

CURTAIN WALLS

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METRA
Italian Style Emotions



METRA. ADDING VALUE TO YOUR HOME



Curtain Walls

METRA. Design, Colour, Emotion.
Italian style desired the world over.

METRA's integrated systems have been created in order to provide quality solutions to any architectural and aesthetic need of the contemporary era. METRA's systems supply comfort and security to your dwelling space.

METRA's systems are characterized by: a vast range of colours, accessories, design complements, anti-break devices, automation and ergonomic design. Thermic insulation and a certified installation system ('Posa Clima') guarantee long lasting durability and energy saving.

People dreaming of their own house, dream of METRA's window and door frames.



METRA. THE ONLY COMPANY TO OFFER A COMPLETE RANGE OF PRODUCTS



Curtain Walls

OUR SERVICE ALWAYS CLOSER TO CUSTOMERS

METRA's toll free number is always available in order to support your ideas, suggesting new solutions and finally directing you to Metra's point of sale. Metra's pre and after sale service will always help you in each phase: from your frame choice to installation, from cleaning advice to traceability of your frame history.

DESIGN AND STYLE

METRA's window and door frames include a wide range of aesthetic styles, adding thus value to the traditional and contemporary dwelling spaces, preserving in this manner the original features of buildings restored conservatively. The latest creations provide more luminosity to living spaces thanks to the tapered shapes and the reduced thickness of profiles.

DESIGN COMPLEMENTS

METRA's design complements are offered in a wide range of coordinated shapes distinguished by the original style capable of satisfying and harmonising the aesthetic requirements of any kind of dwelling environment.

Metra's accessories guarantee enhanced performances to one's own window and door frames.

FINISHING

A huge variety of finishing, resistant and chromatically surprising! From metallic colours to sand effects, opaque, glossy.....up to natural wood surface cladding the heart of aluminium.

THE CHOICE OF ALUMINIUM

Aluminium is becoming ever more present in our lives: from simple cans to high-speed trains.

Aesthetically agreeable, malleable, extremely resistant and 100% recyclable.

Aluminium is the ideal material for the creation of windows and doors.

GREEN

METRA is engaged in a low environmental impact production and all its products are Eco-friendly to the maximum extent.

METRA'S POINT OF SALE

METRA's point of sale is the place where people enter with a dream and make it come true.



Poliedra-Sky frees the creativity of designers, stimulating the development of innovative concepts of space and light.

Poliedra-Sky is not just aesthetics but also innovative technology for the realization of complex geometrical shapes in combination with glass, stone, wood and composed materials.

The ideal application is the realization of huge glazed surfaces, in particular the fabrication of transparent tops and dormer windows. The system rightly owes its name to the many-sided constructive and applicative features.

Aesthetics and applications

The versatility of METRA systems enable the realization of structures with high technology and great aesthetics, as the connections to the main building can be personalized with additional structures made of steel, wood, etc.

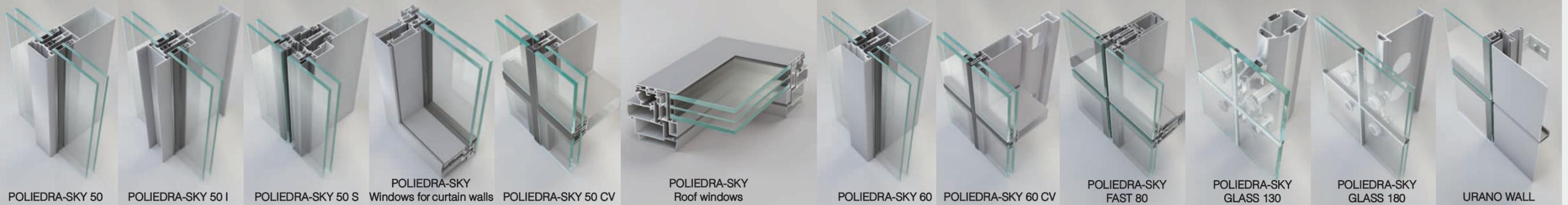
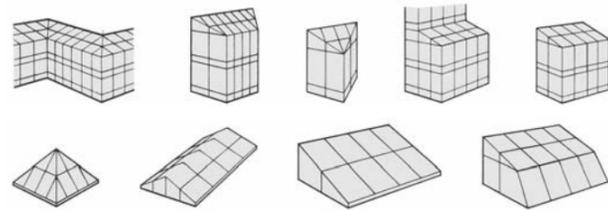
offering the guaranty of the maximum flexibility for all customer's requirements and an optimal equilibrium of the whole building.

Ideal applications in the residential buildings are the huge glazed surfaces such as verandas, winter gardens, stairwells, dormer windows where the utilisation of the curtain wall enables a significant increase of incoming light and energy saving.

Unlike what happened in the past, today the buildings covered with curtain walls require more and more advanced and complete integrated systems in order to enable the realization of particular geometrical shapes, sometimes even complex, and obtain from the external cover dynamic and aerial aesthetics.

For its features in terms of aesthetics, tightness and energy saving, the Poliedra-Sky system can be used both in new buildings or in renovations, by the replacement or integration of new volumes.

Utilisation



POLIEDRA-SKY 50 POLIEDRA-SKY 50 I POLIEDRA-SKY 50 S POLIEDRA-SKY Windows for curtain walls POLIEDRA-SKY 50 CV POLIEDRA-SKY Roof windows POLIEDRA-SKY 60 POLIEDRA-SKY 60 CV POLIEDRA-SKY FAST 80 POLIEDRA-SKY GLASS 130 POLIEDRA-SKY GLASS 180 URANO WALL

With the use of suitable profiles and accessories, the system enables the realization of vertical and inclined integrated curtain walls such as:

Traditional curtain walls with cover in view
made of mullions and transoms with captured glazing (pressor)
Poliedra-Sky 50, 50i, 60

Structural / Semi-structural curtain walls
made of mullions and transoms with gluing or captured frames and glazing
Poliedra-Sky 50S, 50CV

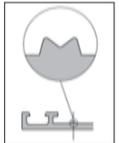
Point-load supported curtain walls
made of mullions and glazing fixed by stainless steel anchorage devices (brackets)
Poliedra-Sky Glass 130/180

Unit curtain walls
made of self-bearing elements with structural gluing or captured glazing
Poliedra-Sky Fast 80

Ventilated curtain walls
made of structures suitable for the realization of envelopes with blind or glazed panels
Urano Wall

METRA Quality

Purchasing METRA trademark profiles and accessories gives the security of using materials that guarantee the highest performances and durability. METRA systems have been certified by the most important European test laboratories, reaching results at the highest levels.



Take no substitute, demand original profiles, easily recognizable by mark "M" present on the internal part of the windows and on each accessory. Remember that the accessory is integrating part of the system and only with the original accessories marked METRA you can obtain high performances. Moreover, METRA is one of the first Italian Companies

which obtained a trademark on its products in order to recognize them easily and protect its customer. The quality of METRA systems is also guaranteed by the European Trademark certified productive processes and by the Company quality system certified by RINA in conformity with standard ISO 9001:2008.



Poliedra-Sky 50

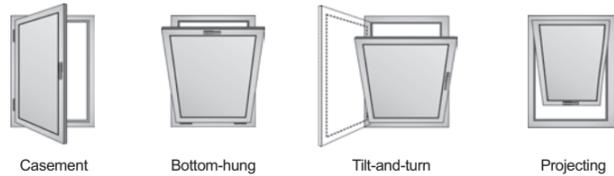
Features

- Traditional curtain wall (mullions and transoms)
- 50 mm deep structure, visible inside and outside
- Tubular mullion: 42 to 225 mm deep
- Glass thickness: 8 to 45 mm
- Tightness: EPDM gaskets
- Thermal-break: Tecno CMP rigid insulating spacer
- Original accessories
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060
- Integration with systems Poliedra-Sky 50I, 50S, 50CV, 60, Casement systems, Sunblades

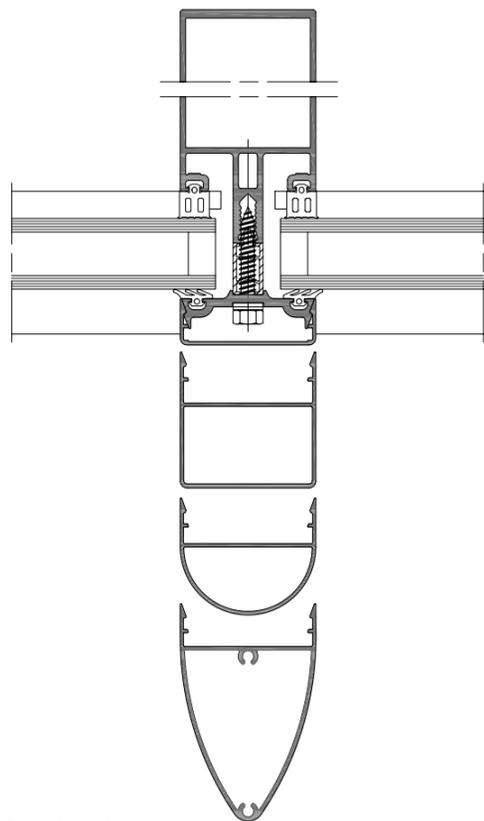
Advantages

- Acoustic and thermal insulation
- Use of the system for many types of realizations
- Light bearing structure, easy to assemble
- External look personalized thanks to the external covers
- Integration with all METRA casement windows

Opening typologies

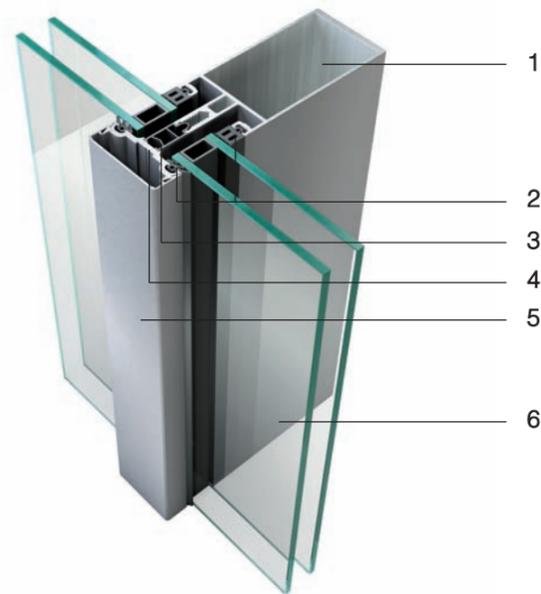


Section



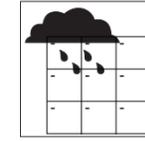
Horizontal section

Technology



- 1 - Mullion
- 2 - EPDM gaskets for glazing
- 3 - Spacer
- 4 - Pressor
- 5 - Cover
- 6 - Insulating glass with air space

Certified performance

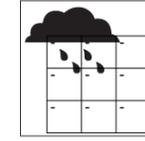


Static watertightness EN 12154

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 147,5 Km/h (1050Pa)

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(>900Pa)
	55,77	78,87	96,59	111,54	147,5
Class achieved	R4	R5	R6	R7	RE 1050

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

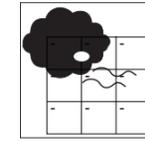


Dinamic watertightness ENV 13050

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 125 Km/h (750Pa)

Air pressure achieved without seepage Km/h	(750Pa)
	124,7

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

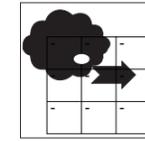


Air permeability EN 12152

The METRA curtain wall was subjected to a wind pressure equal to a speed of 125 Km/h (750 Pa) and passed the test with positive results..

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(750Pa)
	55,7	78,87	96,59	111,54	124,7
Class achieved	A1	A2	A3	A4	AE

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

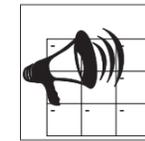


Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 250 Km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Design load	2000Pa
Safety load	3000Pa

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

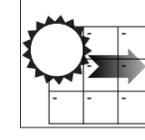


Sound insulation EN ISO 140-3, EN ISO 717-1

METRA fastening reduces the traffic noise to the limit of a normal conversation

Up to 50 dB

Capacity of curtain wall to dump traffic noise

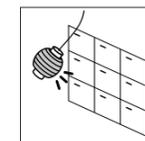


Thermal transmittance EN ISO 10077-2

METRA's curtain wall comply with the energy saving standards.

Uf W/m² K	2.3	1.4

The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.

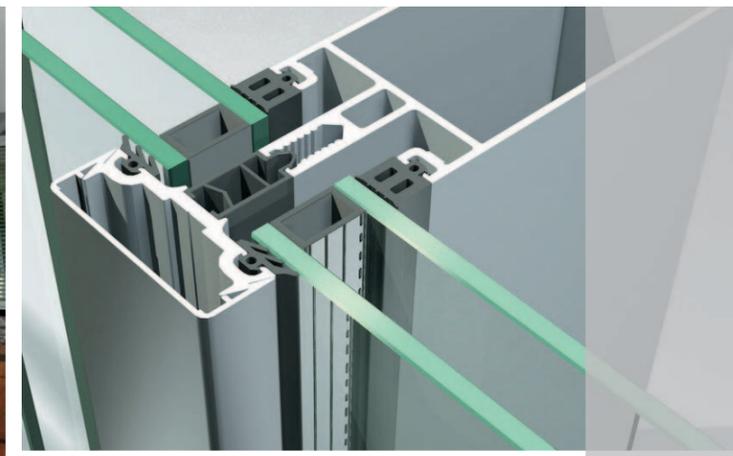


Impact resistance (TEST METHOD WITH A HARD BODY) EN 14019

METRA curtain wall effectively resists impact.

Drop height	200 mm	300 mm	450 mm	700 mm	950 mm
Class achieved	1	2	3	4	5

Capacity of a curtain wall withstand involuntary or accidental impact.



Poliedra-Sky 50 I

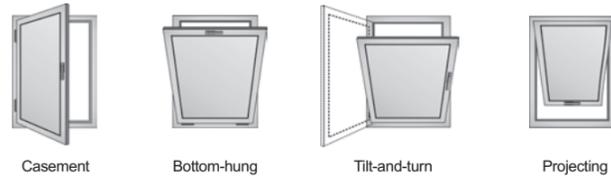
Features

- Traditional curtain wall (mullions and transoms)
- 50 mm deep structure, visible inside and outside
- IPE mullion: 75 to 280 mm deep
- Glass thickness: 8 to 45 mm
- Tightness: EPDM gaskets
- Thermal-break: Tecno CMP rigid insulating spacer
- Original accessories
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060
- Integration with systems Poliedra-Sky 50, 50S, 50CV, 60, Casement systems, Sunblades

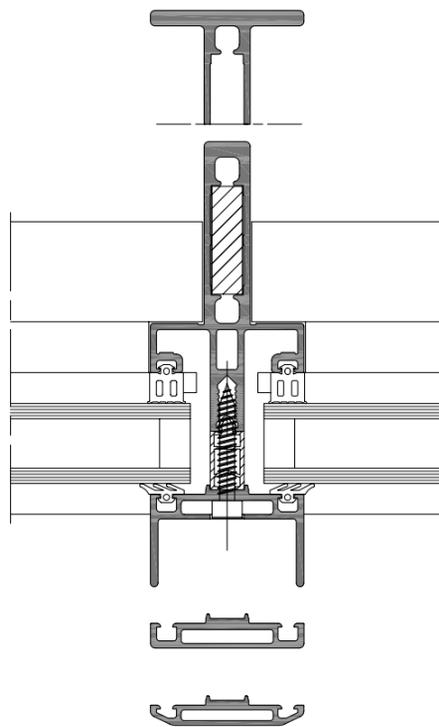
Advantages

- Acoustic and thermal insulation
- Use of the system for many types of realizations
- Light bearing structure, easy to assemble
- Internal look typical of steel structures
- External look personalized thanks to the external covers
- Integration with all METRA casement windows

Opening typologies

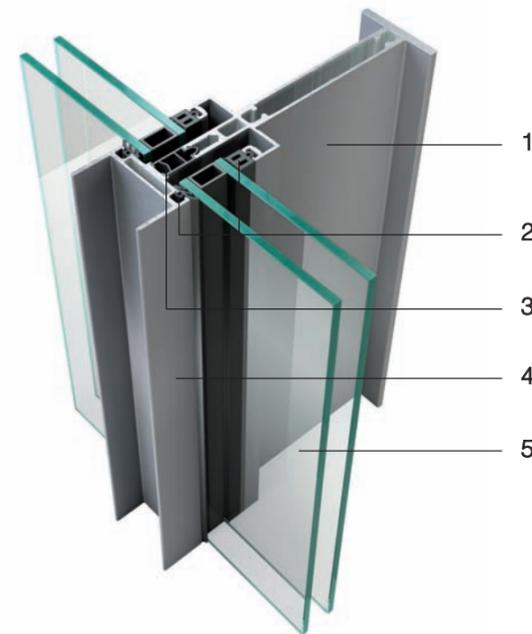


Section



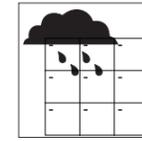
Horizontal section

Technology



- 1 - Mullion
- 2 - EPDM gaskets for glazing
- 3 - Spacer
- 4 - Pressor / Cover
- 5 - Insulating glass with air space

Certified performance

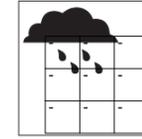


Static watertightness EN 12154

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 147,5 Km/h (1050Pa)

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(>900Pa)
	55,77	78,87	96,59	111,54	147,5
Class achieved	R4	R5	R6	R7	RE 1050

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

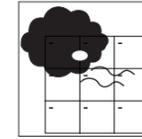


Water dynamic tightness ENV 13050

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 125 Km/h (750Pa)

Air pressure achieved without seepage Km/h	(750Pa)
	124,7

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

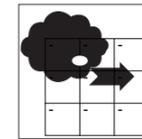


Air permeability EN 12152

The METRA curtain wall was subjected to a wind pressure equal to a speed of 125 Km/h (750 Pa) and passed the test with positive results..

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(750Pa)
	55,7	78,87	96,59	111,54	124,7
Class achieved	A1	A2	A3	A4	AE

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

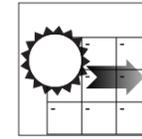


Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 250 Km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Design load	2000Pa
Safety load	3000Pa

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

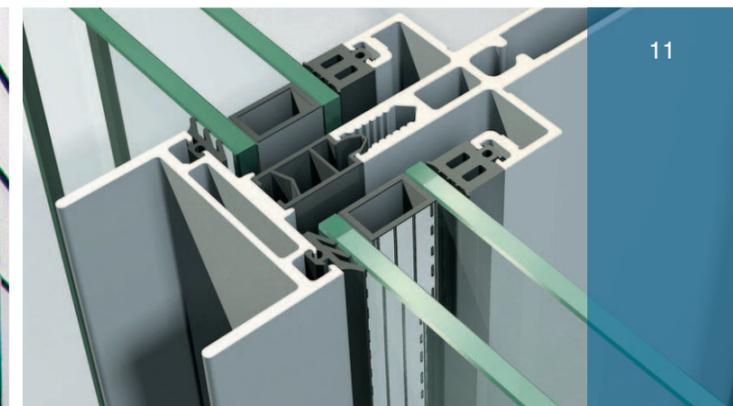


Thermal transmittance EN ISO 10077-2

METRA's curtain wall comply with the energy saving standards.

Uf W/m² K	2.3	1.4
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The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.



Poliedra-Sky 50 S

Features

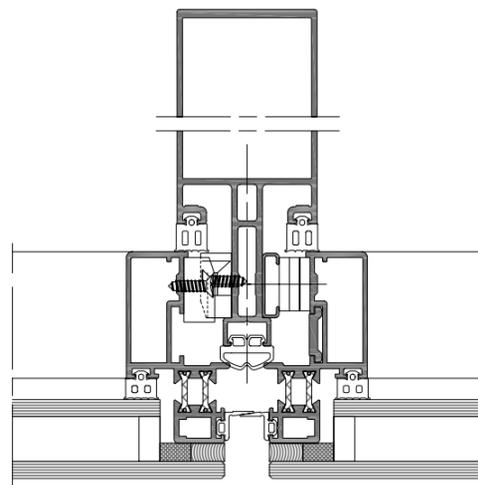
- Structural curtain wall (mullions and transoms)
- 50 mm deep structure, visible inside
- Structural gluing or captured glazing
- Mullion: 42 to 225 mm deep
- Glass thickness: 24 to 32 mm
- Tightness: EPDM internal and glass gaskets
- Thermal-break: polyamide insulating bars
- Original accessories
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060
- Integration with systems Poliedra-Sky 50, 50I, 60, Casement systems, Sunblades

Opening typologies

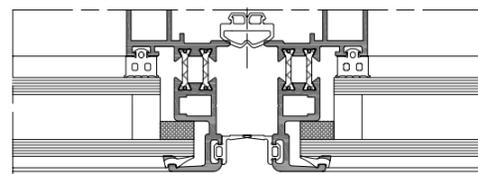


Projecting

Section



Structural section



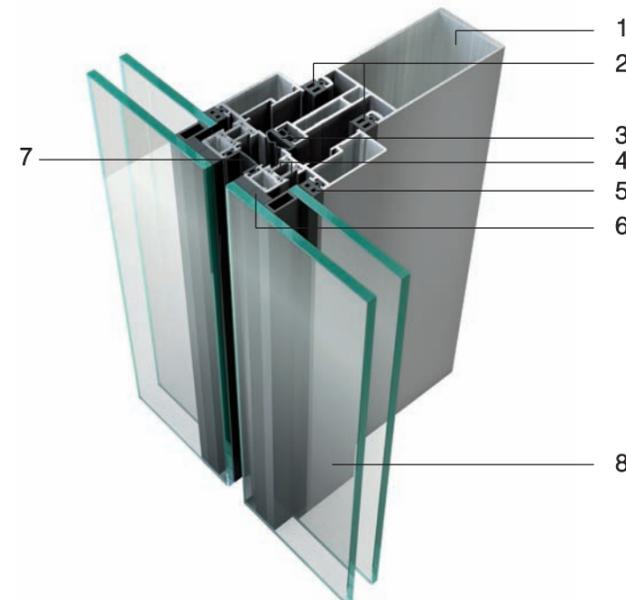
Semi-structural section

Horizontal section

Advantages

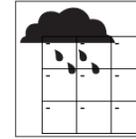
- Acoustic and thermal insulation
- Use of the system for many types of realizations
- Light bearing structure, easy to assemble
- "Full-glass" or perimetrical edge external look
- Integration with all METRA casement windows

Technology



- 1 - Mullion
- 2 - Internal gasket
- 3 - EPDM internal tightness gaskets
- 4 - Insulating bars
- 5 - EPDM gaskets for glazing
- 6 - Structural sealant
- 7 - EPDM perimetrical external tightness gaskets
- 8 - Insulating glass with air space

Certified performance

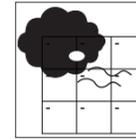


Static watertightness EN 12154

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 158 Km/h (1200Pa)

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(>900Pa)
	55,77	78,87	96,59	111,54	158
Class achieved	R4	R5	R6	R7	RE 1200

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

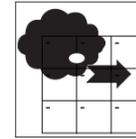


Air permeability EN 12152

The METRA curtain wall was subjected to a wind pressure equal to a speed of 111,54 Km/h (600 Pa) and passed the test with positive results..

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(750Pa)
	55,7	78,87	96,59	111,54	124,7
Class achieved	A1	A2	A3	A4	AE

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

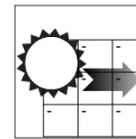


Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 250 Km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Design load	2000Pa
Safety load	3000Pa

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

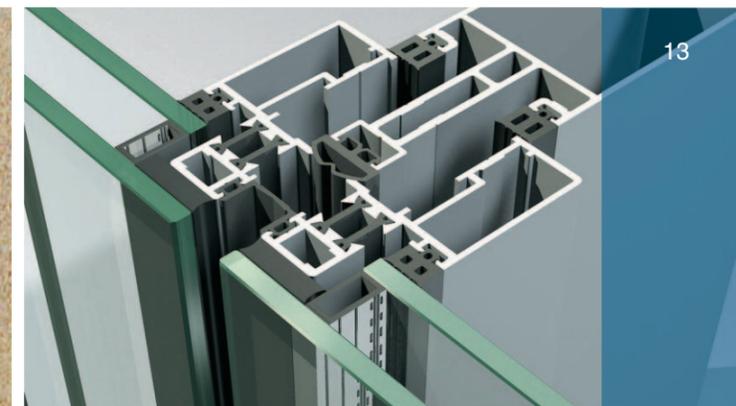
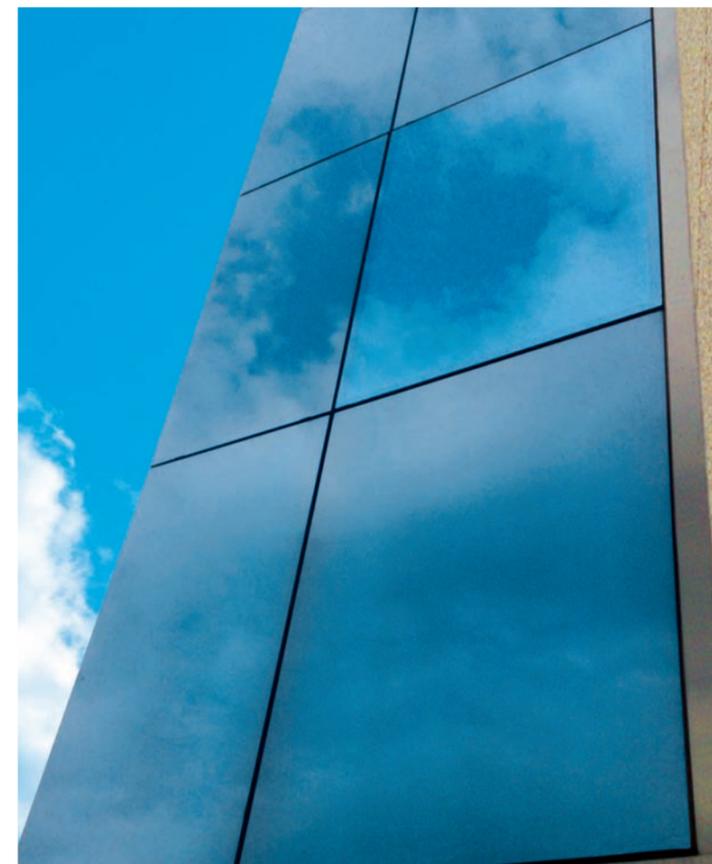


Thermal transmittance EN ISO 10077-2

METRA's curtain wall comply with the energy saving standards.

Uf W/m² K 2.3 | 1.4

The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.



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Poliedra-Sky Windows for curtain walls

Features

- Integration with Poliedra-Sky 50, 50I, 60
- Available versions:
 - Structural with non-aligned glass sheets
 - Structural with aligned glass sheets
 - Semi-structural with non-aligned glass sheets
 - Semi-structural with aligned glass sheets
- Max load up to 180 kg in the continuous curtain wall
- Max load up to 180/300 kg in the windows for curtain walls
- Glass thickness: 28 to 40 mm
- Thermal-break: polyamide insulating bars
- Original accessories
- Aluminium alloy EN AW-6060
- Curtain wall made of units with projecting sashes
- Structural gluing of the glazing

Opening typologies

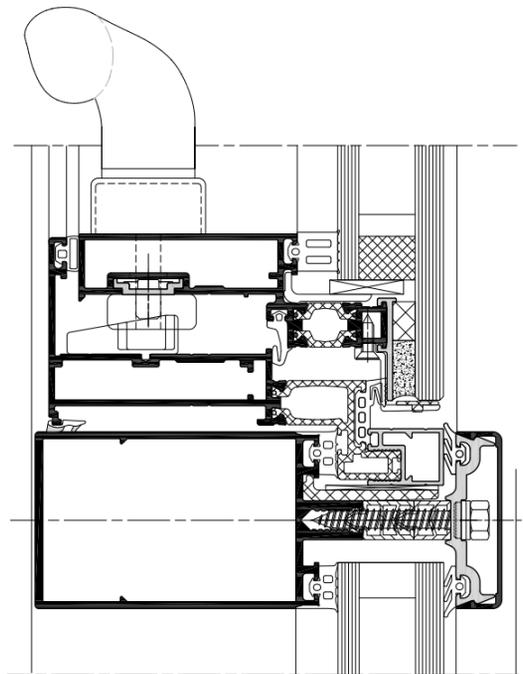


Projecting



Parallel opening

Section

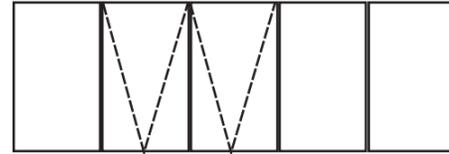


Horizontal section

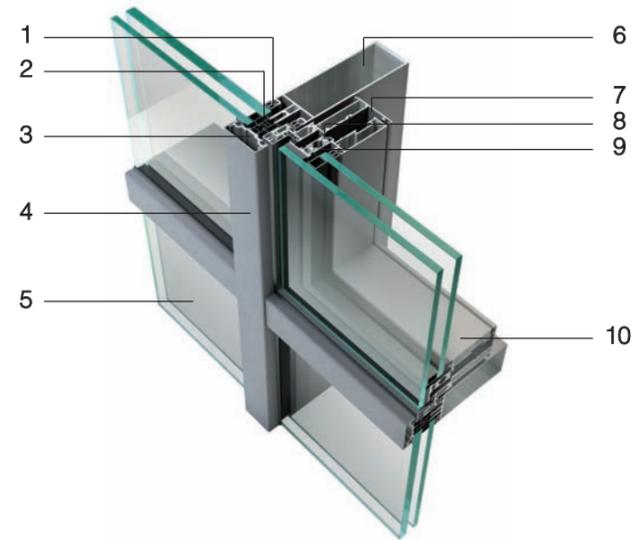
Advantages

- Acoustic and thermal insulation
- Use of the system for many types of realizations
- Various aesthetical solutions available

Scheme

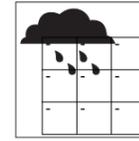


Technology



- 1 - EPDM gaskets for glazing
- 2 - Spacer
- 3 - Pressor
- 4 - Cover
- 5 - Insulating glass with air space
- 6 - Mullion
- 7 - Frame
- 8 - EPDM tightness gasket
- 9 - Insulating bars
- 10 - Sash

Certified performance

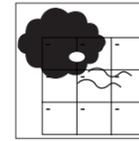


Static watertightness EN 1027, EN 12208

The METRA windows for curtain walls have not had any seepage of water even with a wind pressure equal to a speed of 147,5 Km/h (1500Pa)

Air pressure applied Km/h	(0Pa)	(50Pa)	(100Pa)	(150Pa)	(200Pa)	(250Pa)	(300Pa)	(450Pa)	(600Pa)	(900Pa)	(1500Pa)
0	32,2	45,53	55,77	64,39	72	78,87	96,59	111,54	136,6	147,5	
Class achieved	1A	2A	3A	4A	5A	6A	7A	8A	9A	E900	E1500

Capacity of the windows for curtain walls to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

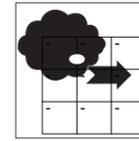


Air permeability EN 1206, EN 12207

The METRA windows for curtain walls were subjected to a wind pressure equal to a speed of 111,54 Km/h (600 Pa) and passed the test with positive results..

Air pressure applied Km/h	(150Pa)	(300Pa)	(600Pa)	(600Pa)
55,77	78,87	111,54	111,54	
Class achieved	1	2	3	4

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window quality.

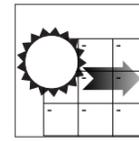


Wind load resistance EN 12211 - EN 12210

When the METRA windows for curtain walls were subjected to a wind load equal to a speed of 250 Km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Air pressure applied Con freccia di flessione Class achieved	(400Pa)	(800Pa)	(1200Pa)	(1600Pa)	(2000Pa)	(>2000Pa)
A (1/150)			B (1/200)			C (1/300)
	1	2	3	4	5	Exxx

Capacity of a windows for curtain walls subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

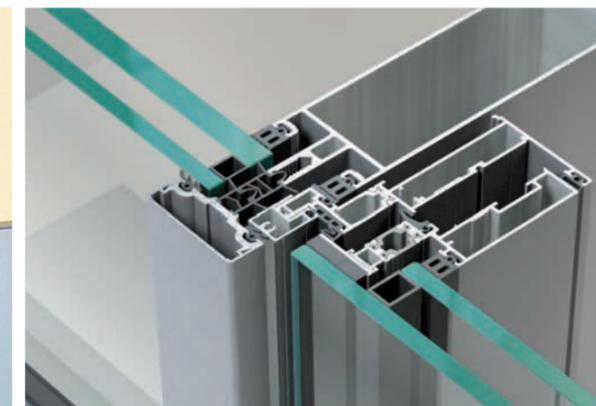


Thermal transmittance EN ISO 10077-2

The METRA windows for curtain walls comply with the energy saving standards.

Uf W/m² K 2.6

The heat transmission rate U is the heat flow which goes through the window according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.

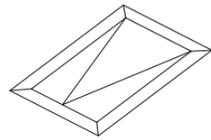


Poliedra-Sky Roof windows

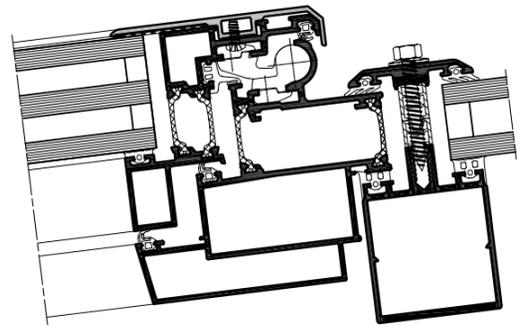
Features

- Integration with Poliedra-Sky 50, 50I, 60
- Available versions:
 - Solution with glazing bead on 4 sides
 - Solution with glazing bead on 3 sides
 - Structural solution
- Maximum load up to 180 kg
- Glass thickness: 27 to 58 mm
- Thermal break: insulating polyamide bars
- Original accessories
- Aluminium alloy EN AW-6060

Opening typologies



Section

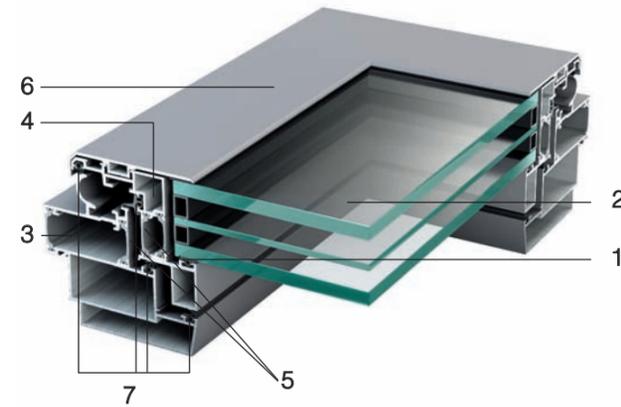


Horizontal section

Advantages

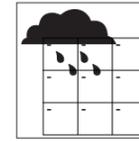
- Acoustic and thermal insulation
- Use of the system for many types of realizations
- Various aesthetical solutions available

Technology



- 1 - EPDM glass gaskets
- 2 - Triple glazing with space
- 3 - Frame
- 4 - Sash
- 5 - Insulating bars
- 6 - Glazing bead
- 7 - EPDM tightness gasket

Certified performance

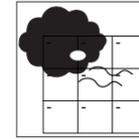


Static watertightness EN 12154

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 176 km/h (1500Pa)

Air pressure applied (Pa)	(0Pa)	(50Pa)	(100Pa)	(150Pa)	(200Pa)	(250Pa)	(300Pa)	(450Pa)	(600Pa)	(900Pa)	(1500Pa)
km/h	0	32,2	45,53	55,77	64,39	72	78,87	96,59	111,54	136,6	176
Class achieved	1A	2A	3A	4A	5A	6A	7A	8A	9A	E900	E1500

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

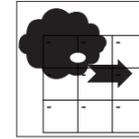


Air permeability EN 12152

The METRA curtain wall was subjected to a wind pressure equal to a speed of 111,54 km/h (600 Pa) and passed the test with positive results..

Air pressure applied (Pa)	(150Pa)	(300Pa)	(600Pa)	(600Pa)
km/h	55,77	78,87	111,54	111,54
Class achieved	1	2	3	4

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

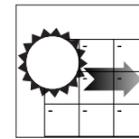


Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 250 km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Air pressure applied (Pa)	(400Pa)	(800Pa)	(1200Pa)	(1600Pa)	(2000Pa)	(>2000Pa)
Con freccia di flessione	A (1/150)	B (1/200)	C (1/300)			
Class achieved	1	2	3	4	5	Exxx

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

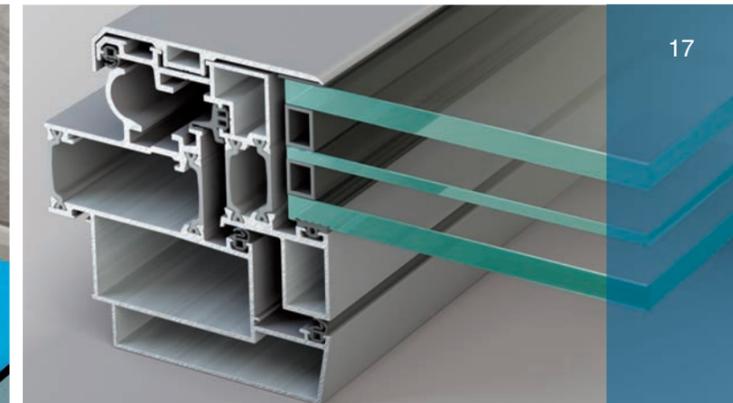


Thermal transmittance EN ISO 10077-2

METRA's curtain wall comply with the energy saving standards.

Uf W/m² K 2.6

The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.



Poliedra-Sky 50 CV

Features

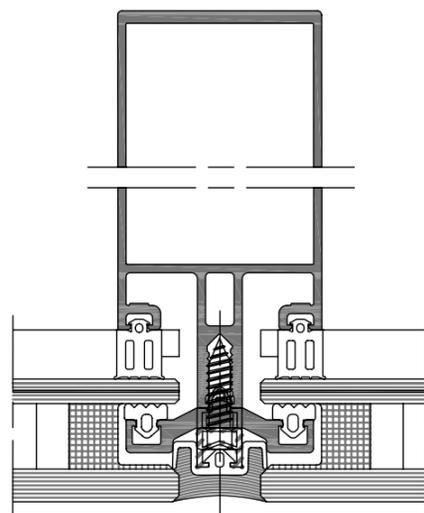
- Traditional curtain wall (mullions and transoms)
- 50 mm deep structure, visible inside only
- Captured external glazing
- Tubular mullion: 42 to 250 mm deep
- Glass thickness: 28 to 38 mm
- Tightness: EPDM gaskets
- Thermal-break: Tecno CMP rigid insulating spacer
- Original accessories
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060
- Integration with systems Poliedra-Sky 50, 50I, 60, Casement systems, Sunblades

Opening typologies

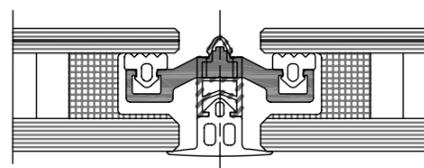


Projecting

Section



Method with sealant in view



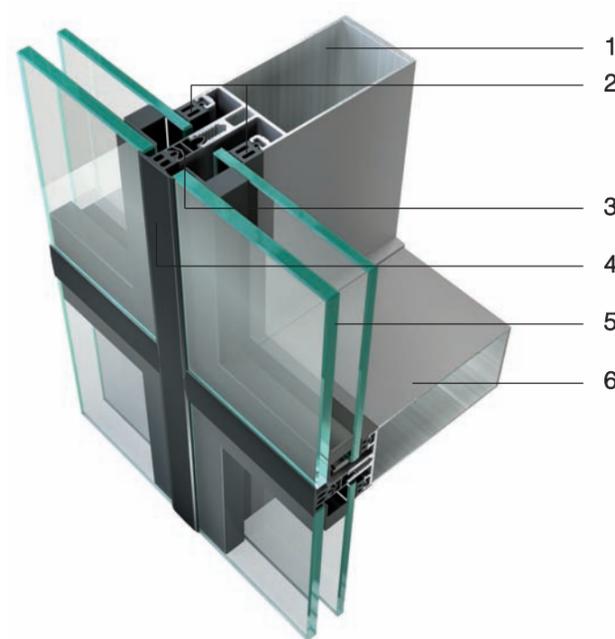
Method with gasket in view

Horizontal section

Advantages

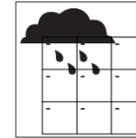
- Acoustic and thermal insulation
- Use of the system for many types of realizations
- Light bearing structure, easy to assemble
- "Full-glass" external look

Technology



- 1 - Mullion
- 2 - EPDM gaskets for glazing
- 3 - Insulating spacer
- 4 - Silicone rubber covering gasket
- 5 - Insulating glass with air space
- 6 - Transom

Certified performance

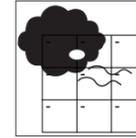


Static watertightness EN 12154

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 147,5 km/h (1050Pa)

Air pressure applied km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(1050Pa)
	55,77	78,87	96,59	111,54	147,5
Class achieved	R4	R5	R6	R7	RE 1050

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

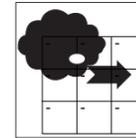


Air permeability EN 12152

The METRA curtain wall was subjected to a wind pressure equal to a speed of 111,54 km/h (600 Pa) and passed the test with positive results..

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(750Pa)
	55,7	78,87	96,59	111,54	124,7
Class achieved	A1	A2	A3	A4	AE

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

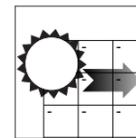


Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 250 km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Design load	1400Pa
Safety load	2100Pa

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

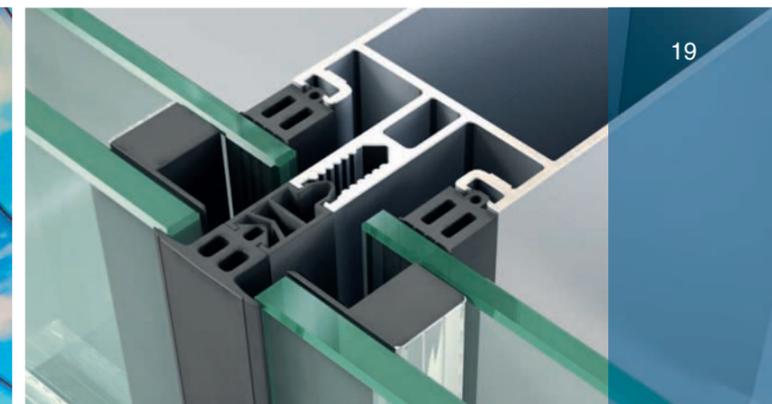


Thermal transmittance EN ISO 10077-2

METRA's curtain wall comply with the energy saving standards.

Uf W/m² K  2.3 | 1.9 |

The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.

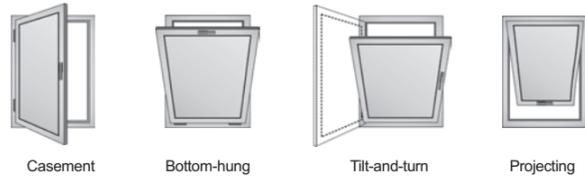


Poliedra-Sky 60

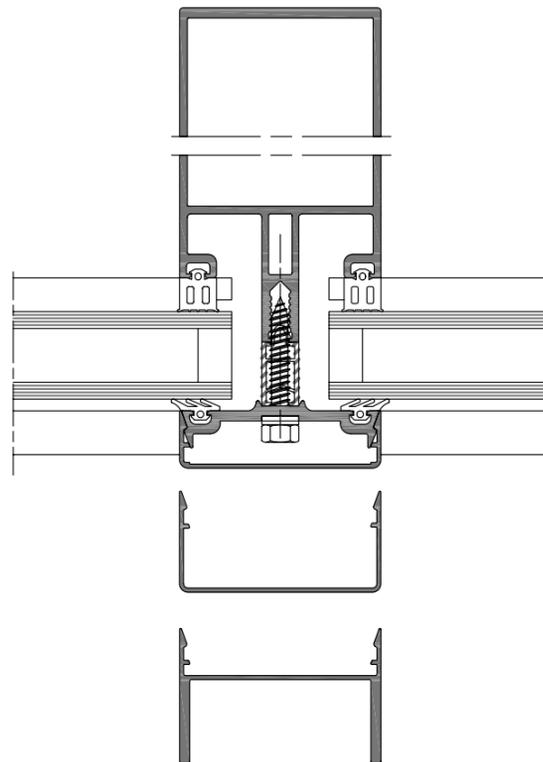
Features

- Traditional curtain wall (mullions and transoms)
- 60 mm deep structure, visible inside and outside
- Tubular mullion: 42 to 250 mm deep
- Glass thickness: 8 to 45 mm
- Tightness: EPDM gaskets
- Thermal-break: Tecno CMP rigid insulating spacer
- Original accessories
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060
- Integration with systems Poliedra-Sky 50I, 50S, 50CV, Casement systems, Sunblades

Opening typologies



Section

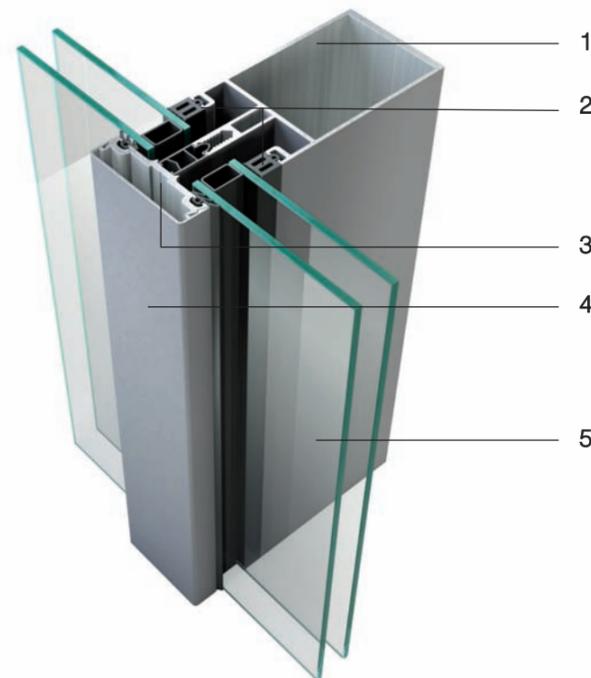


Horizontal section

Advantages

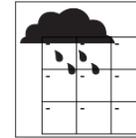
- Acoustic and thermal insulation
- Use of the system for many types of realizations
- Light bearing structure, easy to assemble
- External look personalized thanks to the external covers
- Integration with all METRA casement windows

Technology



- 1 - Mullion
- 2 - EPDM gaskets for glazing
- 3 - Pressor
- 4 - Cover
- 5 - Insulating glass with air space

Certified performance

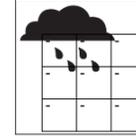


Static watertightness EN 12154

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 147,5 Km/h (1050Pa)

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(>900Pa)
	55,77	78,87	96,59	111,54	147,5
Class achieved	R4	R5	R6	R7	RE 1050

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

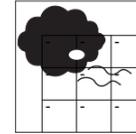


Water dynamic tightness ENV 13050

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 125 Km/h (750Pa)

Air pressure achieved without seepage Km/h	(750Pa)
	124,7

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

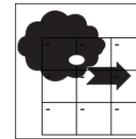


Air permeability EN 12152

The METRA curtain wall was subjected to a wind pressure equal to a speed of 125 Km/h (750 Pa) and passed the test with positive results.

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(750Pa)
	55,7	78,87	96,59	111,54	124,7
Class achieved	A1	A2	A3	A4	AE

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

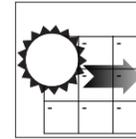


Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 250 Km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Design load	2000Pa
Safety load	3000Pa

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

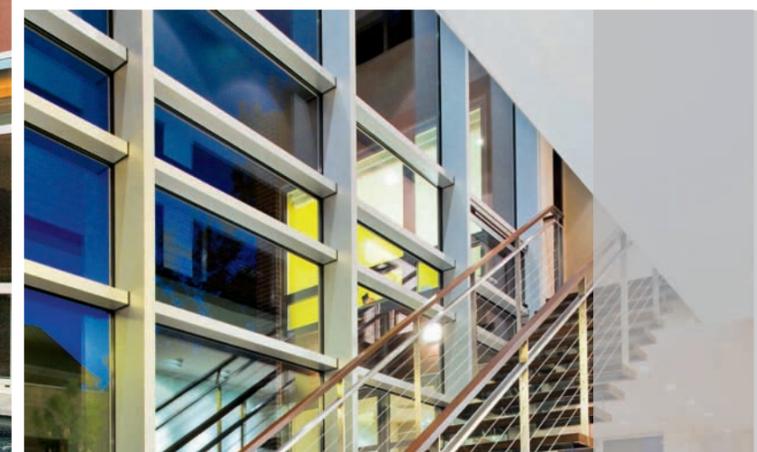
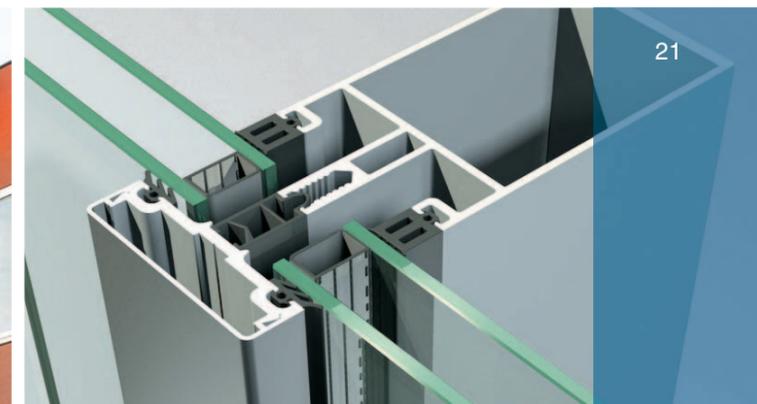
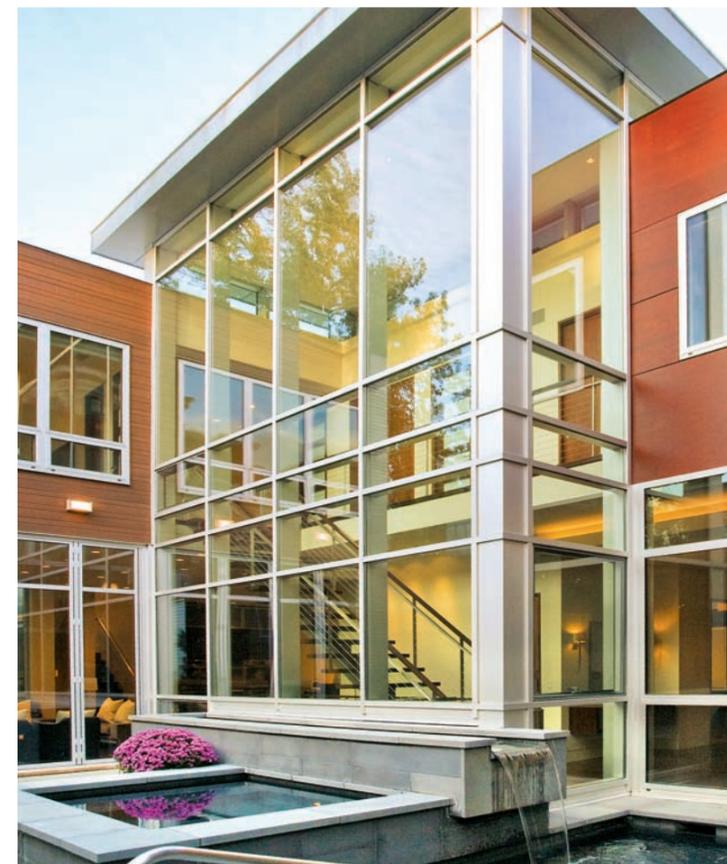


Thermal transmittance EN ISO 10077-2

METRA's curtain wall comply with the energy saving standards.

Uf W/m² K 2.3 | 1.5

The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.



Poliedra-Sky 60 CV

Features

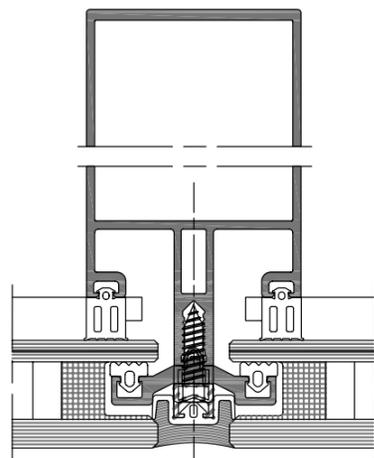
- Traditional curtain wall (mullions and transoms)
- 60 mm deep structure, visible inside
- Tubular mullion: 42 to 250 mm deep
- Captured external glazing
- Glass thickness: 28 to 38 mm
- Tightness: EPDM gaskets
- Thermal-break: Tecno CMP rigid insulating spacer
- Original accessories
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060
- Integration with systems Poliedra-Sky 50I, 50S, 50CV, 60, Casement systems, Sunblades

Opening typologies

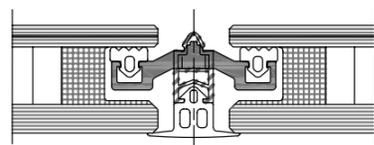


Projecting

Section



Method with sealant in view



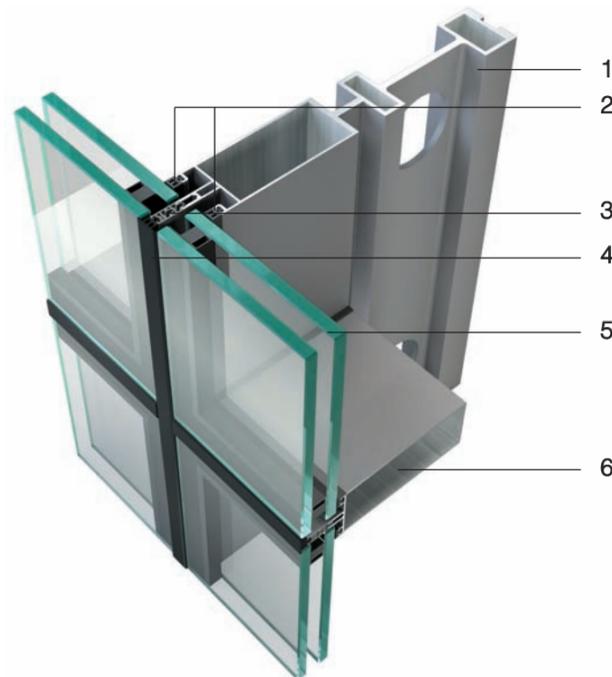
Method with gasket in view

Horizontal section

Advantages

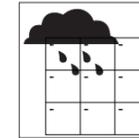
- Acoustic and thermal insulation
- Use of the system for many types of realizations
- Light bearing structure, easy to assemble
- "Full-glass" external look

Technology



- 1 - Mullion
- 2 - EPDM gaskets for glazing
- 3 - Insulating spacer
- 4 - Silicone rubber covering gasket
- 5 - Insulating glass with air space
- 6 - Transom

Certified performance

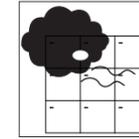


Static watertightness EN 12154

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 147,5 km/h (1050Pa)

Air pressure applied km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(1050Pa)
	55,77	78,87	96,59	111,54	147,5
Class achieved	R4	R5	R6	R7	RE 1050

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

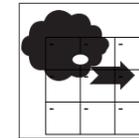


Air permeability EN 12152

The METRA curtain wall was subjected to a wind pressure equal to a speed of 111,54 km/h (600 Pa) and passed the test with positive results..

Air pressure applied Km/h	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(750Pa)
	55,7	78,87	96,59	111,54	124,7
Class achieved	A1	A2	A3	A4	AE

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

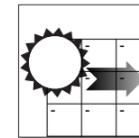


Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 250 km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Design load	1400Pa
Safety load	2100Pa

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

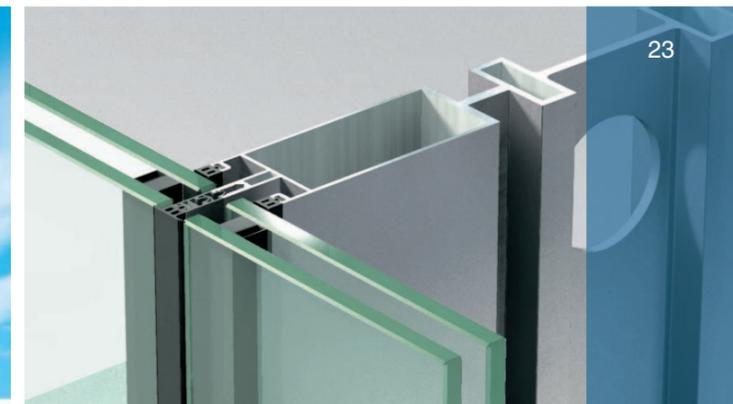


Thermal transmittance EN ISO 10077-2

METRA's curtain wall comply with the energy saving standards.

Uf W/m² K 2.3 | 1.9

The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.



Poliedra-Sky Fast 80

Features

- Curtain wall made of structural units or with captured glazing
- 80 mm deep structure, visible inside
- Mullion: 132 mm deep
- Glass thickness: 30 to 44 mm
- Tightness: EPDM internal and glass gaskets
- Thermal-break: PVC co-extruded spacer and polyamide bars
- Original accessories
- Assembly by prefabricated units
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060
- Integration with Casement and Sunblades systems

Advantages

- Acoustic and thermal insulation
- Fabrication of the whole unit realizable in the workshop
- Installation of the units with no need of external scaffoldings
- "Full-glass" or perimetrical edge external look
- Opening vents not visible from outside

Opening typologies

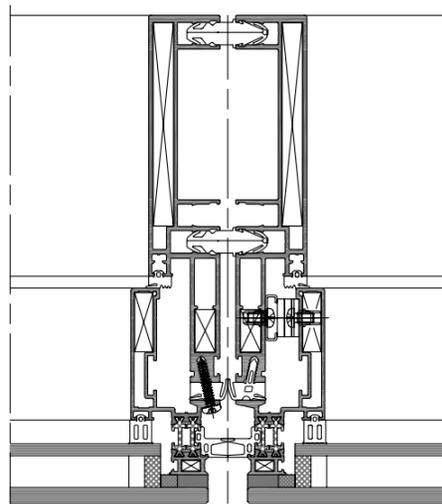


Projecting

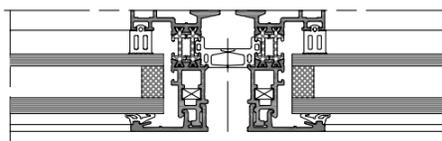


Parallel opening

Section



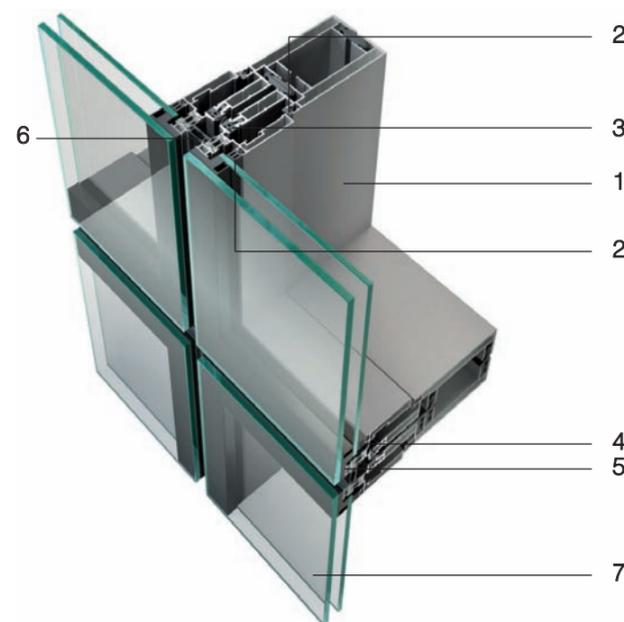
Structural solution



Solution with glazing bead

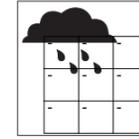
Horizontal section

Technology



- 1 - Unit frame
- 2 - Sash tightness internal gasket
- 3 - Sash tightness external gasket
- 4 - EPDM gaskets for glazing
- 5 - Structural sealant
- 6 - Perimetrical tightness gasket
- 7 - Insulating glass with air space

Certified performance

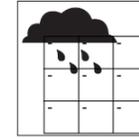


Static watertightness EN 12154

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 111,54 km/h (600Pa)

Air pressure applied	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(>600Pa)
km/h	55,77	78,87	96,59	111,54	111,54
Class achieved	R4	R5	R6	R7	RE 1050

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

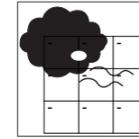


Water dynamic tightness ENV 13050

The METRA curtain wall has not had any seepage of water even with a wind pressure equal to a speed of 111,54 km/h (600Pa)

Air pressure achieved without seepage	(600Pa)
km/h	111,54

Capacity of the curtain wall to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

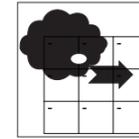


Air permeability EN 12152

The METRA curtain wall was subjected to a wind pressure equal to a speed of 111,54 km/h (600 Pa) and passed the test with positive results.

Air pressure applied	(150Pa)	(300Pa)	(450Pa)	(600Pa)	(750Pa)
km/h	55,7	78,87	96,59	111,54	124,7
Class achieved	A1	A2	A3	A4	AE

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.

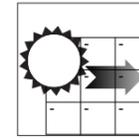


Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 250 km/h (3000 Pa), neither breakages nor permanent deformation occurred.

Design load	1200Pa
Safety load	1800Pa

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

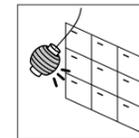


Thermal transmittance EN ISO 10077-2

METRA's curtain wall comply with the energy saving standards.



The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K.

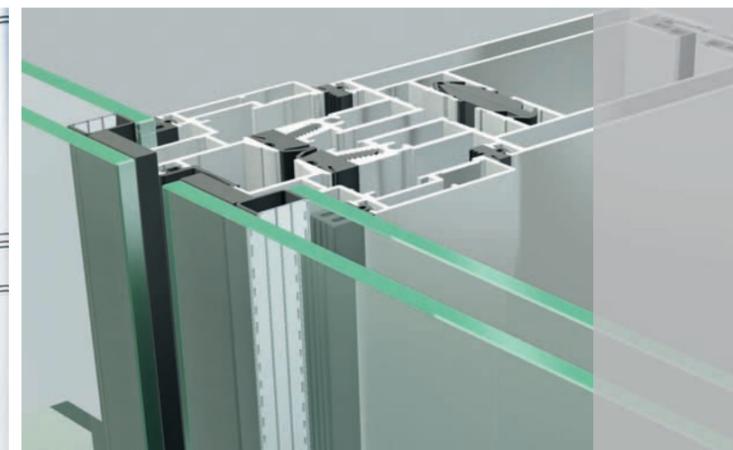


Impact resistance (TEST METHOD WITH A HARD BODY) EN 14019

METRA curtain wall effectively resists impact.

Drop height	200 mm	300 mm	450 mm	700 mm	950 mm
Class achieved	1	2	3	4	5

Capacity of a curtain wall withstand involuntary or accidental impact.



Poliedra-Sky Glass 130

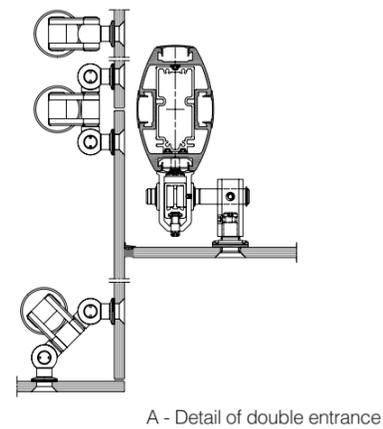
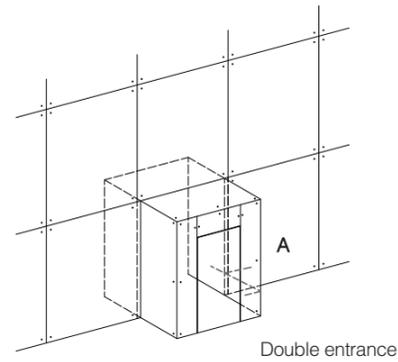
Features

- Point-load supported curtain wall with vertical mullion
- Glass fixed by stainless steel articulations
- Aluminium mullion with different shapes and dimensions
- Glass thickness: 8 to 39 mm
- Glazed unit max weight 150 kg
- Glazed unit max dimension 6.00 m²
- Tightness: silicone gaskets
- Original accessories
- Assembly by prefabricated units
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060 / 6082
- Integration with Casement and Sunblades systems

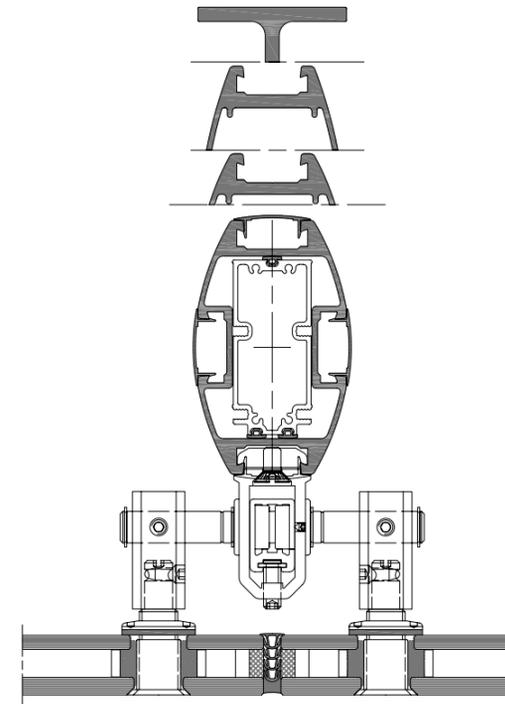
Advantages

- Full-glass external look with totally transparent structure
- Architectural integration without environmental impact
- Possibility of fabrication of huge glazed units
- System suitable also for coverings

Opening typologies

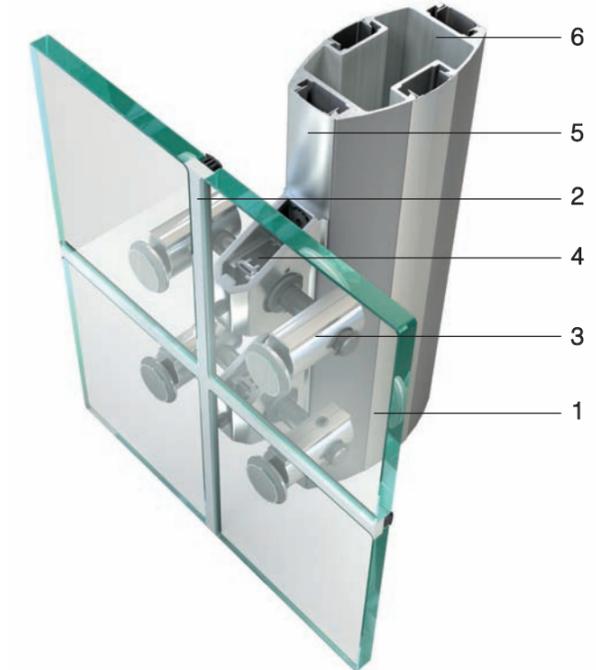


Section

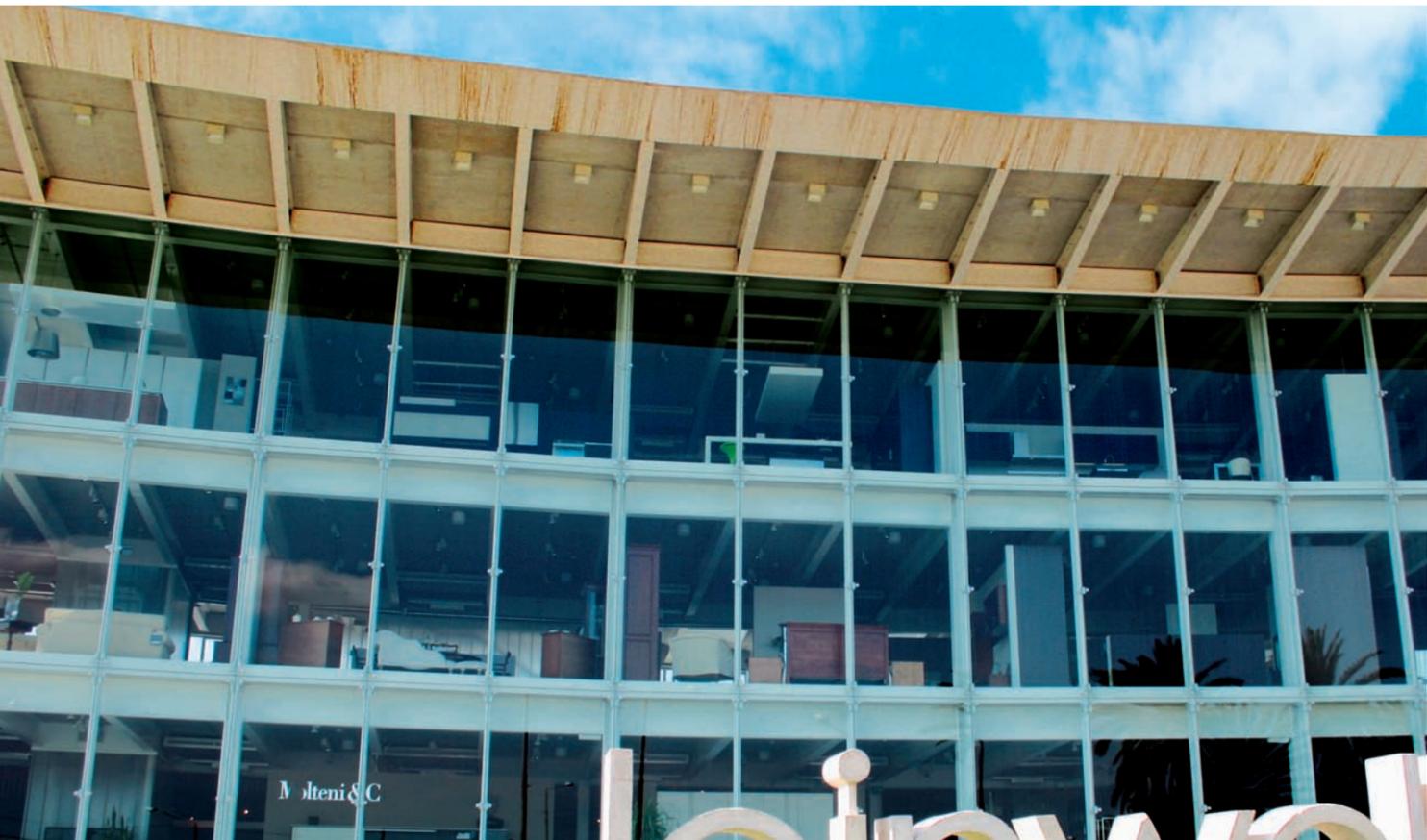


Horizontal section

Technology



- 1 - Glass
- 2 - Silicone gasket for glass sheets junction
- 3 - Stainless steel articulation
- 4 - Support for articulations
- 5 - Mullion cover
- 6 - Mullion



Poliedra-Sky Glass 180

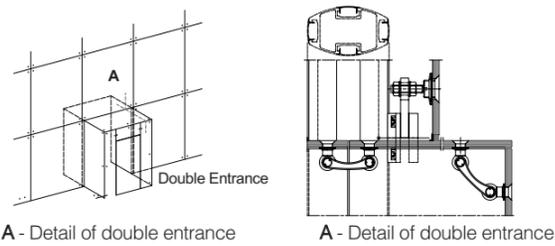
Features

- Point-load supported curtain wall with vertical mullion
- Glass fixed by stainless steel articulations
- Aluminium mullion with different shapes and dimensions
- Glass thickness: 10 to 53 mm
- Glazed unit max weight 500 kg
- Glazed unit max dimension 9.00 m²
- Tightness: silicone gaskets
- Original accessories
- Assembly by prefabricated units
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060 / 6082
- Integration with Casement and Sunblades systems

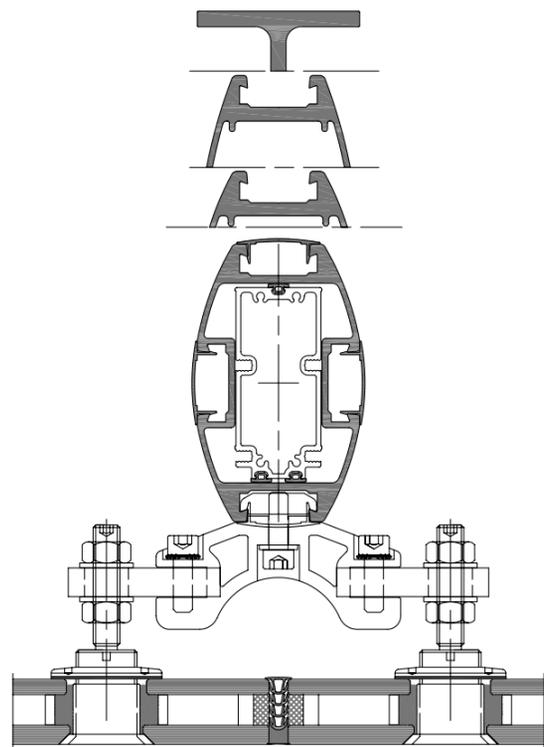
Advantages

- Full-glass external look with totally transparent structure
- Architectural integration without environmental impact
- Possibility of fabrication of huge and heavy glazed units
- System suitable also for coverings

Opening typologies

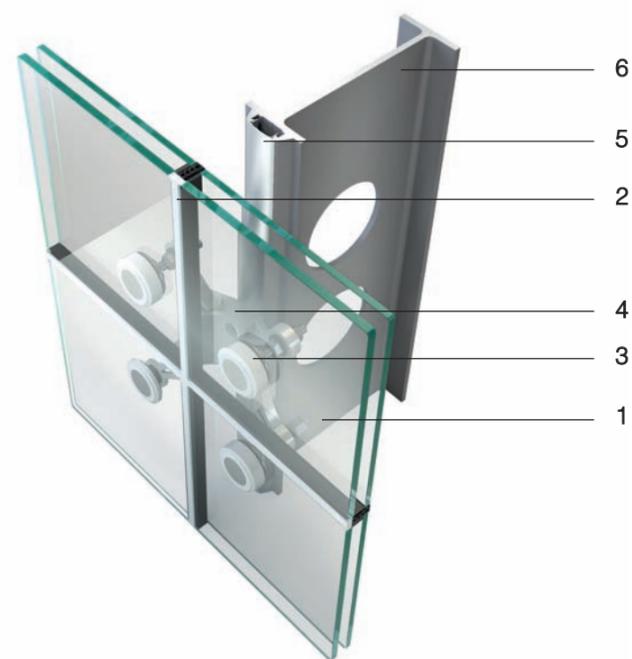


Section



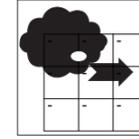
Horizontal section

Technology



- 1 - Single-sheet or double glazing with insulating spacer
- 2 - Silicone gasket for glass sheets junction
- 3 - Stainless steel articulation
- 4 - Support for articulations
- 5 - Mullion cover
- 6 - IPE mullion

Certified performance



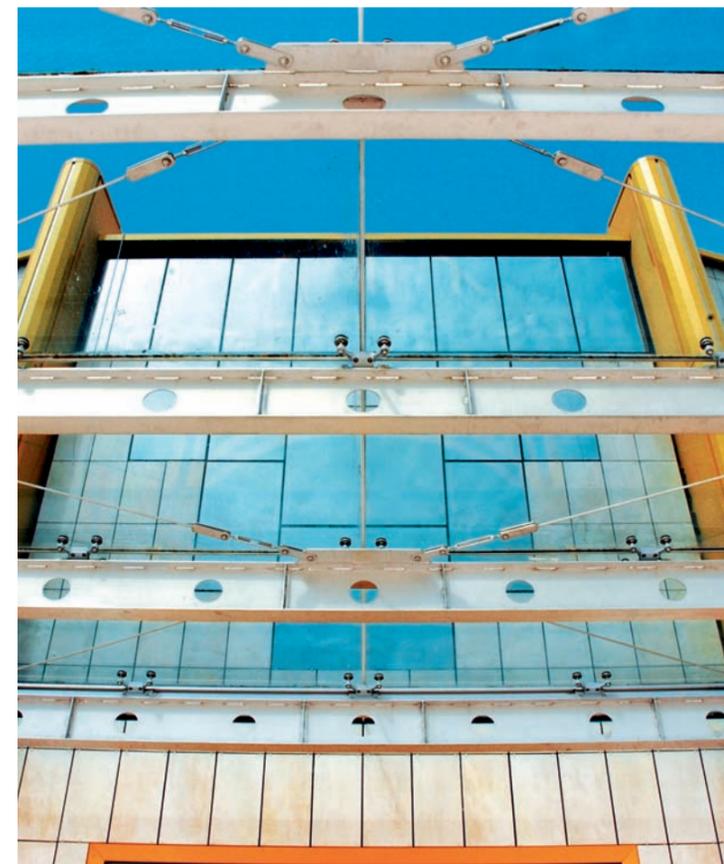
Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 555 Km/h (10000 Pa), neither breakages nor permanent deformation occurred.

Air pressure applied

10000Pa

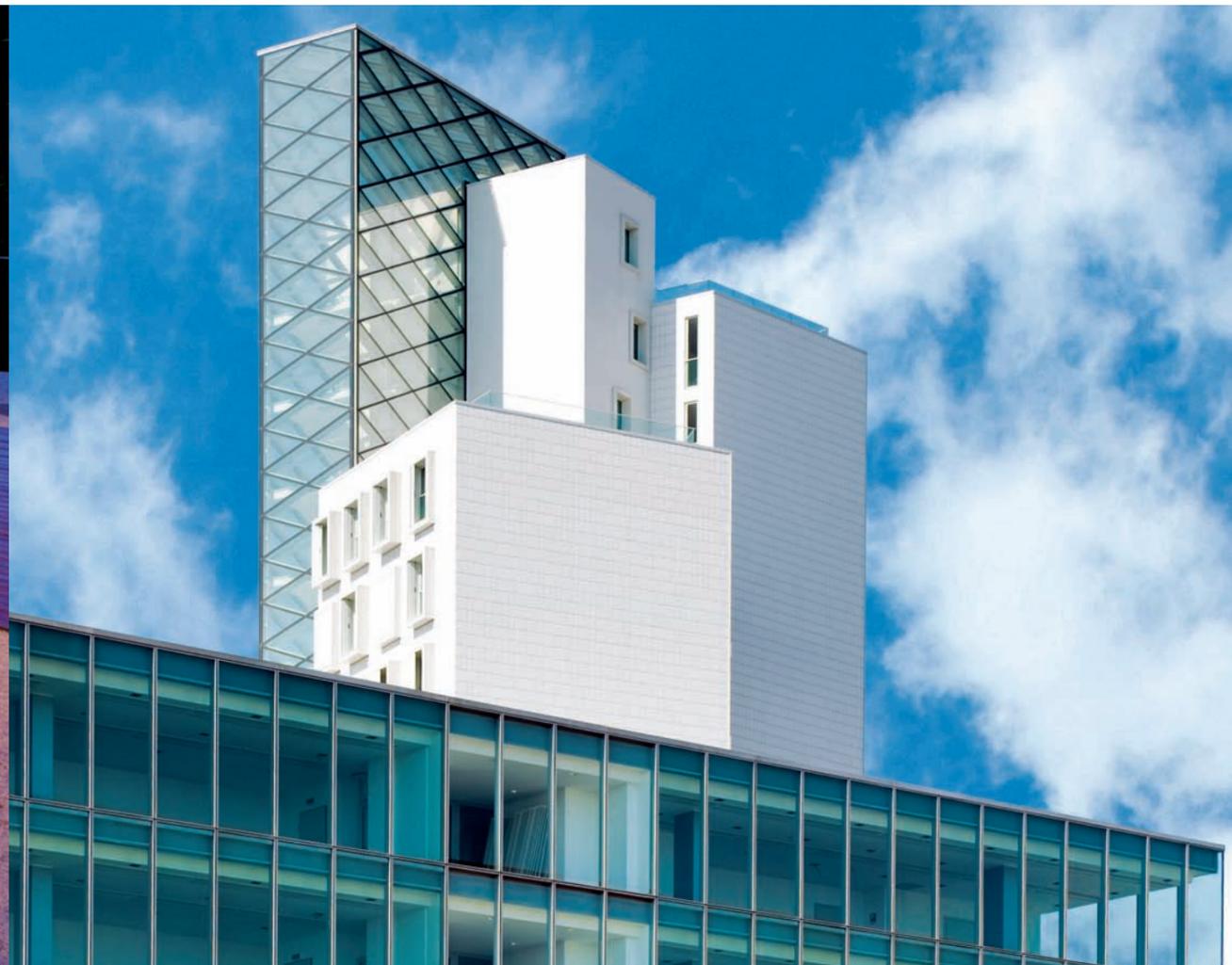
Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.



Employed systems: Poliedra-Sky 50, Poliedra-Sky Fast 80



Employed systems: Poliedra-Sky 50 CV, Poliedra-Sky Fast 80



Urano Wall with aluminium panels or glazed units

Features

- Ventilated curtain wall
- External cover: aluminium panels or glazed units
- Structure made of aluminium mullions and mechanical supports
- Original accessories
- Finishing: anodized or painted
- Aluminium alloy EN AW-6060
- Integration with systems Poliedra-Sky 50I, 50S, 50CV, 60, Casement systems, Sunblades

Advantages

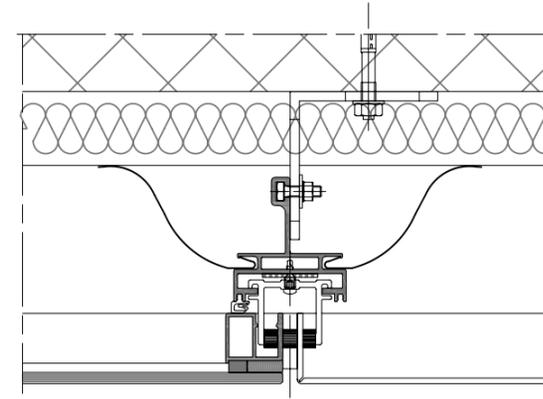
- Protection of the building from atmospheric agents
- Energy saving and improved comfort in all seasons
- Acoustic insulation
- Natural ventilation with elimination of humidity
- Innovative external look

Photovoltaic applications

The system enables the realization of "ventilated curtain walls" with insertion of photovoltaic panels of all typologies available on the market.
The covering units can be realized with laminated photovoltaic panels, with no frame, with thickness up to 8 mm.

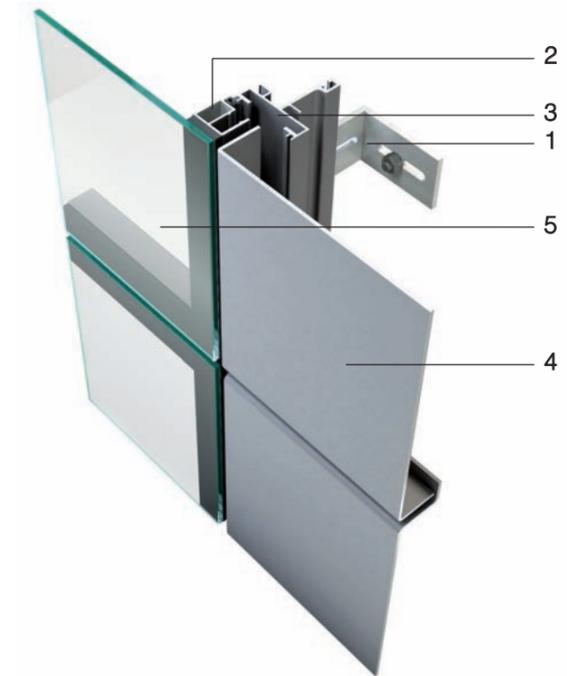


Section

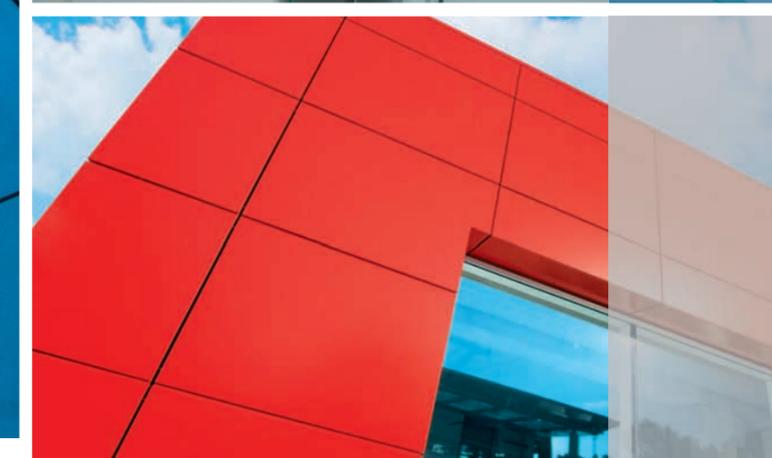
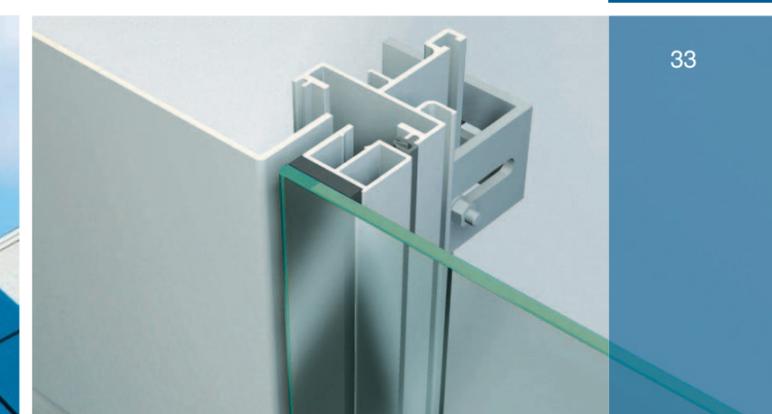


Horizontal section

Technology



- 1 - Fixing bracket
- 2 - Support for glass
- 3 - Mullion
- 4 - Aluminium panel
- 5 - Glazed unit



Urano Wall with LAMINAM porcelain stoneware slabs

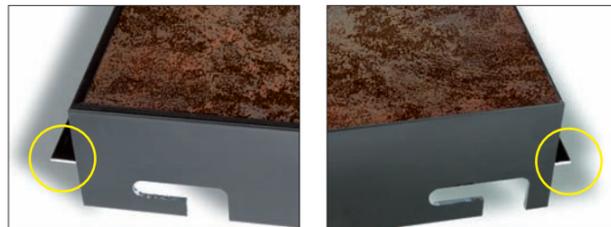
Features

Urano Wall and Laminam Esterna join their performance values to offer new and exciting architectural opportunities of great aesthetical impact to the designers. Laminam Esterna is the result of Laminam research, world first producer of Gres Porcellanato slabs (1000x3000x3.5 mm), enabling their use in the ventilated curtain walls. Thanks to the dimension of the slabs, the wide range of available finishes and the easy installation, Urano Wall and Laminam come to the market as a new style alternative to the coverings currently used.

Advantages

- Dimensions up to 1000x3000 mm
- Reduced thickness (3.5 mm)
- Inalterability and resistance to atmospheric agents and UV rays
- High wind load resistance performances
- Anti-graffiti and scratch-proof surface
- Easy cleaning and maintenance
- Wide range of finishing
- Easy installation
- Two fixing versions: mechanical and structural fixing

Fixing system



Mechanical

Structural

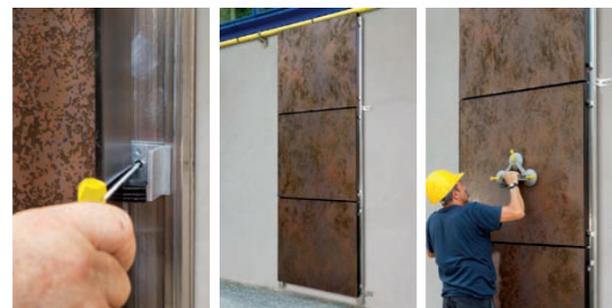
Installation sequence



Joining the frame to the substructure

Mechanical anchoring of the connection system (Step 1)

Mechanical anchoring of the connection system (Step 2)



Coupling pin for panel alignment. This pin enables the removal of a single panel, if necessary

Portion of a finished curtain wall

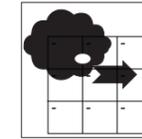
Removal of a single panel

Technology



- 1 - Joint hooking system for the aluminium frames in the mechanical fixing version
- 2 - Tightness frame in the mechanical fixing version
- 3 - Tightness upper profile
- 4 - Hooking
- 5 - Tightness lower profile

Certified performance



Wind load resistance EN 12179 - EN 13116

When the METRA curtain wall was subjected to a wind load equal to a speed of 216 Km/h (2250 Pa), neither breakages nor permanent deformation occurred.

Load Q Up to 2250 Pa according to the slab dimension

Capacity of a curtain wall door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

Finishing

Metropolis



Sketch



Collection



Filo



Tredi



Oxide



I naturali



Blend



Filo romantico



Linfa



For those who love natural wood applied to contemporary forms, aluminium-wood is the perfect choice. Great resistance, security and air-tightness with an aluminium core... as well as the stunningly stylish shades and look of various types of wood.

Aluminium-Wood

Natural oxidized effects, matt, gloss, and even extra-gloss, produce a cool and trendy effect. The Evolution line was inspired by architects to enhance modern lifestyles. Evolution is highly sought after for all types of living spaces because of its strong aesthetic and durability in any type of climate.

Evolution

The Sablé finishes have a multi-sensorial effect. They are fantastic to look at and rough or satin to the touch. The sandblasted effect is quite versatile, trendy and easy to use in renovations and innovative living.

Sablé

The Natur-Plus line combines the sturdiness and reliability of aluminium windows and doors with the colours of the wood. Two layers of powder reproduce the typical grain and hues of the various types of wood

Natur-Plus

The Raffaello line was developed in collaboration with important design boards and offers two different finishes: smooth and hammered. Thanks to the specific use of the "pointillist" method - obtained by a controlled mix of several different shades of colour - both finishes have an original and exclusive feel and look.

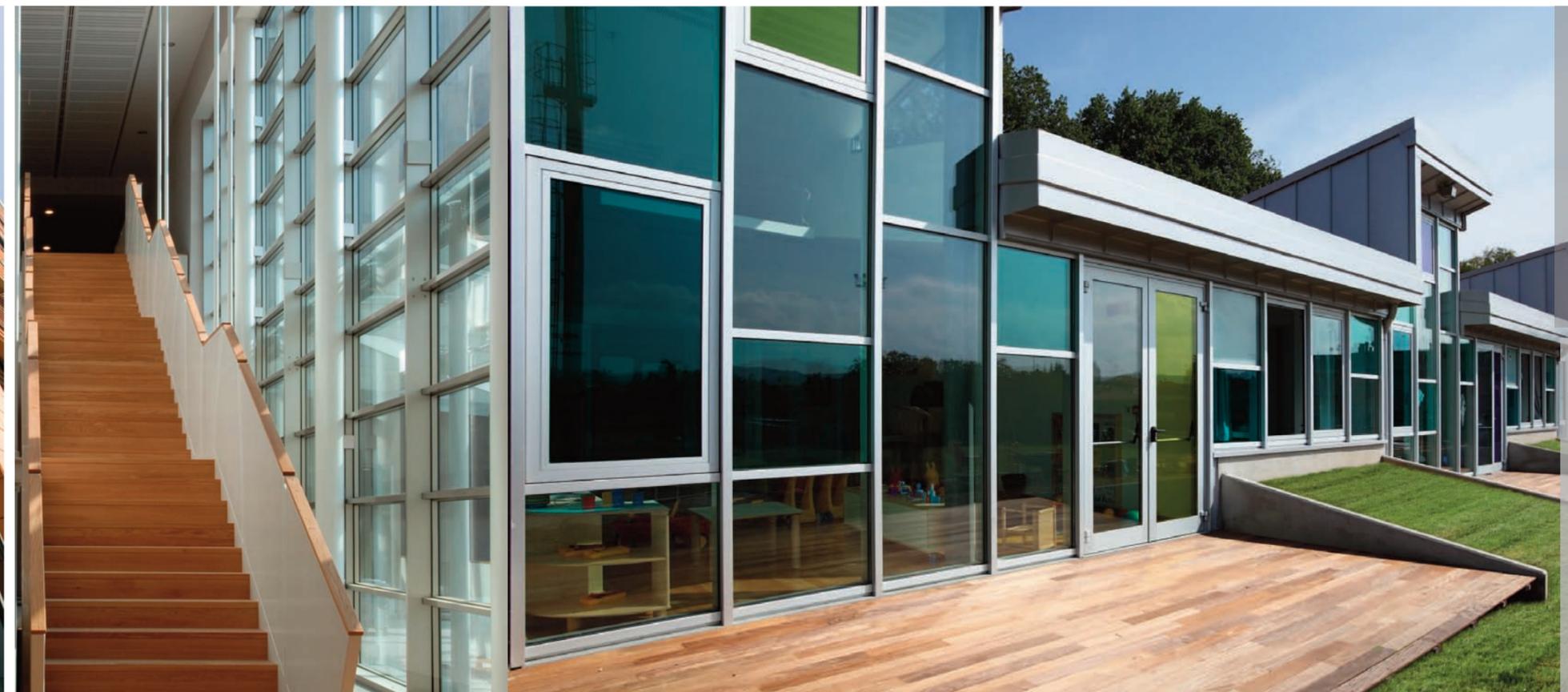
Raffaello

Decor combines the strength of aluminium with the aesthetics of wood. This line faithfully reproduces the grain of traditional types of wood thanks to the sublimation process carried out on the painted layer.

Decor

The AL line represents the range of the most classic colours. Beside the traditional gloss finishes, the matt colours ensure great scratch-proof features.

AL



Design complements

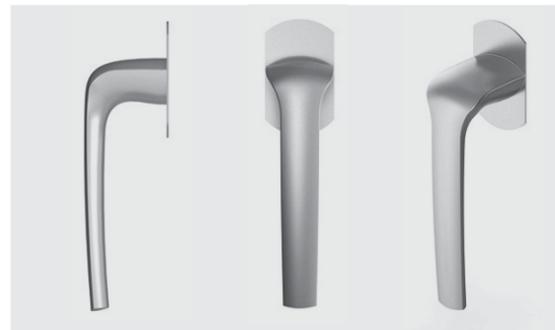
Handles and hinges. The complements and accessories are suitable for all Metra systems. Contemporary forms with unique and exclusive styles are designed to enhance every last detail in all types of living space, bringing together aesthetics and function. The wide range of finishes ensures a vast assortment of aesthetic solutions and combinations in line with individual style.

METRA handles

The METRA handle project is the result of many considerations and attention: it is designed for a comfortable grip and elegant look, with many details to be discovered.

A pure essential and dynamic geometrical shape, designed to be combined with different materials and finishes to be suitable for all interior styles.

The shape reminds the Company logo that comes from the base to a wedge shape in correspondence of the handle. The concealed rose, aligned with the vent surface represents an aesthetic and constructive innovation giving great presence to the handle.



Accessories and design complements

Curtain walls

Casement windows and doors

Aluminium-wood windows and doors

Sliding windows and doors

Internal doors and partition walls

Systems for balconies

Verandas

Shading systems

Photovoltaic applications

Accessories and design complements

Finishing and coatings



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Brochure
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