aliplast
aluminium systems

curtain walls systems

Aluminium systems
for building industries

www.**aliplast**.pl

curtain walls systems

Contents:

Curtain walls systems

Aluminium facade systems are designed for the construction of modern curtain walls. This is a solution that can be applied to the design of modern facades of public buildings as well as private projects and residential homes.

The offer of integrated window systems available makes facade systems functional and practical solutions. The technical capabilities of the Aliplast facade systems also facilitate the construction of glazed roofs, skylights and glazed spatial structures.

The wide range of solutions available (MC WALL, MC PASSIVE+, MC GLASS or the modular facade system) allows architects to shape the building facade at will.

The Aliplast facade systems are distinctive with very good thermal insulation, a large glazing range, and the availability of a wide range of mullions and transoms adapted to the static requirements. The extensive range of masking trims and the possibility of using angled connections offers a variety of visual effects for the aluminium curtain wall, making it possible to bring a modern and individual design to the aluminium facade.

Curtain walls systems provide a variety of design options. The facade sun screens (Sun Protection, SunFas) change the appearance of a facade, adding an interesting and modern touch, and have a great potential for creating a modern and distinctive external appearance for a building. These solutions combine durability, thermal as well as visual comfort, aesthetics and functionality.

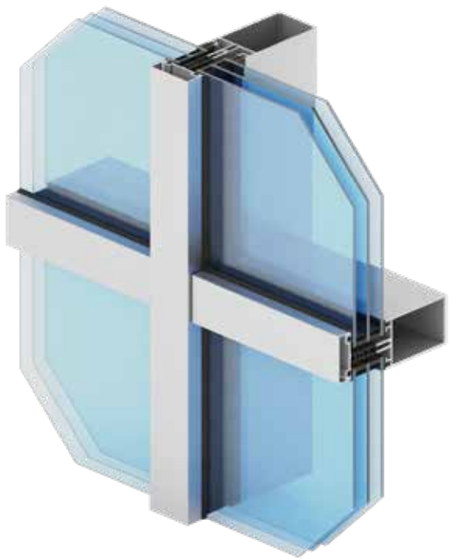
The design of the aluminium facade profiles provides unlimited design possibilities. Because of the properties of aluminium (lightness and strength), it is possible to create three- dimensional structures of different shapes and large overall dimensions, which provides great design freedom for design engineers and architects.

Vector+
Warsaw, Poland
Architect: J.S.K. Architekci
Producer: ALDOM BUD

Sejm Committees' Building
Warsaw, Poland
Architect: Stelmach i Partnerzy
Producer: ELJAKO-AL

curtain walls systems

MC **WALL**



system characteristics

_ a mullion-transom system used to design modern curtain walls whose shapes are simple and complex
_ the system is a basis for facade structures: MC PASSIVE+, MC GLASS and MC FIRE, MC GLASS FIRE (a solution for fire protection)
_ the MC Wall system offers many possibilities of creating the installation; the system offers structures to be opened on the facade: parallel windows (MC PW) and roof windows (MC RW)
_ mullion-transom visual width: 55 mm
_ a wide range of mullions and transoms suitable for static requirements
_ the insulators can be built accordingly to the infill thickness
_ application of vapour-proof and breather membranes on the perimeter of the facade is easier, in accordance with new guidelines for installation of aluminium structures
_ a wide range of decorative cover caps makes it possible to obtain varied visual effects on the curtain wall
_ the option of bending profiles (detailed specification of profiles and detailed technical parameters of profile bending process are available in the customer area of the website www.aliplast.pl)
_ a wide range of colours – RAL palette (Qualicoat 1518), texture colours, Aliplast Wood Colour Effect (wood-like colours), Aliplast Loft View – colours imitating stone surfaces (Qualideco PL-0001), anodised colour (Qualanod 1808), bi-colour

technical specification

system	material	depth mullion	depth transom	glazing range	mullions rigidity	transom rigidity	acoustic
MC WALL	aluminium	10-326 mm	10-294 mm	0-89 mm**	10,2-4092 cm4*	7,0-1831,1 cm4*	45 (-2,-5) dB

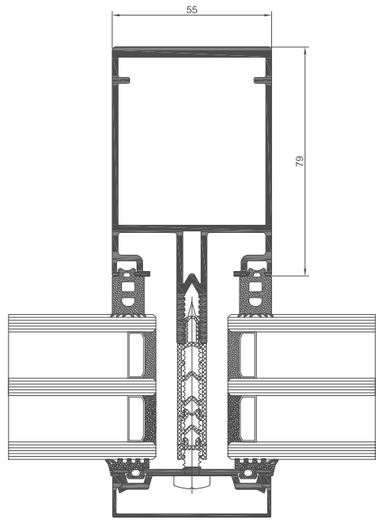
* There is a possibility to use additional reinforcements

** MC Wall glazing of a flat profile MC055 from 5-89 mm / profile MC056 from 20-89 mm

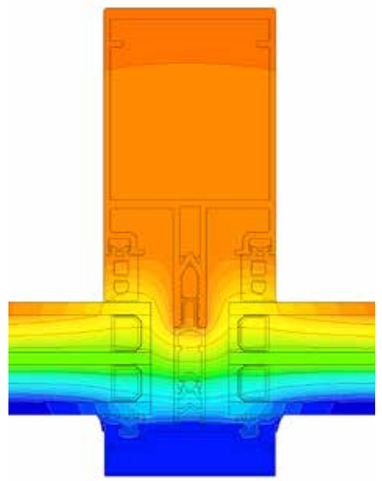
performance

system	thermal insulation Uf*	air permeability	windload resistance	watertightness
MC WALL	Uf from 0,84 W/m^{2}K	Class AE1500; EN 12152	Class 2600Pa; EN 13116	Class RE1950; EN 12154

* Thermal insulation is dependent on a combination of profiles and thickness of the filling



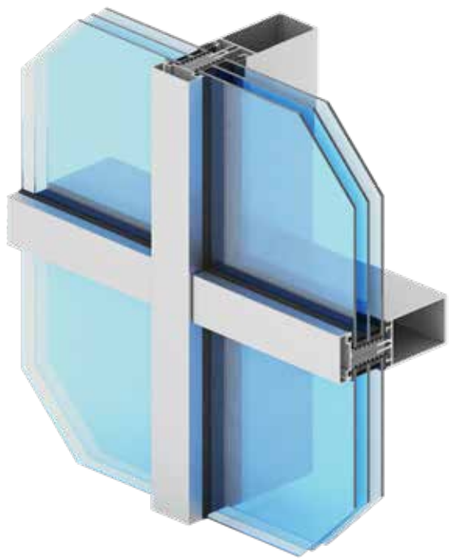
MC WALL mullion cross section (MC413)



distribution of isotherms for the MC WALL system (MC413)

curtain walls systems

MC **PASSIVE+**



system characteristics

_ a mullion-transom system used to design modern curtain walls whose shapes are simple and complex, with the best thermal performance ensured
_ MC PASSIVE+ offers basic features and possibilities available with MC WALL structures
_ MC PASSIVE+ offers one of the highest technical parameters among aluminium facade systems available on the market to respond to needs of the energy-saving and passive building industry the improved thermal performance results from application of a new insulator made of innovative materials, which made it possible to obtain an even better heat-transfer coefficient – Uf starting at 0,61 W/m^{2}K
_ mullion-transom visual width: 55 mm
_ a wide range of mullions and transoms suitable for static requirements
_ a wide range of decorative cover caps makes it possible to obtain varied visual effects on the curtain wall
_ the option of bending profiles (detailed specification of profiles and detailed technical parameters of profile bending process are available in the customer area of the website www.aliplast.pl)
_ a wide range of colours – RAL palette (Qualicoat 1518), texture colours, Aliplast Wood Colour Effect (wood-like colours), Aliplast Loft View – colours imitating stone surfaces (Qualideco PL-0001), anodised colour (Qualanod 1808), bi-colour

technical specification

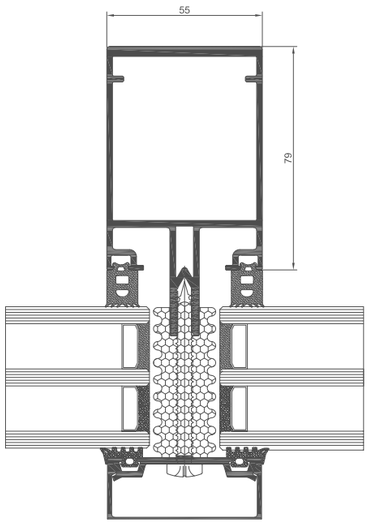
system	material	depth mullion	depth transom	glazing range	mullions rigidity	transom rigidity	acoustic
MCP+	aluminium	10-326 mm	10-294 mm	25-79 mm	10,2-4092 cm4*	7,0-1831,1 cm4*	45 (-2,-5) dB

* There is a possibility to use additional reinforcements

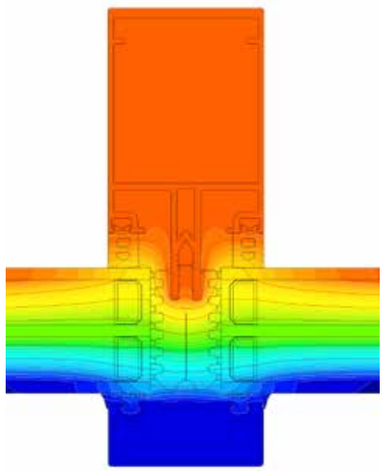
performance

system	thermal insulation Uf*	air permeability	windload resistance	watertightness
MCP+	Uf from 0,61 W/m^{2}K	Class AE1300; EN 12152	Class 2600Pa; EN 13116	Class RE1500; EN 12154

* Thermal insulation is dependent on a combination of profiles and thickness of the filling



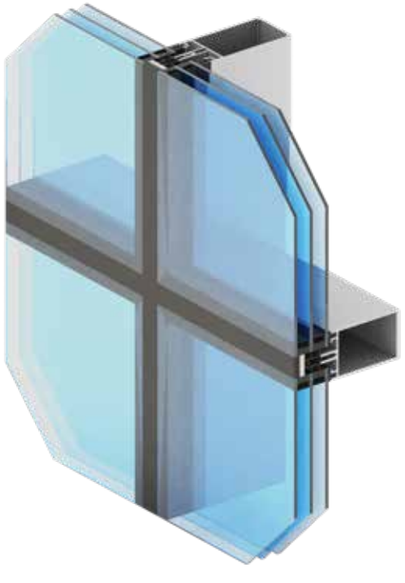
MC PASSIVE+ mullion cross section (MC413)



distribution of isotherms for the MC PASSIVE+ system (MC413)

curtain walls systems

MC **GLASS**



system characteristics

_ the semi-structural facade system; it is used to design facade structures which create a flat surface on the outside without any visible aluminium profiles
_ MC GLASS includes curtain walls without any visible external aluminium elements; on the outside only glass infills separated by structural silicone gaps are visible
_ glazing units have special profiled pockets and gutters in which mounting plates are installed to fasten infills to the curtain wall frame
_ the system features very good thermal performance (Uf starting at 0,66 m^2K); such a result can be obtained since innovative insulating materials are used
_ mullion-transom visual width: 55 mm
_ a wide range of mullions and transoms suitable for static requirements
_ the facade makes it possible to obtain various appearance versions, in particular the so-called horizontal or vertical line
_ a wide range of decorative cover caps makes it possible to obtain a modern and individual design of the facade
_ a wide range of colours – RAL palette (Qualicoat 1518), texture colours, Aliplast Wood Colour Effect (wood-like colours), Aliplast Loft View – colours imitating stone surfaces (Qualideco PL-0001), anodised colour (Qualanod 1808), bi-colour

technical specification

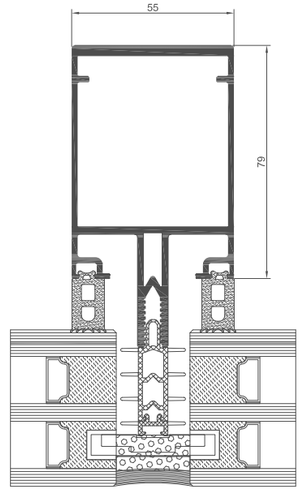
system	material	depth mullion	depth transom	glazing range	mullion rigidity	transom rigidity
MC GLASS	aluminium	10-326 mm	10-294 mm	30-89 mm	10,2-4092 cm4*	7,0-1831,1 cm4*

* There is a possibility to use additional reinforcements

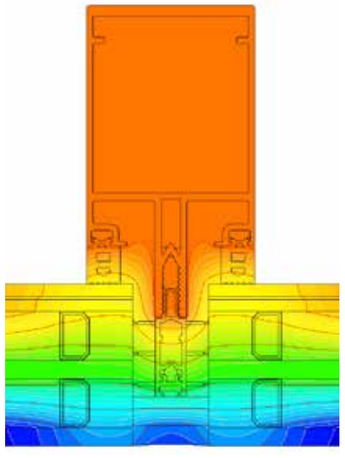
performance

system	thermal insulation Uf*	air permeability	windload resistance	watertightness
MC GLASS	Uf from 0,66 W/m^2K	Class AE1300; EN 12152	Class 2000Pa; EN 13116	Class RE1800; EN 12154

* Thermal insulation is dependent on a combination of profiles and thickness of the filling



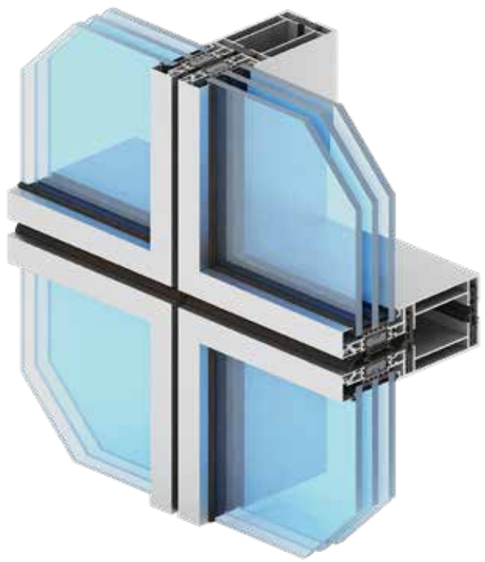
MC GLASS mullion cross section (MC413)



distribution of isotherms for the MC GLASS system (MC413)

curtain walls systems

MODULAR **FACADE**

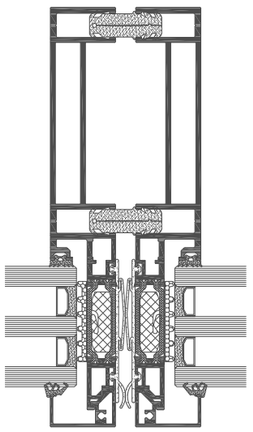


system characteristics

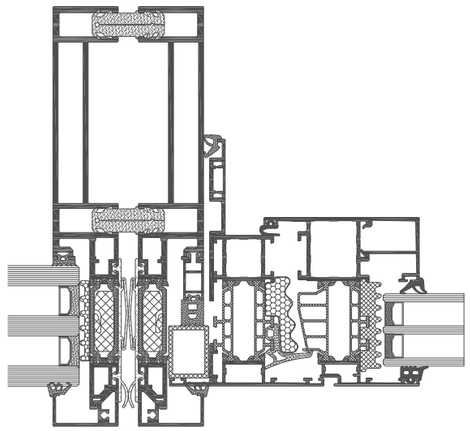
_ the system is designed for constructing external vertical facades featuring improved thermal insulation; the system consists of prefabricated segments of aluminium profile frames with glass infill (or other material) to be installed on site, together with joints sealed with appropriate EPDM gaskets
_ the segments can be made as single or double (with a centre stud); the limited number of segments reduces the total installation time
_ the system can also be installed in segments of window and door structures available within the aluminium systems offered by Aliplast
_ in addition, the system can be installed within the depth of facade profiles on the internal glazing side, sun exposure protection systems such as shutters and blinds
_ in order to improve strength parameters of the profiles, they can be reinforced with aluminium or steel flat bars and shaped sections inserted into profile chambers; dimensions of the chambers are selected accordingly to be able to use commonly available standard flat bars and shaped sections
_ high tightness parameters are possible by the application of EPDM gaskets; internal glazing seals are selected based on the glazing table; expansion seals on segment joints create 4 sealing barriers
_ high thermal performance is ensured by 42 mm polyamide (or Noryl) thermal inserts in profiles;the space within the profiles between the thermal inserts is filled with insulating material sheets
_ the prefabrication of segments takes place entirely at the workshop; the segments are fixed to the primary building structure using brackets which comprise aluminium elements joined with stainless steel screws to adjust the position of the segments being fixed in three directions; bracket fixing to the building structure requires a strength analysis of the fasteners (anchors, screws) by an authorised design engineer
_ a wide range of colours – RAL palette (Qualicoat 1518), texture colours, Aliplast Wood Colour Effect (wood-like colours), Aliplast Loft View – colours imitating stone surfaces (Qualideco PL-0001), anodised colour (Qualanod 1808), bi-colour

technical specification

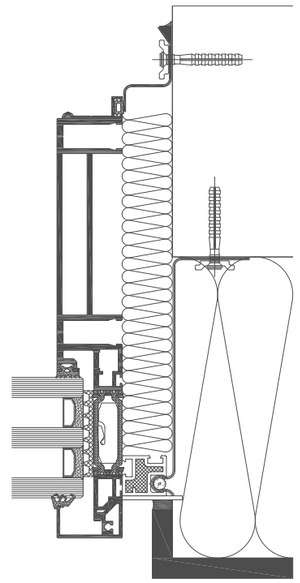
system	material	width profiles	width centre profiles (mullions and transoms)	width of the special transom profile	glazing range	thermal insulation Uf*
MS	aluminium	75 mm (once installed) for vertical profiles 85 mm (once installed) for horizontal profiles	75 mm	55 mm	6-60 mm	Uf from 1,09 W/m²K



connection between modules in the MS system (MS102)



combinatrion of the GN75 window system and the MS system (MS102 + GN010 + GN020)



connection of the MS system with the building structure (MS102)

MC **PW**

PARALLEL WINDOW

system characteristics

_ a parallel window system used to design windows which are positioned in parallel to facade when opened
_ MC PW is a three chamber system with thermal insulation; it is optional to use additional insulating components to improve thermal aspects of the structure (under-glass inserts, inserts between thermal separators)
_ the sash is moved outwards using special scissors mechanism adapted to that purpose; the arrangement of scissors mechanisms and their number depends on the window sash size and glass weight; the scissors mechanism can be used together with multi-point hardware locking points suitable for the overall dimensions, which significantly improves window tightness
_ the window can be opened manually using two opposite handles or electrically by means of special servo-motors suitable for that purpose
_ the system ensures optimum ventilation in the room; once moved out, the sash enables free airflow in both directions: inwards and outwards; compared to traditional windows, this solution offers more optimum air circulation and much better comfort of use
_ the MC-PW windows can be designed as top-hung (the lower part is lifted outwards)
_ with this solution, uniform appearance of the aluminium-glass wall can be maintained when the window is opened; when the sash moves on the facade, an interesting architectural effect is obtained
_ a wide range of colours – RAL palette (Qualicoat 1518), texture colours, Aliplast Wood Colour Effect (wood-like colours), Aliplast Loft View – colours imitating stone surfaces (Qualideco PL-0001), anodised colour (Qualanod 1808), bi-colour

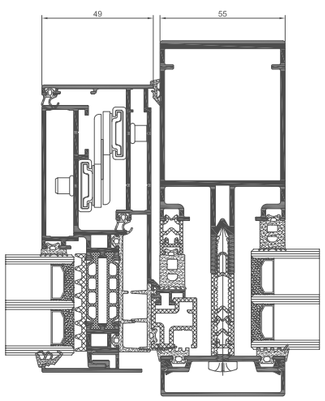
technical specification

system	material	depth of frame	depth of leaf	glazing range	type of windows	type of glazing
MC PW	aluminium / polyamid	117 mm	98-115,3 mm	24-52 mm	parallel window	structural, glazing strip

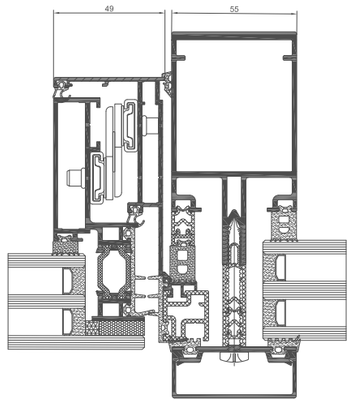
performance

system	thermal insulation Uf*	air permeability	windload resistance	watertightness
MC PW	Uf from 1,65 W/m²K	Class 4; EN 12207	C5 (2000Pa); EN 12210	E2400 (2400Pa); EN 12208

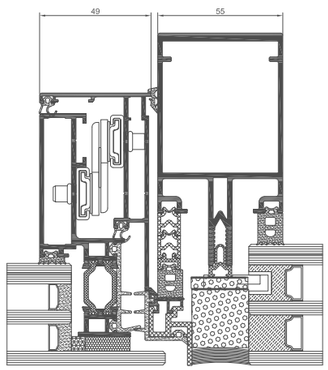
* Thermal insulation is dependent on a combination of profiles and thickness of the filling



MC PW cross sections MC PW
(MC047 + MC143 + MC413 + MC144 + DK053)



(MC047 + MC143 + MC413)

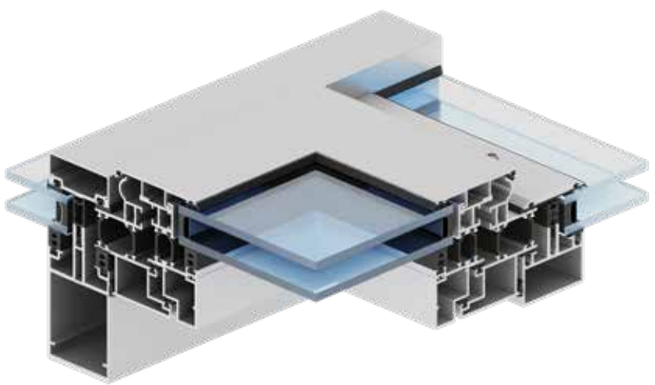


(MC048 + MC143 + MC413)

curtain walls systems

MC **RW**

ROOF WINDOW



system characteristics

_ the MC RW roof window is a solution based on the MC Wall facade system; this type of structures is used to design ventilation flaps
_ the window weight is limited by technical parameters of the applied opening mechanisms and hinges; the weight can be up to 150 kg
_ the MC RW is a three chamber system with thermal insulation; it is optional to use an additional insulating components to improve thermal aspects of the structure (under-glass inserts, inserts between thermal separators)
_ the structure can be installed on roofs with the pitch ranging from 5° to 75° relative to the horizontal
_ the MC RW roof window is fitted with an effective drainage and ventilation system integrated with the mullion-transom wall system
_ maximum structure dimensions:
- 2120 x 1120 mm – maximum total pane area: 1,9 m^2
(for this overall dimensions it is possible to use 6 ESG/16/442 glass)
- 1970 x 2070 mm – maximum total pane area: 3,48 m^2
_ the MC RW structure can be used with a wider range of closers available on the market; the MC RW roof window can be fitted with a manual or electrical opening mechanism
_ a wide range of colours – RAL palette (Qualicoat 1518), texture colours, Aliplast Wood Colour Effect (wood-like colours), Aliplast Loft View – colours imitating stone surfaces (Qualideco PL-0001), anodised colour (Qualanod 1808), bi-colour

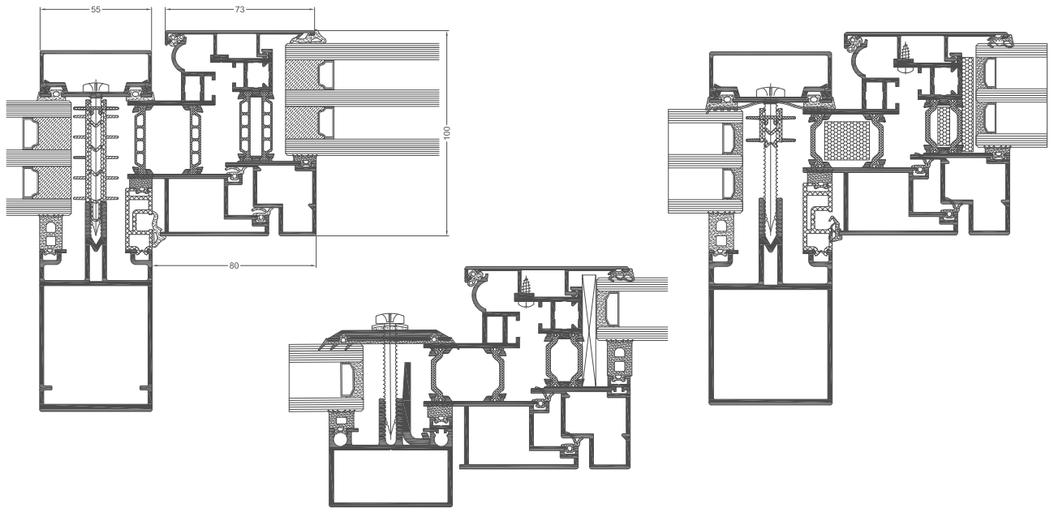
technical specification

system	material	depth of frame	depth of leaf	glazing range	type of windows	type of glazing
MC RW	aluminium / polyamid	87 mm	81 mm	28-56 mm	roof window	glazing strip

performance

system	thermal insulation Uf*	air permeability	windload resistance	watertightness
MC RW	Uf from 1,70 W/m^2K	Class 4; EN 12207	Class CE/BE 2400; EN 12210	Class E2100; EN 12208

* Thermal insulation is dependent on a combination of profiles and thickness of the filling



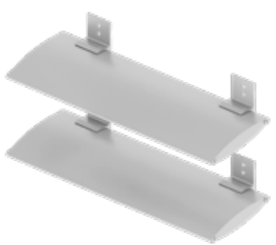
MC RW cross section, sash and transom connections (MC413 + MC311 + MC321)

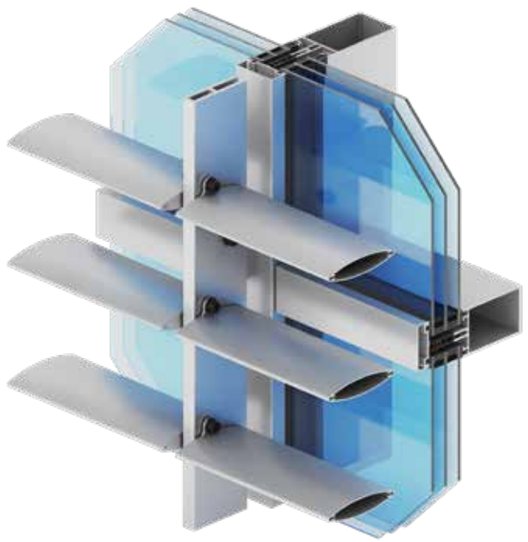
MC RW cross section, sash and transom connections (MC530 +MC310 + MC320)

MC RW cross section, sash and transom connections (MC011 + MC310 + MC320)

curtain walls systems

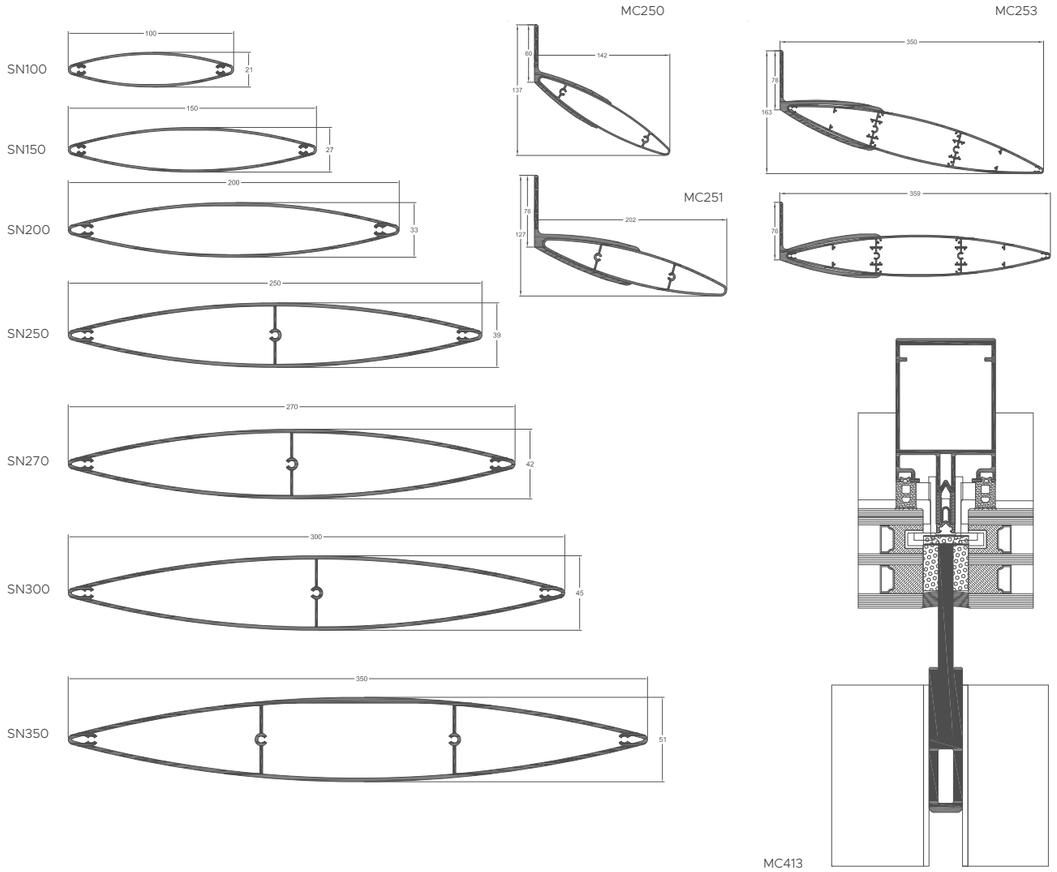
SUN
PROTECTION





system characteristics

_ facade-mounted aluminium solar shading devices; to be installed on facades, on mullion-transom curtain walls
_ shading devices available in many sizes: 100, 150, 158, 200, 250, 270, 300 and 350 mm
_ fixed brackets – angle of inclination: 0°, 14°, 15°, 30°, 45°, 60°, 75°
_ option of vertical and horizontal installation
_ option of direct installation on the building facade
_ the installation is possible not only on straight walls, but also in places where the facade changes in direction
_ all elements of aluminium shading devices are characterised by high strength and resistance to weather conditions
_ facade-mounted solar shading devices change the look of facade by providing it with an interesting and modern character; they provide a great potential in creating a modern and vivid external appearance of the building; Sun Protection devices combine durability, thermal and optical comfort as well as aesthetics and functionality
_ a wide range of colours – RAL palette (Qualicoat 1518), texture colours, Aliplast Wood Colour Effect (wood-like colours), Aliplast Loft View – colours imitating stone surfaces (Qualideco PL-0001), anodised colour (Qualanod 1808), bi-colour



Abaton
Poprad, Slovakia
Architect: Radoslav Ivan - ateliér Archstudio
Producer: TATRASPOL J s.r.o.

BIOK LAB
Lithuania
Architect: 2L Architects
Producer: Stiklo konstrukcijos

Modern Office
Kaunas, Lithuania
Architect: UAB Simper
Producer: FORTISIMA - aliuminio konstrukcijos

Shopping Center "Olawska"
Oława, Poland
Architect: Firma Budowlano – Projektowa "KOWALSKI - SYSTEM"
Producer: ITT Aluminium

Mercedes-Benz
Koszalin, Poland
Architect: BP Ewa Zemła
Producer: ALUSTER S.C. K. Skiba, R. Skiba

CDV – eN Studios
Poznań, Poland
Architect: Grzegorz Czerwiński / Easst architects
Producer: Glaspro Sp. z o.o.

Business Center WPB
Olsztyn, Poland
Architect: ROŻEN & ROŻEN Pracownie Autorskie Urbanistyki i Architektury
Producer: IZIMAT - Andrzej Łaszczych

ClubHouse
Szczecin, Poland
Architect: Orłowski, Szymański – Architekci
Producer: Elastico Sp. z o.o.

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