

curtain wall SYSTEMS

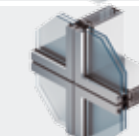


www.aluprof.eu

 **ALUPROF**
ALUMINIUM SYSTEMS

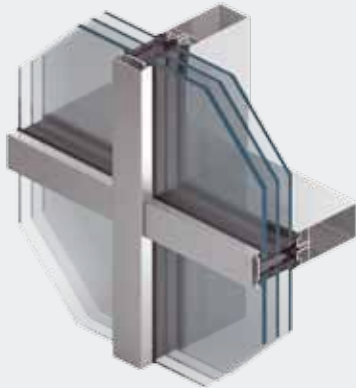
CURTAIN WALL SYSTEMS

NEW	<p>SYSTEM MB-TT50</p>  <p>→ 11</p>
	<p>SYSTEM MB-SR50N MB-SR50N HI</p>  <p>→ 17</p>
NEW	<p>SYSTEM MB-SR50N OW</p>  <p>→ 18</p>
NEW	<p>SYSTEM MB-SR50N EFEKT</p>  <p>→ 27</p>
	<p>SYSTEM MB-SR50 IW</p>  <p>→ 30</p>
	<p>SYSTEM MB-SR50 MB-SR50 HI</p>  <p>→ 35</p>
	<p>SYSTEM MB-SR50 PL</p>  <p>→ 43</p>
	<p>SYSTEM MB-SR50 A</p>  <p>→ 45</p>
	<p>SYSTEM MB-SR50 EFEKT</p>  <p>→ 47</p>
	<p>SYSTEM MB-SR50 EI MB-SR50N EI</p>  <p>→ 53</p>
NEW	<p>SYSTEM MB-SR60N</p>  <p>→ 57</p>

NEW	<p>SYSTEM MB-SUNPROF</p>  <p>→ 59</p>
	<p>SYSTEM MB-SG50</p>  <p>→ 61</p>
	<p>SYSTEM MB-SG50 SEMI</p>  <p>→ 62</p>
	<p>SYSTEM MB-SE75 MB-SE75 HI</p>  <p>→ 68</p>
	<p>SYSTEM MB-70CW MB-70CW HI</p>  <p>→ 70</p>
	<p>SYSTEM MB-WG60</p>  <p>→ 71</p>

INDIVIDUAL SOLUTIONS

	<p>SYSTEM MB-SR80</p>  <p>→ 76</p>
	<p>SYSTEM MB-SR100</p>  <p>→ 76</p>
	<p>SYSTEM MB-SG60</p>  <p>→ 76</p>
NEW	<p>SYSTEM MB-SR85 SEMI</p>  <p>→ 77</p>
NEW	<p>SYSTEM MB-SE85 SG</p>  <p>→ 77</p>



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

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 24-56 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 cm^4 , 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.

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

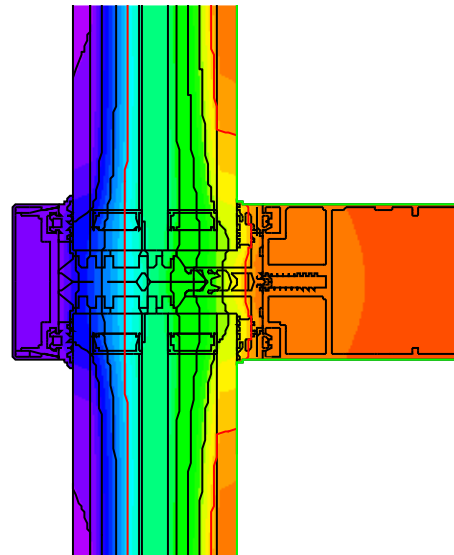
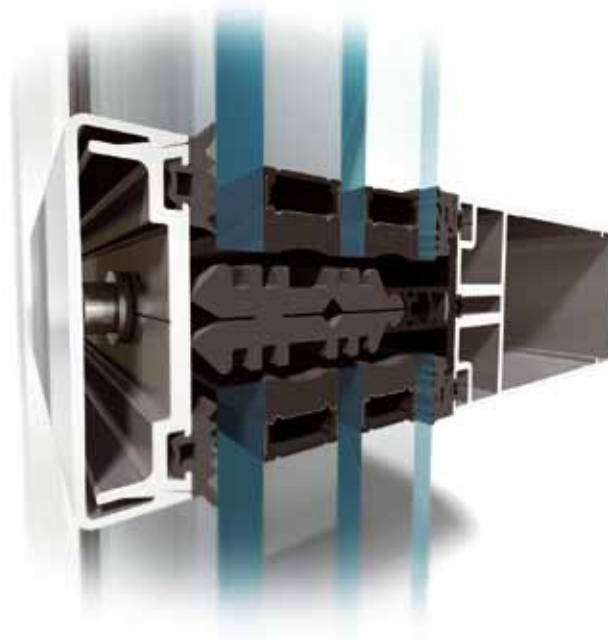
increasing expectations of architects and investors. A system of specially selected thermal breaks provides excellent protection against heat losses within the structure. Special shapes of thermal breaks and the appropriate connection of plastic accessories ensure the correct drainage and ventilation 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.

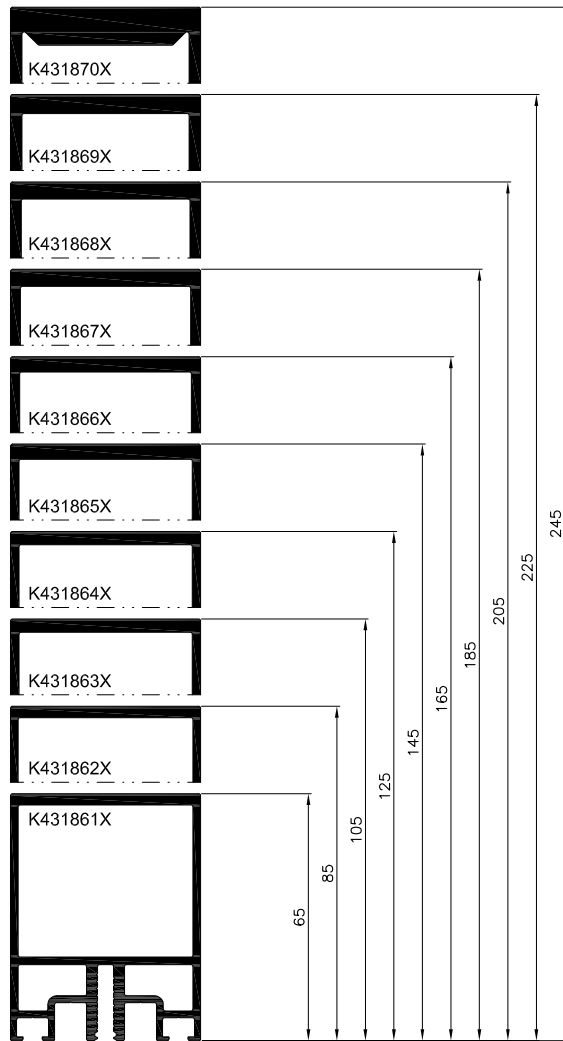
Technical parameters:

- Heat transfer coefficient:
 U_f from 0,6 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)

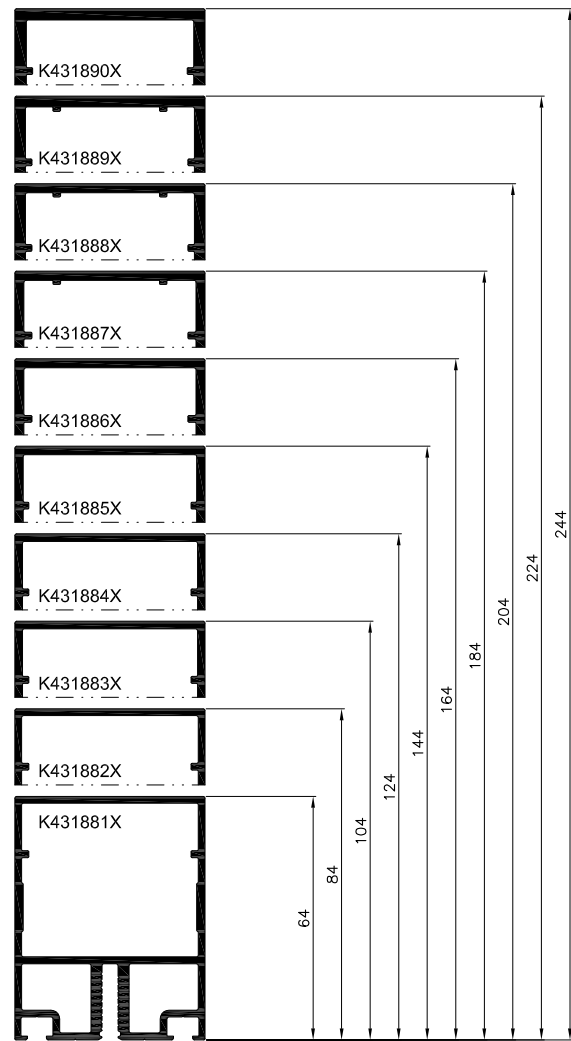


Isothermal lines in MB-TT50 curtain wall

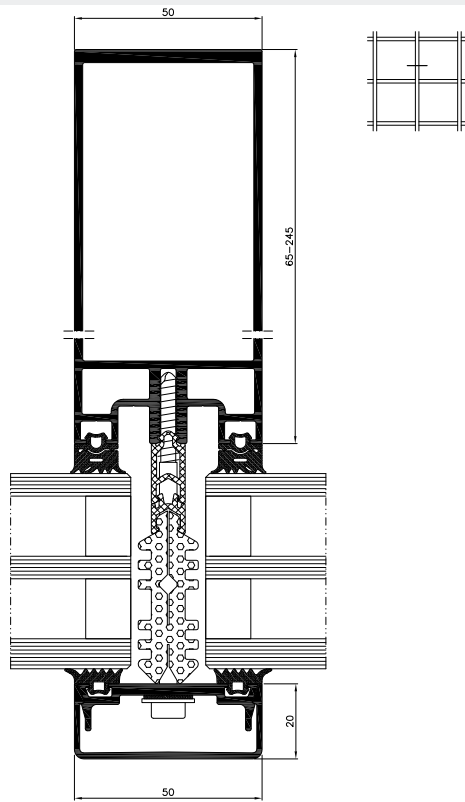
MB-TT50 Mullion profiles - overview



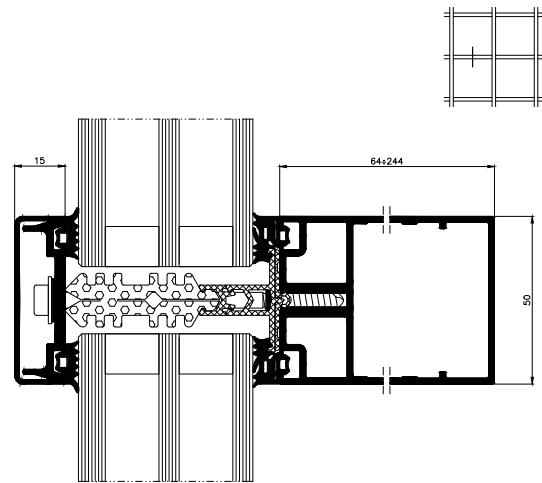
Transom profiles - overview



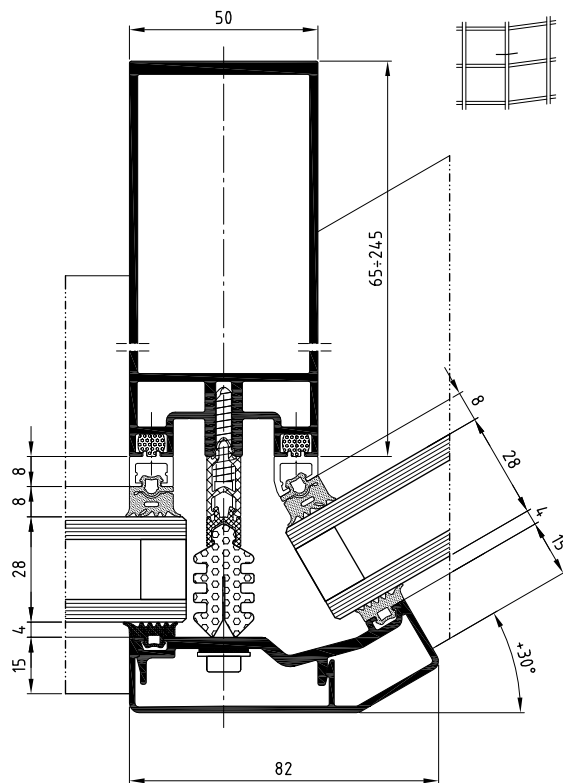
Mullion - cross - section



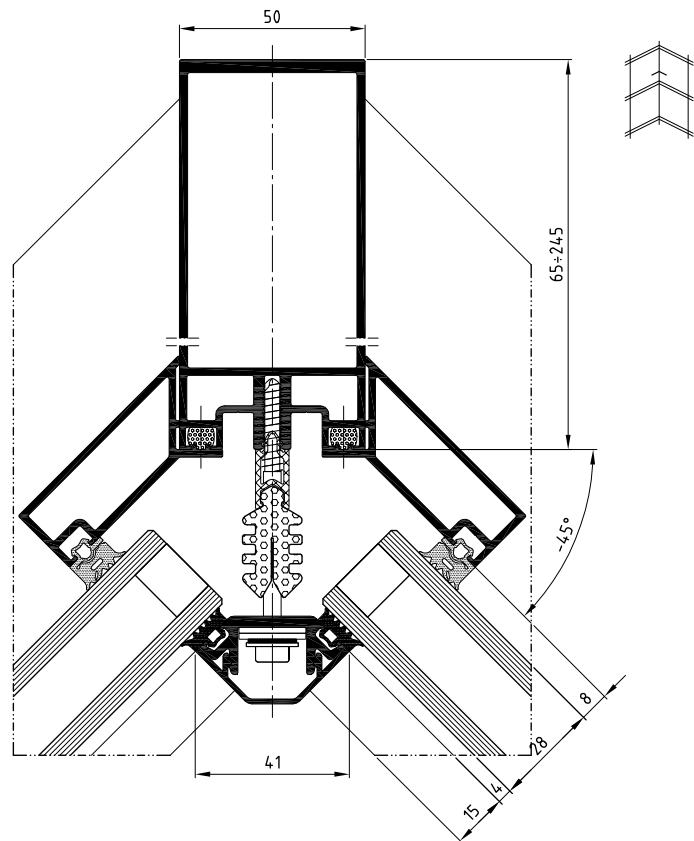
Transom - cross - section



Asymmetrical angel joint - cross-section

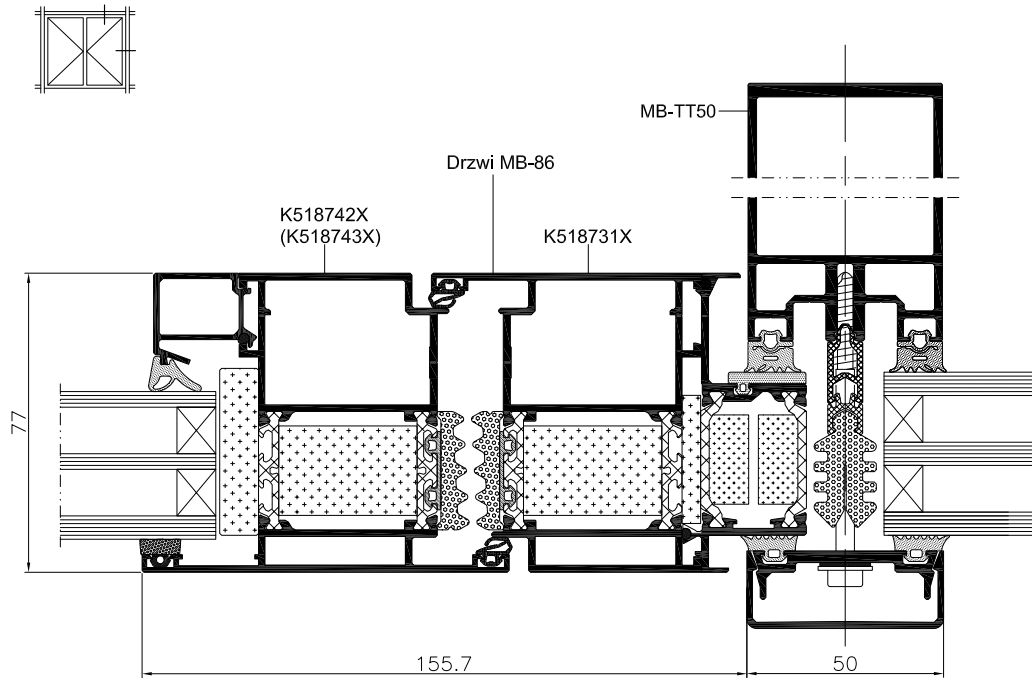


Symmetrical angel joint - cross-section

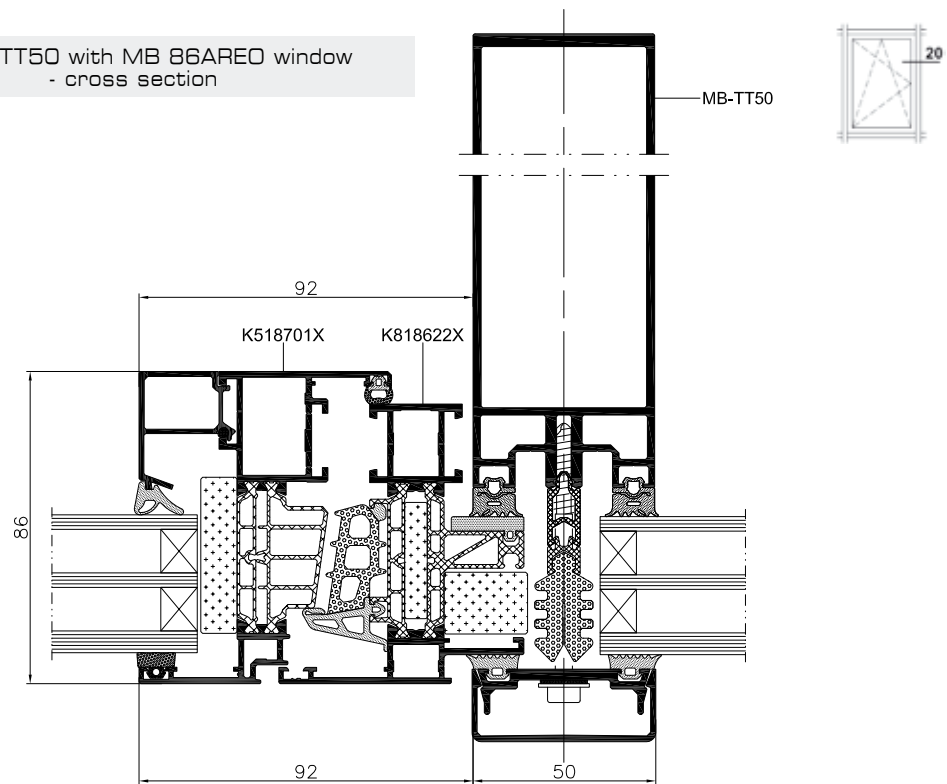


Scale 1:2

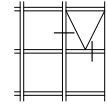
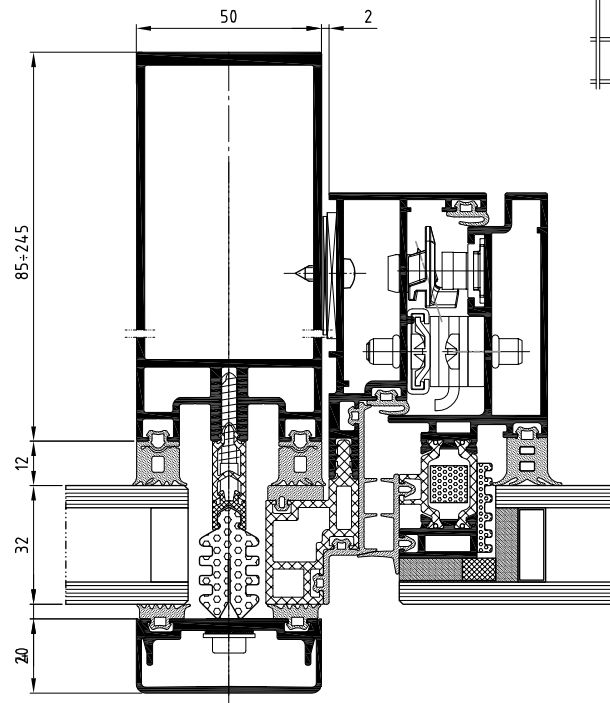
Mullion TT50 with MB 86AREO doors
- cross section



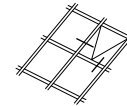
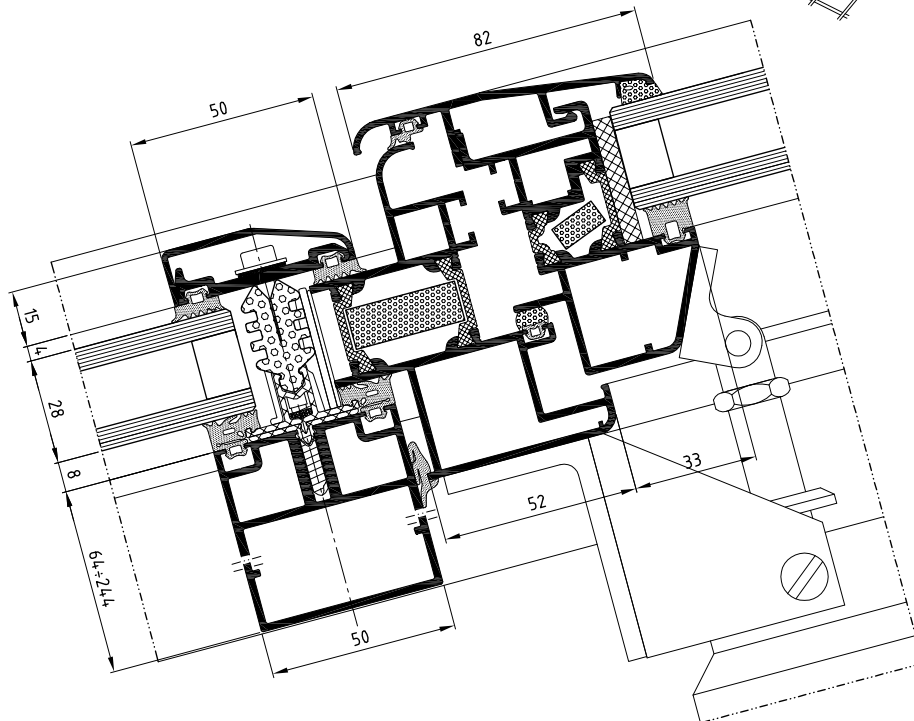
Mullion TT50 with MB 86AREO window
- cross section



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



Transom and roof window - cross - section

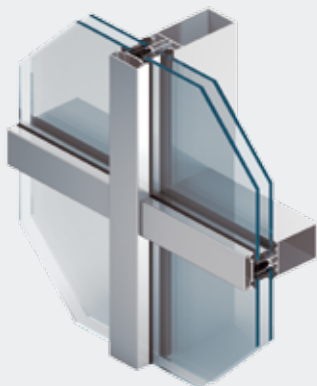


SYSTEM

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.

MULLION AND TRANSOM CURTAIN WALL SYSTEM

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: 65-225 mm, transoms: 20-189.5 mm
Infills 24-52 mm thick may be fitted in the system.

High thermal insulation performance

With regard to thermal insulation, the mullion - transom wall MB-SR50N HI can meet ever growing requirements of architects and investors of modern facilities. A well proven HPVC insulator combined with a thermoplastic LDPE – the material featuring enhanced insulating properties has been used in this system. The combination of these two materials has resulted in a very high performing system giving a heat transfer coefficient (U_f), depending on the glass used, between 0.94 and 1.94 W/m²K.

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.



Grzybowska Center & HILTON, Warsaw, Poland

design / arch Tomasz Kazimierski,
arch. Andrzej Ryba
realization / ELJAKO - AL

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 od 0,94 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)



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

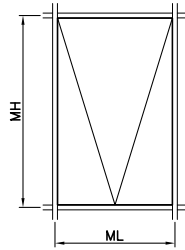
MB-SR50N EI

MB-SR50 IW

MB-SR50N RW

Max. dimensions in the curtain wall

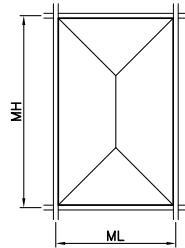
MB-SR50N OW
top hung window



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

- 180 kg

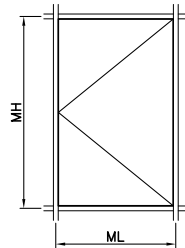
MB-SR50N OW
parallel window



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

- 440 kg

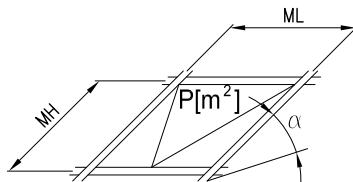
MB-SR50N OW
side hung window



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

- 47 kg

MB-SR50N RW
roof vent



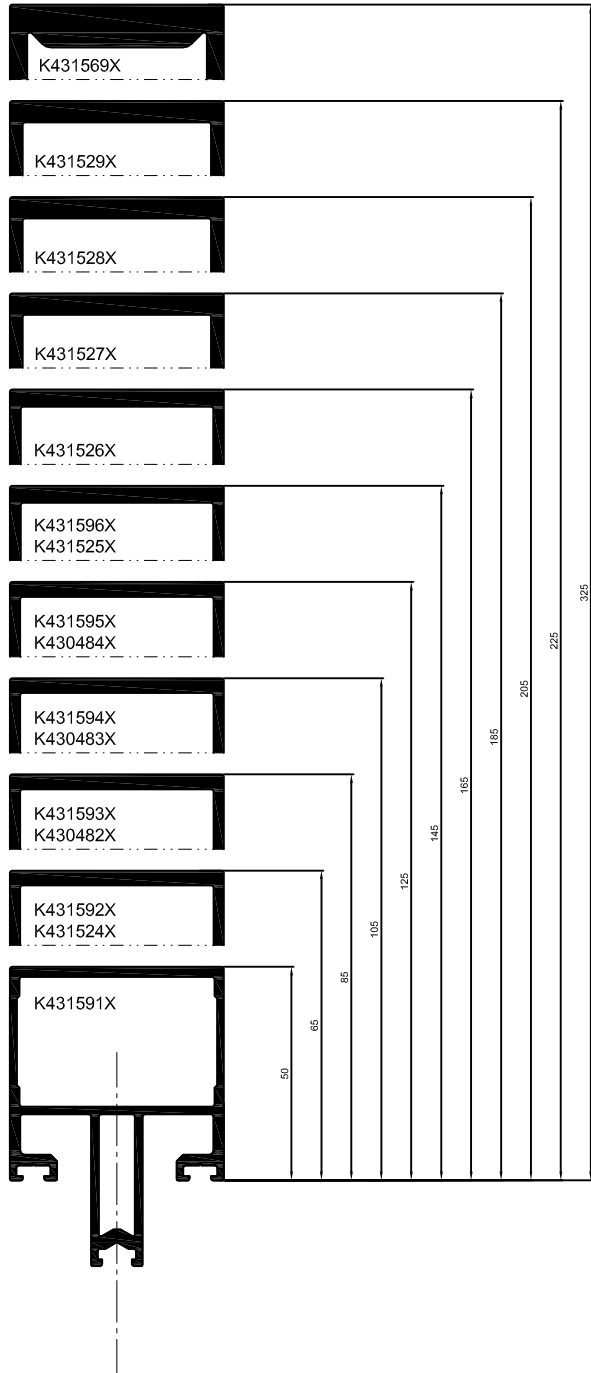
MHmax=2050 mm
MLmax=1800 mm
Pmax= 3,40 m²

α min=5°
α max=75°

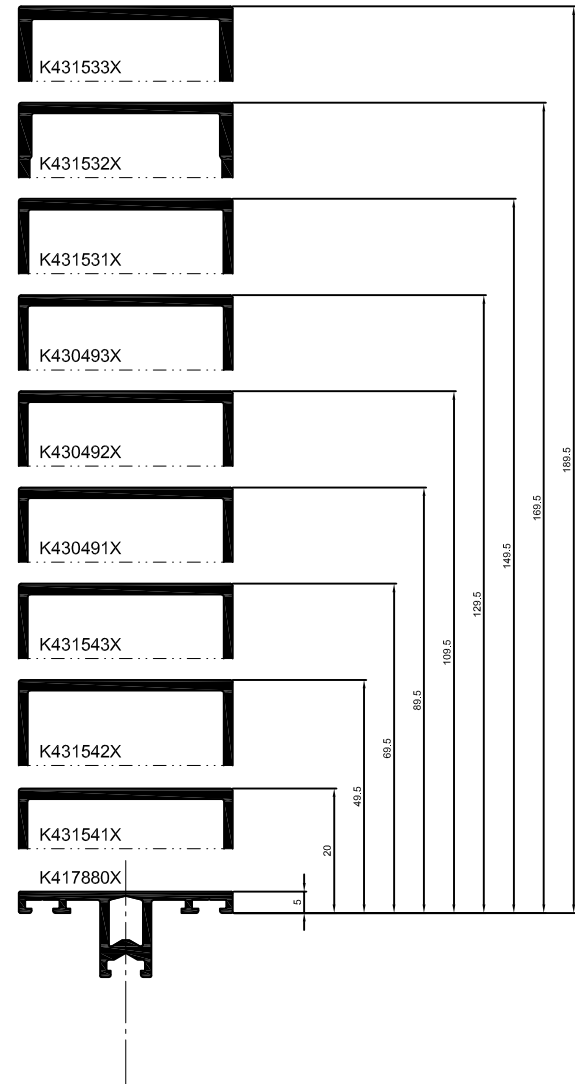
- 150 kg

} Maximum weight of the vent

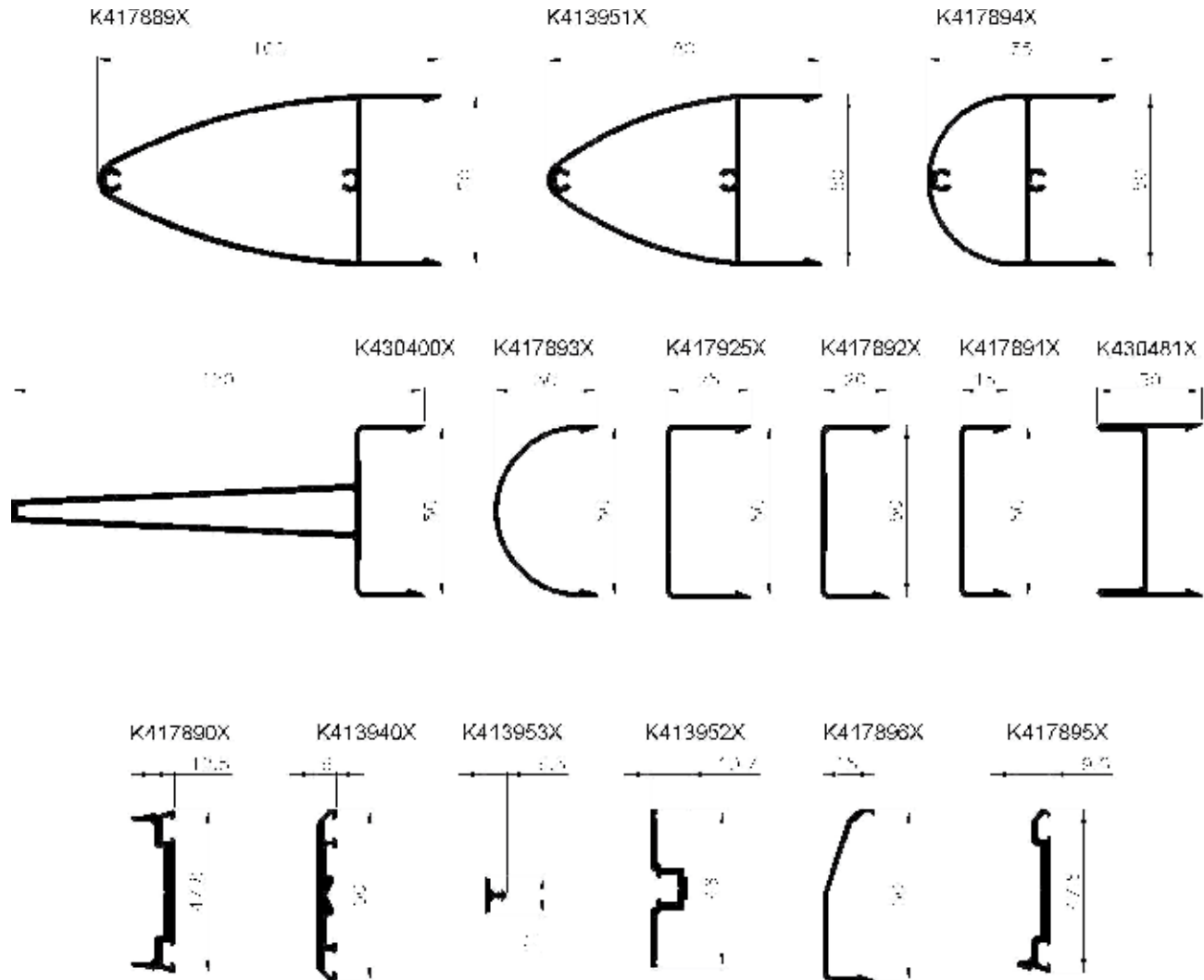
Mullions



Transoms

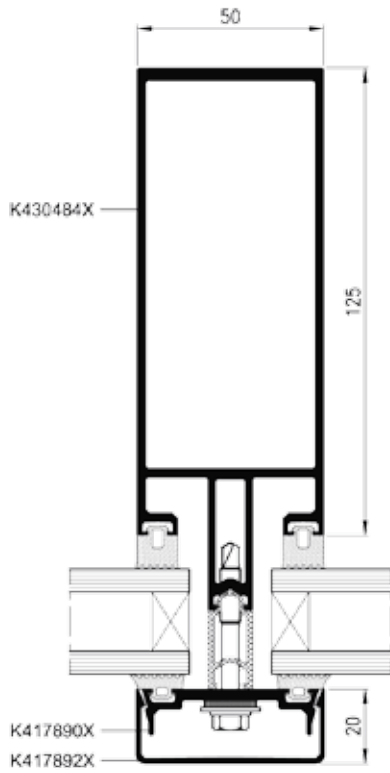


Cover caps and pressure plates, additional profiles



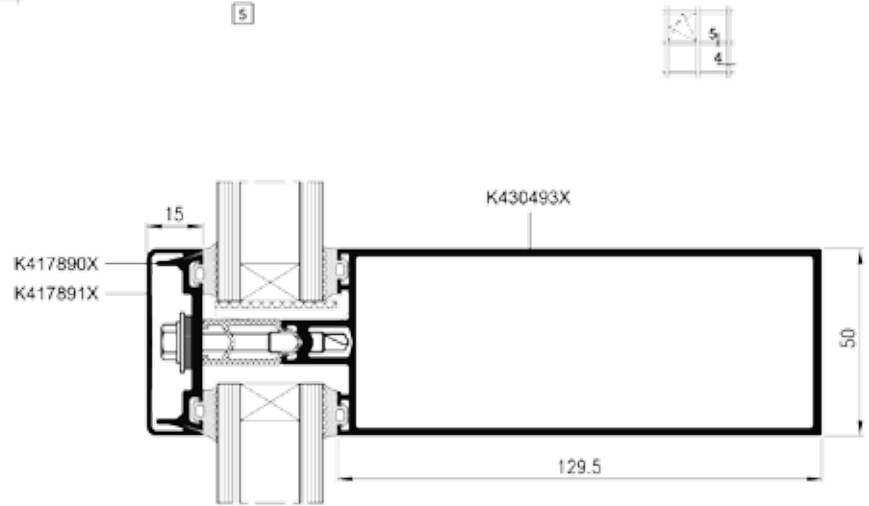
Mullion - cross section MB-SR50N

4



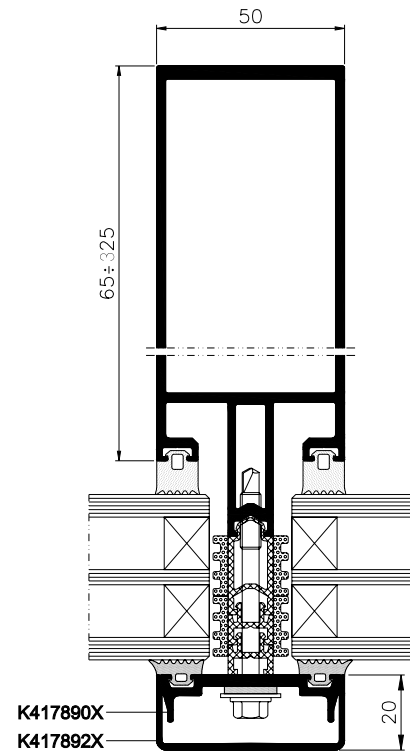
Transom - cross section MB-SR50N

5



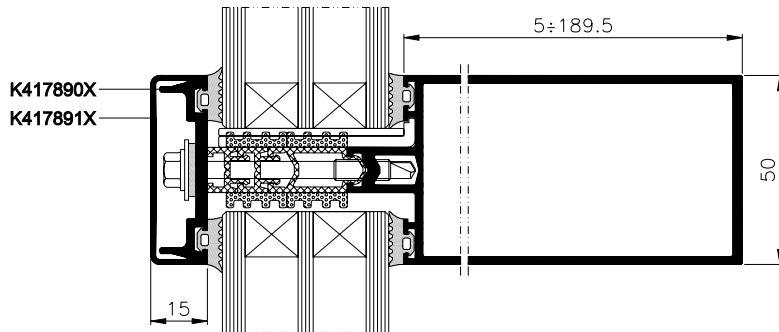
Mullion - cross section MB-SR50N HI

4

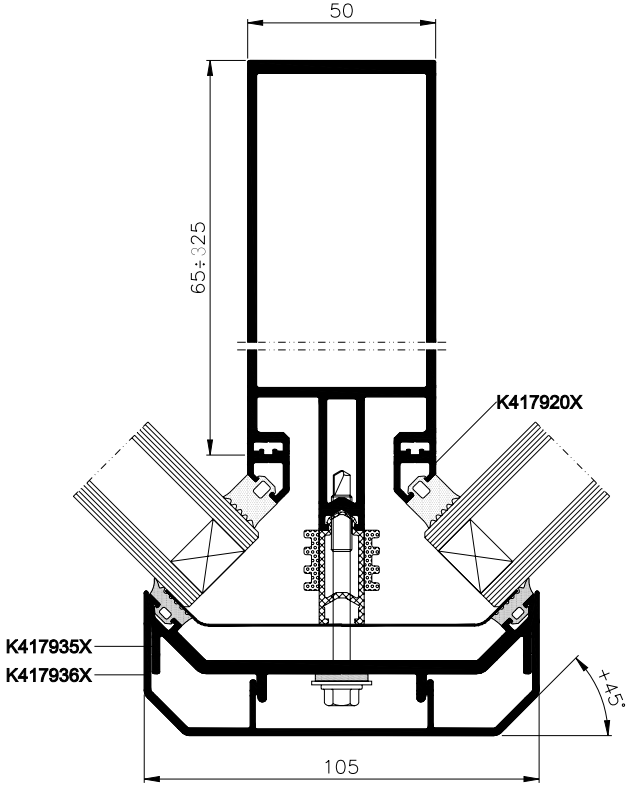


Transom - cross section MB-SR50N HI

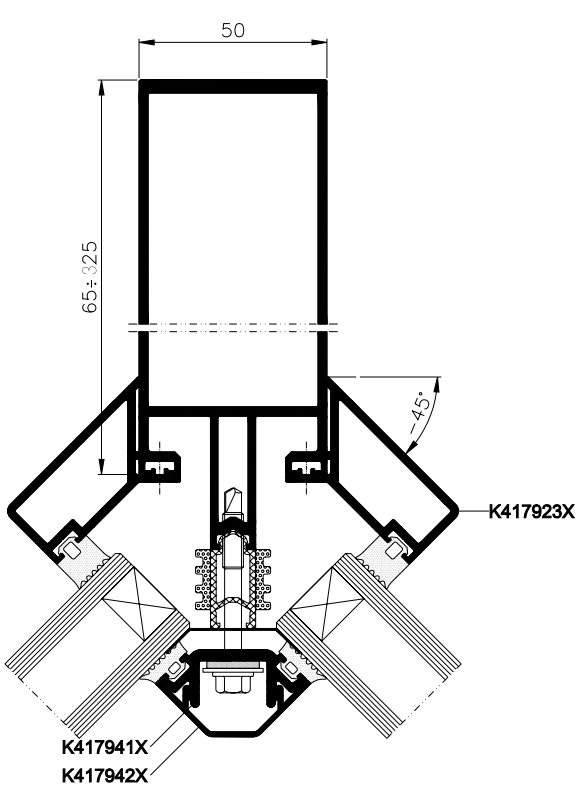
5



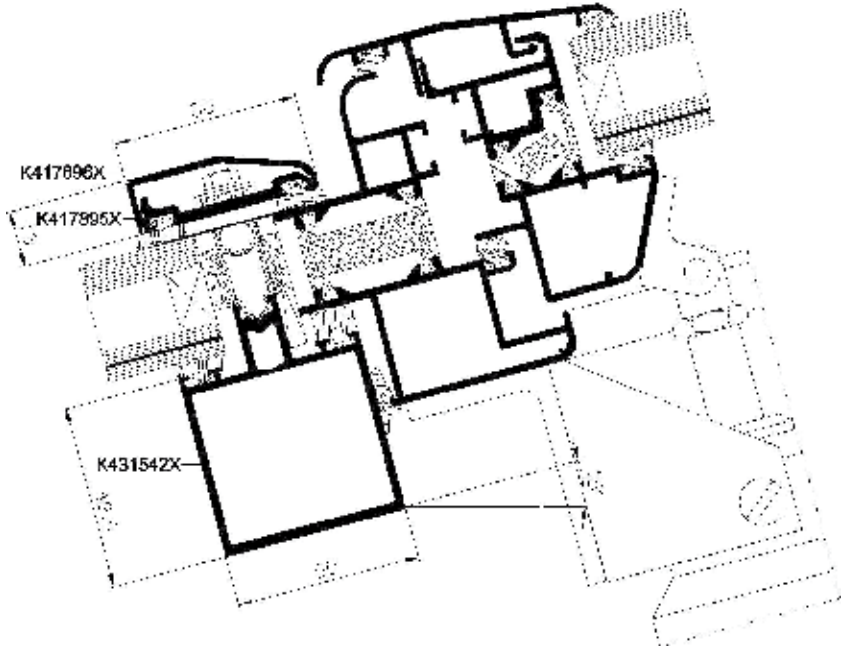
Symmetrical angel joint - cross-section



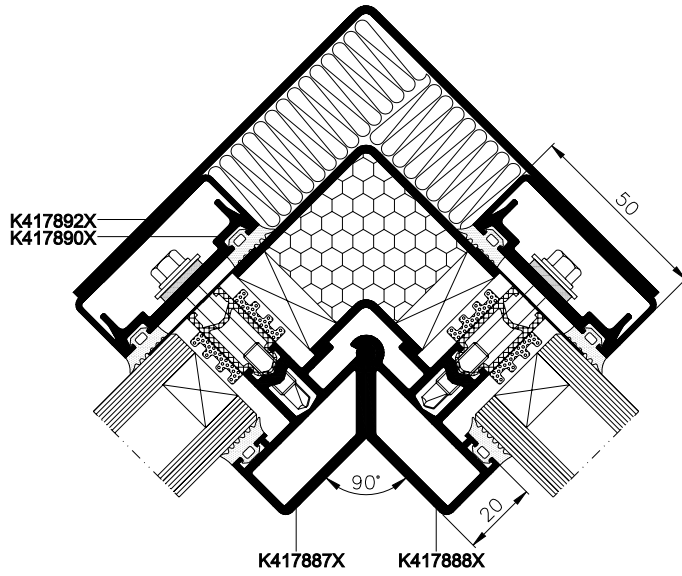
Symmetrical angel joint - cross-section



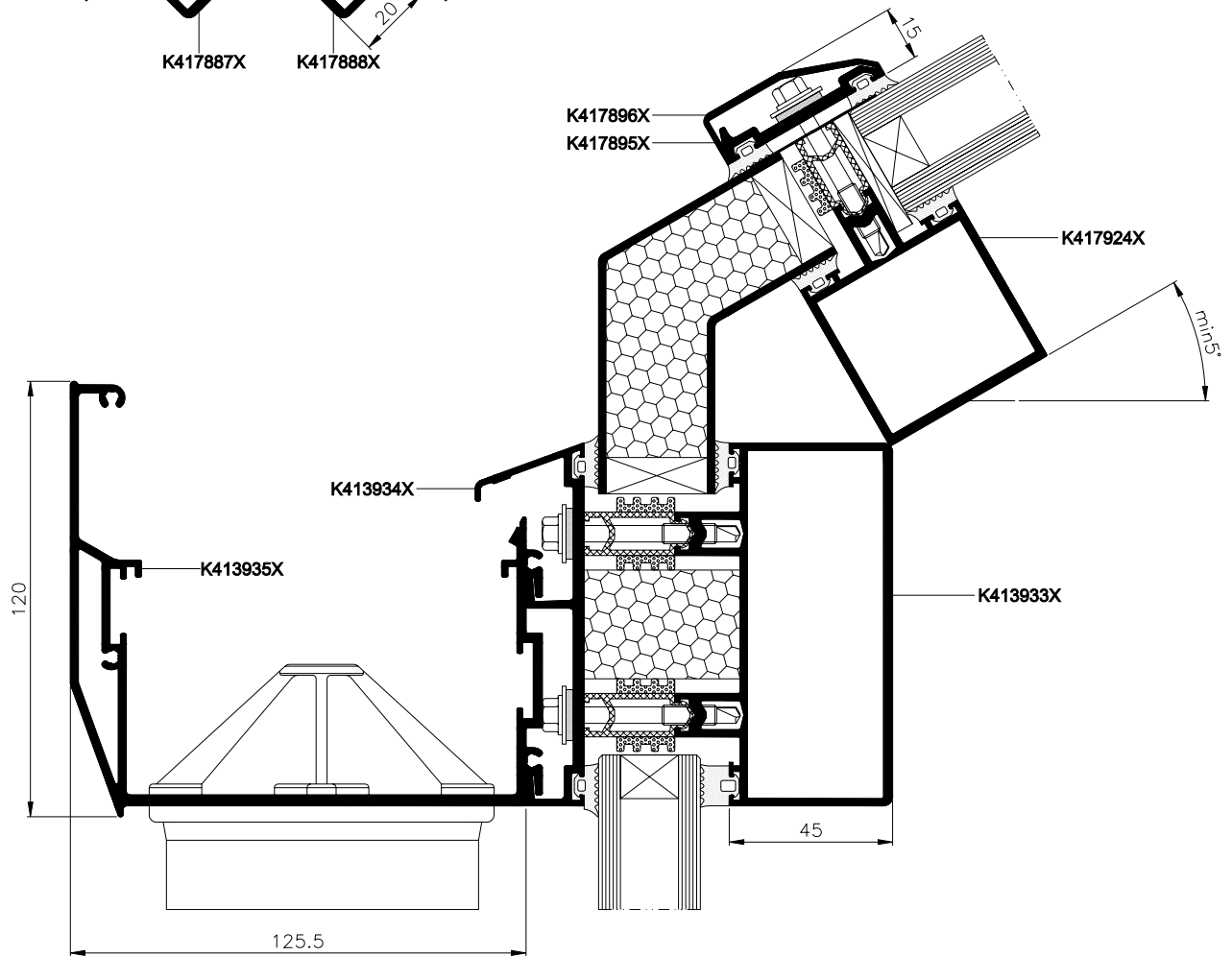
MB-SR50N RW roof vent - cross section



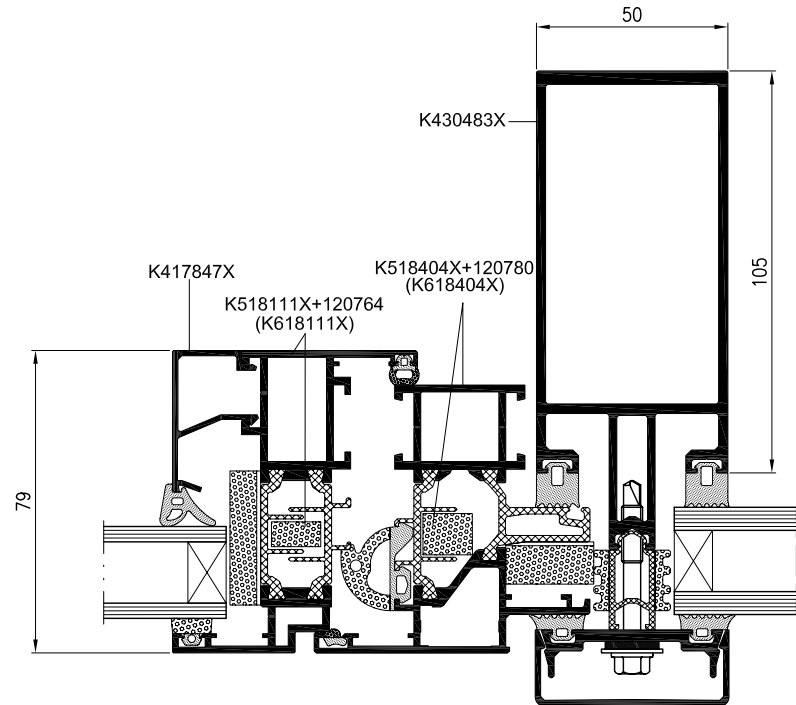
Horizontal section of roof ridge



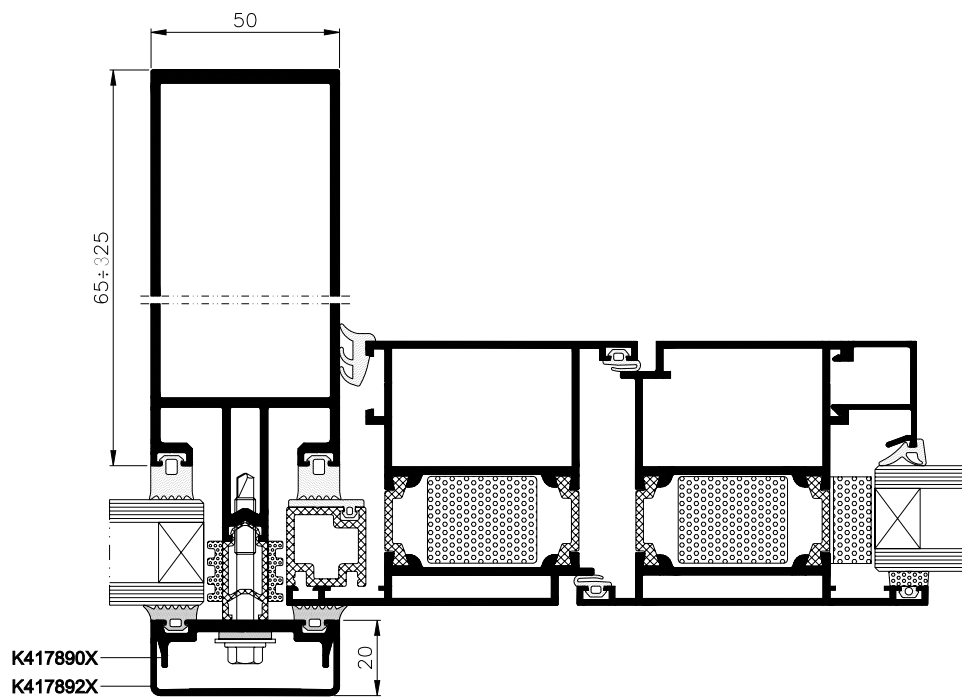
Horizontal section of gutter



MB-70HI window cross-section in curtain wall

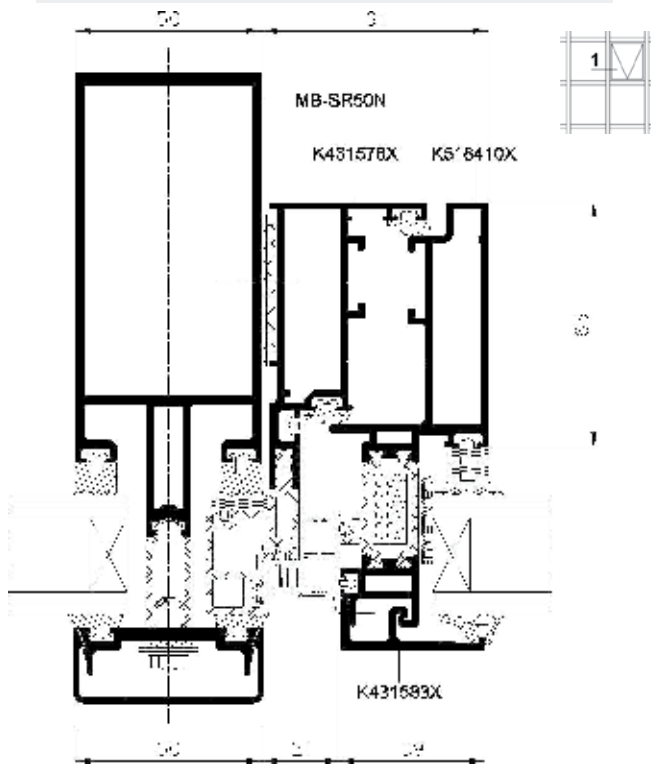


MB-70HI door cross-section in curtain wall

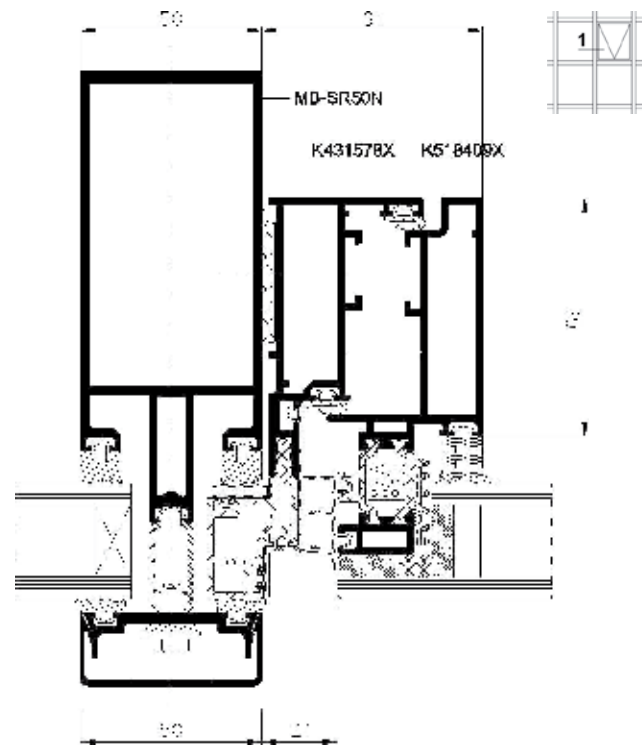


Scale 1:2

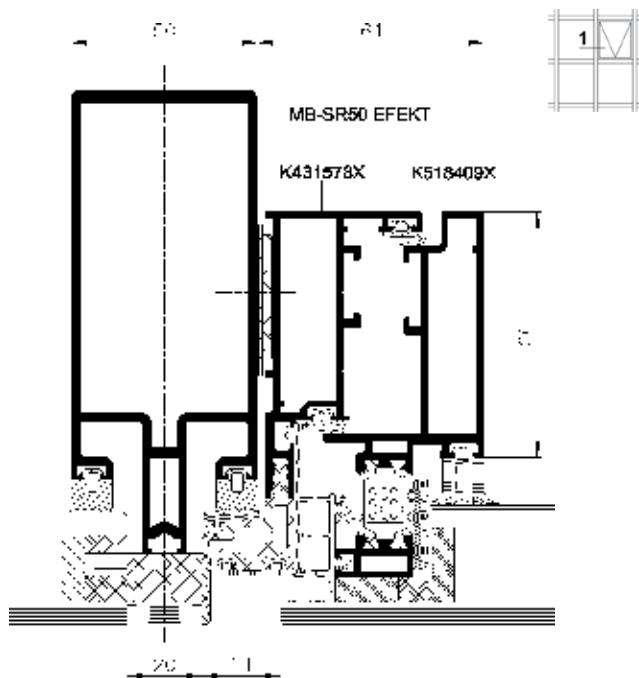
MB-SR50N OW beaded casement window
- cross section



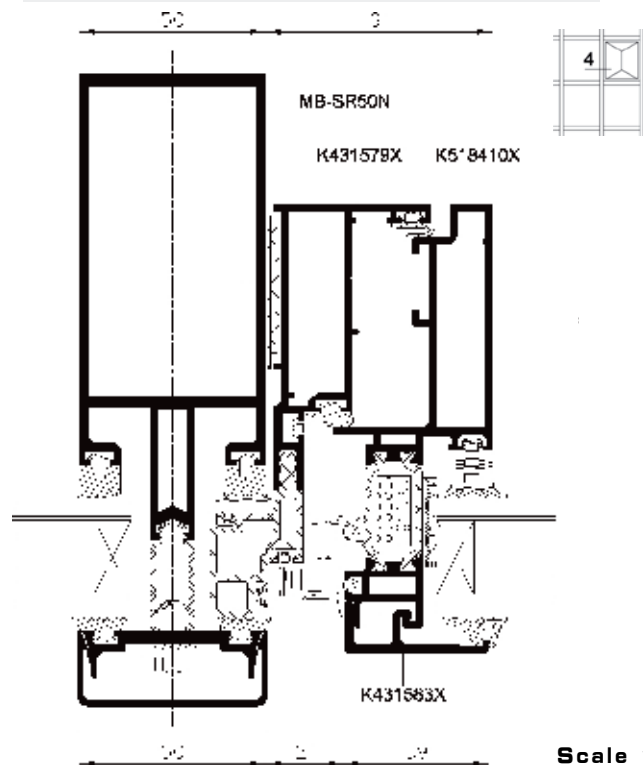
MB-SR50N OW SGG casement window
- cross section



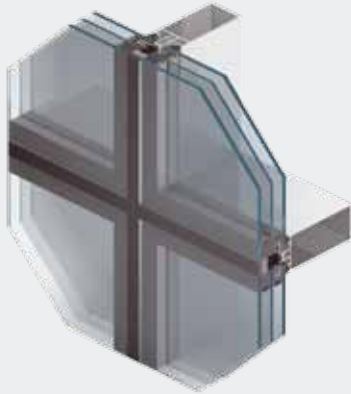
MB-SR50N OW SG casement window
in EFEKT system - cross section



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.

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:

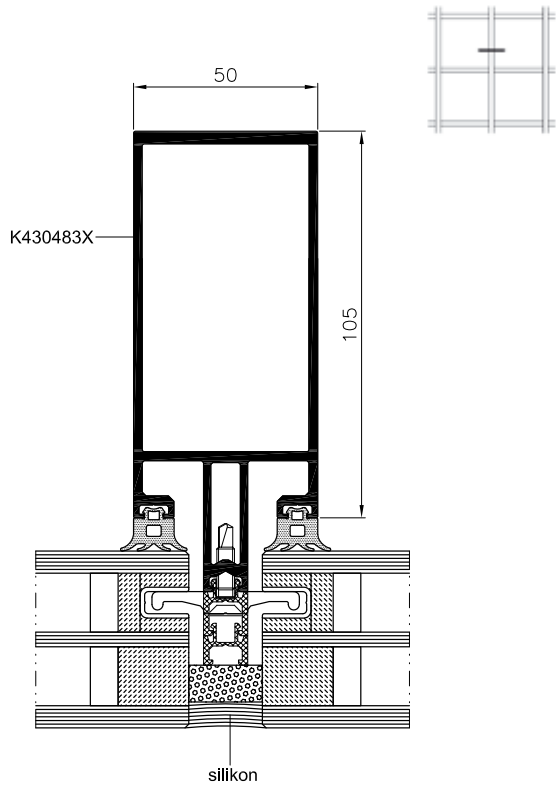
- Air permeability: Class AE 1200 Pa
- Water tightness: Class RE 1200 Pa
- Wind load resistance: up to 2400 Pa
- Impact resistance: Class I5/E5



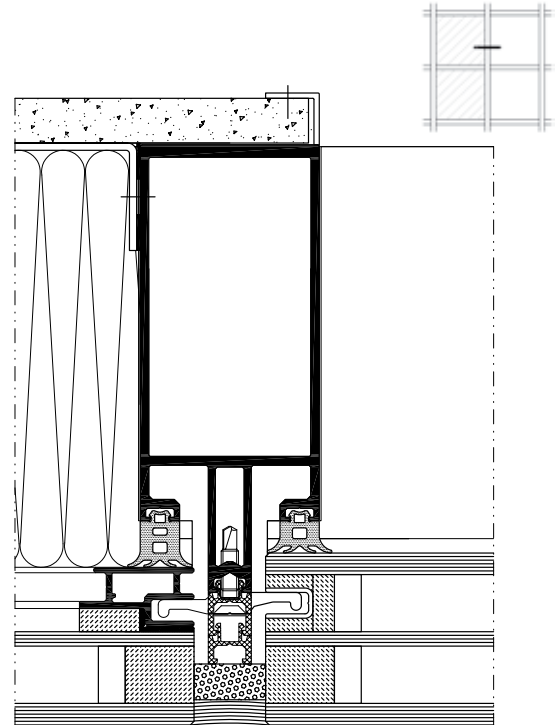
BTD OFFICE CENTER, Warsaw, Poland

design / arch. Tomasz Kazimierski, arch. Andrzej Ryba
realization / Bogard

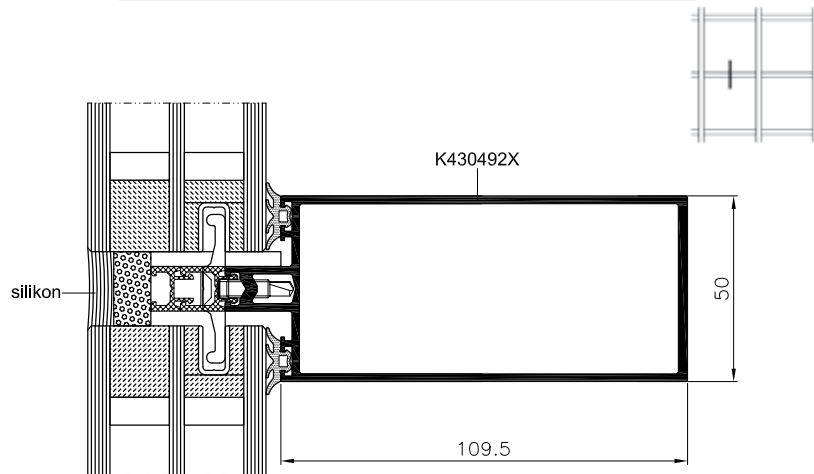
Mullion - cross section



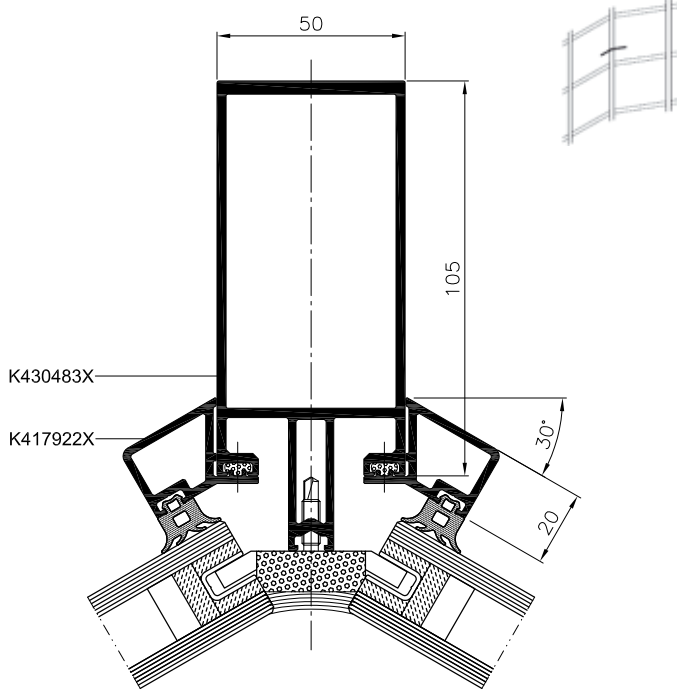
Mullion with glazing unit and obscure panel - cross section



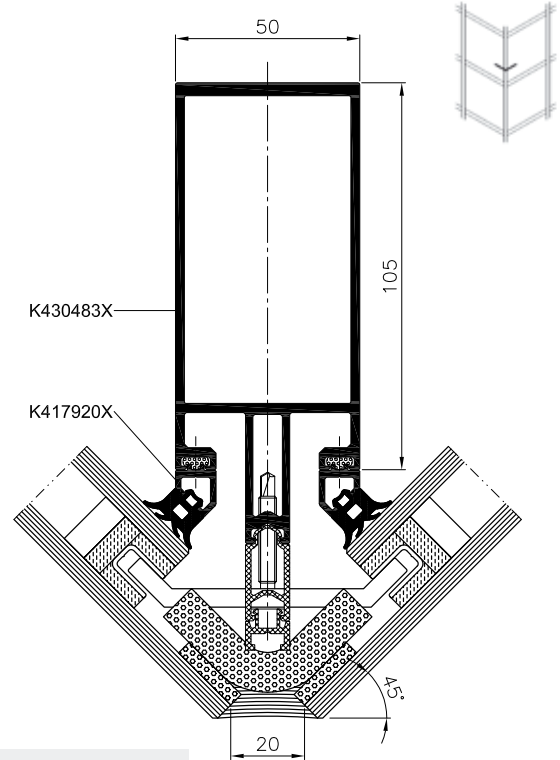
Transom - cross section



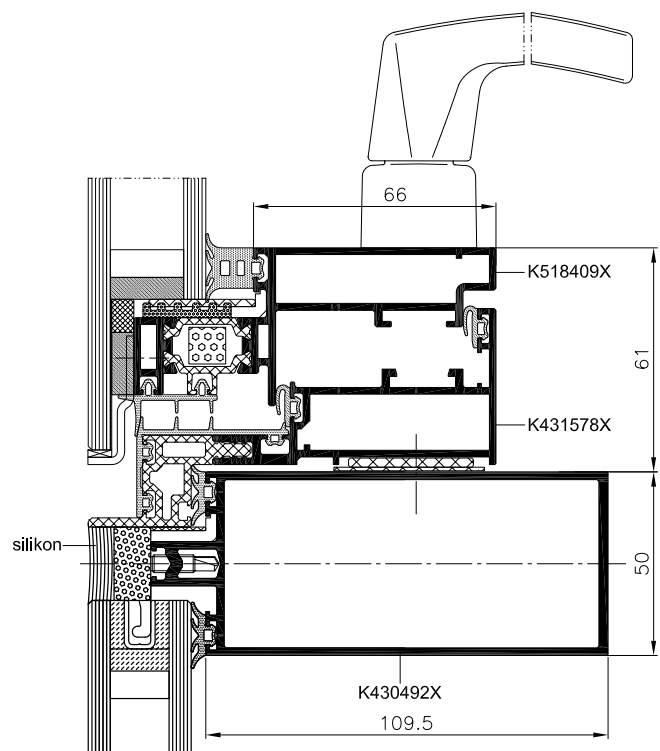
Internally folding joint - cross section

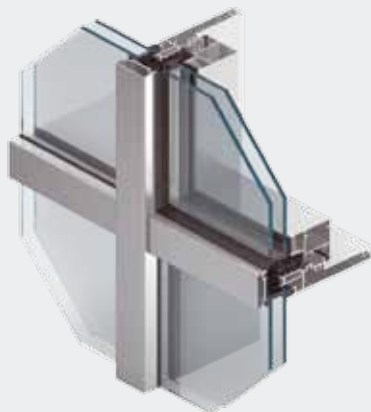


Externally folding joint - cross section



Transom with SG parallel window - cross section





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-SR50IW 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 od 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
realization / Eljako-AL

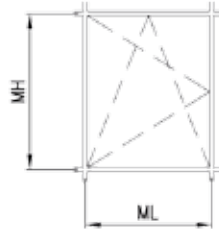
Max. dimensions in the curtain wall

Tilt and turn window



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

- 100 [kg]



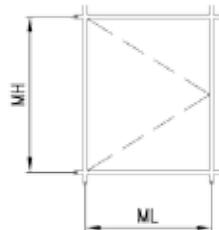
MHmax = 2000 [mm] MHmin = 550 [mm]
MLmax = 1600 [mm] MLmin = 450 [mm]

Side hung window



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

- 100 [kg]

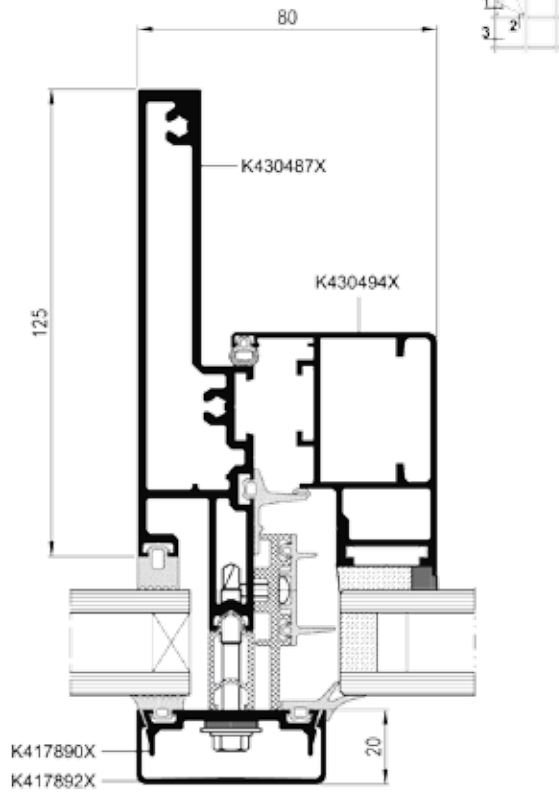


MHmax = 2000 [mm] MHmin = 500 [mm]
MLmax = 1600 [mm] MLmin = 400 [mm]

} Maximum weight of infills

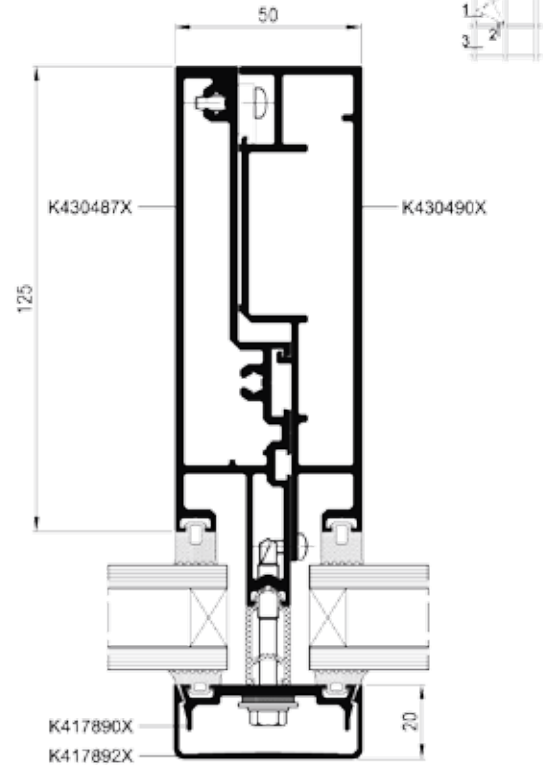
Mullion cross-section

1 MB-SR50 IW



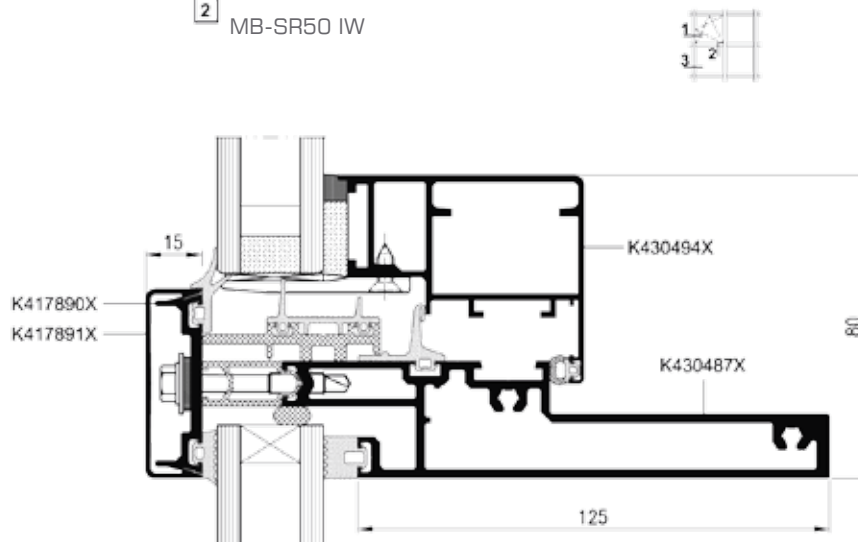
Transom cross-section

3 MB-SR50 IW



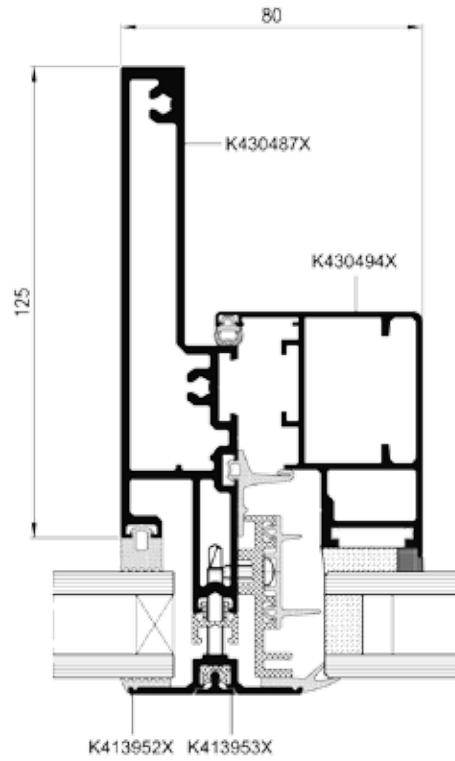
Transom cross-section

2 MB-SR50 IW



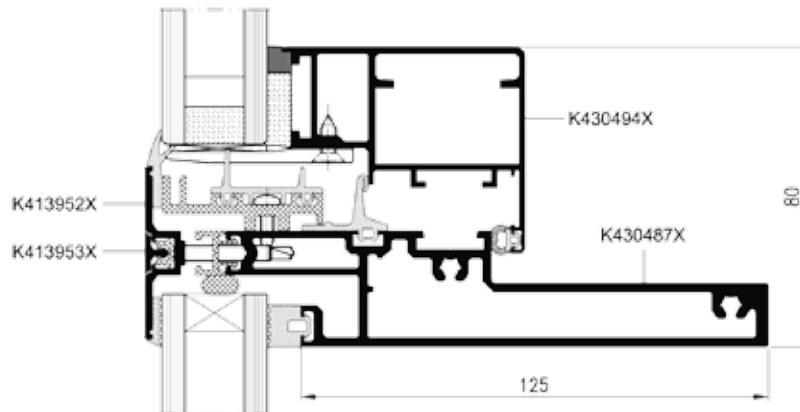
Mullion cross-section

1 MB-SR50 IW



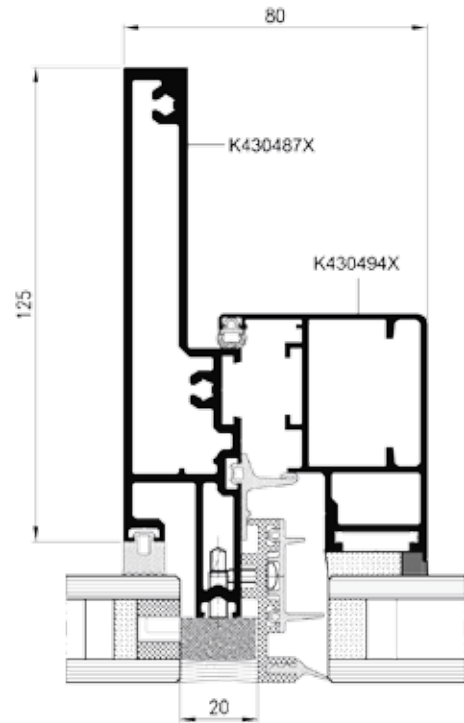
Transom cross-section

2 MB-SR50 IW



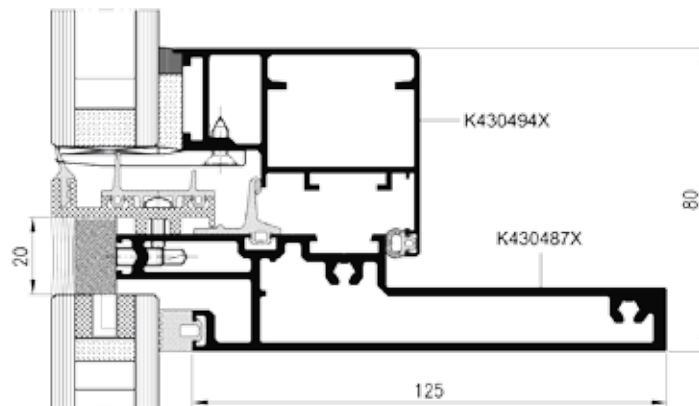
Mullion cross-section

1 MB-SR50 IW



Transom cross-section

2 MB-SR50 IW



SYSTEM

MB-SR50

MB-SR50 HI

CURTAIN WALL SYSTEMS



A stick or ladder frame assembly curtain wall system with wide range of veraing applications, including high and low rise curtain wallls construction, slop roof, faceted walls and internal entrance halls. A 50 mm wide system with the comprehensive range of mullions and transoms designed to suit most project requirements with the minimal requirement for structure support. A range of external capping, both conventional and bespoke are available, giving a specifier flexibility of design in order to suit individual preference.The MB-SR50 range has been further developed with system derivatives such as MB-SR50 Efekt (structurally glazed toggle system), MB-SR50 PL (a horizontal or vertical cap only option), MB-SR50A (a glazing carrier system for use with timber or steel substructures), MB-SR50 EI (fire rated option), and MB SR50 IW (open in concealed vent). The specifics of the derivative systems individually feather in this guide. Please see the relevant section.

MULLION AND TRANSOM CURTAIN WALL SYSTEMS

Freedom of design

Offering a wide range of profiles that allows architects, specifiers and designers the ability, to implement and realise the most ambitious of aluminium curtain wall developments. The mullions and transoms have been designed to give a slim line appearance, whilst ensuring both durability and strength of construction. Profiles within the range include both a rounded box corner option for a more "soft line" effect or a traditional "sharp square edge" design, again for preference of choice. Where there is a requirement for additional strength based on project design the mullions and transoms maybe additionally reinforced, with the inclusion of an internal aluminium sleeve insert profile.

Product features

- a wide range of mullions from 15mm up to an impressive 245mm (larger mullion sizes can be available for specific project needs), and a transom range from as little as 5mm up to 190mm;
- desirable aesthetics including concealed drainage;
- a glazing range from as little as 4mm up to a maximum of 48mm;
- compliance with "CWCT test sequence B," for weather testing and performance.



KOMOD, Kiev, Ukraine

design / SA KiewDesign,
arch. W.P. Owsianikow, arch. N.A. Zubi
fabrication / T.M.M. Sp. z o.o.



PROSTA TOWER, Warsaw, Poland

design / APA Kurylowicz & Associates
realization / Metalplast-Stolarka

Vent options

A characteristic feature of the system is one of close correlation with the door & window systems of the MB series range, MB-59, MB-60 and MB-70. The available opening vent options would include the following:

- MB-59S window system, consisting of Tiltturn, Side hung and Bottom hung
- MB-59S Pivot window, HCP and VCP
- MB-59S Casement system, PTH and PSH
- MB-59S Tilt & Slide window and door
- MB-59S Open in/out door system
- MB-60/MB-70US *concealed vent open in window system.

***Note:** Aluprof have a wide range of both curtain wall & non-curtain wall concealed vent options available. For further details of these systems, please contact Aluprof Technical Services.

Weather performance

The system provides excellent water tightness and air permeability performance, enabled in part due to the overlapping connection of the transom to the mullion, together with the concept of pressure equalised ventilation. This type of connection can be used for both zone drainage and mullion drainage constructions. The following test results in accordance with the relevant EN standards (please see technical parameters), were achieved through independent testing laboratories, including Taylor Woodrow (CWCT standard).

Technical parameters:

- Air permeability:
EN 12153:2003 and EN 12152:2003 – Class AE1200 (1200Pa)
- Water tightness:
EN 12155:2003 and EN 12154:2002 – Class RE1200 (1200Pa)
- Wind resistance:
EN 12179:2002 and EN 13116:2002 – up to 2400Pa

Thermal expansion

The MB-SR50 system is designed to prevent any negative effects of movement caused by the thermal expansion of aluminium. Horizontal thermal expansion can be accommodated in two ways, a half mullion option or elongated slots used in the transom to mullion joint connection. Mullions are connected using a "telescopic joint" design and suitable brackets, which accommodate vertical deflection movement and thermal expansion.

Acoustic and thermal performance

In response to market expectations, the MB-SR50 system has both excellent thermal and acoustic characteristics. This was achieved by a combination of both modern design and high quality components (PE insulator). The value of the heat transfer coefficient for the frame (U_f) starts from as low as 0.81 W/m²K. Ultimately thermal performance and acoustic insulation will be strongly influenced depending on the glass composition.

Fire safety

For fire protection performances, the MB-SR50 range includes a fire rated option, MB-SR50 EI. The fire rated curtain wall system is classified as EI30 or EI60 (integrity & insulation) according to EN 1364-3:2006. A standard range of mullions and transoms are suitable for both fire and non-fire rated curtain walls. This makes it possible to include fire rated partitions in non-fire rated curtain wall with no difference in the design or appearance. Fire rated barrier between floors in MB-SR50 system has been designed based on fire rated materials as a mineral wool and plasterboards. This part of curtain walling system is classified as EI30 or EI60 (integration and isolation for 30 or 60 minutes), depend on project requirements and design.

System flexibility

The MB-SR50 system can help realise very complicated and irregular building shapes, including horizontal & vertical, internal & external, angular facets. Such designs are achieved using special glazing adapters and caps.

MB-SR50 accessories

The system also includes a range of different bracket options, made of EN AW-6060 T66 Aluminium alloy (AlMgSiO, 5F22), and designed to satisfy most building conditions. Available with 2 or 3D adjustment, the brackets help make the installation process easier and less time consuming.

Strength of the system

The unique design of the mullion and transom screw-spline nose provides a secure pressure plate fixing, preventing the screws from being pulled out of the profile. Independent tests confirm that, the connection will stand against a maximum force of 450kg. This in turn warrants the safety and long term serviceability of the MB-SR50 curtain wall.



BELVEDERE CENTRE (NORTH GATE),
Warsaw, Poland

design / KIPP DESIGN, arch. Adrian Górecki,
arch. Adam Kulikowski, arch. Zenon Zapaśnik,
arch. Tomasz Błuszkowski, fabrication / DEFOR



BUSINESS CENTER, Petersburg, Russia

design / arch. Aleksander Iwanowicz Andrejew
realization / Czesma Imperial

Straight forward fabrication

A selection of system specific tools, fabrication manuals, CAD details for CNC interface, together with a consciously limited number of operations, help reduce manufacturing times & the costs associated with it.

Channel fit components, adjustable brackets, marked guide channels for fixing and self-tapping screws, work to ease the installation of the MB-SR50 curtain wall.

Technical parameters:

- Overall heat transfer coefficient:
 U_f from 0,81 W/m²K
- Air permeability:
 EN 12153:2003 and EN 12152:2003 –
 Class AE1200 (1200Pa)
- Water tightness:
 EN 12155:2003 and EN 12154:2002 –
 Class RE1200 (1200Pa)
- Wind resistance:
 EN 12179:2002 and EN 13116:2002 –
 up to 2400Pa
- Acoustic performance:
 R_w up to 42(-2,-6)dB



Science and Technology Park (GPNT), Gdańsk, Poland

design / Pomorskie Biuro Projektów Gel
 realization / AL-BUD

Constructions available in the MB-SR50 system:



MB-SR50 HI



MB-SR50 EFEKT



MB-SR50 PL



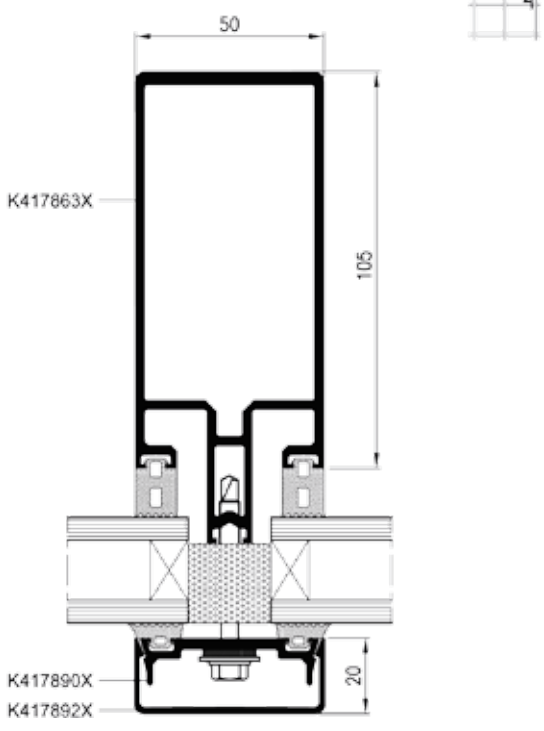
MB-SR50 A



MB-SR50 EI

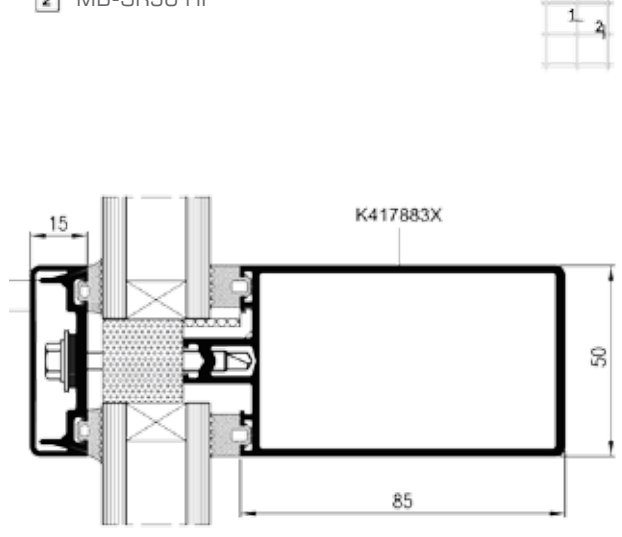
Mullion cross-section

1 MB-SR50 HI

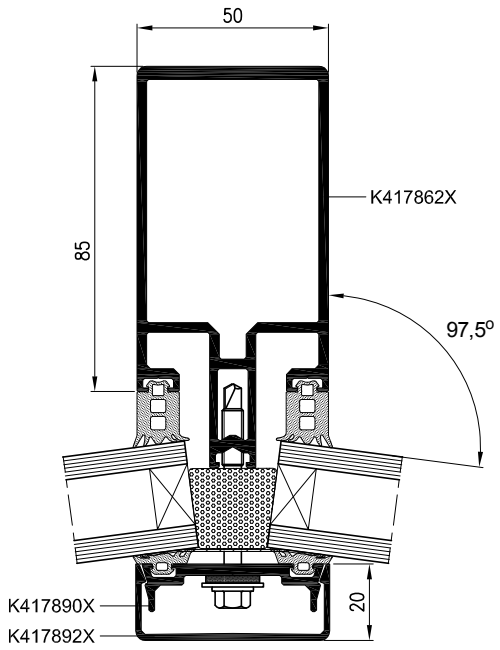


Transom cross-section

2 MB-SR50 HI

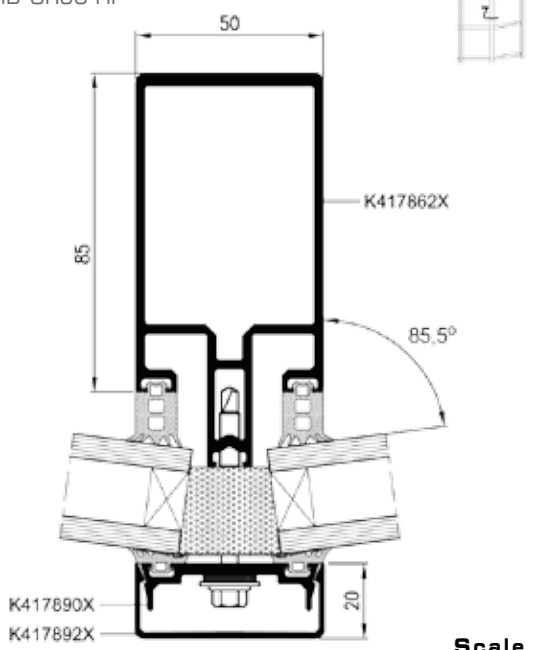


7.5 deg internally folding 7.5 joint



7.5 deg externally folding joint

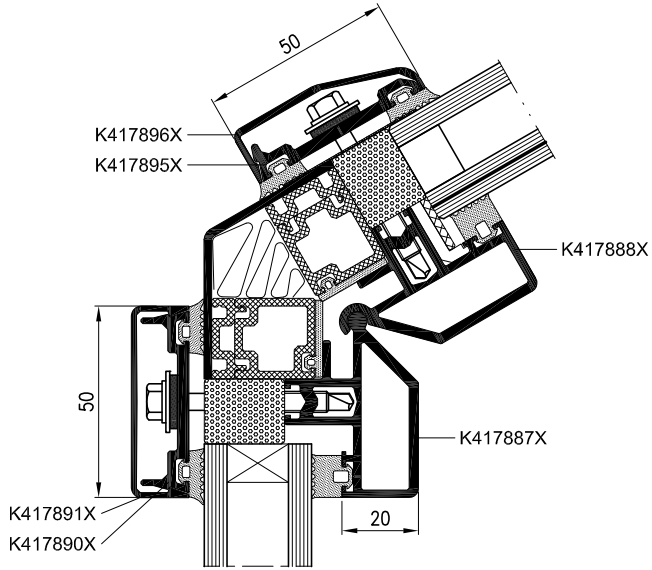
7 MB-SR50 HI



Scale 1:2

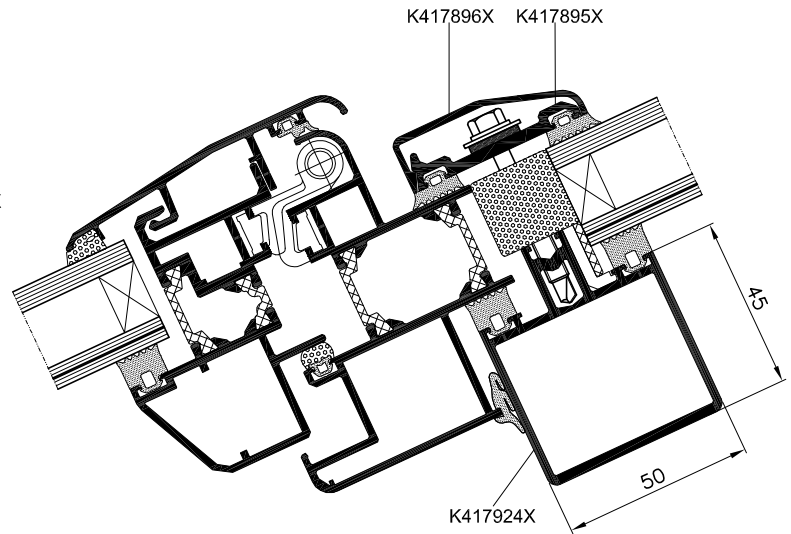
Transom cross-section (wall-roof)

MB-SR50 HI



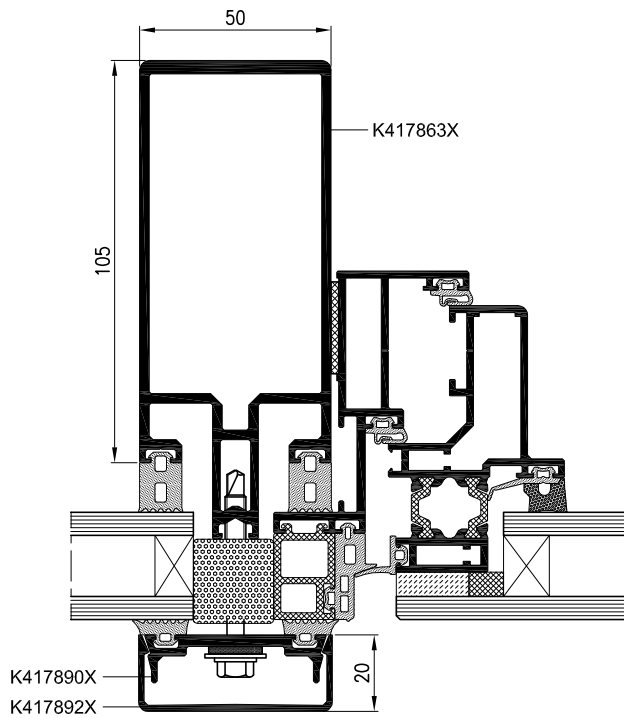
Roof window cross-section

MB-SR50 HI



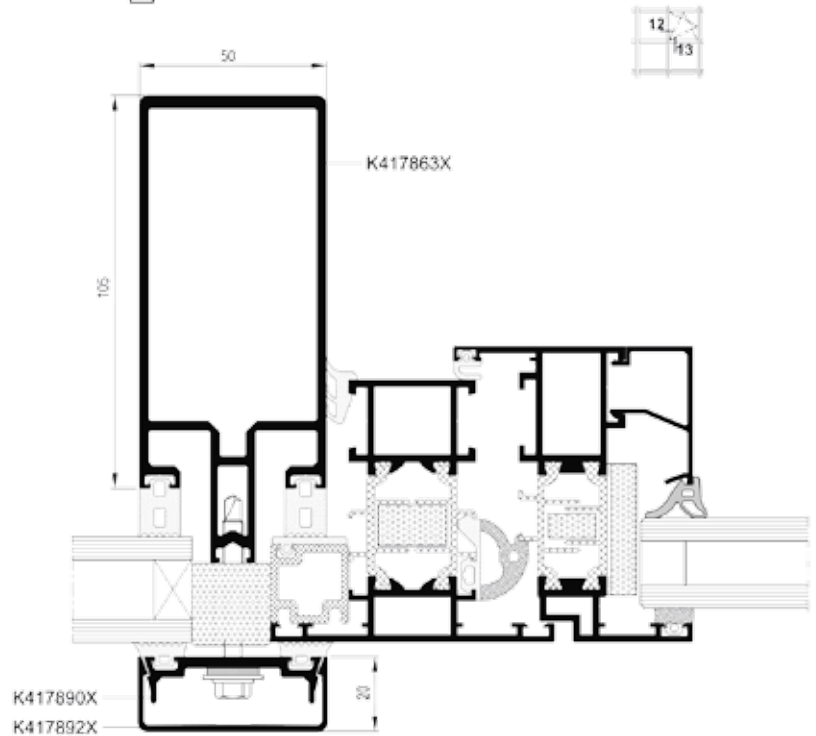
Awning window in a curtain wall

MB-SR50 HI



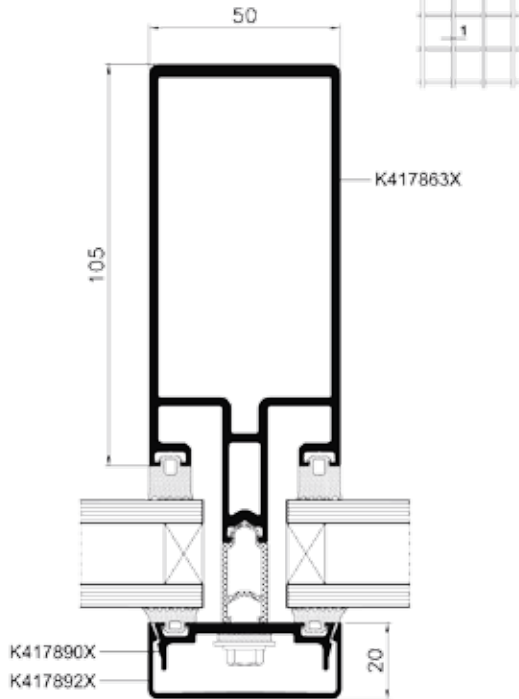
MB-70 HI window in a curtain wall

12 MB-SR50 HI



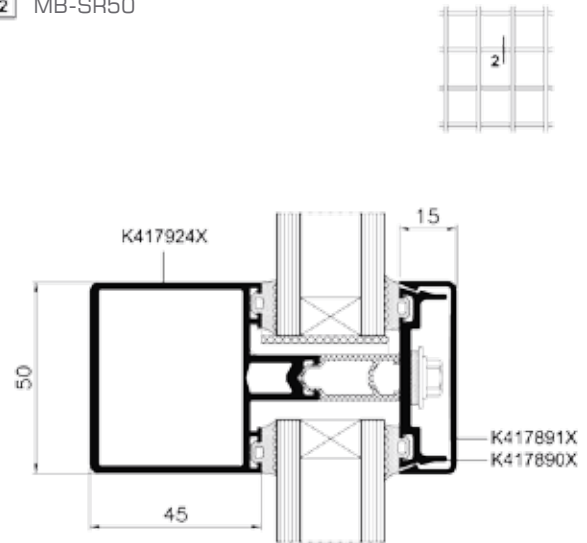
Mullion cross-section

1 MB-SR50



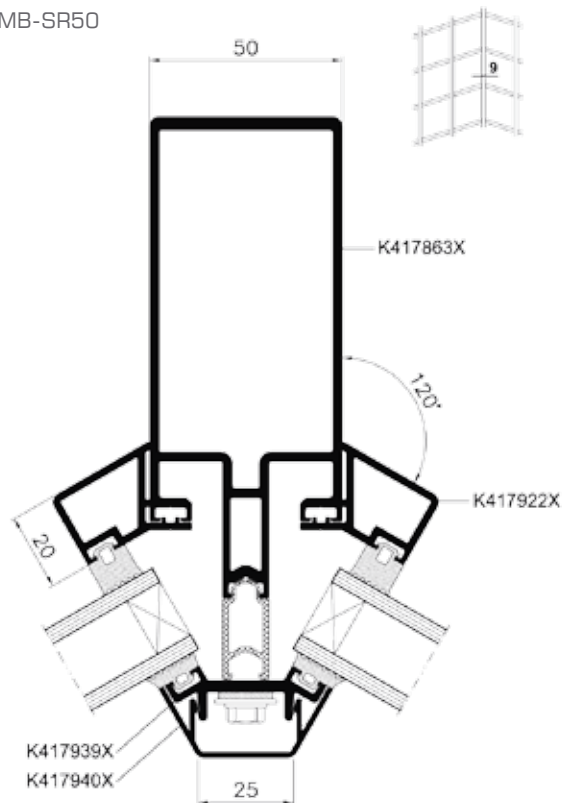
Mullion cross-section

2 MB-SR50



Symmetrical angel joint - cross-section

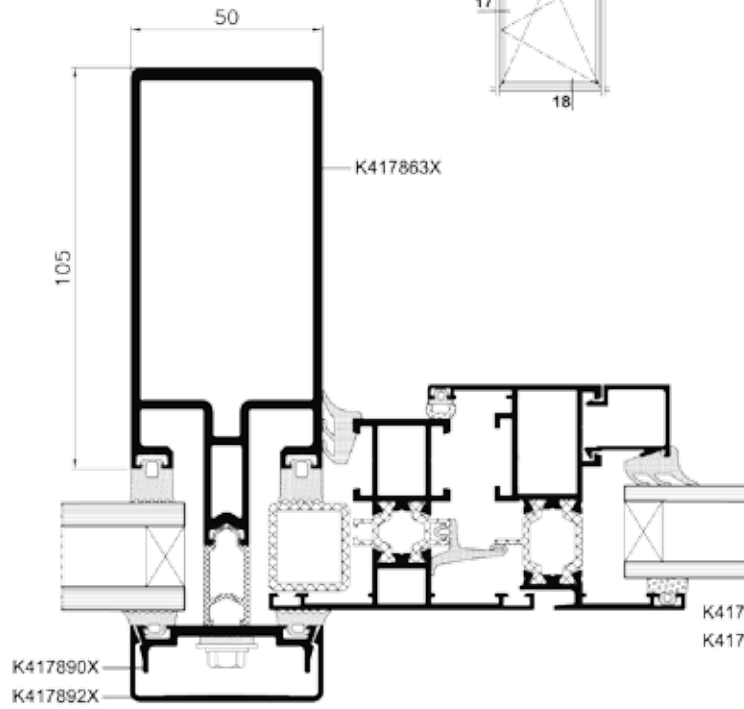
9 MB-SR50



Scale 1:2

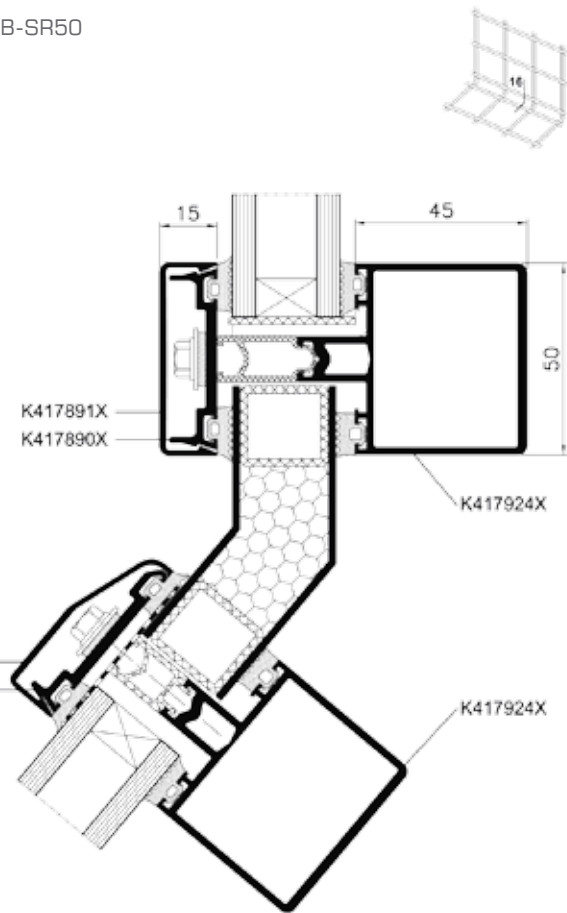
MB-59S window in a curtain wall
- cross-section

17 MB-SR50



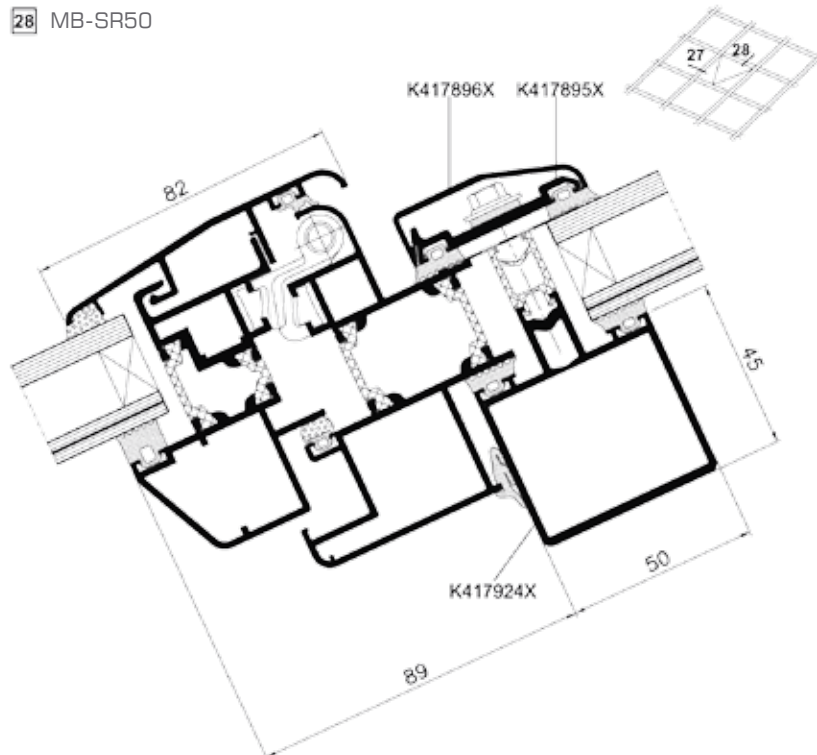
Roof - transom cross-section

16 MB-SR50



Roof window in a curtain wall - cross-section

28 MB-SR50



S Y S T E M

MB-SR50 PL



MB-SR50 PL - FACE CAP
SYSTEM VARIETY
(HORIZONTAL OR VERTICAL)

A variation of the regular capped MB-SR50 curtain wall system, the "PL" derivative can provide a horizontal or vertical external capping emphasis, in order to meet aesthetic preferences. The visual effect can be further enhanced by choice of special feature face cap options e.g. bullet or parabola profile, bulb and projecting fin type, design caps, of which there are different shapes and sizes available. With a horizontal cap arrangement, the associated vertical joint can exist as a structural silicone seal or alternative black finish, unobtrusive flat cap option. MB-SR50 PL system can accommodate open out, top hung concealed vents.

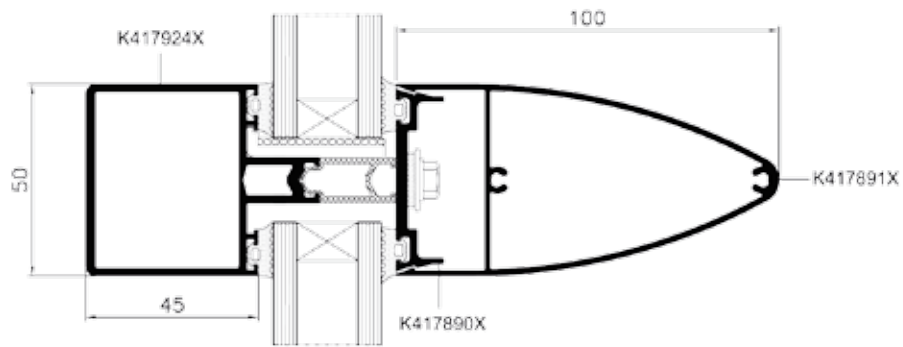


TWIN TOWER BARBA CENTER, Bucharest, Romania

design / SC ALCAS SRL,
fabrication / SC CRISTAL BRAD

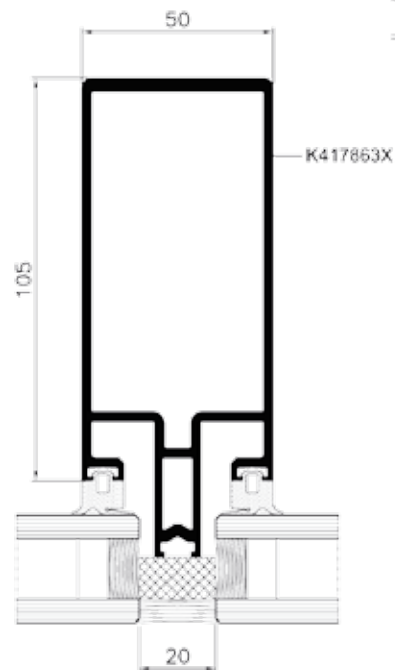
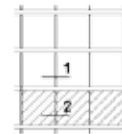
Horizontal line - transom cross-section

2 MB-SR50 PL



Horizontal line - mullion cross-section

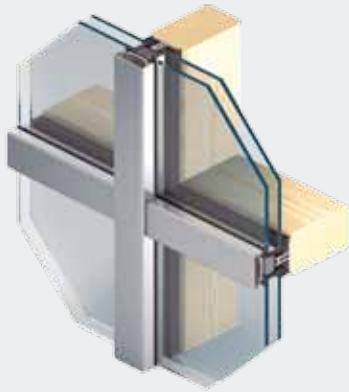
1 MB-SR50 PL



SYSTEM

MB-SR50 A

CURTAIN WALL SYSTEMS

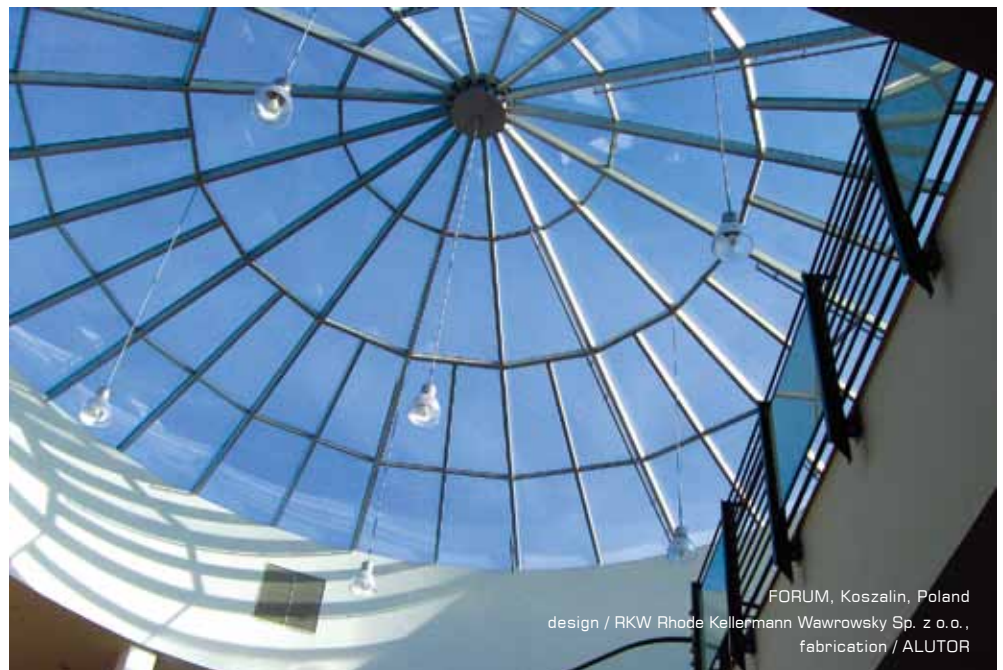


A unique solution based on the MB-SR50 stick system, this derivative makes it possible to meet the requirements of both a modern looking external aluminium curtain wall, one with excellent weather performance, and traditional building materials like timber or steel, used as the interior supporting structure.

OVERLAY SYSTEM VARIETY

MB-SR50 "A" system design

Aluminium glazing profiles are screwed into the supporting structure, timber or steel. Internally, all of the Aluminium parts are overlapped by EPDM gaskets, creating an aesthetic joint without the combination of too many materials. Directly fixed glazing guarantees safety, and excellent weather performance. Combinations of carefully selected materials can give outstanding thermal and acoustic insulation.



FORUM, Koszalin, Poland
design / RKW Rhode Kellermann Wawrowsky Sp. z o.o.,
fabrication / ALUTOR

Flexibility

MB-SR50A can accommodate any shape of vertical curtain wall, slope or roof glazing. The same wide range selection of glazing caps, available from the MB-SR50 range, can be used to create a unique architectural effect, in order to meet specific project requirements.

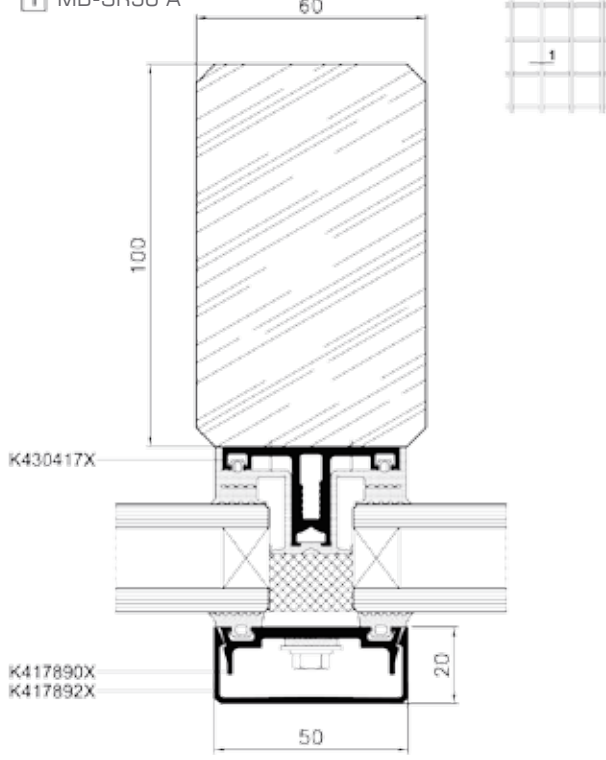
Technical parameters:

- Sections width: 50mm
- System can adapt glazing units from as little as 4mm up to 48mm
- Thermal insulation: U_f from 0.81 W/m²K
- Acoustic performance: R_w from 40dB

GRAY OFFICE PARK, Lublin, Poland
design / arch. Marek Bajun, Adam Krzowski
realization / BKK

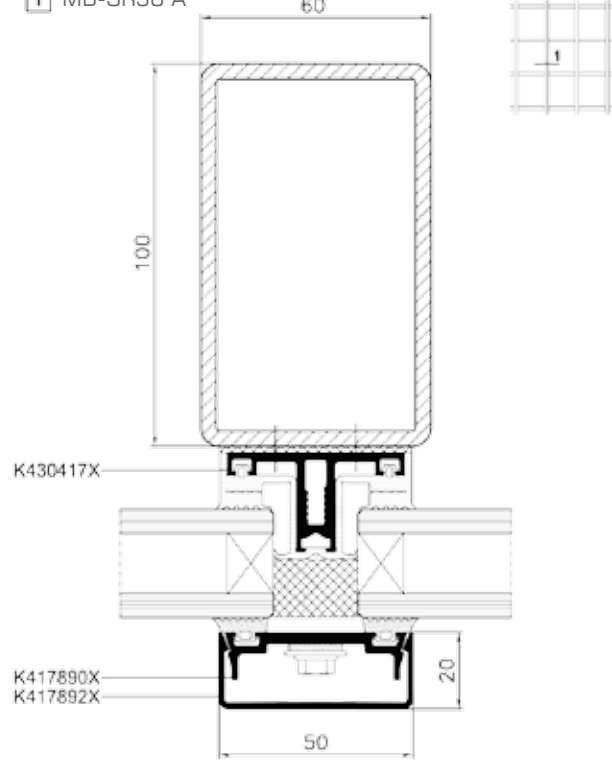
Mullion cross-section

1 MB-SR50 A



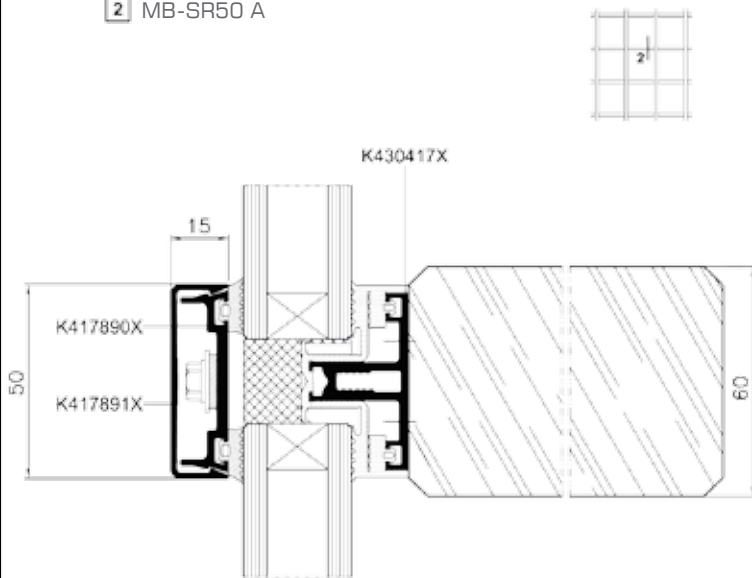
Mullion cross-section

1 MB-SR50 A



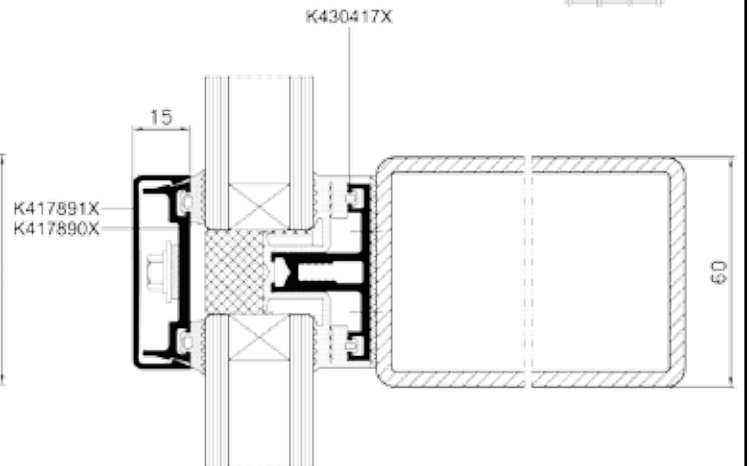
Transom cross-section

2 MB-SR50 A



Transom cross-section

2 MB-SR50 A





The MB-SR50 EFEKT system has been developed to achieve the contemporary effect of structurally glazed curtain wall, with all benefits of a regular stick system solution. Specially manufactured mechanically fixed double glazed units, are divided in appearance by a 20mm wide structural silicone joint. The mullion to transom assembly is again based on the principles of the MB-SR50 system, and can accommodate a variety of different window and door types from the Aluprof range.

SEMI - STRUCTURAL CURTAIN WALL SYSTEM

Design

- wall structure based on MB-SR50 stick system
- double glazed units with integral "U"-channels about the perimeter, are mechanically fixed to the supporting structure by aluminium toggles
- wide range of profiles and accessories allowing symmetrical and non-symmetrical angular connections
- system can be installed on regular vertical curtain walls, roofs and atriums

Glazing

- Double glazed units from 28mm up to 6mm
- Solutions available for single glazed panels

Advantages

- Modern look
- Distance between glass units as diminutive as 20mm
- Different types of opening vents integrated with the system
- Gasket option for glass joints

Technical parameters:

- Overall heat transfer coefficient:
 U_{TJ} calculated individually
- Air permeability:
Class A4, EN 12153; EN 12152
- Water tightness:
Class RE1500, EN 12155; EN 12154
- Wind resistance:
Class 1800Pa, EN 13179; EN 13116
- Impact resistance: Class E5 (950N)
- Acoustic insulation:
 R_w do 37 (-1,-5) dB





CRISTAL BRAD, Bucharest, Romania
design / CRISTAL BRAD
fabrication / CRISTAL BRAD



SCHOOL OF MANAGEMENT, Warsaw, Poland
design / Czuba, Latoszek i Partnerzy, arch. Piotr Czuba, arch. Maciej Latoszek
fabrication / Inter-Bud



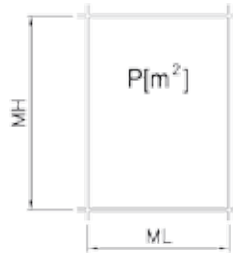
ALLCON@ PARK 3, Gdańsk, Poland
design / Aukett Fitzroy Robinson
realization / ELJAKO-AL



PRYZMAT, Dnipropietrowsk, Ukraina
design / DOLNIK & Co
realization / DAKOR Sp. z o.o.

Max. dimensions in the curtain wall*

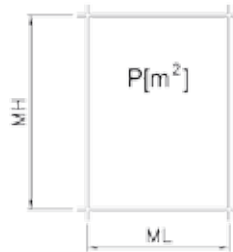
Fixed window, transparent



MHmax=2000 mm MHmin=500 mm
 MLmax=2000 mm MLmin=500 mm
 Pmax= 3,6 m²

-130 kg

Hopper window



MHmax=2500 mm MHmin=500 mm
 MLmax=2000 mm MLmin=500 mm
 Pmax= 3,6 m²

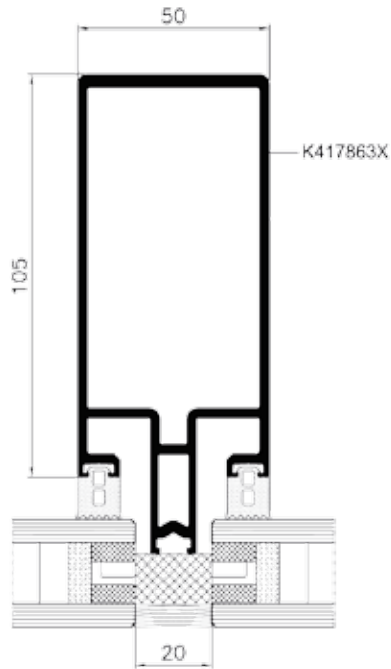
-130 kg

} Max filling weight

* Size and weight limits for any type of doors and windows applicable for that system applies in accordance with system specific manuals.

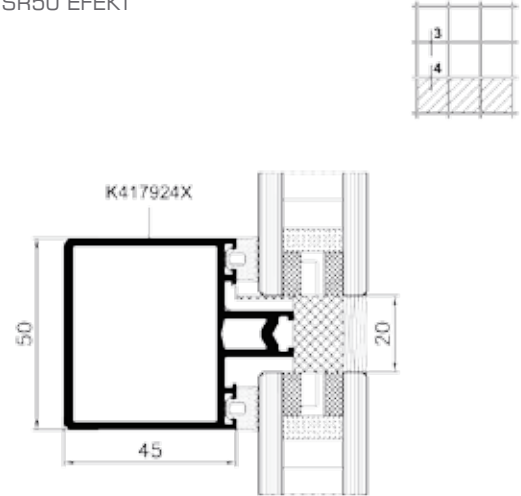
Mullion cross-section

1 MB-SR50 EFEKT



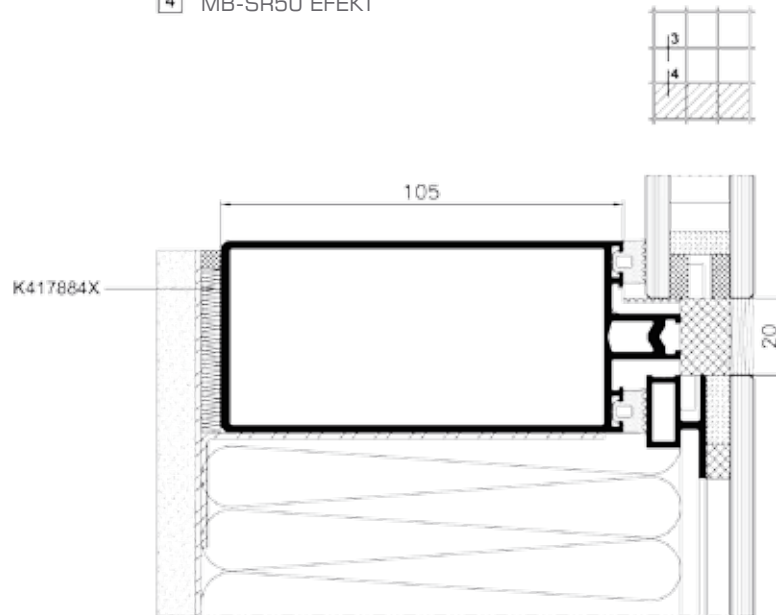
Transom cross-section

3 MB-SR50 EFEKT



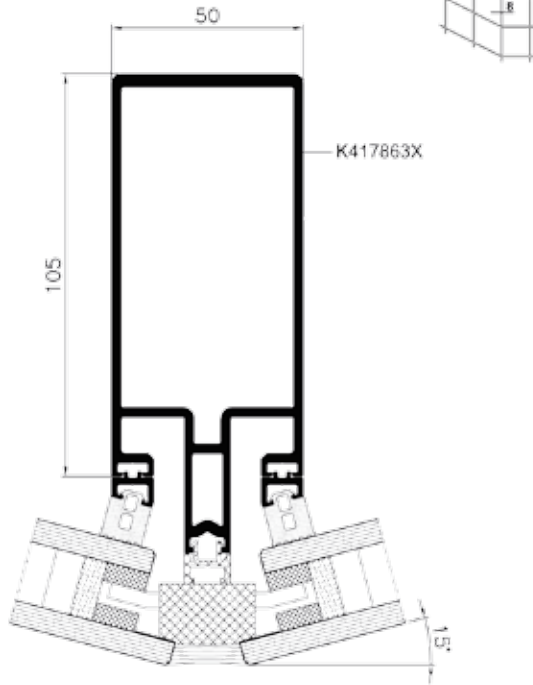
Transom cross-section

4 MB-SR50 EFEKT



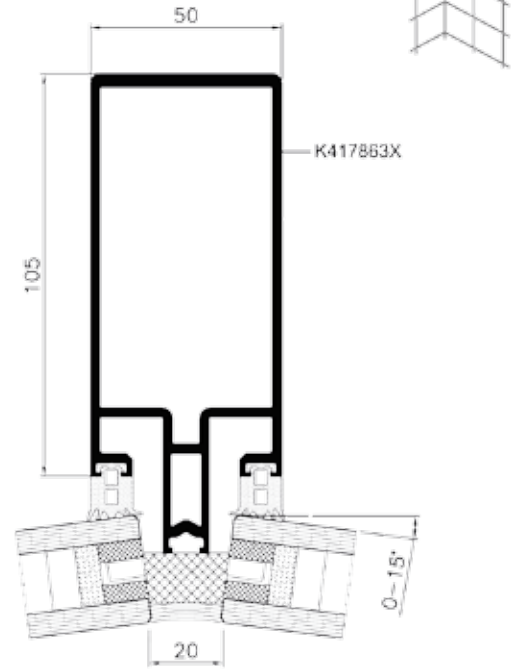
Angular Connection - cross-section

8 MB-SR50 EFEKT



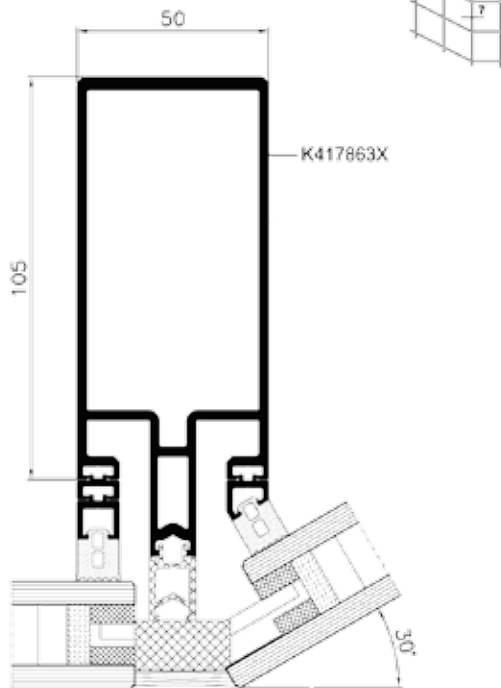
Angular Connection - cross-section

8 MB-SR50 EFEKT



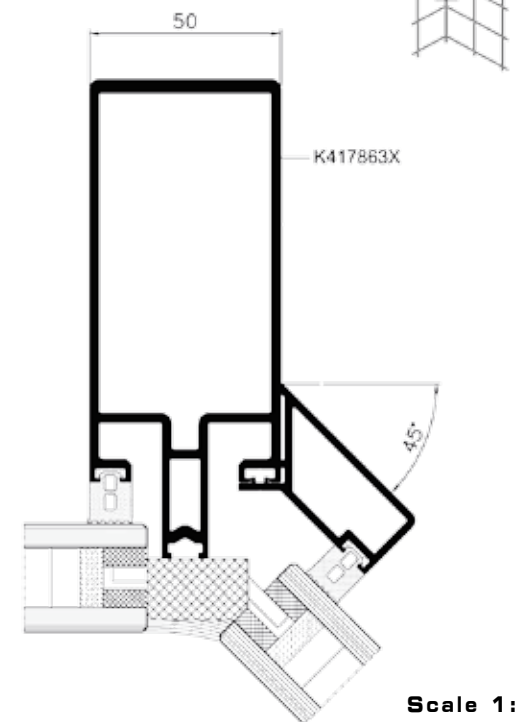
Angular Connection - cross-section

7 MB-SR50 EFEKT



Angular Connection - cross-section

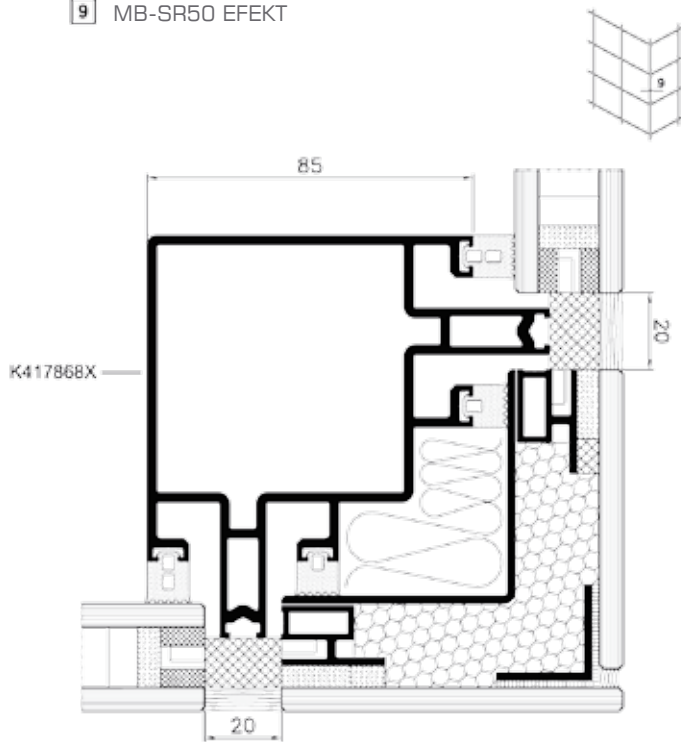
8 MB-SR50 EFEKT



Scale 1:2

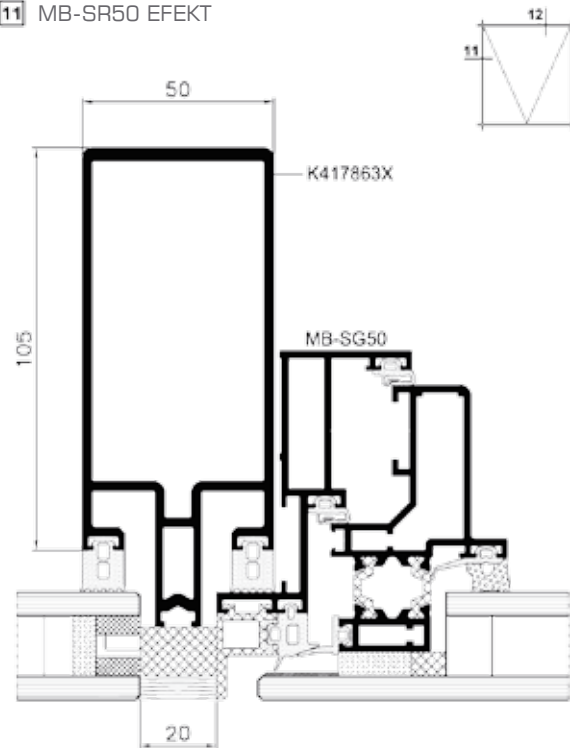
Corner mullion - cross-section

9 MB-SR50 EFEKT

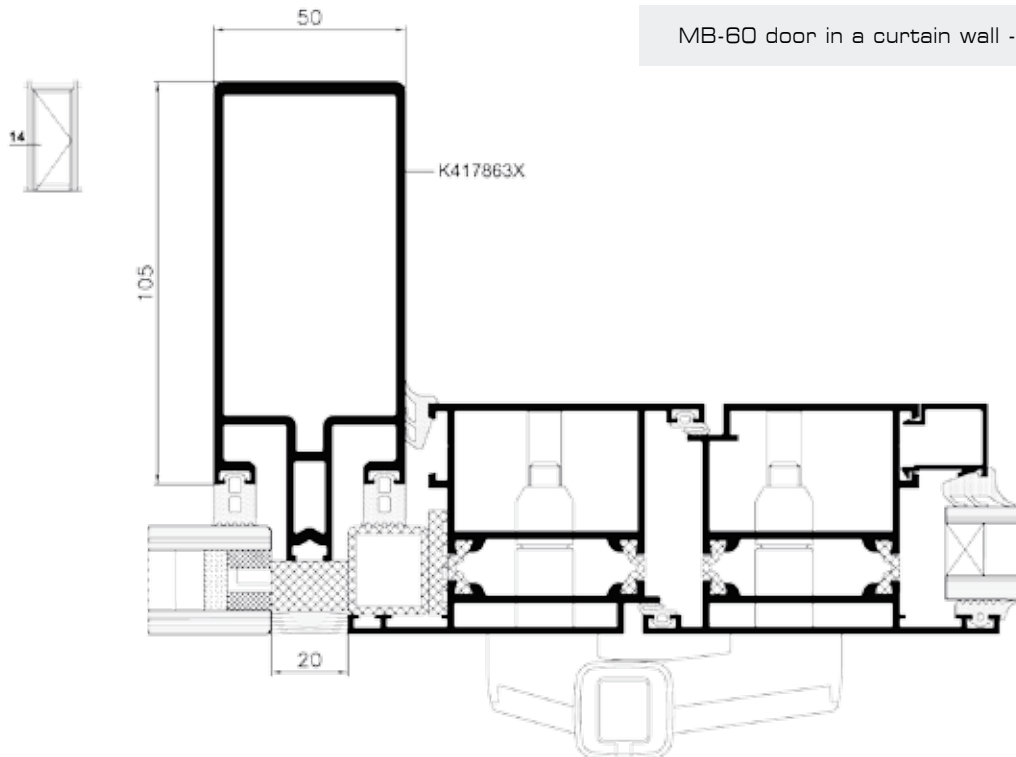


SG-50 window in a curtain wall - cross-section

11 MB-SR50 EFEKT



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



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.



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.

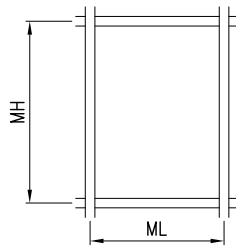
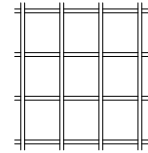
Functionality and aesthetics

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.

CROSS POINT, Łódź, Poland

design / AGG-Architekoi Grupa Grabowski
realization / ALU-MAX

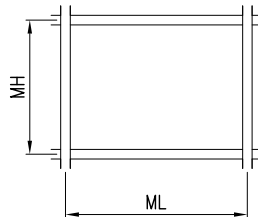
Max. dimensions in the curtain wall



MHmax=3000 mm
MLmax=1500 mm

- 240 kg

Fixed window, transparent



MHmax=1200 mm
MLmax=1800 mm

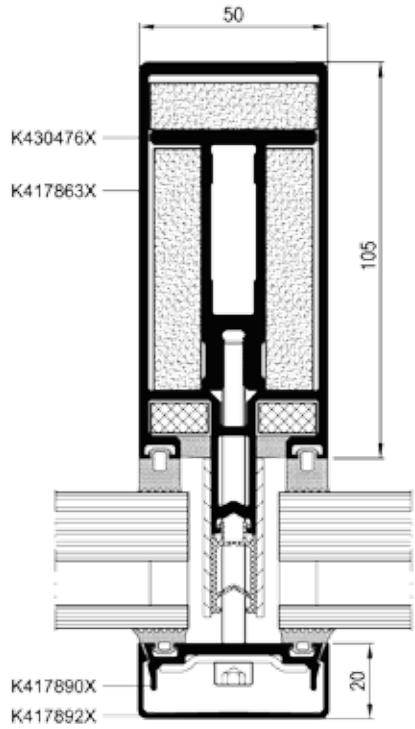
- 240 kg

} Maximum weight of the vent

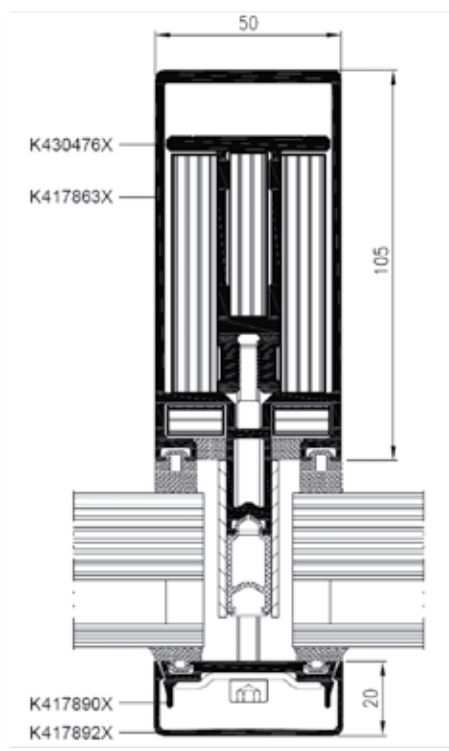
Mullion cross- section EI 15, EI 30

Mullion cross- section EI 45, EI 60

1 MB-SR50 EI

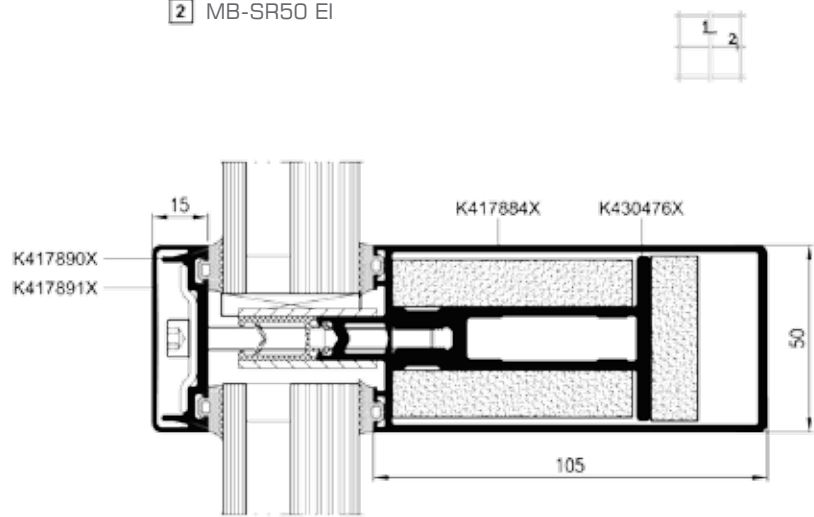


1 MB-SR50 EI



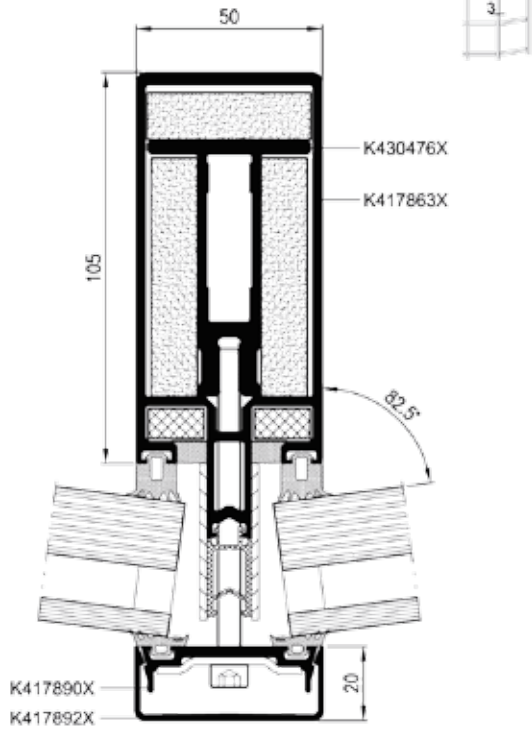
Transom cross-section EI 15, EI 30

2 MB-SR50 EI



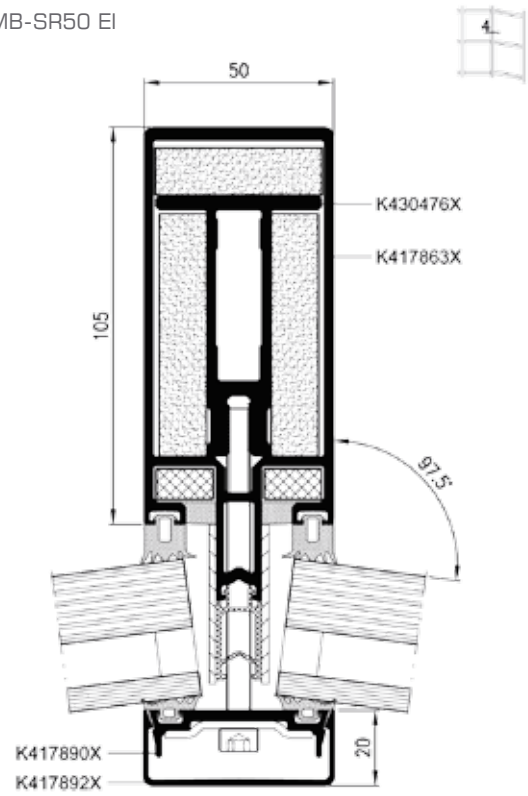
Mullion cross-section $(-7,5^{\circ}) \div 7,5^{\circ}$. EI 15, EI

3 MB-SR50 EI



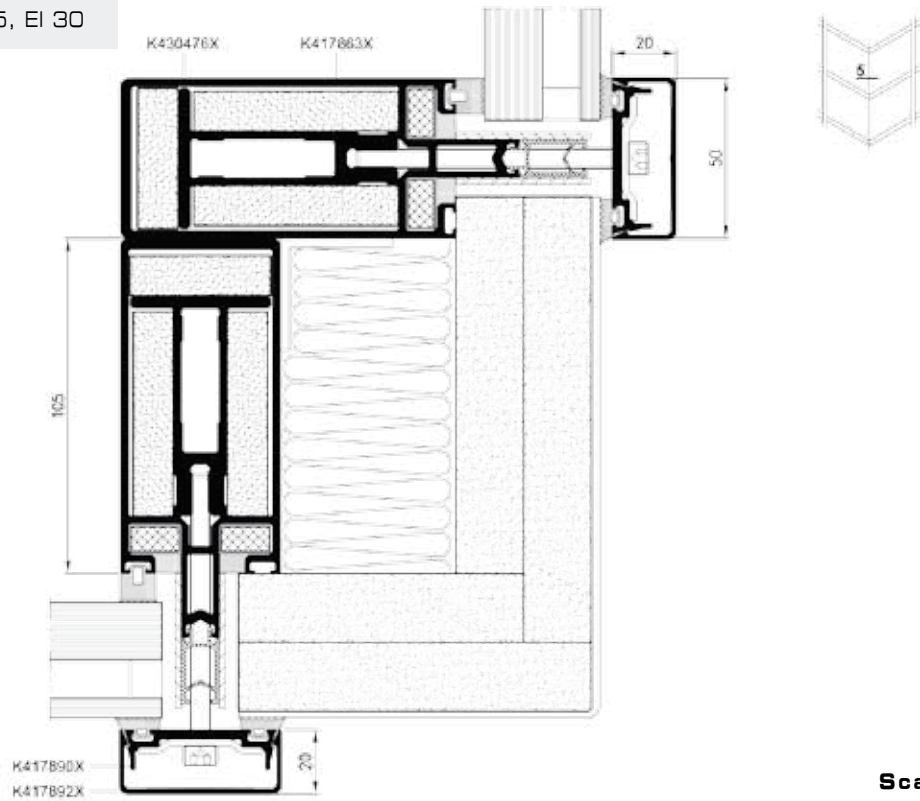
Mullion cross-section $(-7,5^{\circ}) \div 7,5^{\circ}$. EI 15, EI

4 MB-SR50 EI



Mullion cross-section 90° . EI 15, EI 30

5 MB-SR50 EI





MB-SR60N system is used for the construction of light curtain walls of the suspended and filling type, as well as roofs, skylights and other spatial structures. Support profiles have a fixed width of 60 mm and are flushed on the internal side. The system can utilize various types of opening parts in the curtain wall, a wide range of Aluprof door and window systems, as well as structures dedicated to mullion and transom curtain walls: roof windows or parallel tilting windows.

MULLION AND TRANSOM CURTAIN WALL SYSTEM

Construction and system features:

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 each other. On the external side, there are pressure plates securing the panes and finishing trims of a selected shape. The system also includes additional profiles, accessories for sealing or joining. In order to achieve optimum thermal and acoustic insulation, MB-SR60N includes a polyethylene break.

Curtain walls made in MB-SR60N are fixed to the building with a system of brackets selected for respective application and capacity. Appropriate drainage and ventilation of the curtain wall is ensured by an overlap between the mullion and transom to allow cascade drainage and ventilation of glazing rebates, as well as by drainage and ventilation openings made in the pressure plates and trims.

Technical parameters:

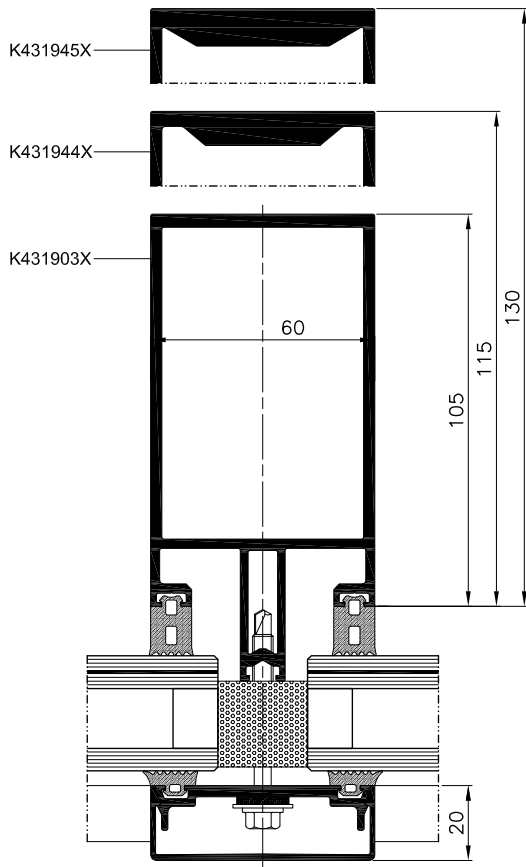
- Air permeability:
AE 1050 (EN 12152)
- Water tightness:
RE 1200 (EN 12154)
- Wind load resistance:
2,4 kN/m² (EN 13116)
- Impact resistance:
Class I5/E5 (EN 14019)



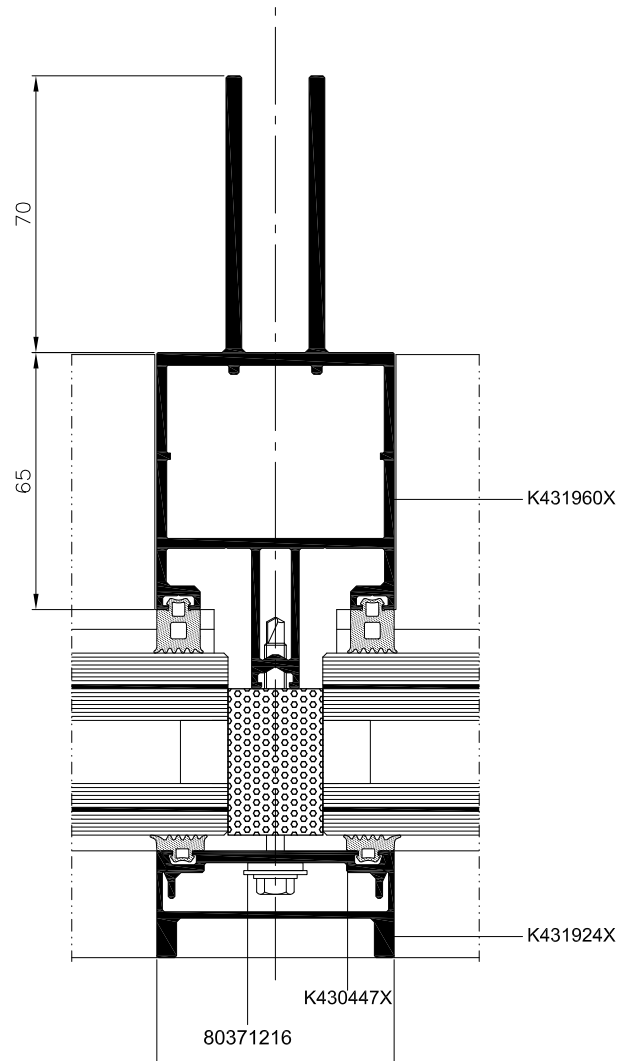
HILTON Hotel, Kiev, Ukraine

design / John Seifert Architects Ltd
realization / MIKOL

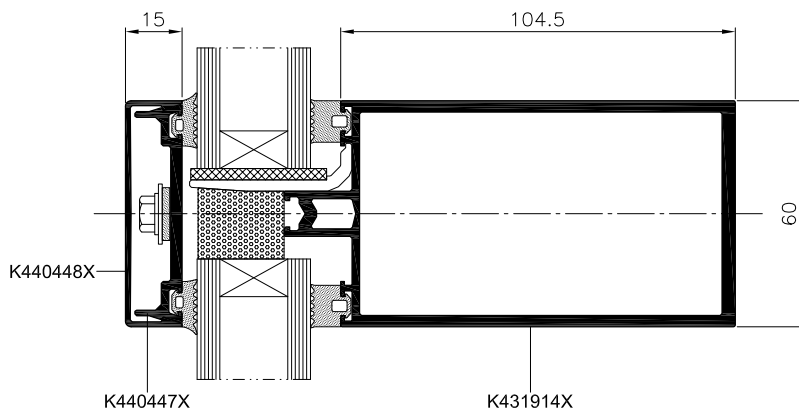
Mullion cross-section



Mullion cross-section - alternative solution



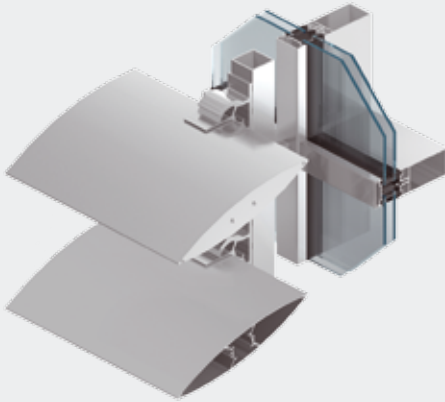
Transom cross-section



NEW

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



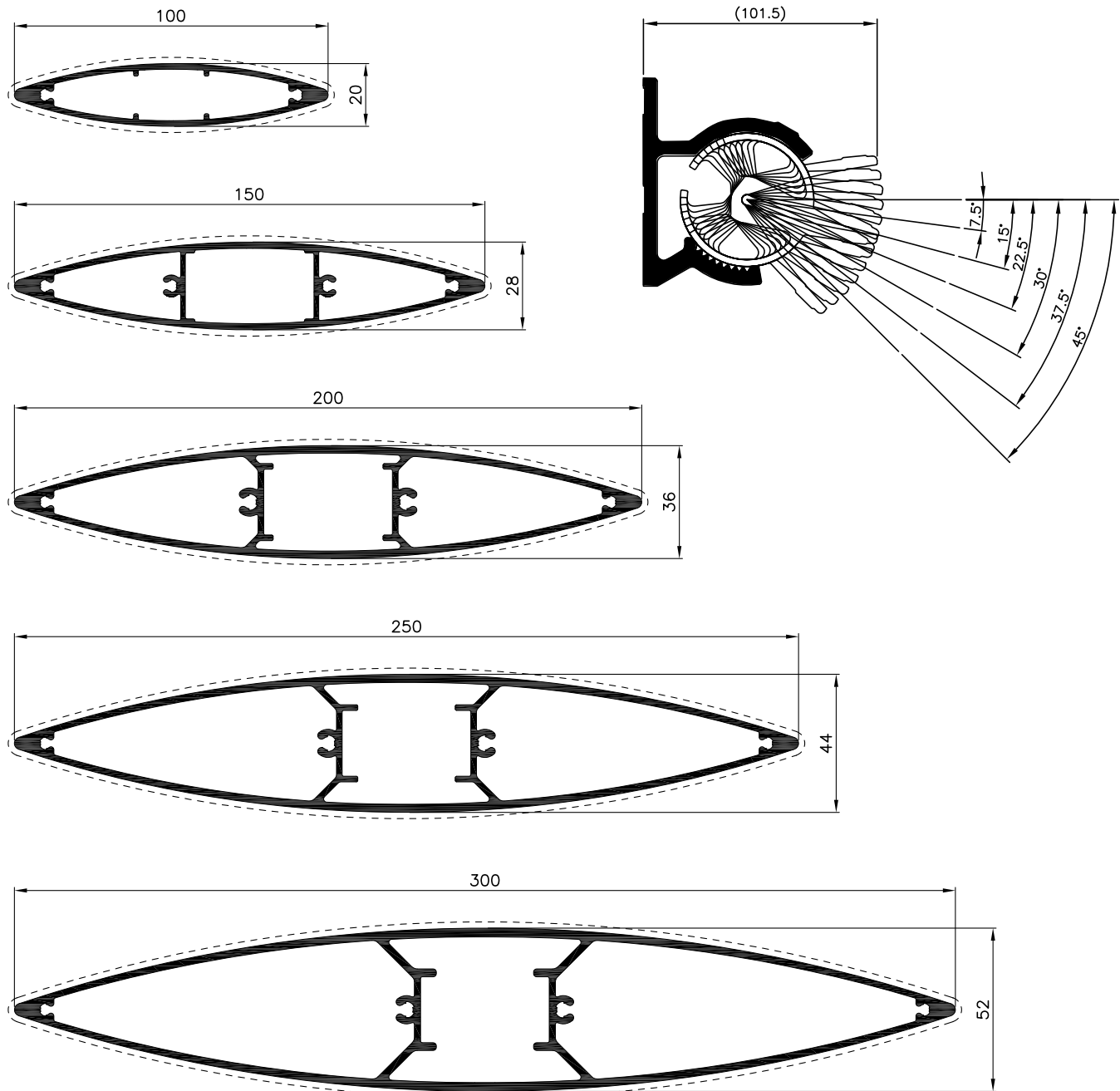
- Optimization of natural ventilation

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.

SCIENCE AND TECHNOLOGY PARK, Suwałki, Poland

design / ARH+, arch. Andrzej Rydzewski
realization / A&D

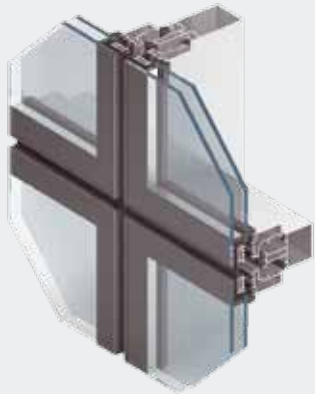
Brise soleil profiles



SYSTEM

MB-SG50

CURTAIN WALL SYSTEMS



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
realization / FAIR

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

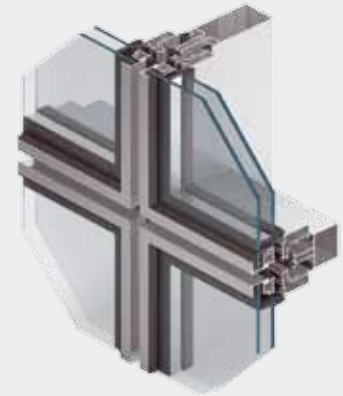
This externally beaded picture frame system provides a unique contemporary appearance, one of individually framed units on the curtain wall. The gap between adjacent frames is a desirable 16mm.

CIRRUS, Warsaw, Poland

design / Pracownia Bal, Chorążak i Partnerzy
arch. Jacek Bal, arch. Maciej Chorążak, arch. Łukasz Baran, arch. Ewa Filipowicz, arch. Marcin Nauman
realization / Eljako-Al, Legionowo



SYSTEM MB-SG50 SEMI



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.

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)

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.

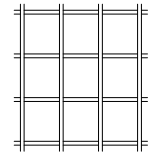
Glazing and installation under factory conditions

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.

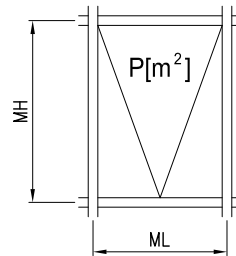


CIRRUS (Awning Window),
Warsaw, Poland

Max. dimensions in the curtain wall



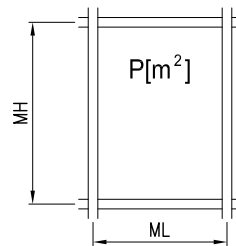
Outside opening window



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

- 180 kg

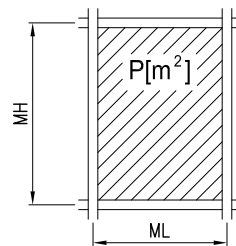
Fixed window, transparent



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

- 160 kg

Fixed window, cleaded



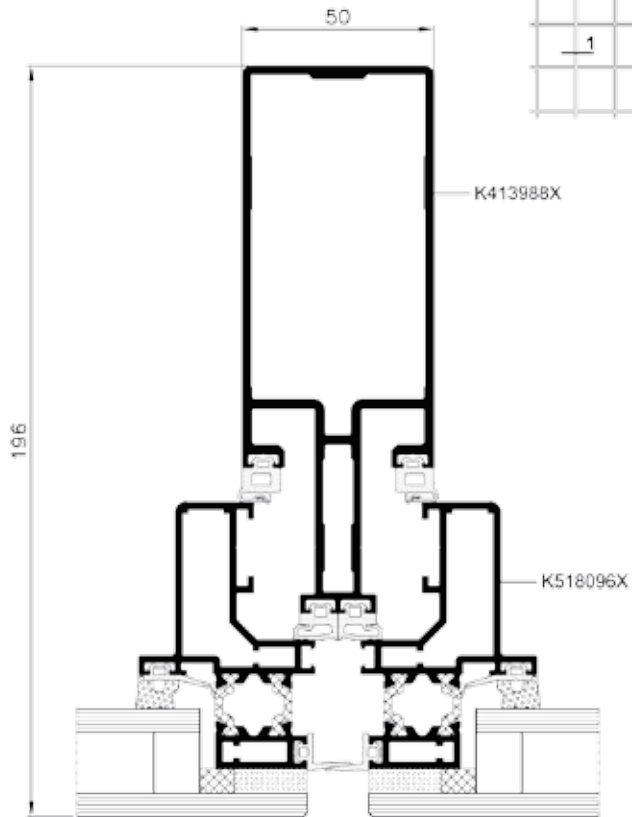
MHmax=2500 mm MHmin=500 mm
 MLmax=2000 mm MLmin=500 mm
 Pmax= 3,84 m²

- 160 kg

} Maximum weight of infills

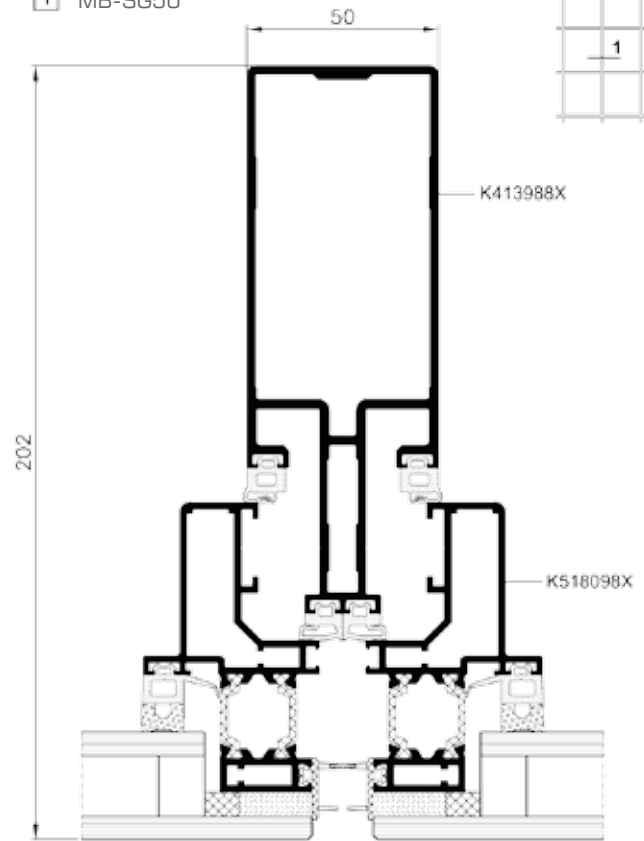
Mullion cross-section

1 MB-SG50



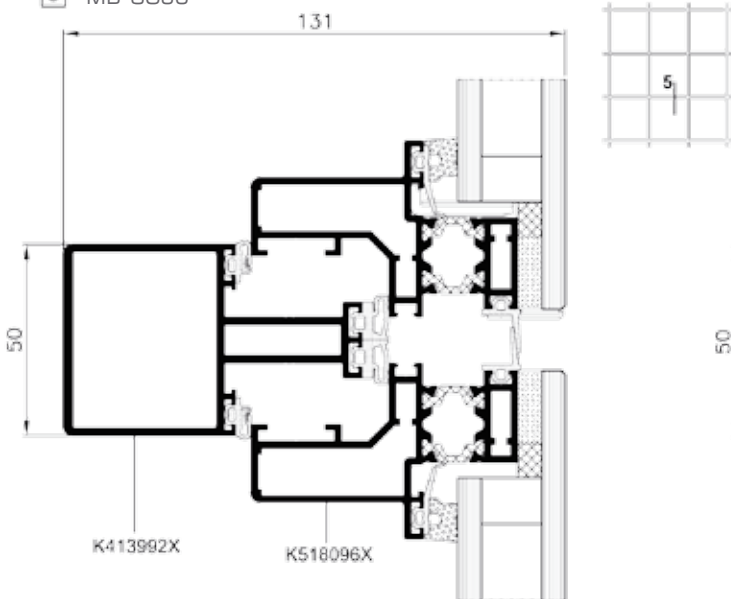
Mullion cross-section

1 MB-SG50



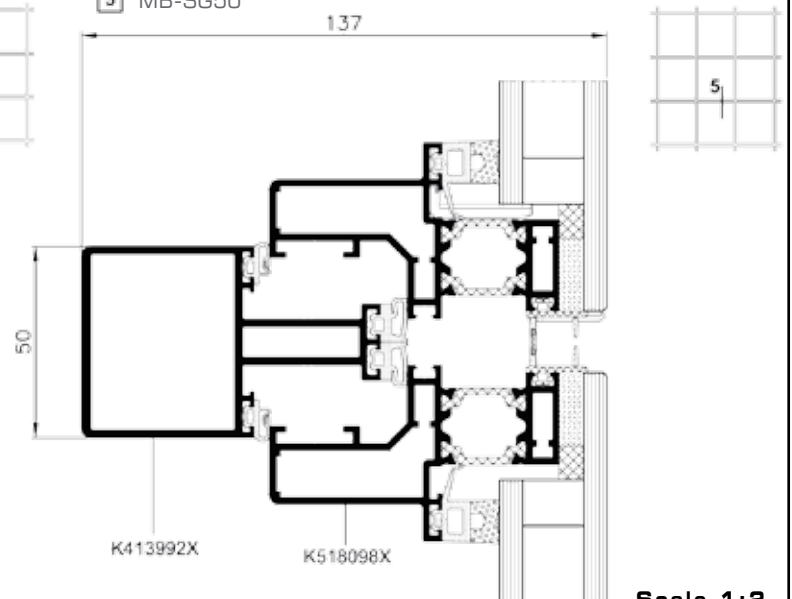
Transom cross-section

5 MB-SG50



Transom cross-section

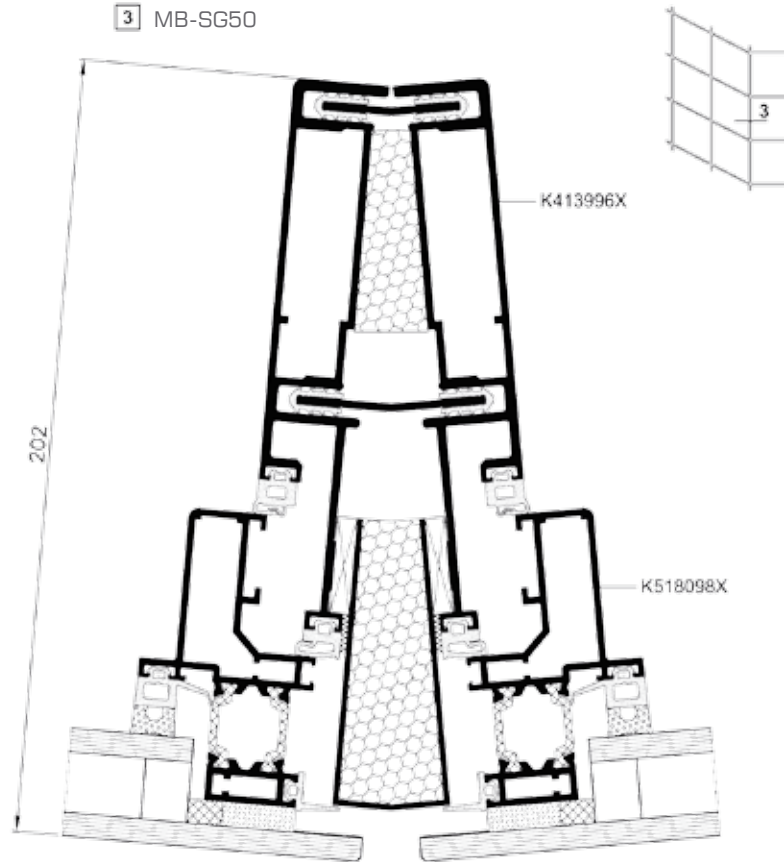
5 MB-SG50



Scale 1:2

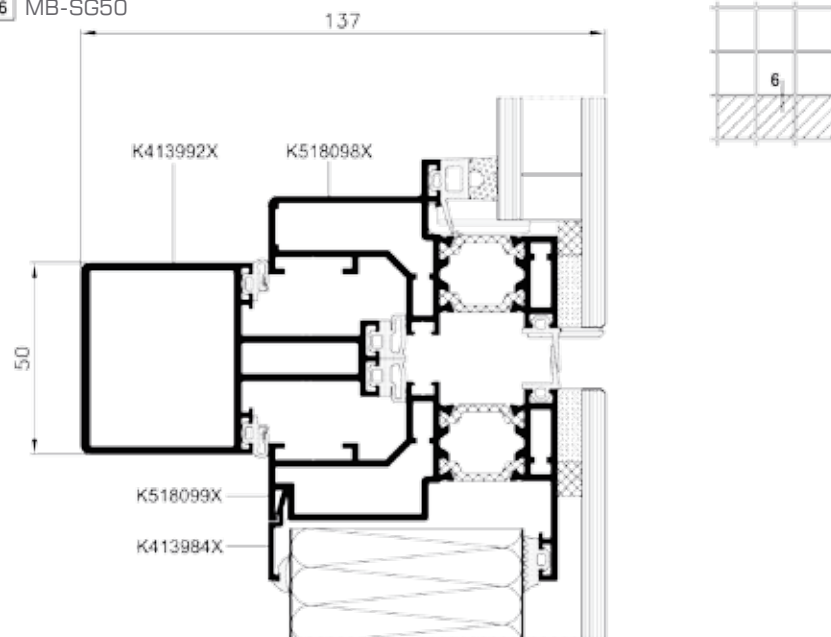
Half mullion - cross- section

3 MB-SG50



Non-transparent-panel cross-section

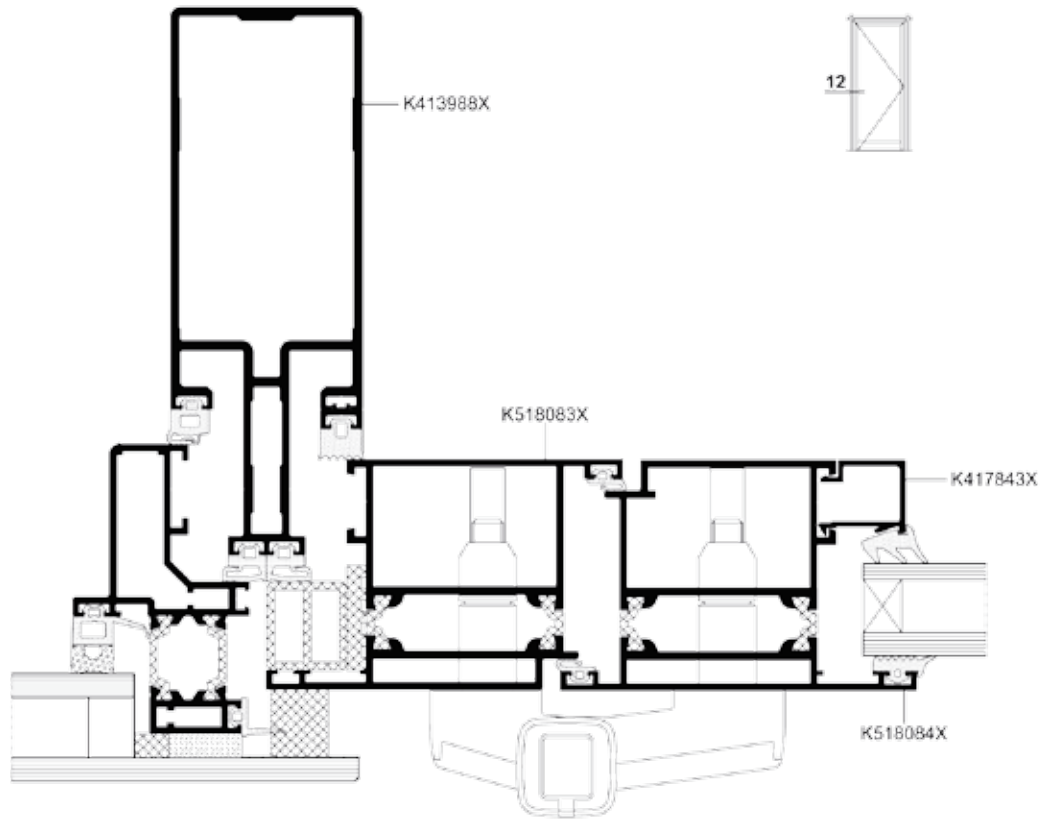
6 MB-SG50



Scale 1:2

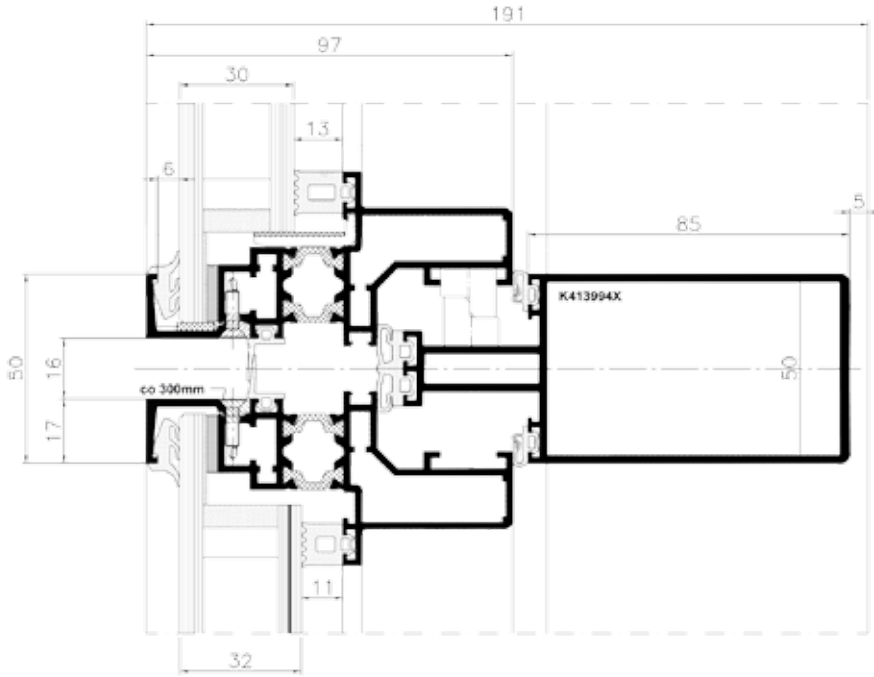
MB-60 door in a curtain wall
- cross- section

12 MB-SG50



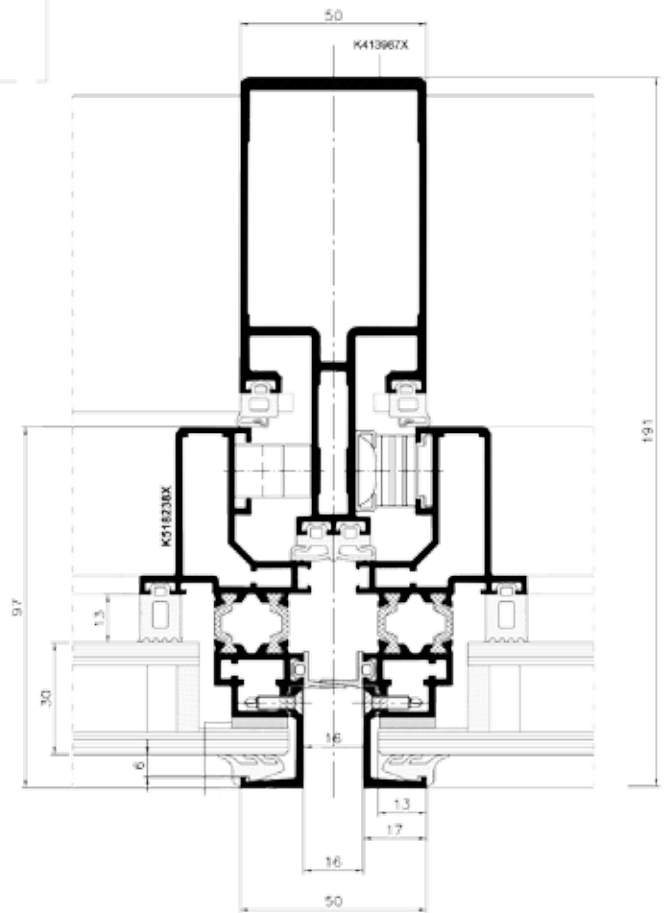
Transom cross-section

MB-SG50 SEMI



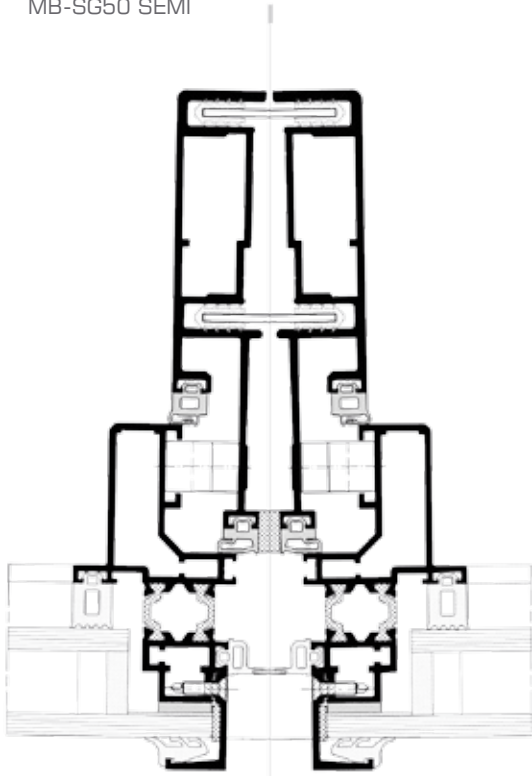
Mullion cross-section

MB-SG50 SEMI



Polygonal mullion cross-section

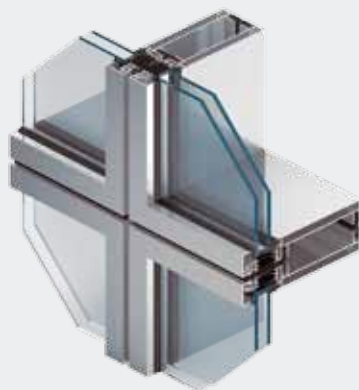
MB-SG50 SEMI



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+”

realization / Metalplast-Stolarka

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:

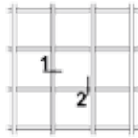
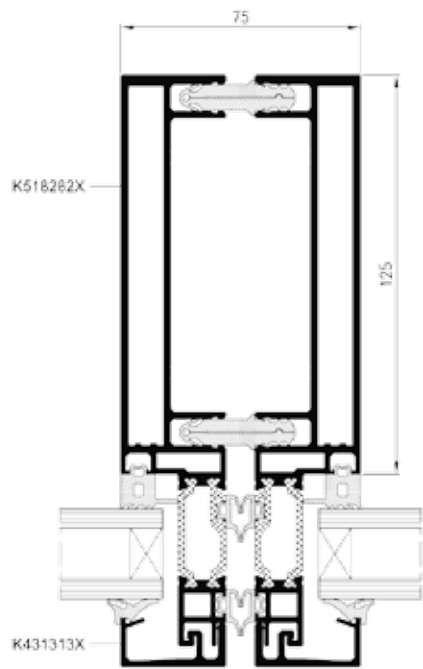
- Air infiltration:
Class AE1200, EN 12153:2003,
EN 12152:2004
- Water tightness: Class RE1200,
EN 12155:2003, EN 12154:2004
- Resistance to wind load
2400[Pa], EN 12179:2002,
EN13116:2004
- Impact resistance:
Class I5/E5, EN14019:2004
- Acoustic insulation:
R_w to 40 dB

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.

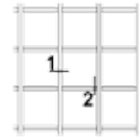
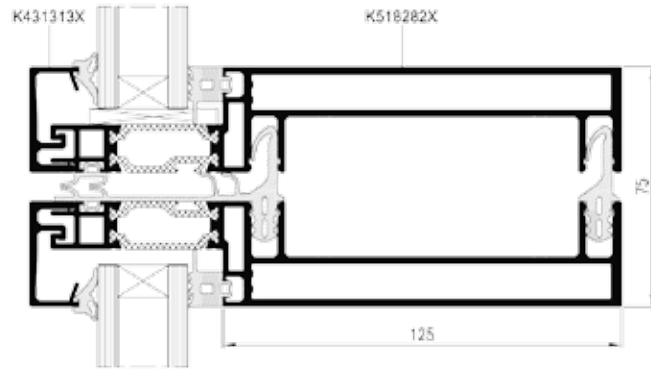
Mullion and transom cross- section

1 MB-SE75



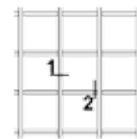
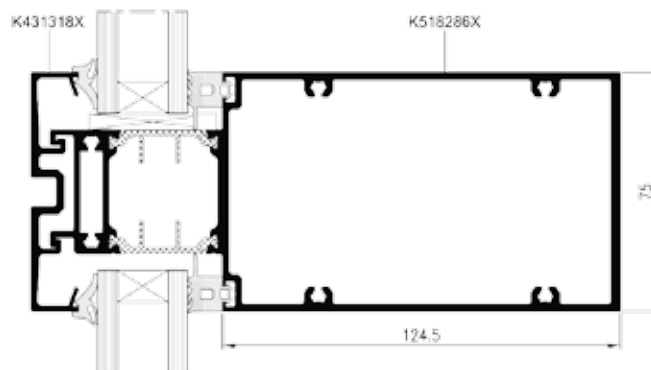
Mullion and transom cross- section

2 MB-SE75



Mullion and transom cross- section

2 MB-SE75



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.

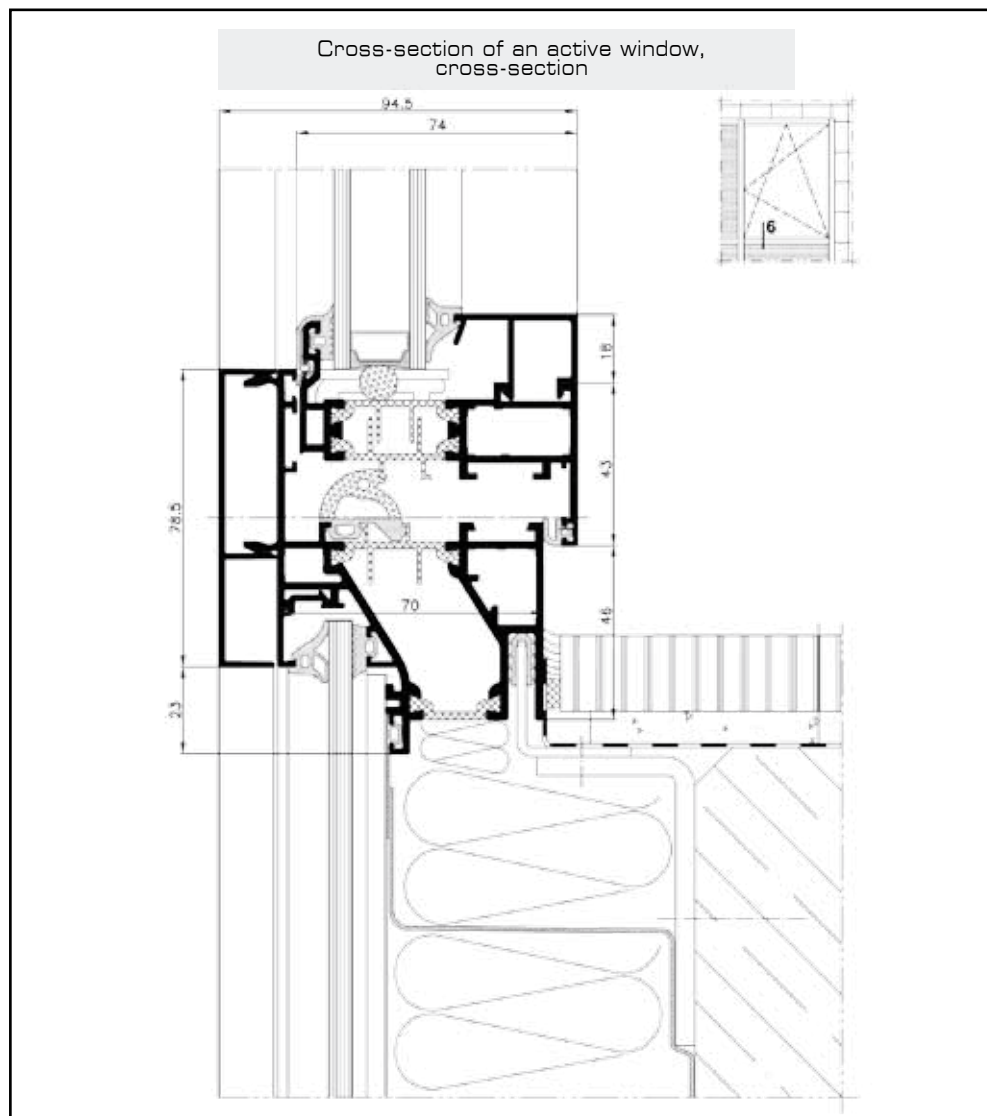
Application of this system significantly shortens the time of construction, thanks to the possibility of "closing" the window openings before completing the belts between the windows and the external finish of the curtain wall.

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

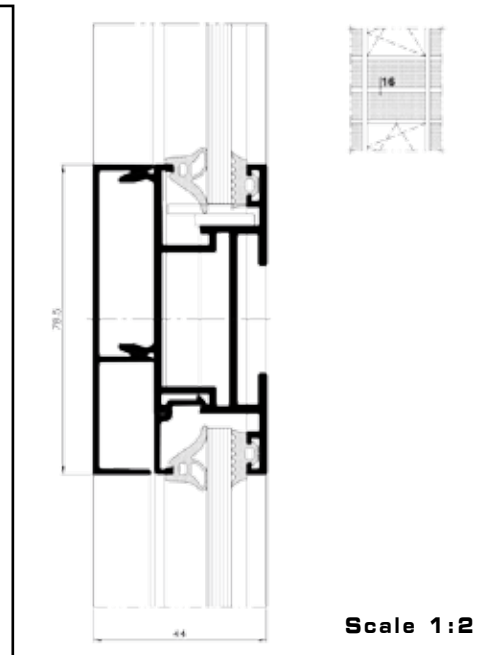
Technical parameters:

- 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

WINDOW CURTAIN WALL MB-70CW, MB-70CW HI



NEWTON/EDISON, Cracow, Poland
design / DDJM Biuro Architektoniczne
fabrication / AL-BUD

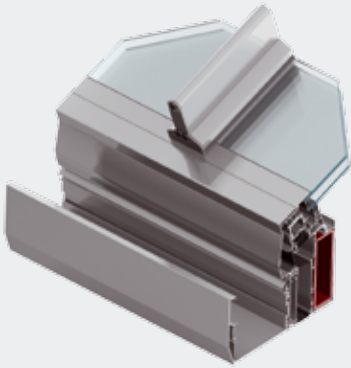


Scale 1:2

SYSTEM

MB-WG60

CURTAIN WALL SYSTEMS



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

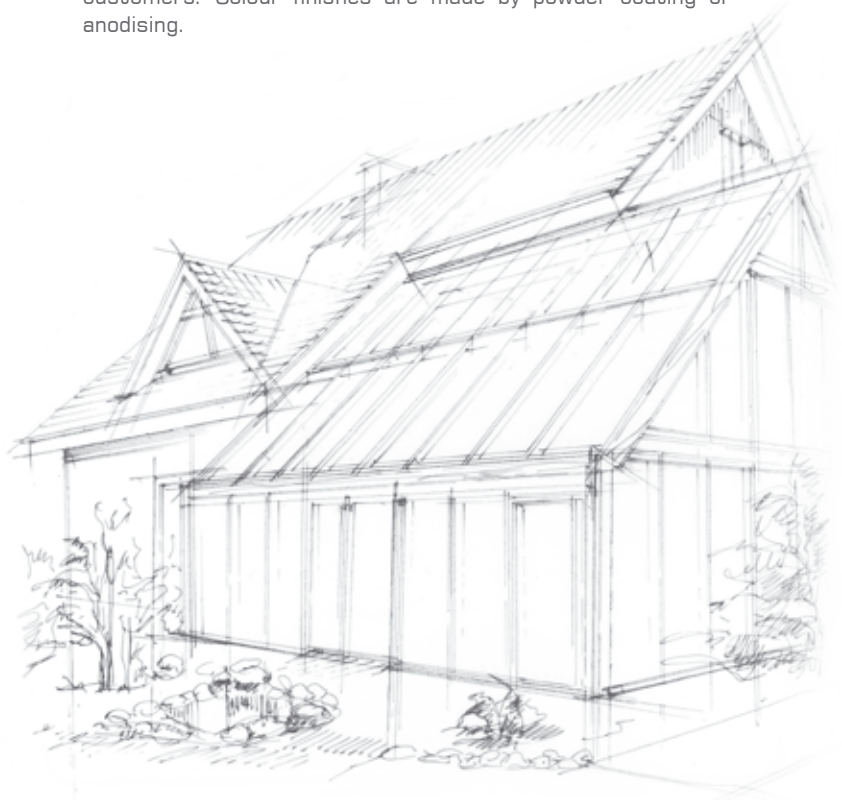
This system allows for the use of glazing range between 24-36 mm. To ensure efficient drainage of rainwater from the roof and condensed vapour from the inside of the room, the system has been equipped with an internal drip, integrated with the profile of eaves beam and hinge profile as well as with an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

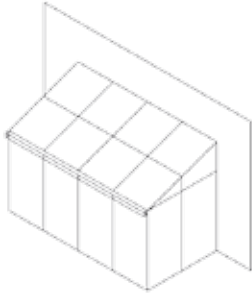
Colour palette

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.

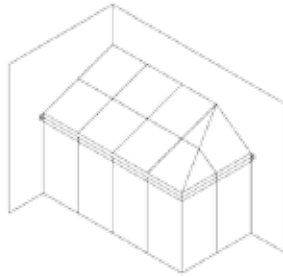


Standard constructions

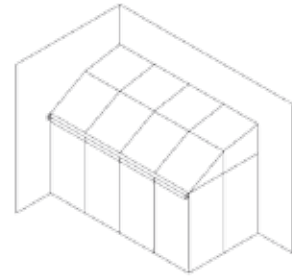
Type 1



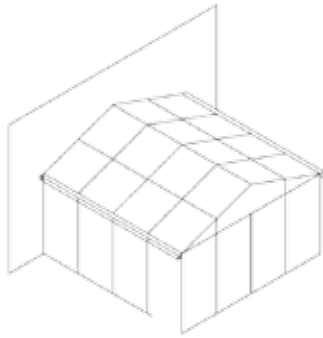
Type 2



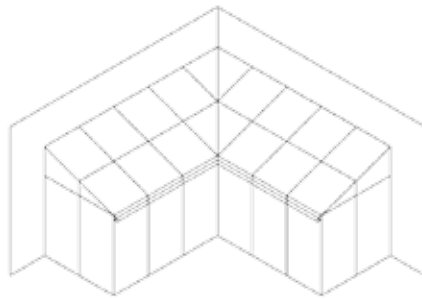
Type 3



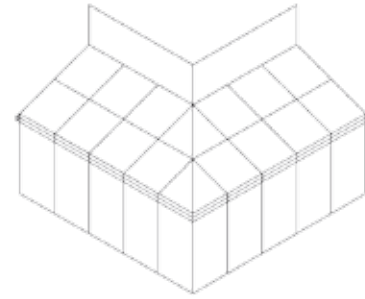
Type 4



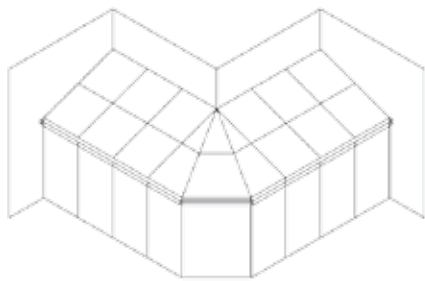
Type 5



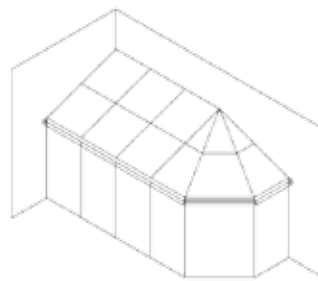
Type 6



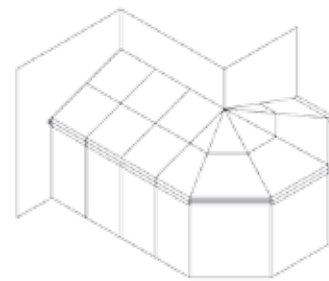
Type 7



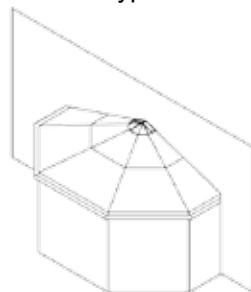
Type 8



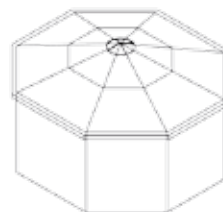
Type 9



Type 10

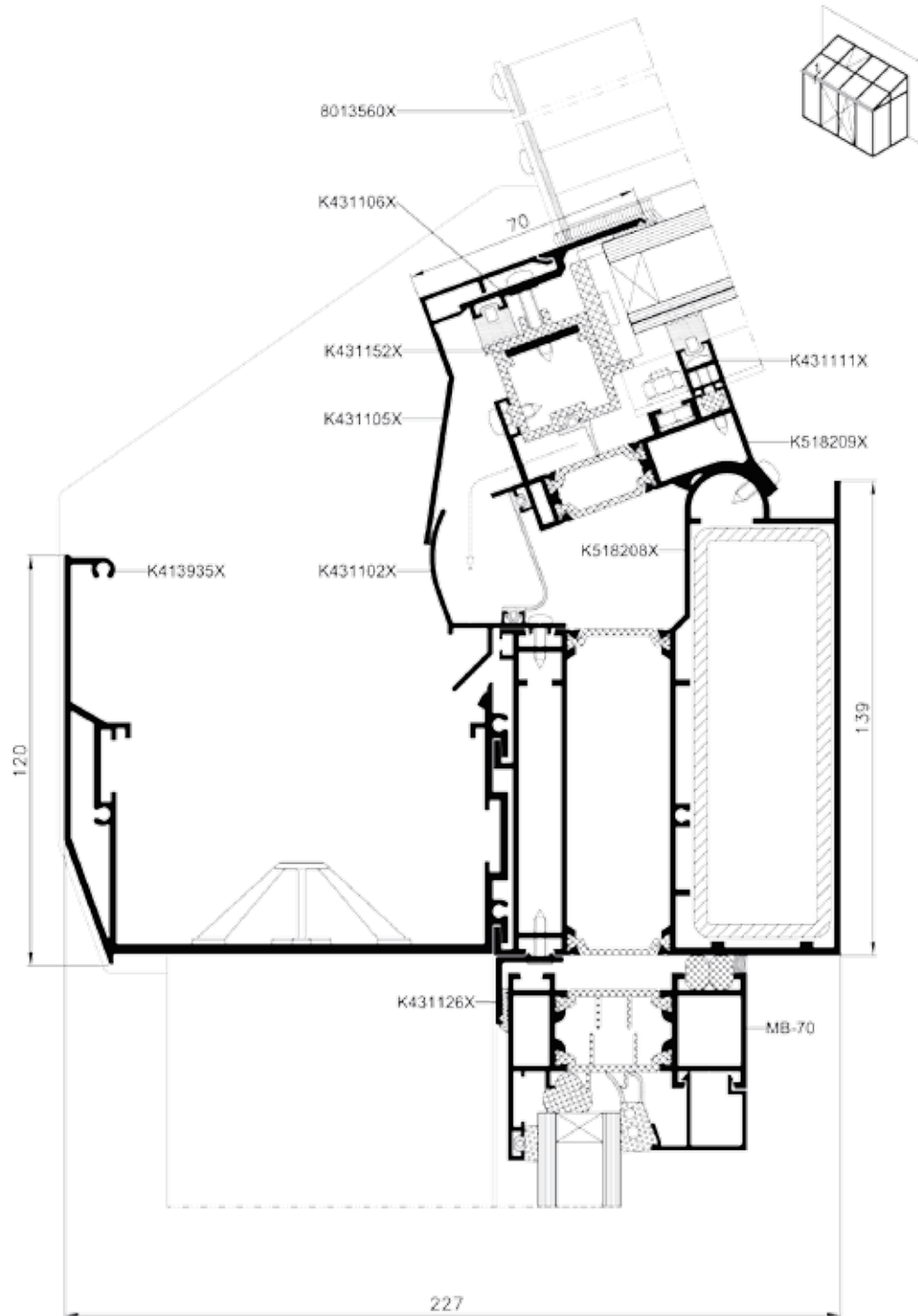


Type 11



Eaves beam cross-section

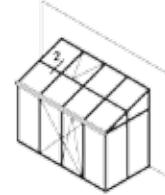
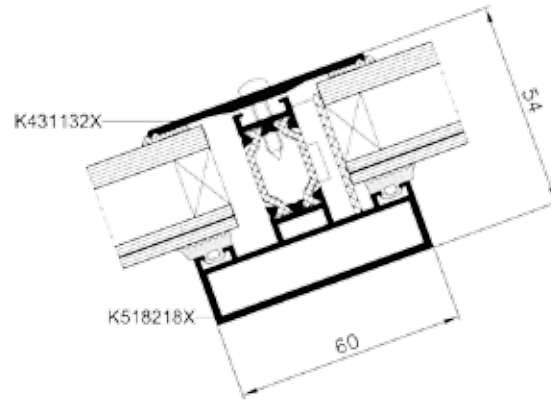
MB-WG60



Scale 1:2

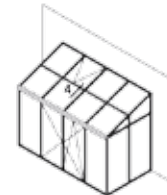
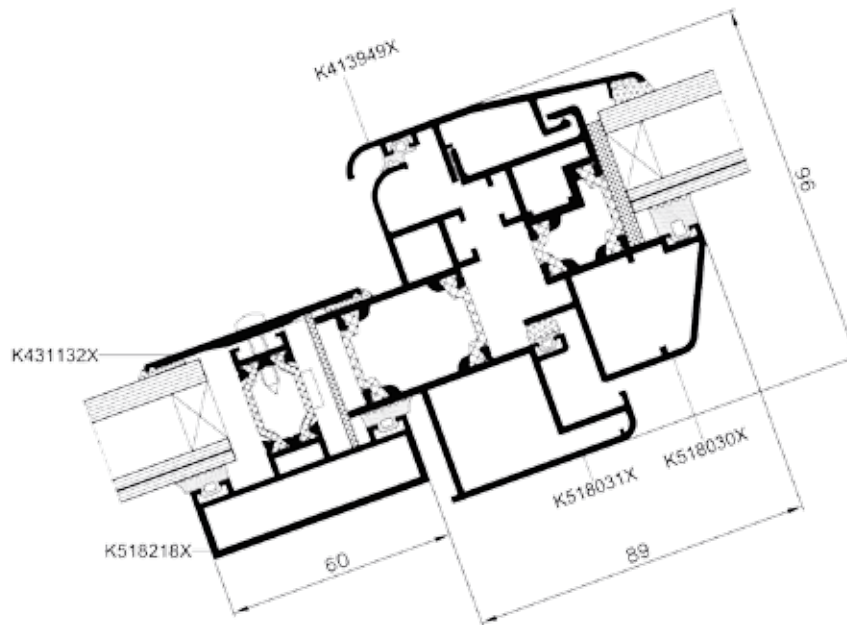
Purlin cross-section

MB-WG60



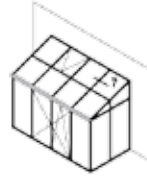
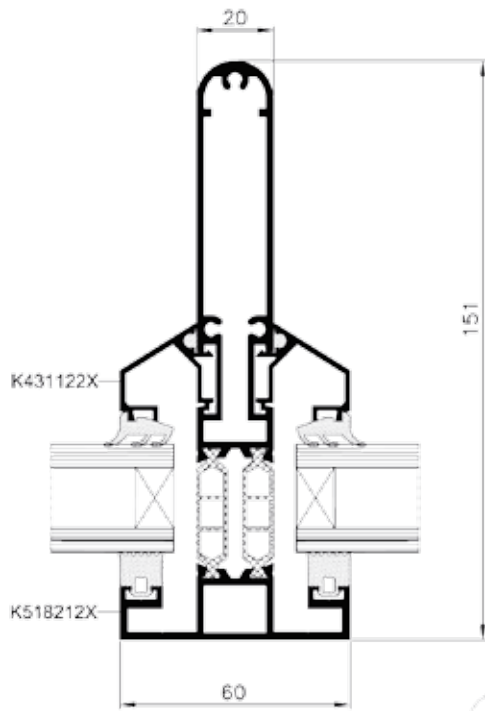
Purlin cross-section

MB-WG60



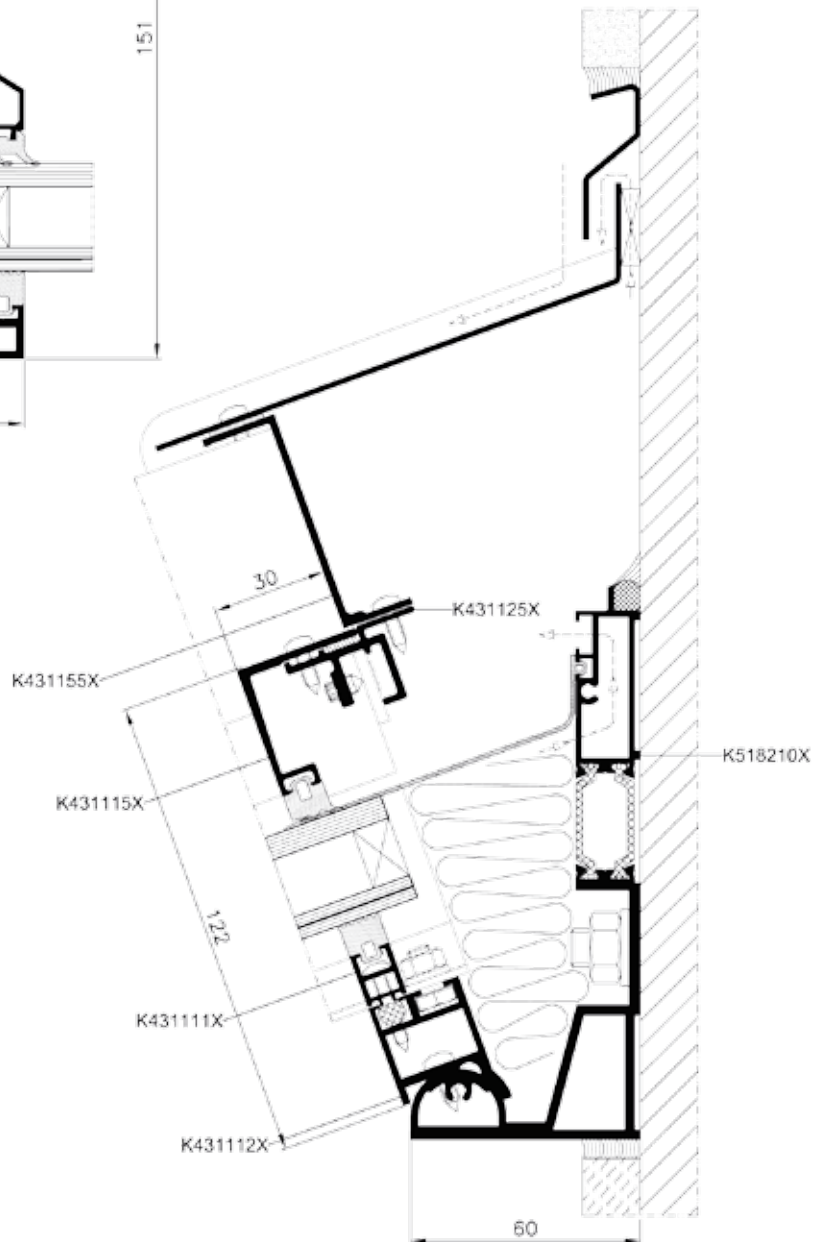
Rafter cross-section

MB-WG60



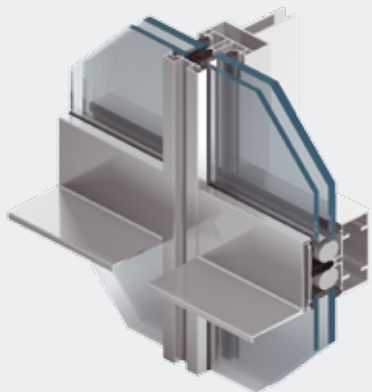
Wall beam cross-section

MB-WG60



Scale 1:2

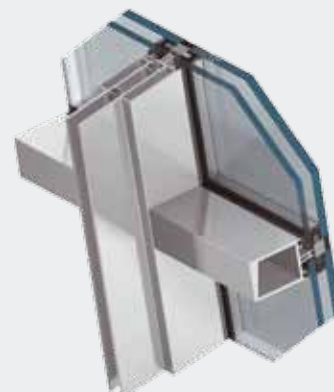
SYSTEM MB-SR80



SYSTEM MB-SR100



SYSTEM MB-SG60



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.

MB-SR100 is the basis for the curtain wall of the airport pier ground floor. It is made as a mullion and transom curtain wall. Its characteristic feature is the fact that the pressure plates and trims are installed horizontally. The visible external width of mullions and transoms is: 100 mm for intermediate profiles, 50 mm for peripheral profiles.

In the inclined curtain wall sections of the upper part of the airport pier, a reversed MB-SG60 structural wall was used. The visible external

width of mullions and transoms is 60 mm. The support structure is a reversed mullion and transom system, i.e. support aluminum profiles (mullions and transoms) are located on the external side, while on the internal side there is a smooth surface of structural glazing. The inclination angle with respect to the vertical plane is 10° outwards.

MB-SR100 is the basis for the curtain wall of the airport pier ground floor. It is made as a mullion and transom curtain wall. Its characteristic feature is the fact that the pressure plates and trims are installed horizontally. The visible external width of mullions and transoms is: 100 mm for intermediate profiles, 50 mm for peripheral profiles.

In the inclined curtain wall sections of the upper part of the airport pier, a reversed MB-SG60 structural wall was used. The visible external width of mullions and transoms is 60 mm. The support structure is a reversed mullion and transom system, i.e. support aluminum profiles (mullions and transoms) are located on the external side, while on the internal side there is a smooth surface of structural glazing. The inclination angle with respect to the vertical plane is 10° outwards.

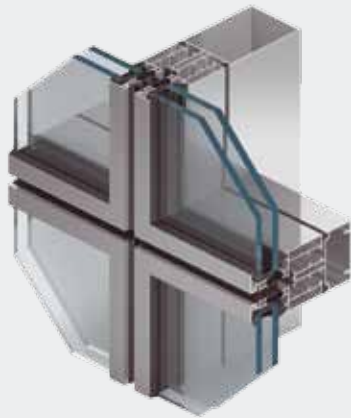


WARSAW CHOPIN AIRPORT, Warsaw, Poland

design / arch. Pierluca Roccheggiani, arch. Paweł Czaplicki
realization / Metalplast Stolarka

NEW

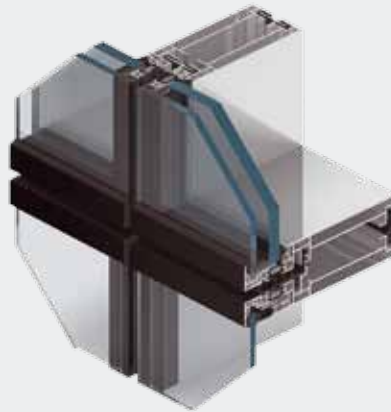
SYSTEM
MB-SR85 SEMI



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.

NEW

SYSTEM
MB-SE85 SG



The 212 m 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.

POMERANIAN SCIENCE AND TECHNOLOGY PARK,
Gdynia, Poland

design / AEC Krymow & Partnerzy



SKY TOWER, Wrocław, Poland

design / Biuro Architektoniczne FOLD
realization / Metalplast-Stolarka

The visible width of mullions and transoms is 18 mm. A characteristic feature is the method used for fixing the glazing: structural sealants on mullions and pressure plates on transoms. The strong point of the structure is also its sealing system consisting of multi-chambered seal located between the vertical elements, U gasket between the transom rails and joint seals. Apart from the fixed glazing panels, the curtain wall includes specially designed awning windows operable with electrical actuators.

