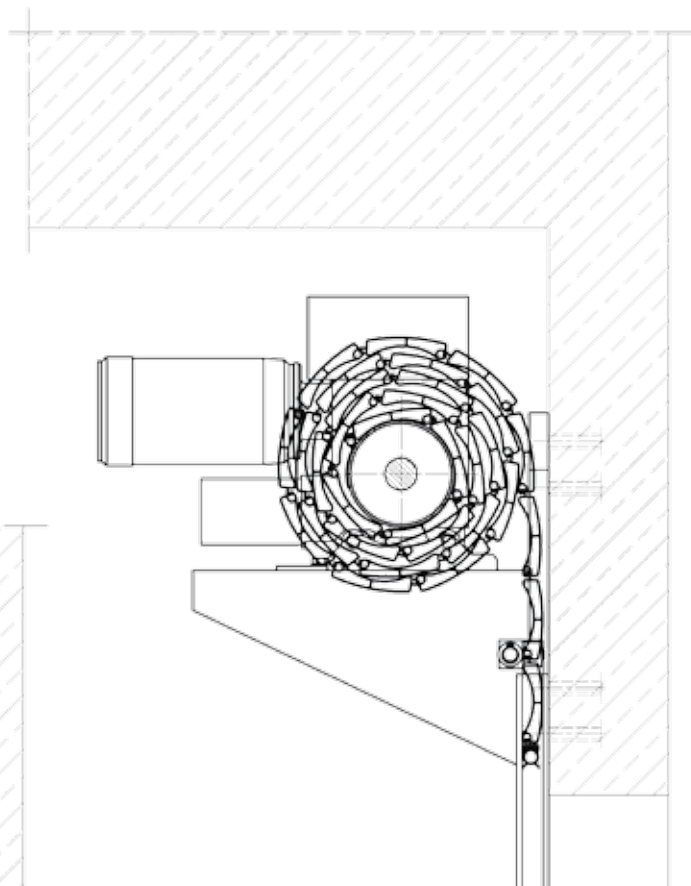
Colour scheme

A wide range of colours in the standard colour chart allows for meeting the requirements of the most demanding customers. The colour finish of the surface is applied by powder coating.

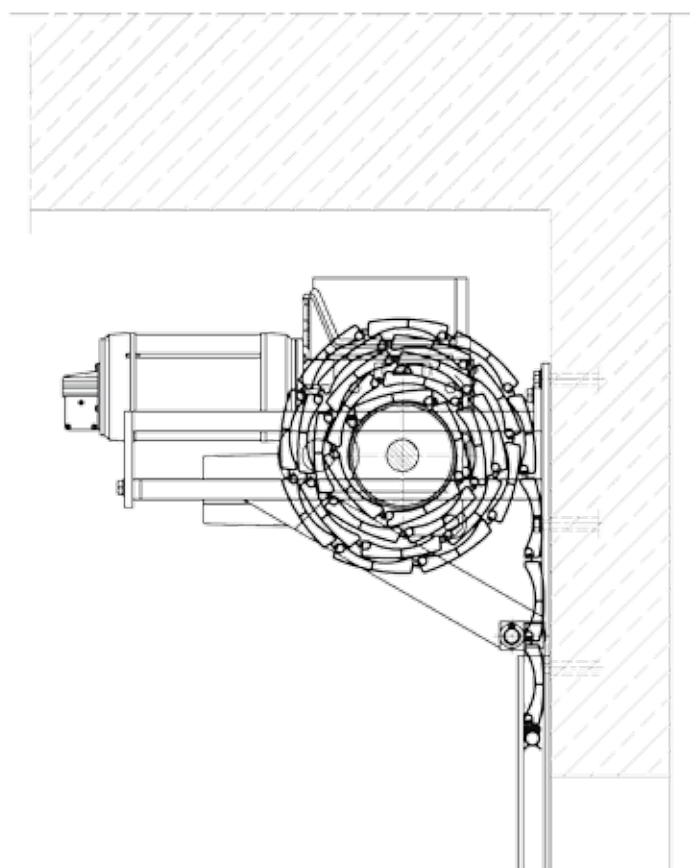


Industrial rolling gates - installation example

KNS Fixed console



KNJ Driving console





Functionality

The rolling grille can be mounted in already existing facilities as well as in those that are being erected. The basic function of the rolling grille grating is to protect the facility and at the same time to:

- present shop window displays;
- provide proper ventilation in shopping arcades and underground garages;
- use glazing in the grating profile as an additional protection against wind and other weather conditions.

Design

Depending on the overall dimensions and conditions of installation, it is possible to mount the rolling grille on brackets and in a box. The door curtain is made of extruded aluminium PEK 52, PEK 77, PEK 80 or PEK 100 grating profile. Profiles and guide rails are powder coated in a wide range of RAL colours. With regard to the manner of fitting a winding tube rolling grille falls into two categories:

- sitting on brackets: BKR/KNB,
- in a box: BKR/SK.

Comfort of operation

The rolling grille is controlled with a switch placed inside or outside the facility. When necessary, the radio-wave control or other selected combinations of control devices can also be applied to improve the comfort of operation.

Safety

In accordance with the applicable standards, the rolling grille is standard-equipped with the anti drop device. Can be retrofitted with protection against lifting, protection against crushing when closing and motion sensing devices. In the event of power failure, the rolling grille can be opened with the emergency manual drive. The electromagnetic brake of the grating drive and the locking hangers efficiently thwart any attempts to lift the curtain.

Colour scheme

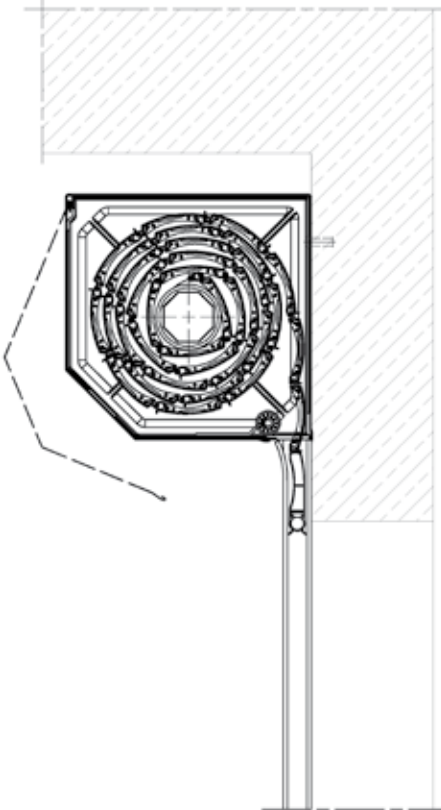
A wide range of colours in the standard colour chart allows for meeting the requirements of the most demanding customers. The colour finish of the surface is applied by powder coating

Requirements

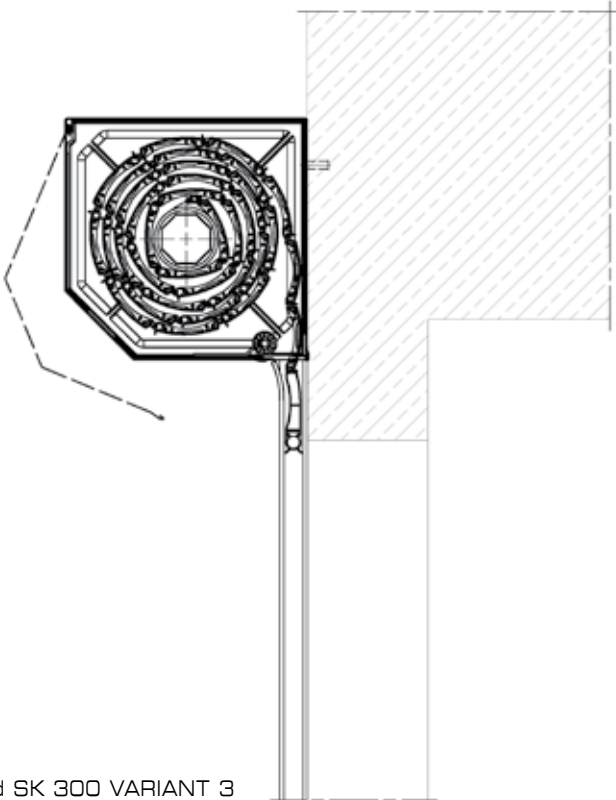
Rolling grilles of the ALUPROF systems have a Initial Type Testing, made by the notified body and rendered accessible recipients of systems.

Commercial gate - installation example

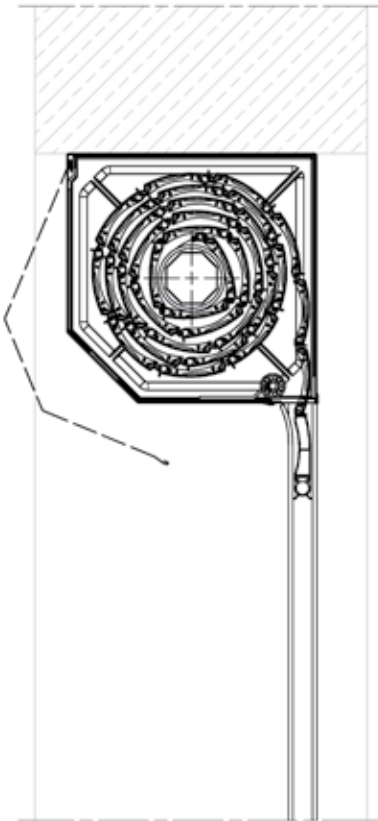
SK 250 and SK 300 VARIANT 1



SK 250 and SK 300 VARIANT 2

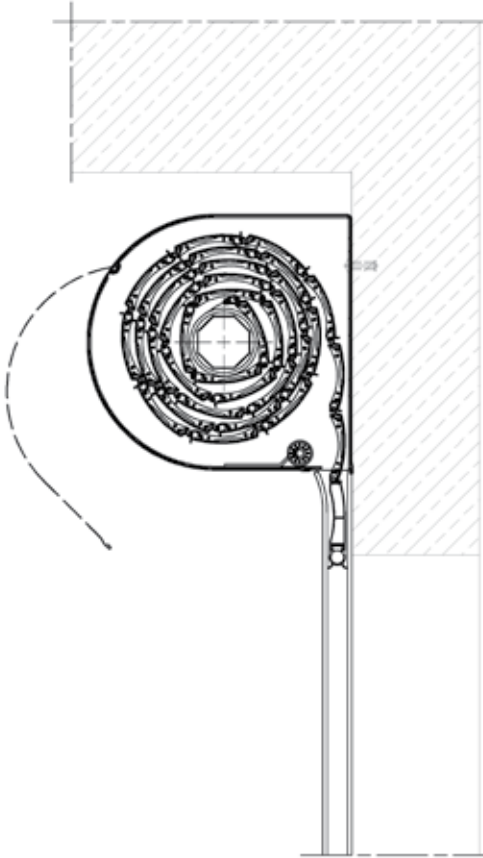


SK 250 and SK 300 VARIANT 3

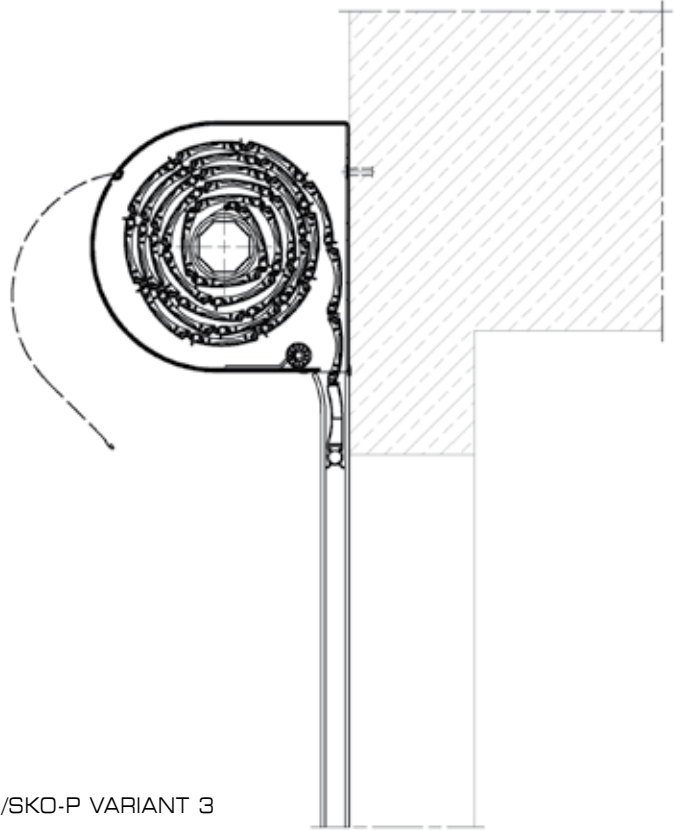


Commercial gate - installation examples

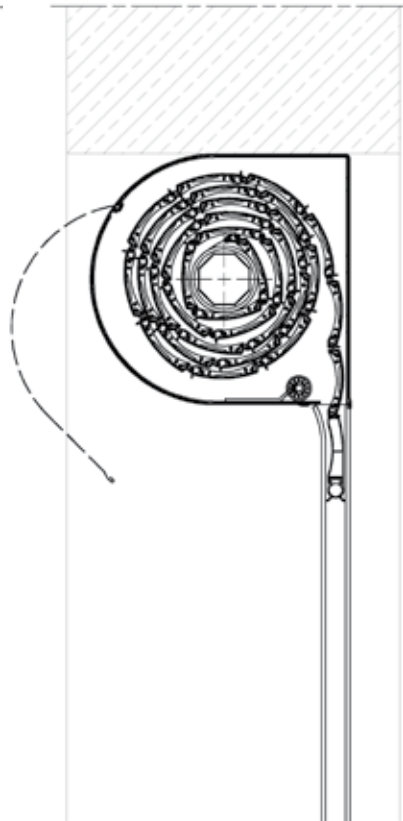
BKR/SKO-P VARIANT 1



BKR/SKO-P VARIANT 2

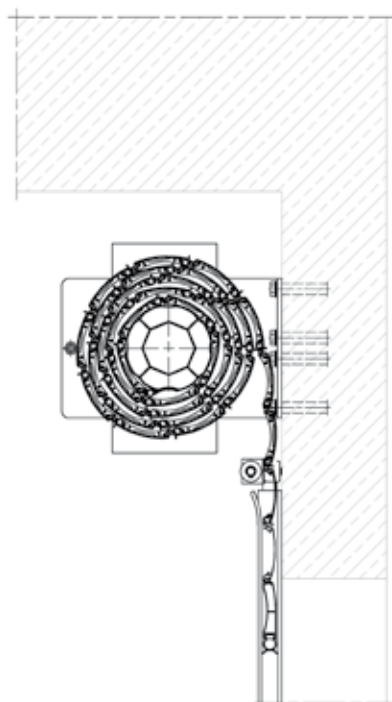


BKR/SKO-P VARIANT 3

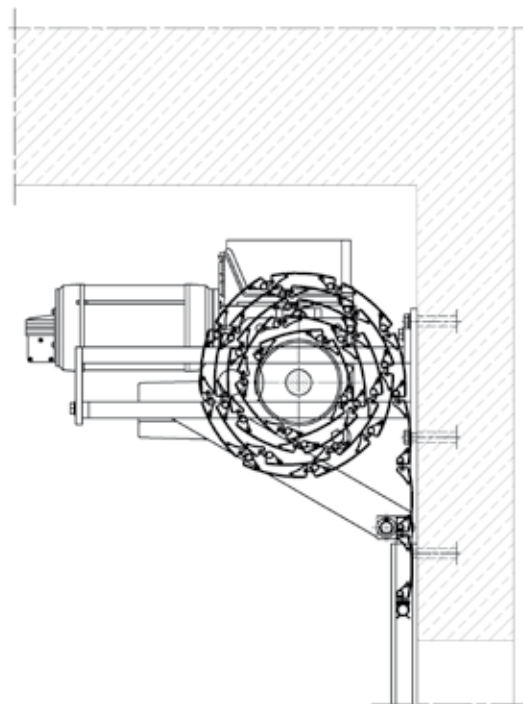


Commercial gate - instalation examples

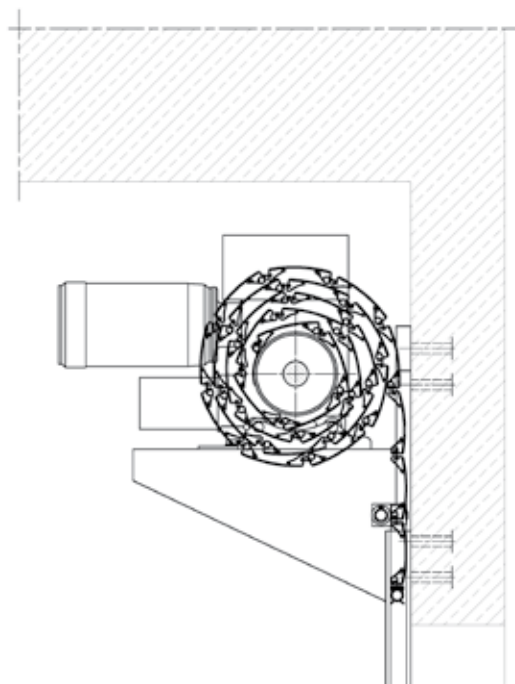
KNB console



KNJ driving console



KNS fixed console





PT 37
Profile height: 37 mm
Thickness: 8 mm



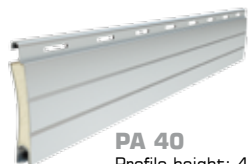
PT 52
Profile height: 52 mm
Thickness: 14 mm



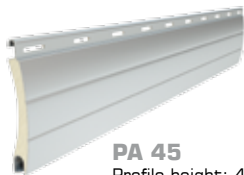
PA 37
Profile height: 37 mm
Thickness: 8,5 mm



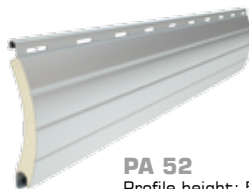
PA 39
Profile height: 39 mm
Thickness: 9 mm



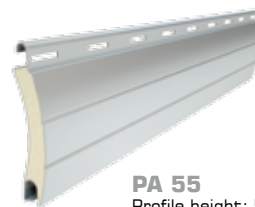
PA 40
Profile height: 40 mm
Thickness: 8,7 mm



PA 45
Profile height: 45 mm
Thickness: 9 mm



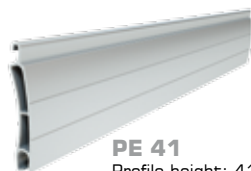
PA 52
Profile height: 52 mm
Thickness: 13 mm



PA 55
Profile height: 55 mm
Thickness: 14 mm



PA 77
Profile height: 77 mm
Thickness: 18,5 mm



PE 41
Profile height: 41 mm
Thickness: 8,5 mm



PE 55
Profile height: 55 mm
Thickness: 14 mm



PE 100
Profile height: 100 mm
Thickness: 25 mm



PEK 52
Profile height: 52 mm
Thickness: 13 mm



PEKP 52
Profile height: 52 mm
Thickness: 13 mm



PEK 77
Profile height: 77 mm
Thickness: 18,5 mm



PEKP 77
Profile height: 77 mm
Thickness: 18,5 mm



PEK 80
Profile height: 80 mm
Thickness: 18,5 mm



PEKP 80
Profile height: 80 mm
Thickness: 18,5 mm



PEK 100
Profile height: 100 mm
Thickness: 25 mm



PER 77
Profile height: 77 mm
Thickness: 18,5 mm



PEW 77
Profile height: 77 mm
Thickness: 14,5 mm



PER 100
Profile height: 100 mm
Thickness: 25 mm

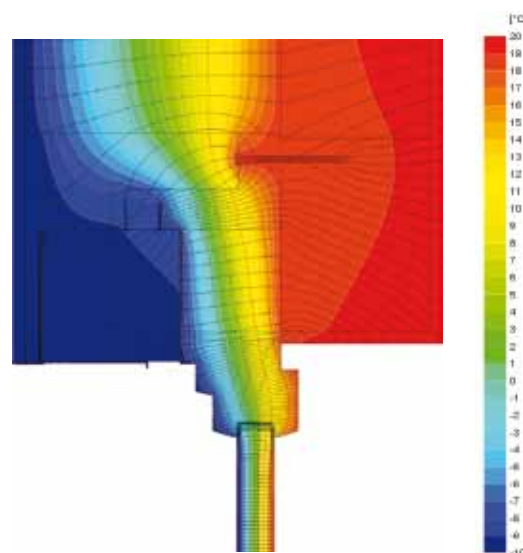


CERTIFIED THE PASSIVE HOUSE INSTITUTE, DARMSTADT

We are pleased to announce that our roller-boxes SP/165 & SP-E/165 (SP and SP-E top-mounted systems) have obtained a component certificate from the Passive House Institute, Darmstadt.

Passive House Institute, Darmstadt, issued a certificate for the roller-box SP 165 (SP & SP-E top-mounted systems), thus approving the system and its installation as a solution for passive houses.

Suitable installation method enables the use of any window recommended by the PHI, i.e. windows whose heat transfer coefficient U_w does not exceed $0.80 \text{ W/(m}^2\text{K)}$, and the glass coefficient U_g does not exceed $0.70 \text{ W/(m}^2\text{K)}$. It is the first all-in-one solution for top-mounted roller shutter in the PHI passive components base, as well as the first certificate for a Polish company in this group of products.



Isothermal lines

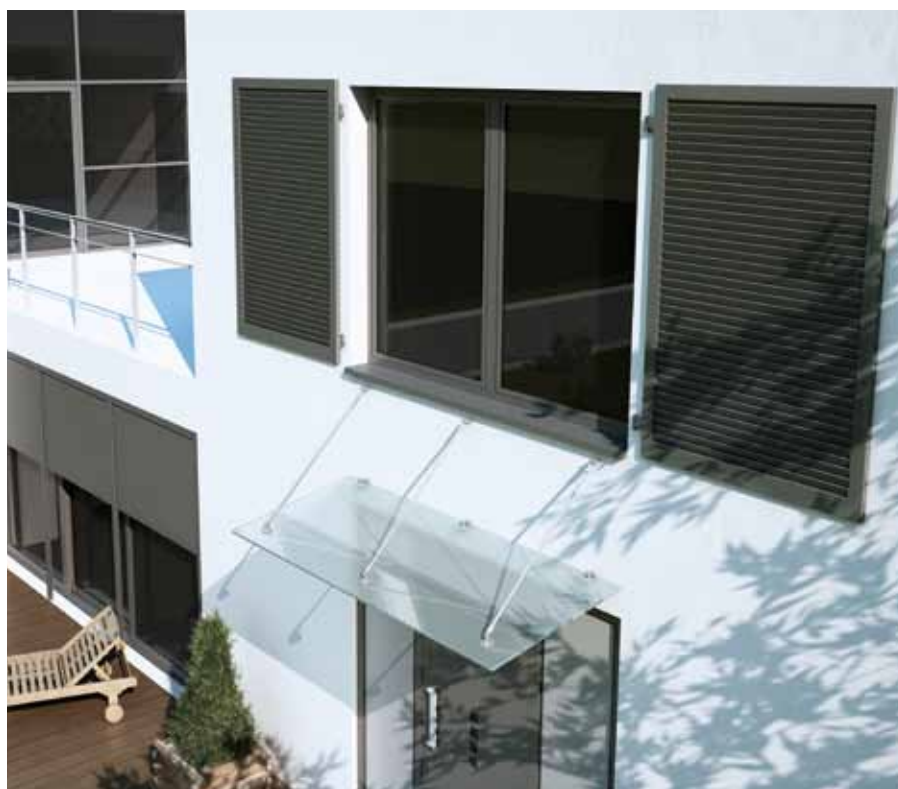


MB-SUNSHADES provide solar shading and give the external wall its characteristic appearance. The solution consists of a frame with diagonally arranged slats or panels. Made of aluminium, the components are highly resistant to weather conditions and do not require any renovation work over years, which distinguishes them from products built with PVC or timber. Frame profiles are slim and light, but of an appropriate stiffness, which allows to fabricate both shutters for windows and patio doors.

SHUTTERS BY ALUPROF PROTECTING AND EMBELLISHING YOUR HOME

Aluprof's shutters are an option for those who look for practical yet aesthetic solutions. The shutters can be colour matched with the external wall or with the windows or used simply as a remarkable accent on the wall. Given the ample possibilities offered by the technology of decorative and protective coatings made on aluminium, the MB-SUNSHADES are perfect for use in various types of construction: traditional buildings will successfully call for structures with timber-like texture, whereas in modern homes, a colour combination of a structure with muted colours, identical to those of the windows, especially impressive when windows and doors are made of aluminium, may be preferred.

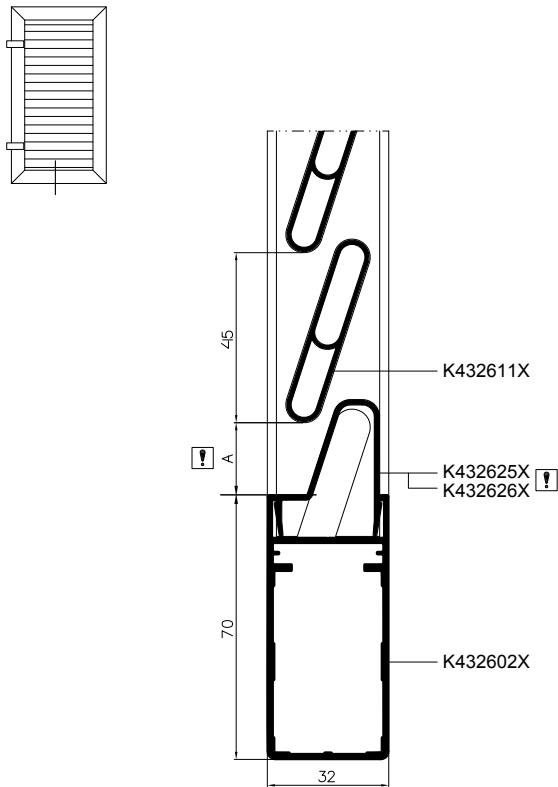
The hinges available for this system allow to use different solutions when in closed position: they can be jutting out, flushed in line, or placed deeper in the window recess.



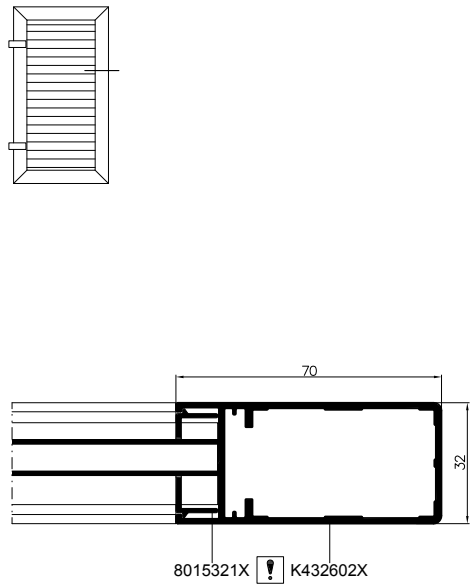
TECHNICAL SPECIFICATION

Profile dimensions	70 x 32 mm
Infill profiles depth	50 mm
Module (infill profiles distance)	every 45 mm
Maximum dimensions of the casement (H x L)	L to 1200 mm, H to 2500 mm

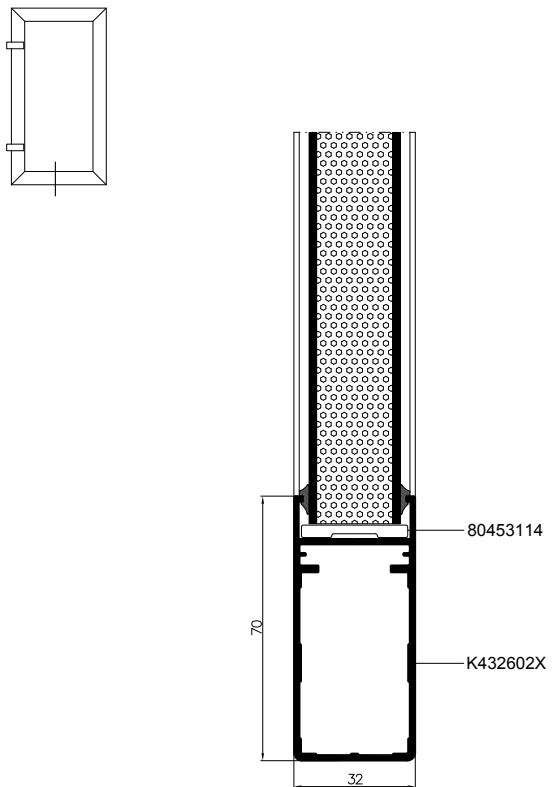
Louvres, vertical view



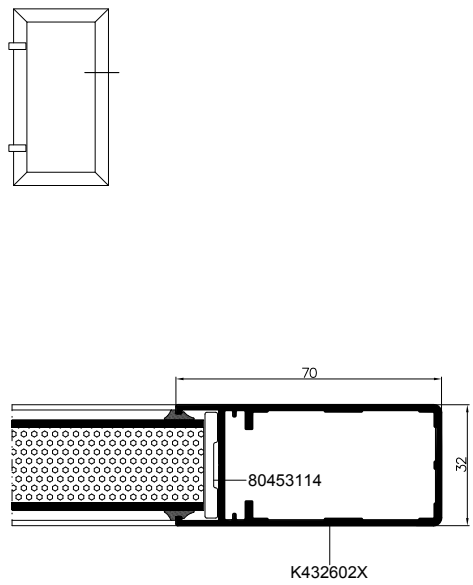
Louvres, horizontal view



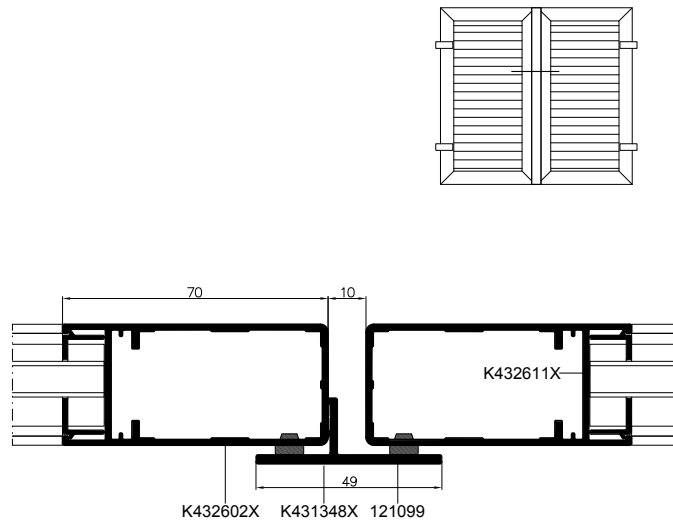
Paneled shutter, vertical view



Paneled shutter, horizontal view

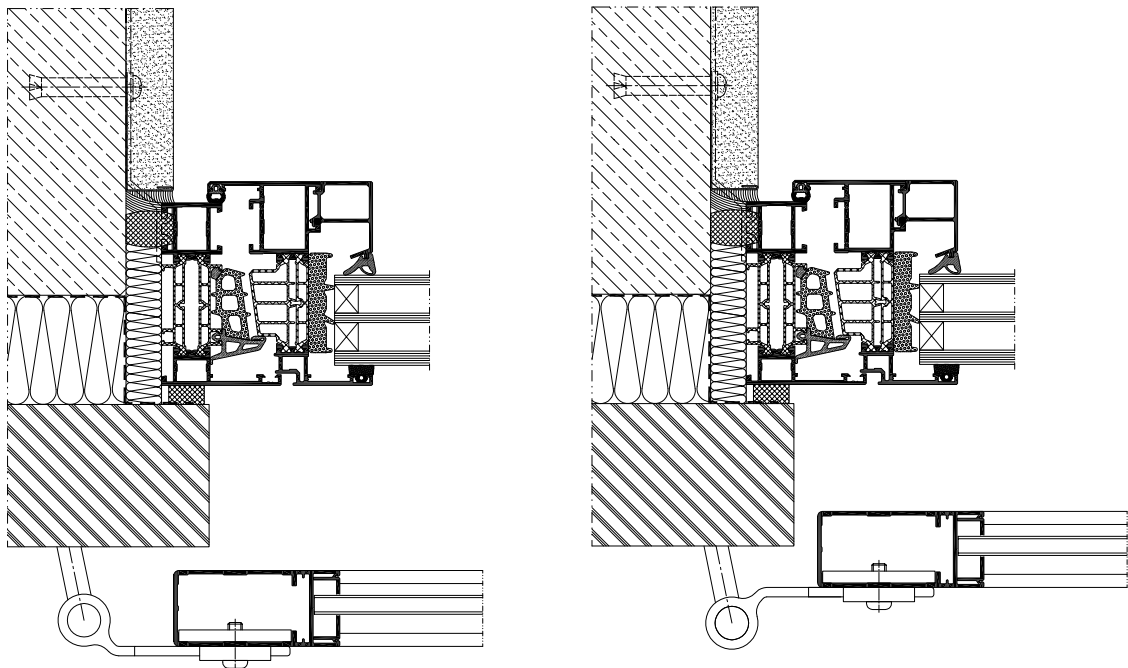


Casement with rebate, horizontal view



Scale 1:2

Construction examples



Scale 1:2,5

Aluprof roller shutters

Your home is safe and warm*



Aluprof's roller shutter systems certified
by the Passive House Institute, Darmstadt

* ALUPROF anti-burglary roller shutters are certified **RC3** burglar-resistant

 **ALUPROF**
www.shutters.aluprof.eu



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