

MORE LIGHT

Slim-framed insulated steel profile system for windows, doors and facades



Villa Loo, the Netherlands

Photo: Marc Goodwin

MHB

Steel windows, doors and facades since 1938



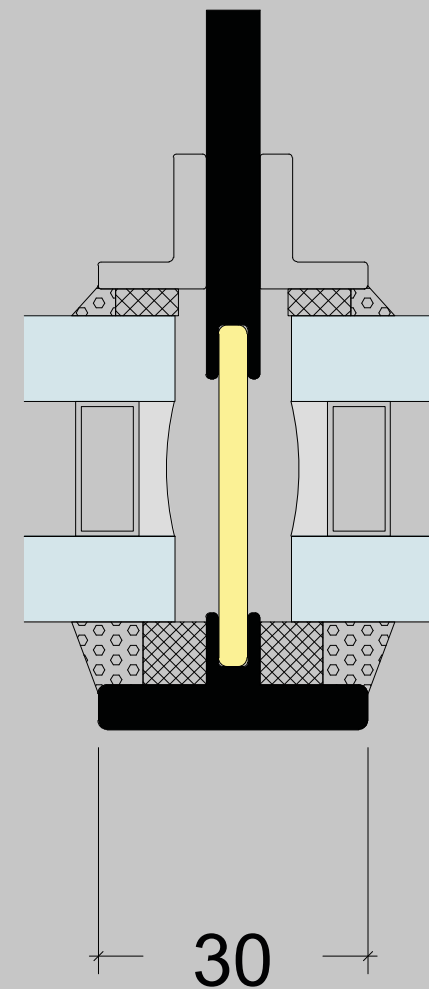
Pure

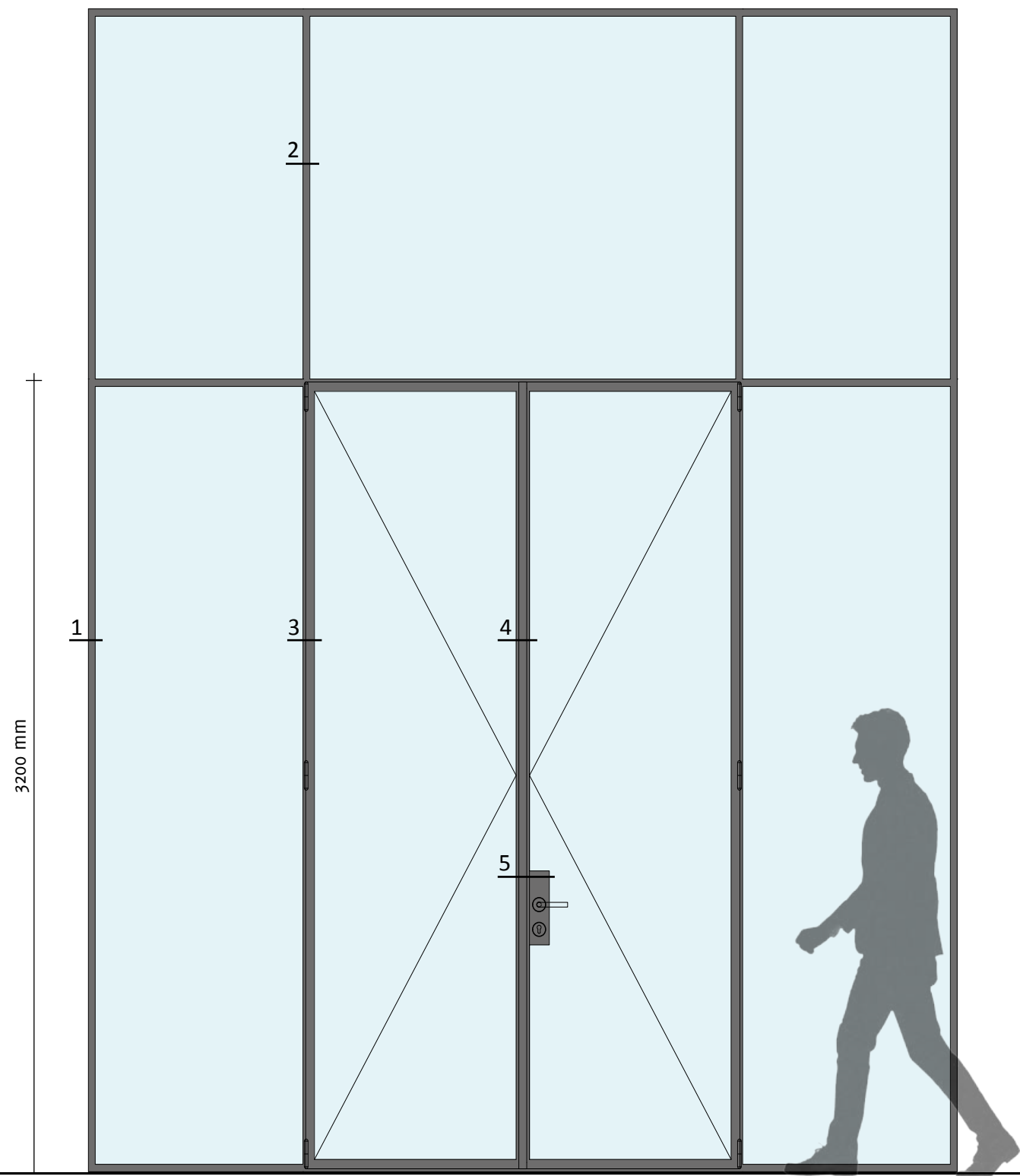
Solid

Steel

The world's slimmest...

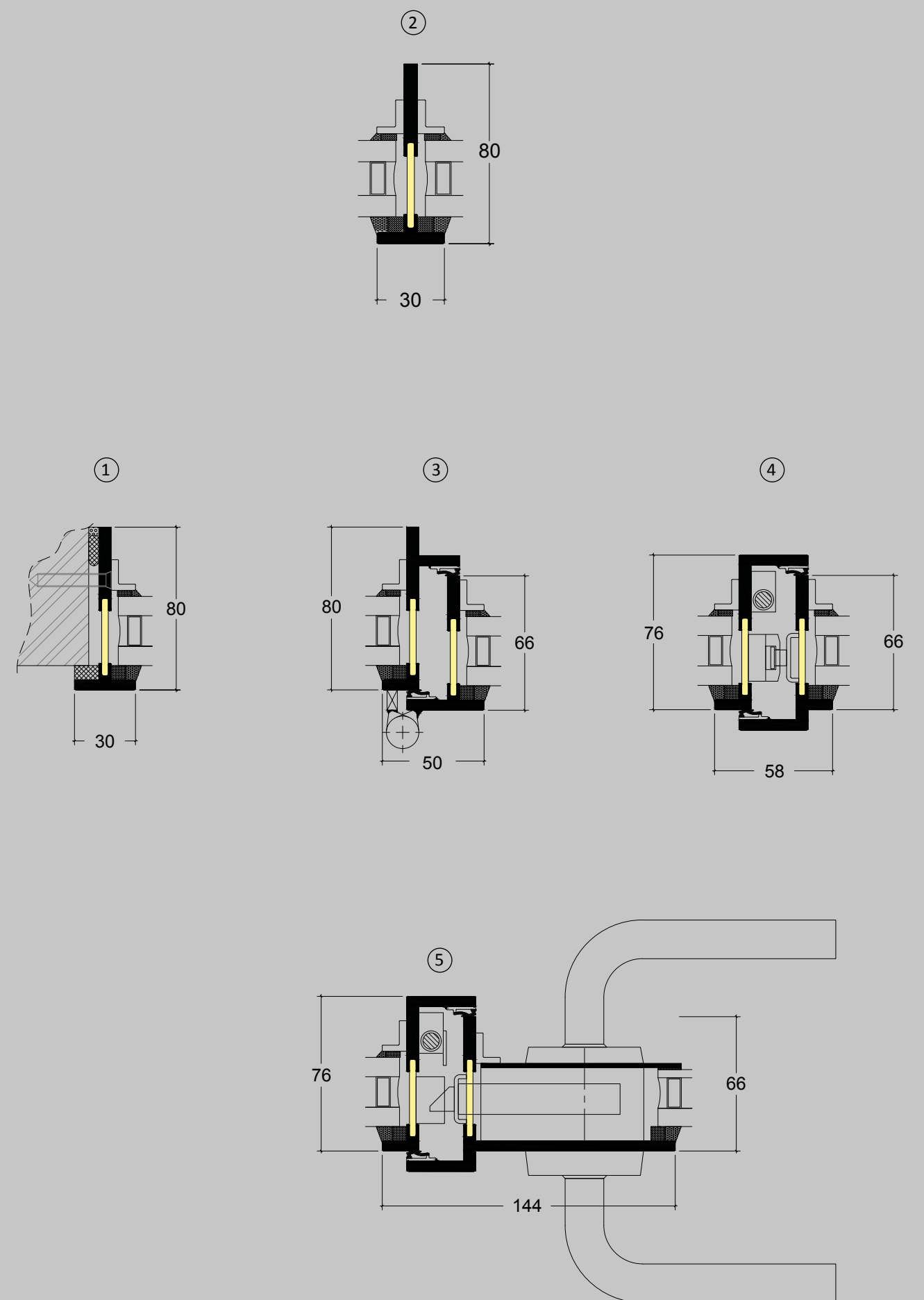
The SL30-ISO® profile is one of MHB's most valued innovations. It makes use of the specific qualities of steel to create a very slim, strong and durable profile that is perfectly wind and watertight and has insulation values few others can match. With a sight line of 30 mm it is the slimmest steel profile system on the market today.





...in every detail

The MHB sharp-edged steel profiles allows for the creation of ultra-slim facades, windows and doors. The combination of the inherent strength of steel with smart design gives architects the freedom to play with large glazing areas. The very slim sight line of the SL30-ISO® profile integrates perfectly into the outlines of a building. Being almost invisible, it allows huge amounts of light to flood in.





Distillery Monkey 47, Germany
Photo: Black Forest Distillers GmbH

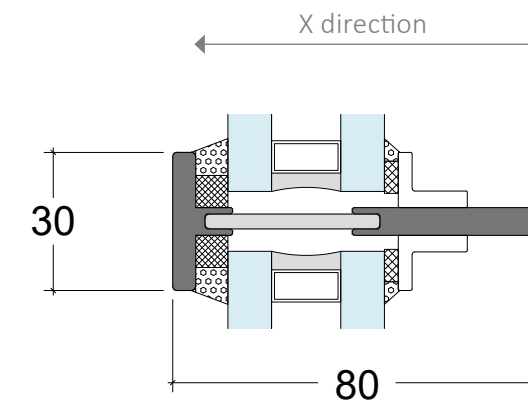
The power of solid steel

The exceptional structural strength of MHB's solid steel thermally broken profiles allows for the largest glass surfaces and operable elements, without having to compromise on its ultra slim features.

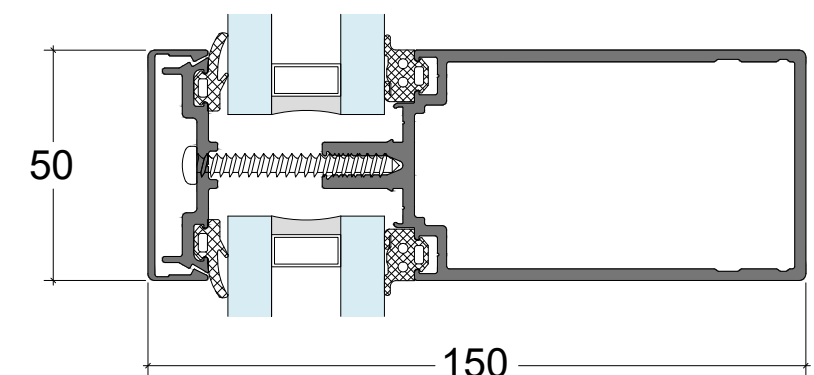
Strength comparison

Standard MHB profiles have a very high bending resistance value in comparison with other common profile systems.

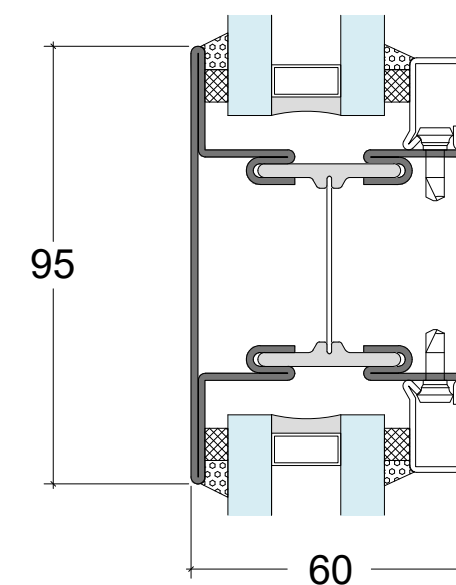
SL30-ISO®, solid steel
 $I_x = 35,89 \text{ cm}^4$



Aluminum curtain wall
 $I_x = 29,8 \text{ cm}^4$ **



Folded sheet metal
 $I_x = 22,1 \text{ cm}^4$



* The strength of glazing systems is determined by the ability to resist bending. This stiffness is expressed in the I_x value. The higher the I_x value, the stronger the profile system is in the direction of X.

** Expressed in I_x of steel.



FORTY FIVE TEN

4510 Mainstreet Dallas, USA
Photo: Kurt Griesbach, Corban

MHB PRODUCTS

Strength

The MHB profile system is the slimmest and strongest profile system in the world. The patented crimping technology allows the thermally broken profile to maintain the strength of solid steel.

Aesthetics

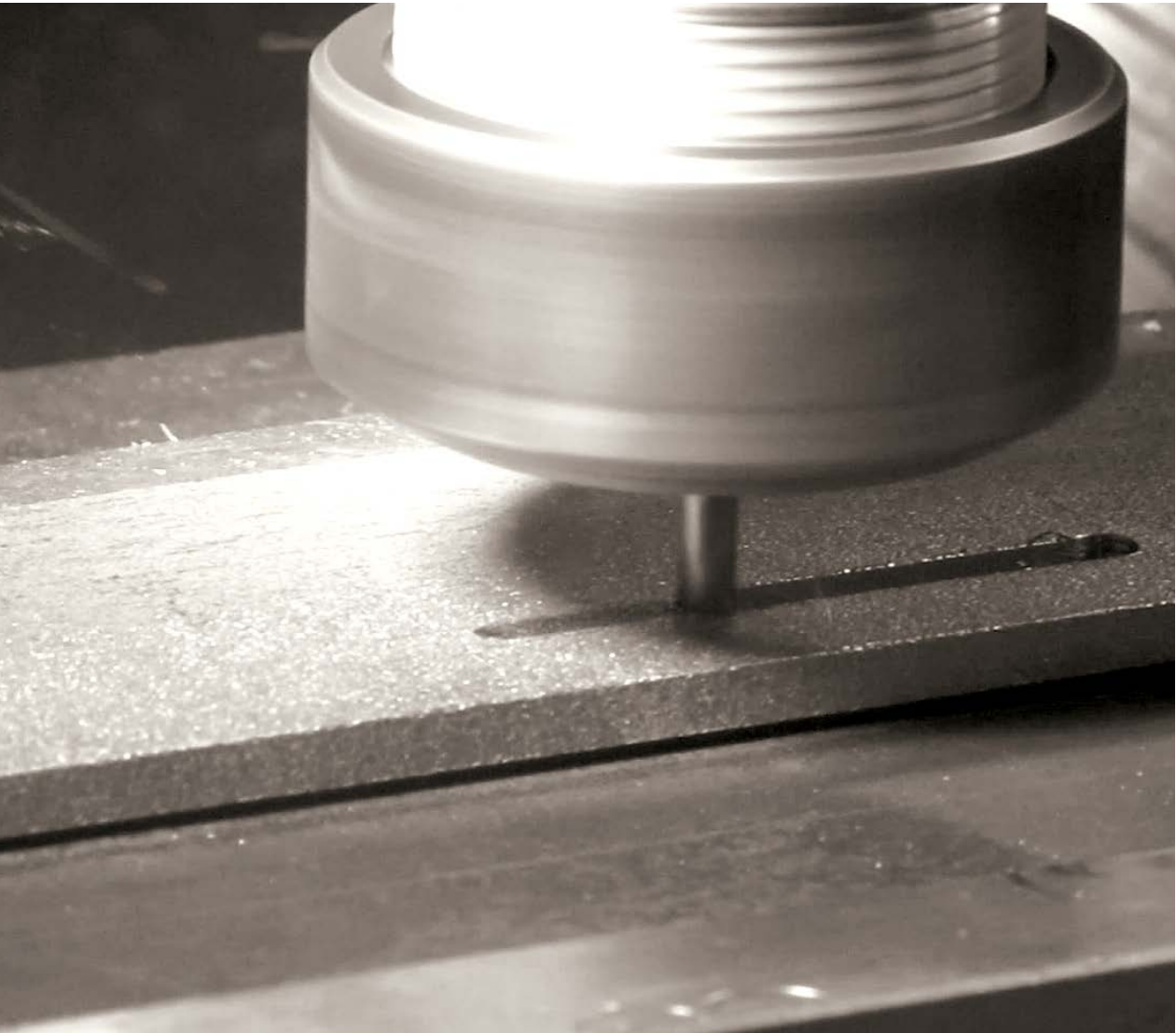
The structural strength and design of MHB's profile systems allows architects to create transparent steel facades with exceptional design freedom. Even for the largest units, in every configuration, the narrow sightlines of 30 mm (fixed frame) and 50 mm and 58 mm (inward- and outward opening elements) can be maintained. Different elements can be combined and connected without the need for additional stiffeners or structural mullions allowing the narrow sightlines to continue throughout the façade.

Performance and Durability

MHB can guarantee the maximum performance values in terms of wind-and water tightness, burglar resistance and thermal insulation based on most stringent European standards and certifications. The solid steel (5 and 6 mm) profiles combined with the best surface treatment available for steel, result in a service life of 100 years.

Versatility

MHB systems are available in various depths allowing for a wide array of technical possibilities in every possible configuration. Adapting or creating custom made profiles is not an obstacle to the realization of specific projects.



MHB COMPANY

Focus on steel

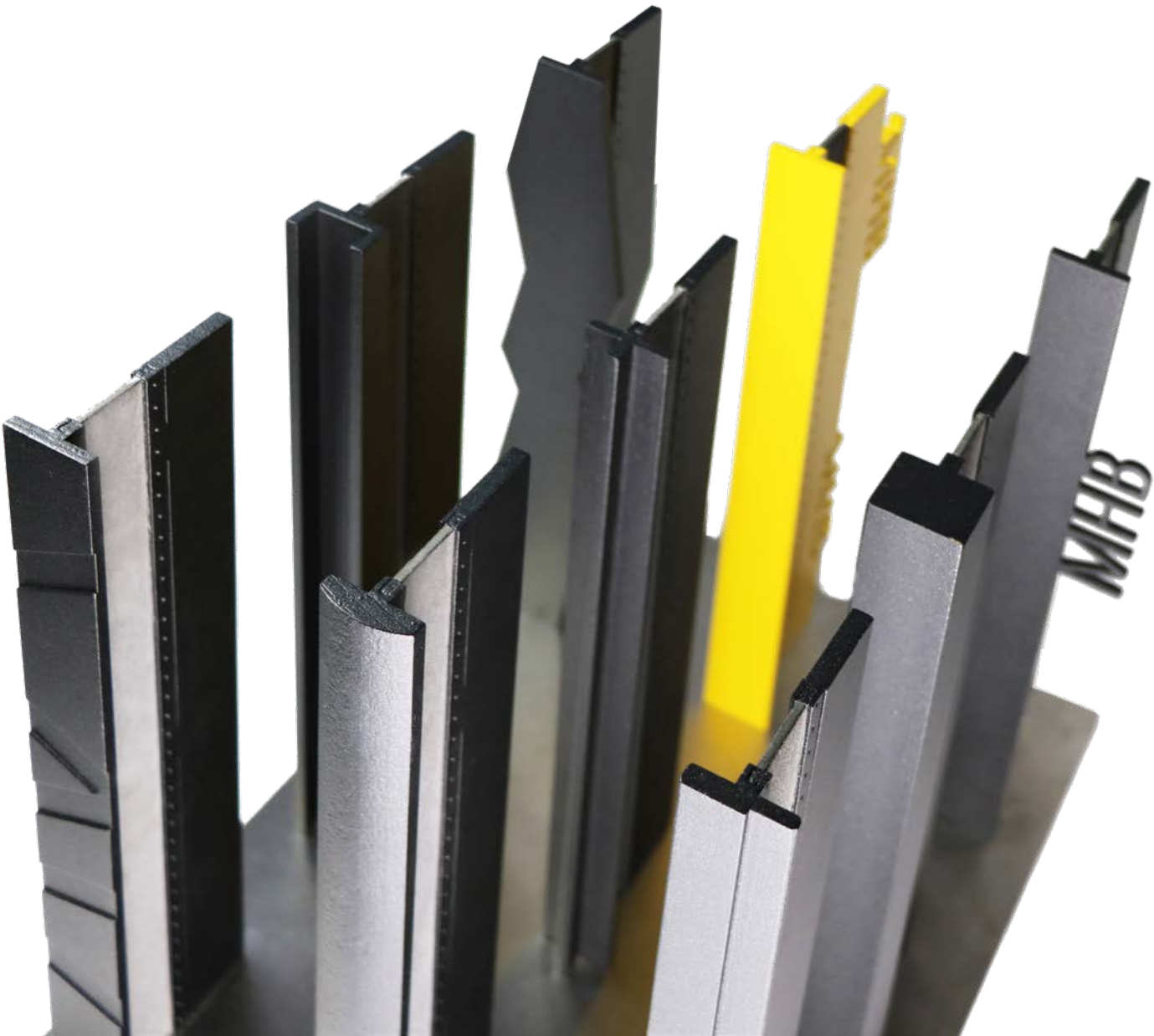
MHB comprises of 200 people focusing exclusively on the development and production of steel windows, doors and facades.

Inhouse design and development

MHB is the sole designer and developer of all its windows, doors, and facades. This allows for the integration of in-depth product knowledge and experience from manufacturing into the development and continuous improvement of its systems. More over, it allows for unique, project specific solutions.

Exclusive manufacturer

All products are exclusively manufactured by MHB allowing for optimal quality control and the crucial specialization and optimization of craftsmen skills.





Ceremony building Maashorst, the Netherlands
Photo: Roos Aldershoff

MHB

A tradition of craftsmanship & innovation

MHB is a proud family business founded in 1667. The Mathijssen family worked as blacksmiths before starting the production of steel windows in 1938, providing MHB with a solid base and identity. Today, MHB employs over 200 professionals focused on the development and production of steel doors, windows and facades.

MHB has reinvented the door- and window industry with its thermally broken steel profile series and is leading the revolutionary reintroduction of steel as integral part of the most beautiful buildings. We combine a constant focus on innovation with top of the line craftsmanship. We do not settle for anything less than making the best and most beautiful doors and windows in the world. We believe in close collaboration with great partners.

It is our mission to bring more light into this world. We do this by creating the best steel windows, doors and facades in a true and meaningful way, contributing to a better world for everyone.



Jan, Mark and Remko Mathijssen

“Our mission to bring more light into this world comes from the heart. It is what we stand for as a company and is translated in everything we do.”

Mark Mathijssen, co-owner & managing director MHB

Innovation
Dedication
Quality

MHB head office and production facility
located in Herveld, the Netherlands

Bauhaus Dessau, Germany

Photo: Ward Snijders

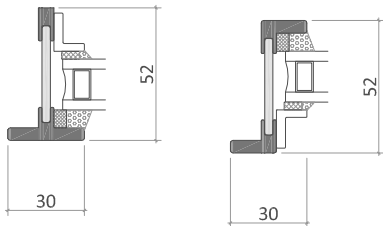


MHB Insulated Slim Line Steel profile systems

MHB system
The MHB thermally insulated steel system consists of profiles with different lengths and multiple configurations offering an ideal engineering solution for every scenario.

Classic-ISO®

In 2011, MHB designed a new steel window profile for the renovation of the Bauhaus buildings. Classic-ISO is an adaptation of the SL30-ISO® system to meet the aesthetics of the original Bauhaus profiles while preserving its outstanding insulation performance.

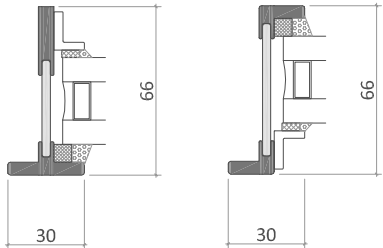


Two cross-section diagrams of the Classic-ISO profile. The left diagram shows a height of 52 and a width of 30. The right diagram shows a height of 52 and a width of 30.

2011

Classic-ISO-PLUS®

Available since 2014, Classic-ISO-PLUS® is a deeper and stronger profile which permits operable elements with bigger dimensions than with Classic-ISO while preserving the same appearance.

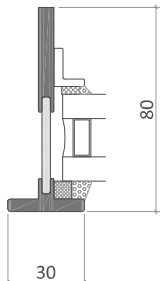


Two cross-section diagrams of the Classic-ISO-PLUS profile. The left diagram shows a height of 66 and a width of 30. The right diagram shows a height of 66 and a width of 30.

2014

SL30-ISO®

On the market since 2009, this profile is ideal for new, contemporary designs due to its minimal dimensions. Nevertheless it can also be used to renovate historical and listed buildings that have to meet today's technological performance standards. It allows double glazing and highly glazed panels.

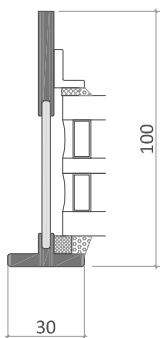


A cross-section diagram of the SL30-ISO profile showing a height of 80 and a width of 30.

2009

SL30-ISO-PLUS®

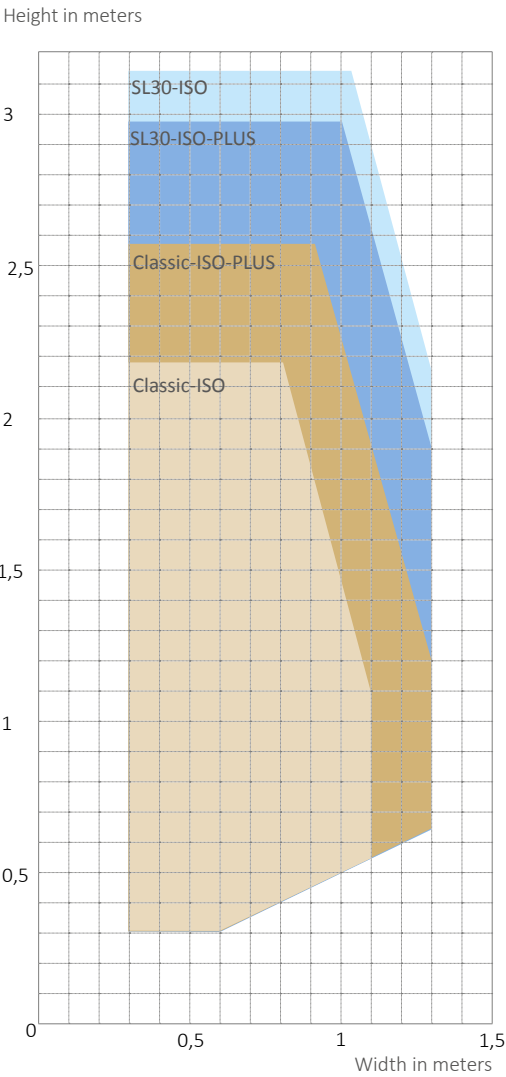
This variation on SL30-ISO® has been available since 2013. The profile is deeper and stronger. It can also be fitted with triple glass for an even better insulation performance.



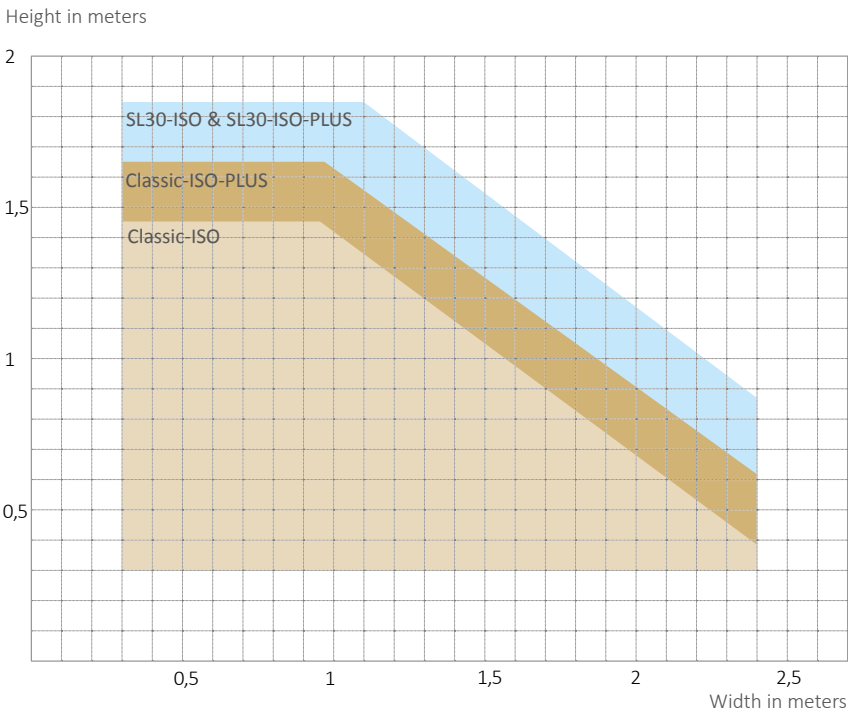
A cross-section diagram of the SL30-ISO-PLUS profile showing a height of 100 and a width of 30.

2013

Maximum sizes for windows and doors
(vertical hinging)



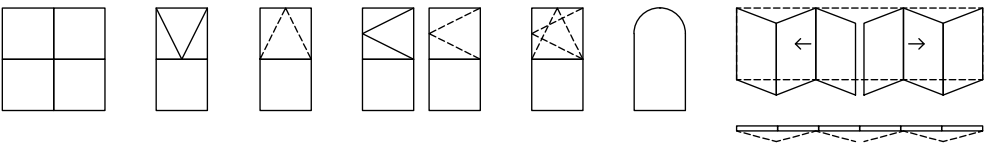
Maximum sizes for windows and doors
(horizontal hinging)



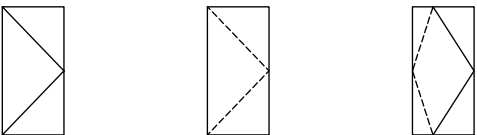
System configurations

This is an overview of the standard configurations of MHB's profile systems. Custom, project specific solutions outside the standard product range and sizes are also possible.

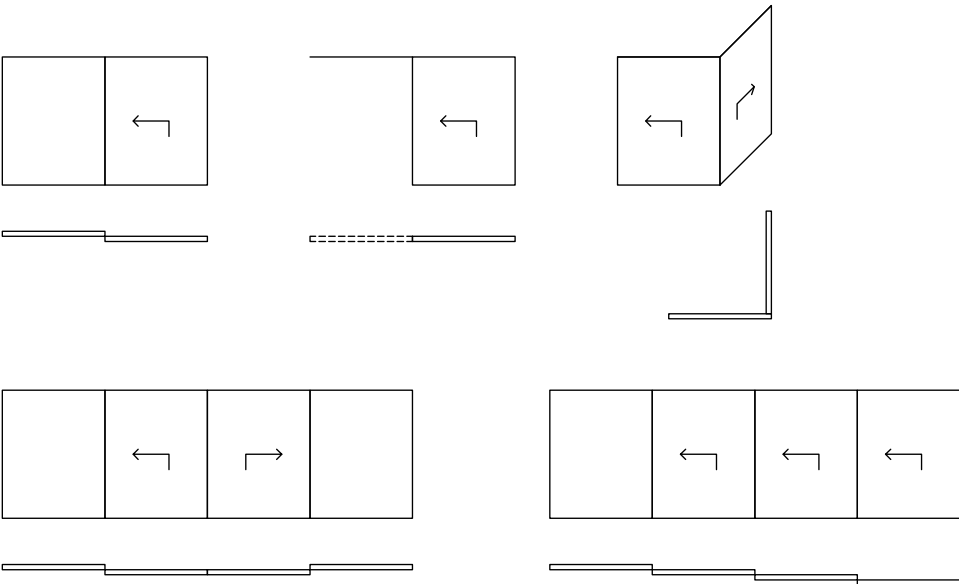
Windows



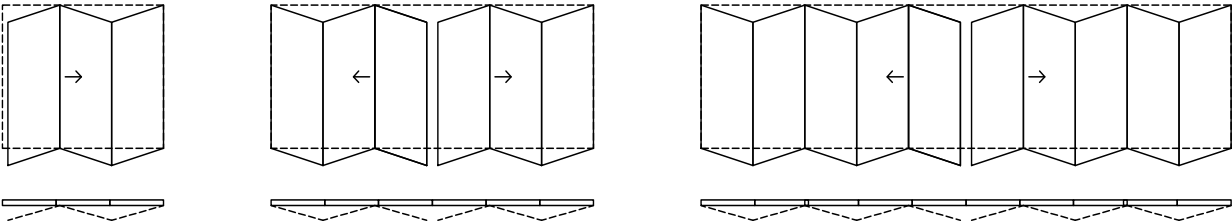
Doors



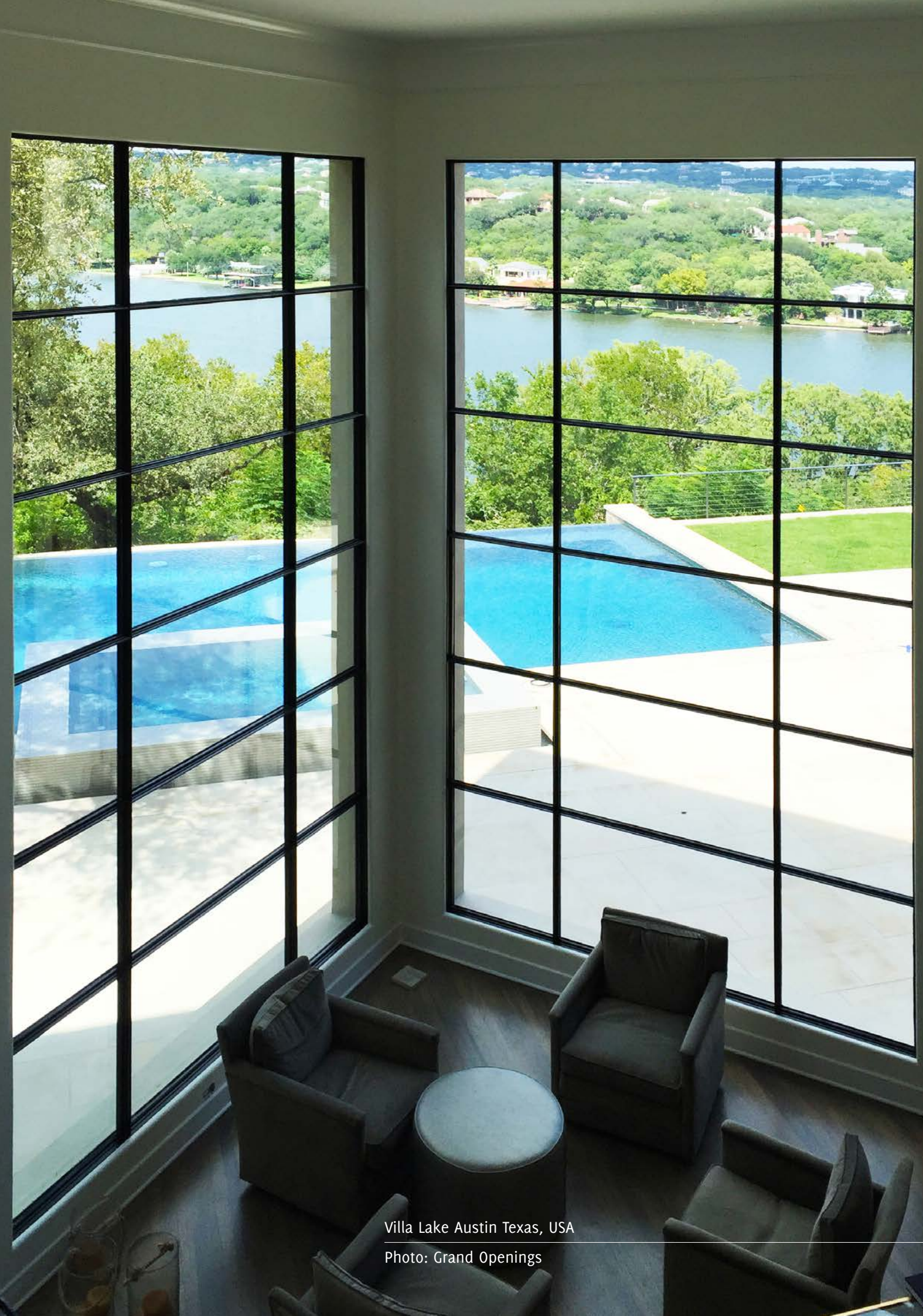
Sliding doors



Folding doors

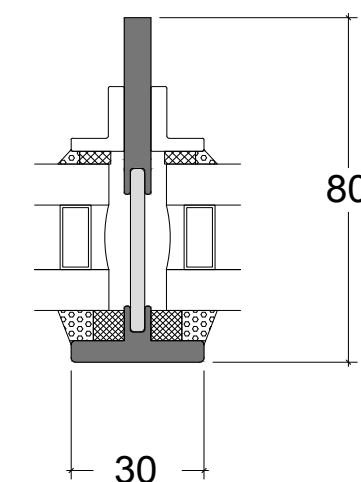
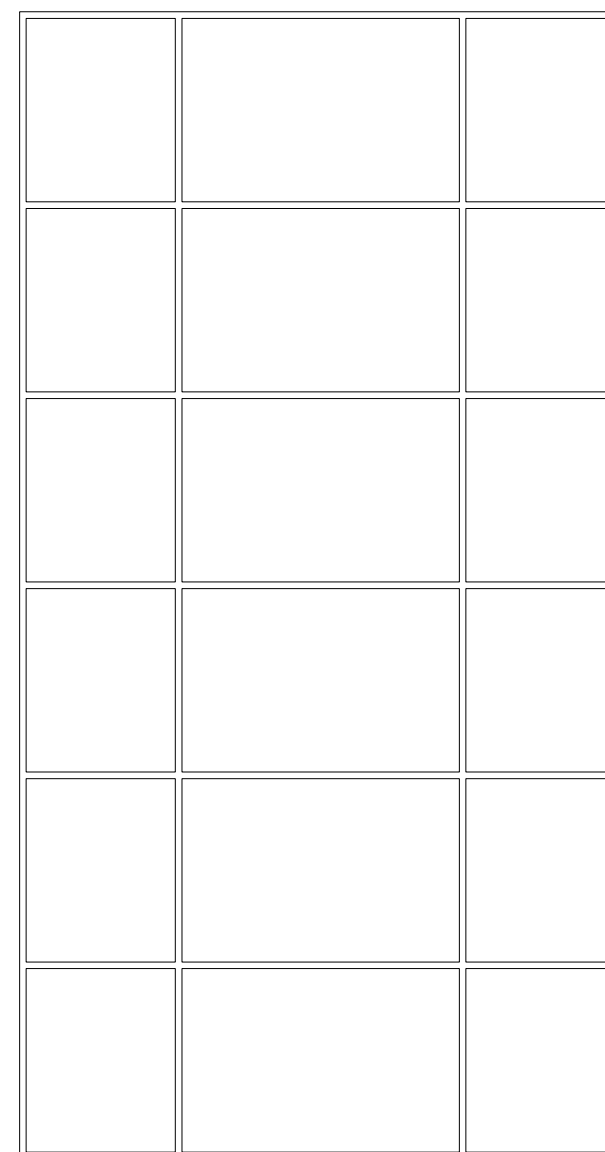


Villa Helmond, the Netherlands
Photo: MHB

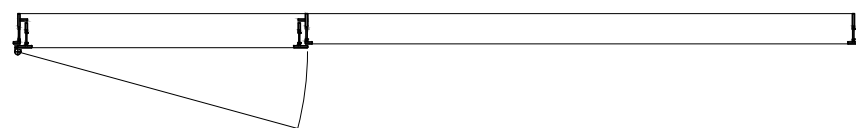
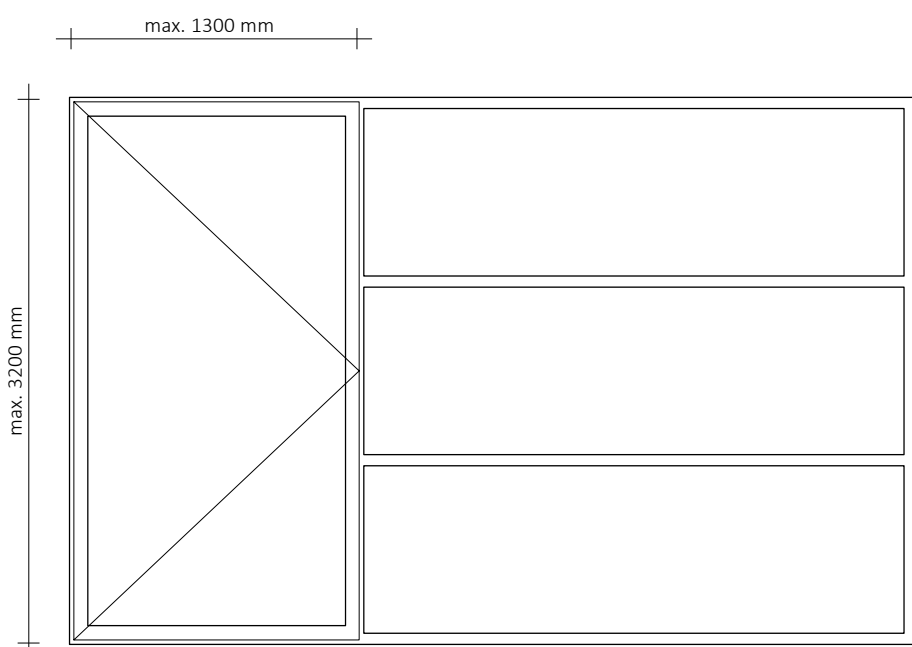
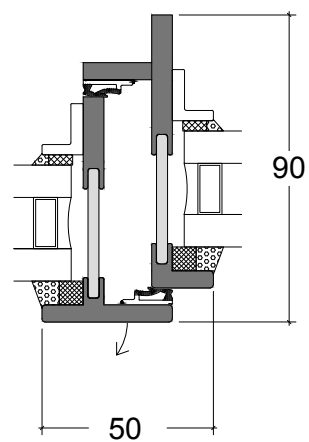


Villa Lake Austin Texas, USA
Photo: Grand Openings

MHB's fixed glazing window profiles make it possible to realize transparent steel facades with large (True Divided Lite) glass surfaces with minimal sightlines of 20 mm (building to glass) and 30 mm (glass to glass). The exceptional structural aspects of MHB steel profiles allow architects to design bigger and higher frames for large glass panes, bringing in more light and creating breathtaking views.



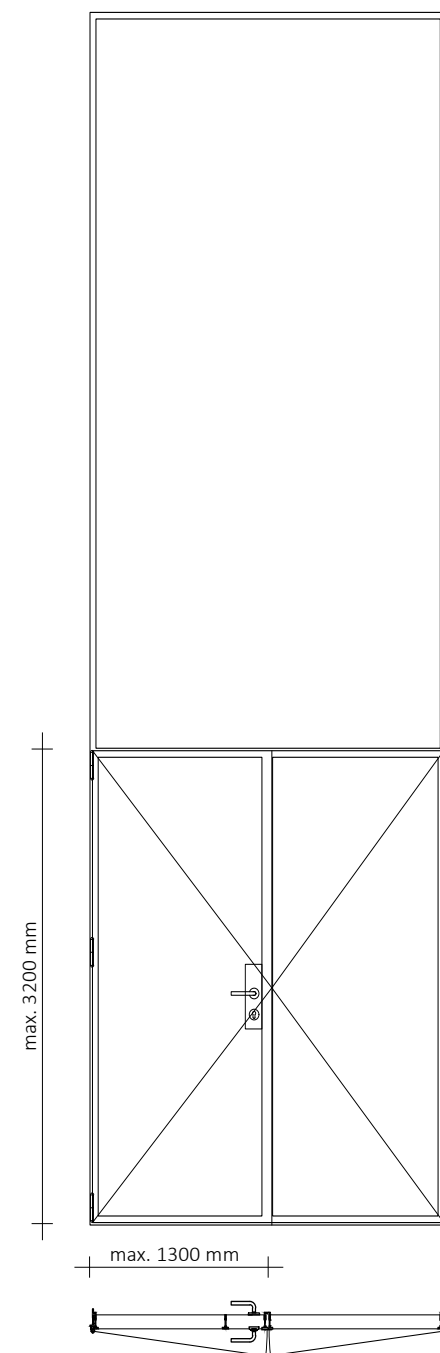
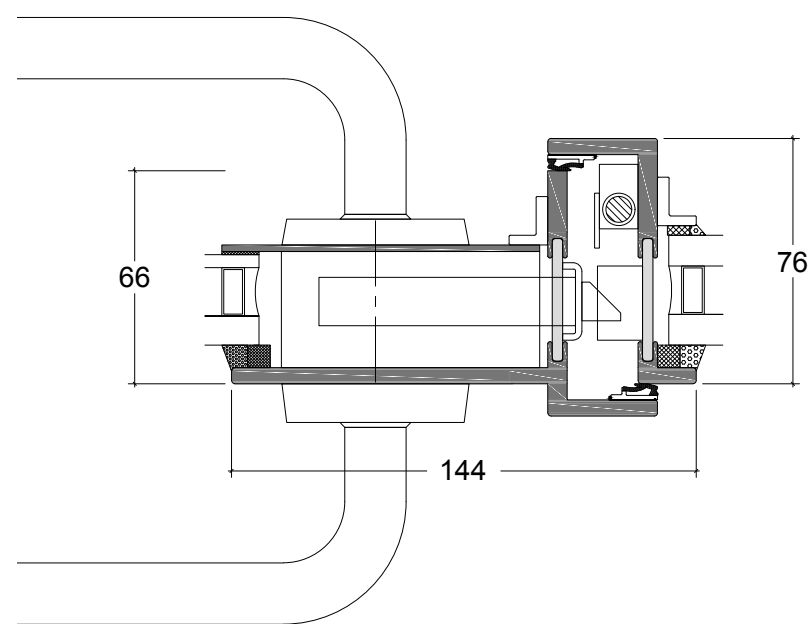
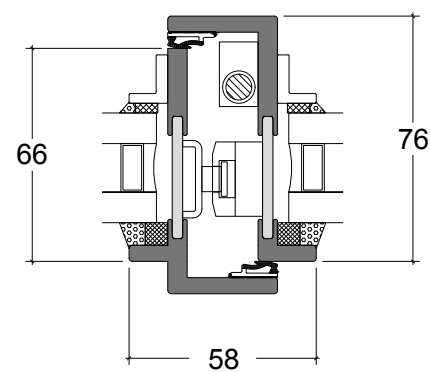
Fixed glazing



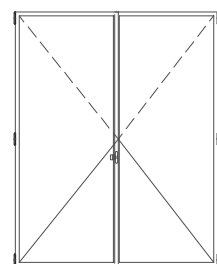
Windows



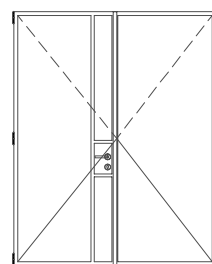
Villa Austin Texas, USA
Photo: Tim Cuppet Architects



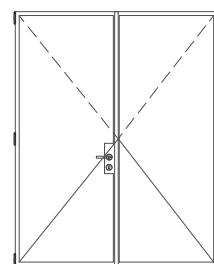
Doors



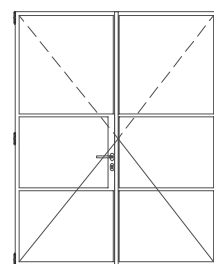
Patio door



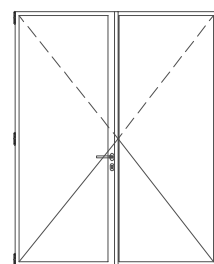
Locking case



Floating locking case



Partial lock mullion



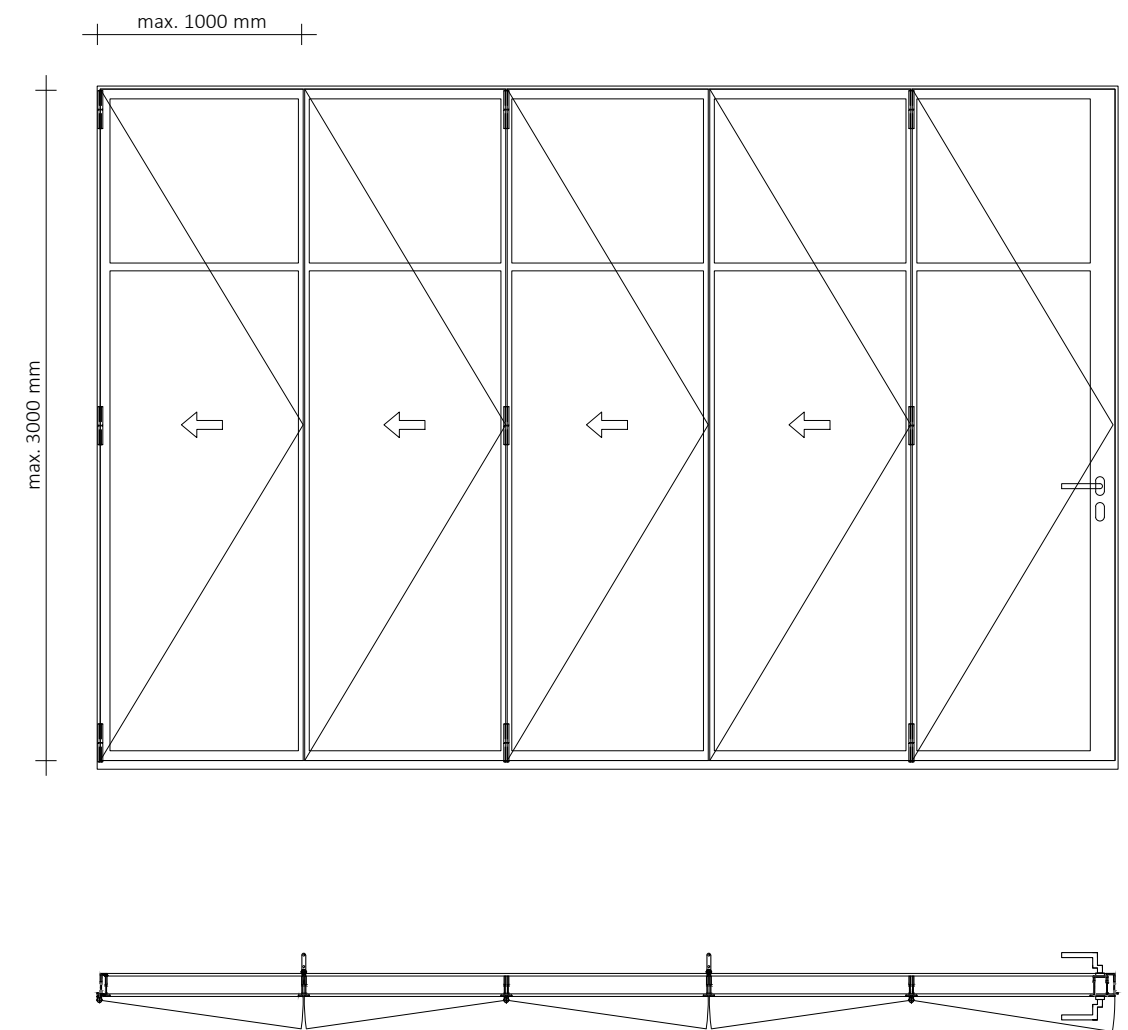
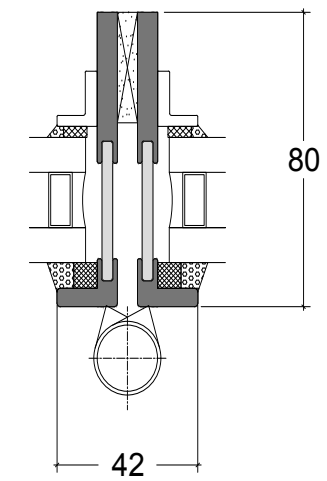
Lock mullion



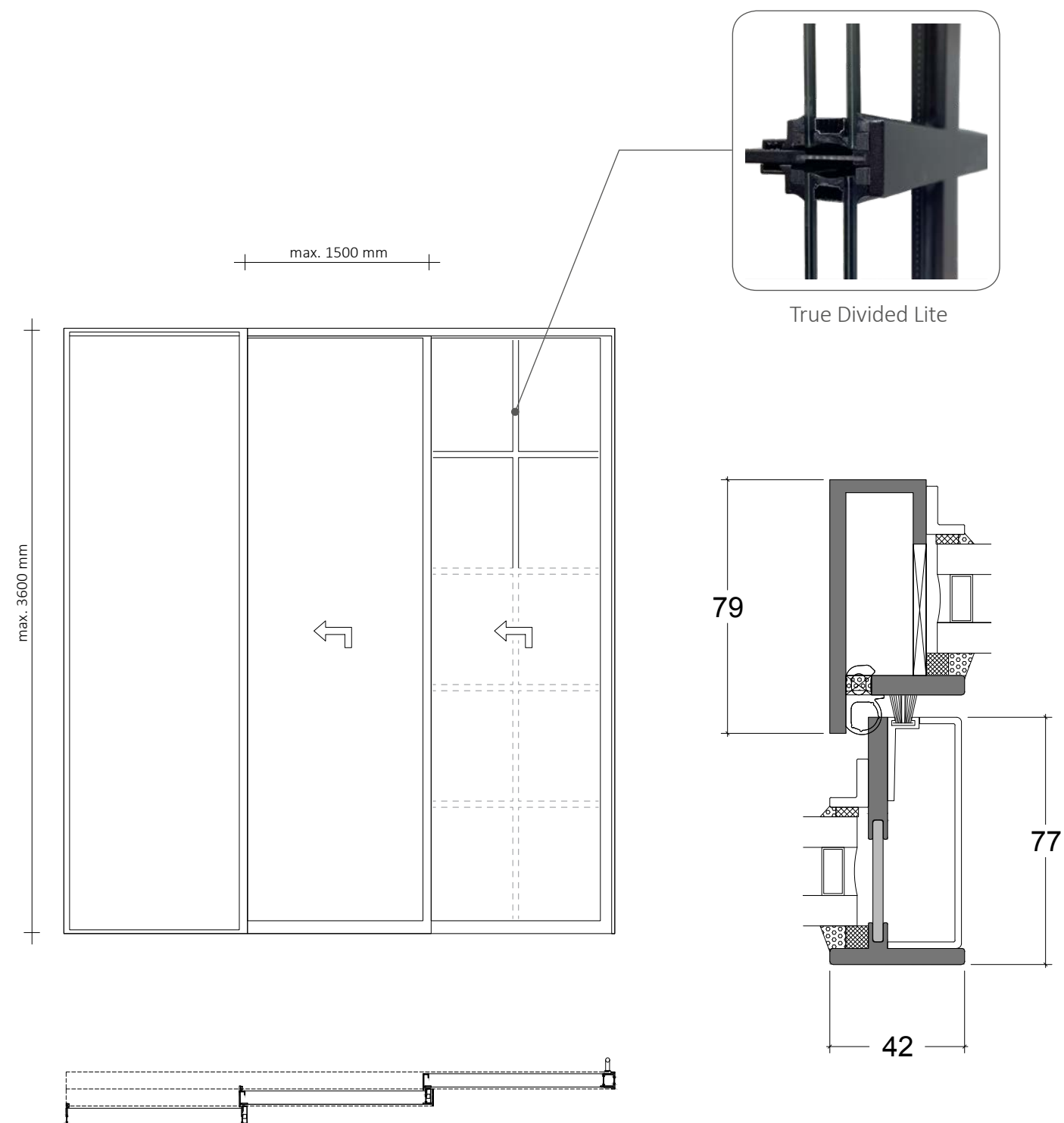
Villa Loo, the Netherlands
Photo: Marc Goodwin



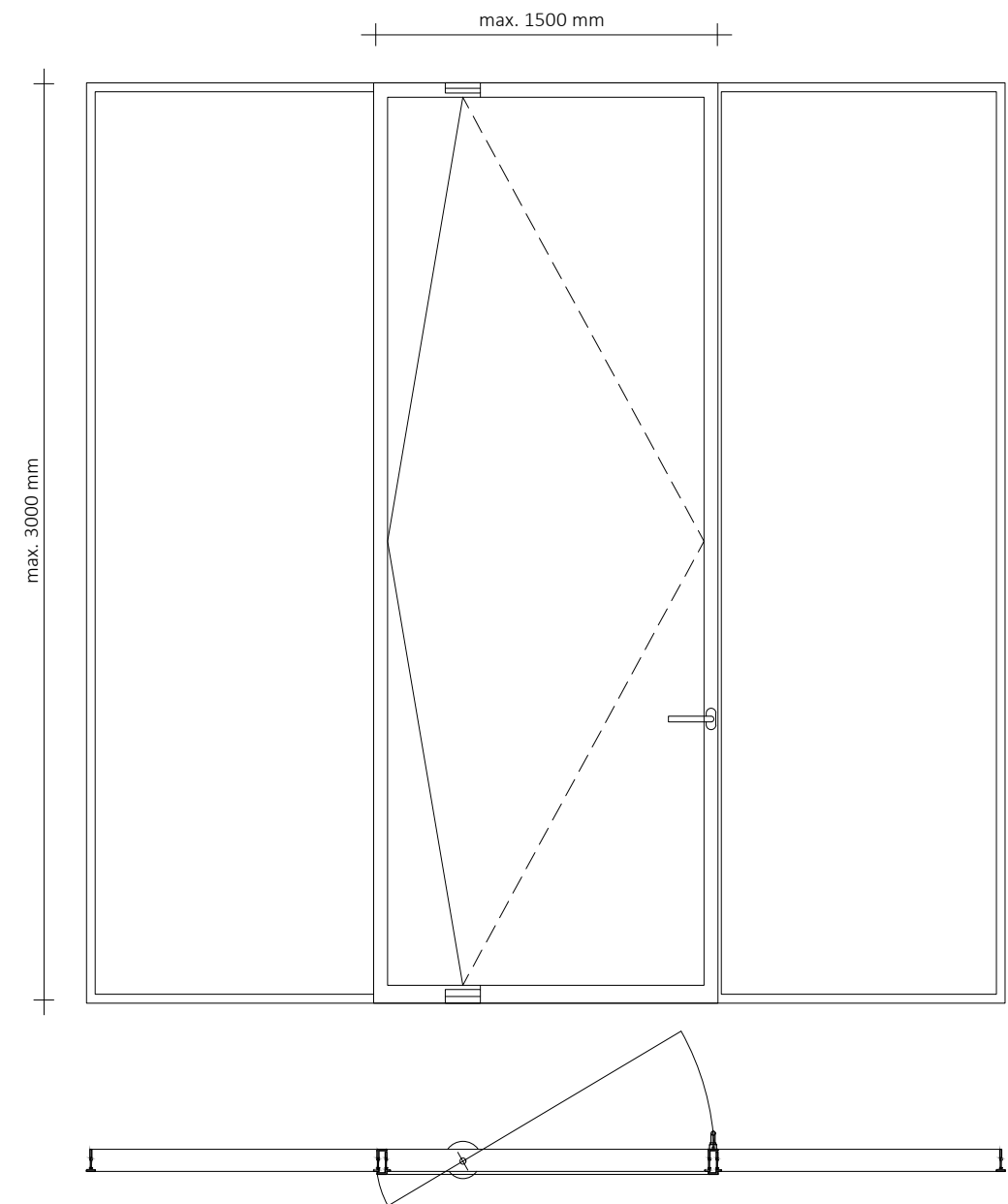
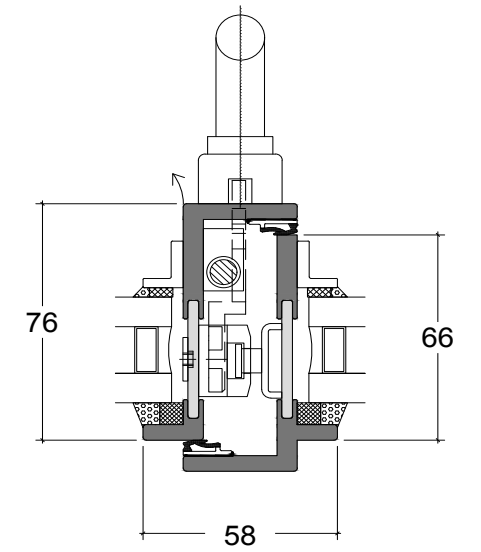
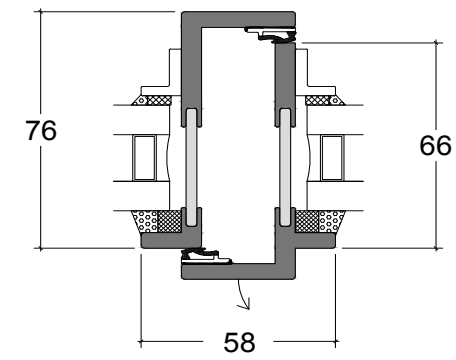
Extension house Rotterdam, the Netherlands
Photo: Thomas Fasting



Folding doors



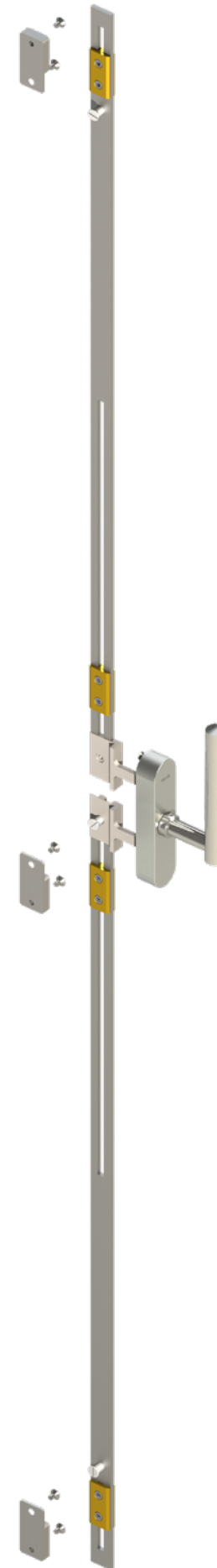
Sliding doors



Pivot windows and doors

Hardware fittings

MHB window and door systems come with a large variety of hardware. These are specially designed and manufactured by MHB to complement the high quality steel profile systems. Made of solid stainless steel, MHB fittings can be powder coated in our in-house surface treatment facilities.



Detail of folding door handle

Photo: Agence Symbiose



Distillery Monkey 47, Germany

Photo: Black Forest Distillers GmbH

System strength

An important feature of this profile system is the minimal amount of framing needed to achieve structural integrity. The MHB profiles also have a sightline of 30 mm for mullions and transoms, which makes it unique.

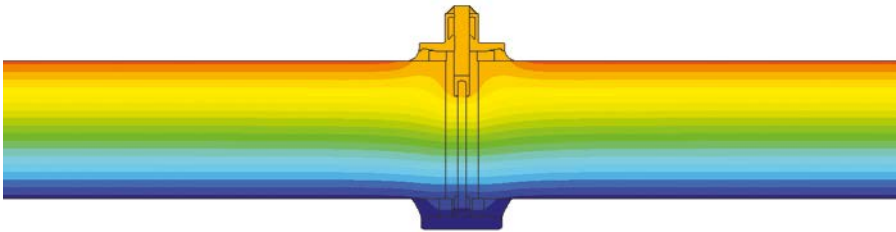
Strength and bending values

The values in this table will help you check or define which product or profile system is the most appropriate for your project according to the local building standards and regulations.

	52 Inner glazing		52 Outer glazing		66 Inner glazing		66 Outer glazing		80 Inner glazing		100 Inner glazing	
	Ix (cm⁴)	Ix (in⁴)	Ix (cm⁴)	Ix (in⁴)	Ix (cm⁴)	Ix (in⁴)	Ix (cm⁴)	Ix (in⁴)	Ix (cm⁴)	Ix (in⁴)	Ix (cm⁴)	Ix (in⁴)
	Wx (cm³)	Wx (in³)	Wx (cm³)	Wx (in³)	Wx (cm³)	Wx (in³)	Wx (cm³)	Wx (in³)	Wx (cm³)	Wx (in³)	Wx (cm³)	Wx (in³)
Fixed glass	8,39	0,12	8,39	0,12	21,01	0,50	21,01	0,50	35,89	0,86	60,00	1,44
	2,20	0,07	2,20	0,07	5,24	0,32	5,24	0,32	8,10	0,49	11,00	0,67
Windows generic	13,59	0,33	8,65	0,12	23,31	0,56	22,05	0,53	31,90	0,77	53,00	1,27
Outswing	4,62	0,28	2,21	0,07	6,30	0,38	5,31	0,32	6,86	0,42	8,60	0,52
Windows generic	10,74	0,26	14,62	0,35	23,79	0,57	25,03	0,60	48,76	1,17	70,80	1,70
Inswing	2,84	0,17	5,22	0,32	5,43	0,33	7,03	0,43	10,53	0,64	13,89	0,85
Double lock mullion					123,00	2,95	124,00	2,98	123,00	2,96	81,00	1,95
Outswing					20,26	1,23	23,00	1,40	23,00	1,40	14,40	0,88
Double lock mullion	40,75	0,98	40,75	0,98	69,88	1,68	69,88	1,68	69,88	1,68	100,00	2,40
Inswing	9,97	0,61	9,97	0,61	13,92	0,85	13,92	0,85	13,92	0,85	20,80	1,27
Floating lock case & casement					123,00	2,95	124,00	2,98	123,00	2,96	85,82	2,06
Outswing					20,26	1,23	23,00	1,40	23,00	1,40	14,43	0,88
Floating lock case & casement	40,75	0,98	40,75	0,98	69,88	1,68	69,88	1,68	69,88	1,68	100,00	2,40
Inswing	9,97	0,61	9,97	0,61	13,92	0,85	13,92	0,85	13,92	0,85	20,80	1,27
Casement window	15,01	0,36	9,05	0,13	27,76	0,67	23,79	0,57	32,94	0,79	100,00	2,40
Outswing	4,69	0,29	2,26	0,07	7,11	0,43	5,40	0,33	6,89	0,42	20,00	1,22
Casement window	11,23	0,27	16,24	0,39	19,33	0,46	27,76	0,67	52,37	1,26	100,00	2,40
Inswing	2,86	0,17	5,30	0,32	3,87	0,24	7,11	0,43	10,79	0,66	20,00	1,22
Tilt & Turn window									44,76	1,07		
Inswing									8,76	0,53		

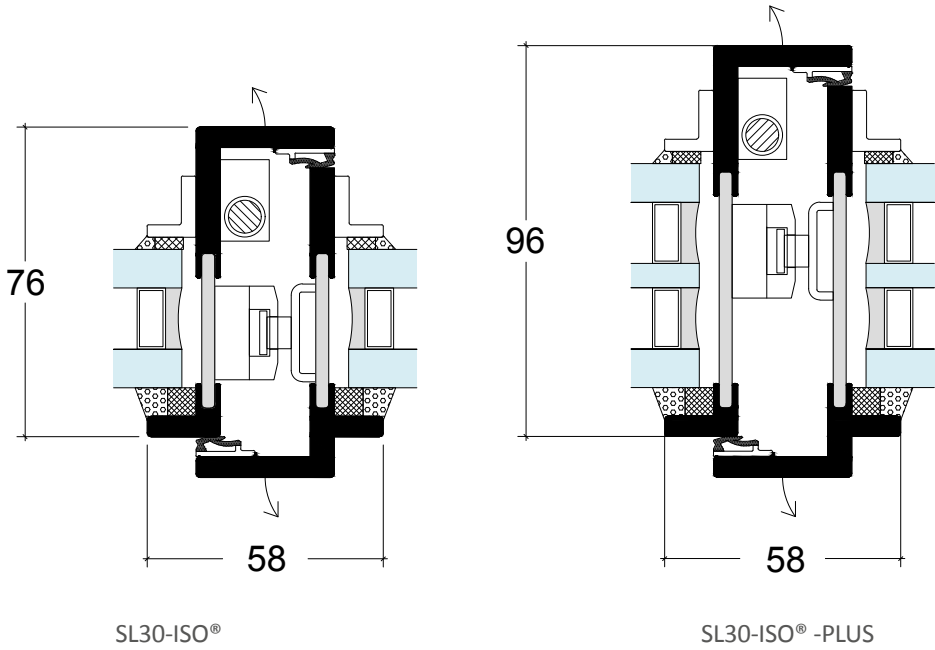
Thermal insulation

MHB products achieve excellent insulation values thanks to the high performance thermal separation as well as its narrow sightline offering minimal exposure to the cold.



Double and triple glazing

MHB’s profile systems are developed for standard use of double-pane and triple pane glazing with possible glass thickness (with glazing beads) ranging from 10 mm (Classic-ISO® IG) to 69 mm (SL30-ISO-PLUS® IG). The narrow sightlines are maintained for every configuration.





Wind and water tightness

The SL30-ISO® steel window system is able to conceal a fully integrated water drainage system within the profiles thanks to the system's superior sealing components. This results in a high level of wind and water tightness without any visible holes or rain caps.

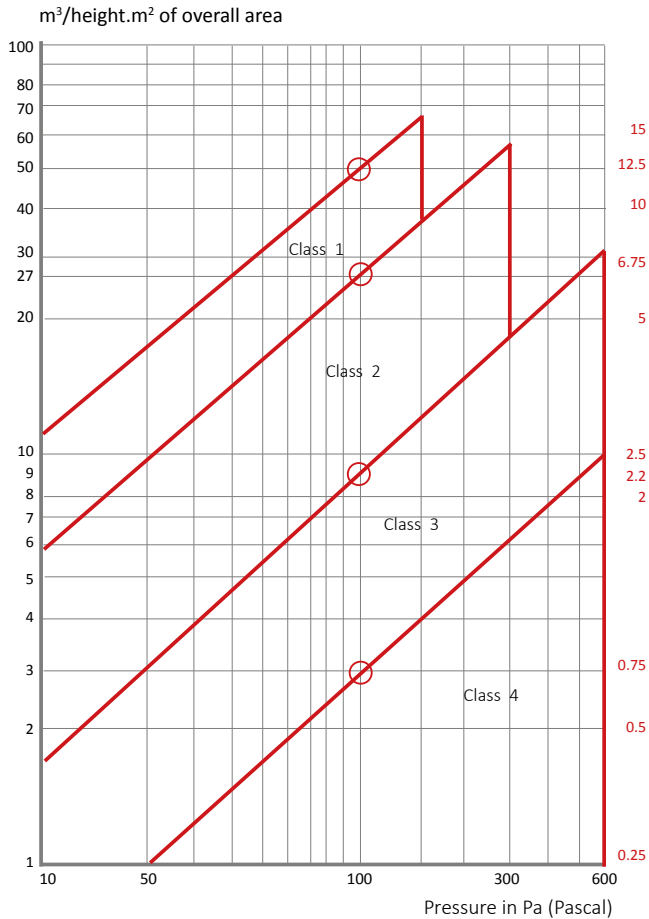
All MHB products comply with class 7A - 150Pa of EN12208 for water resistance and with class 4 of EN12007 for wind resistance.

When required, MHB can guarantee the following higher performances:

	Water tightness EN12208	Air permeability EN12207
Fixed windows	9A 600 Pa	Class 4
Windows		
- Tilt-and-turn window	9A 600 Pa	Class 4
- Other windows	8A 450 Pa	Class 4
Doors	8A 450 Pa	Class 4

If higher performances than shown in this table are needed, the client should mention this explicitly in the product specification. MHB can guarantee the maximum performance values based on European standards and certification.

Determination of air permeability classes



Wind and water tightness testing facility MHB, the Netherlands

Photo: MHB

Surface treatment

Surface treatment is crucial for a product’s life span. All MHB windows and doors are powder coated in-house. MHB only uses the “Super Durable Quality” of Axalta Coating Systems to ensure the best service treatment available.

Powder coating

Powder coating is the best available method of preserving steel. All MHB windows and doors are triple-powder coated in MHB’s inhouse powder coating facility. MHB is one of few companies worldwide that have obtained the Qualisteelcode certification ensuring the best surface treatment possible.

Quality, efficiency, durability

All applied coatings and colors are certified as “super durable quality” and fulfill the requirements for outdoor applications worldwide.

“Super Durable” powder coatings have been specially developed for steel windows and door frames as well as facades and meet Qualicoat class 2 GSB master as well as AAMA 2604- 2605 specifications.

Super Durable powder coatings have been tested according to the Florida tests (three years). They clearly exceed all Qualicoat specifications for gloss retention and color stability.

You can choose between different finishes:

Matt	→	30 gloss level
Anodic	→	20 gloss level
Fine texture	→	8-12 gloss level with texture
Fine texture Metallic	→	5 gloss level with texture & metallics
Metallic	→	metallic glimmer

In addition, MHB offers liquid metal finishes on top of the zinc and sealing primer powder coating layers. Possessing the optical and physical properties of range of aesthetically attractive metal types, this is available in (not limited to) bronze, weathered or white bronze, yellow, green or brown brass and gunsmoke.



Surface treatment

Depending on the location of the project, MHB applies different surface treatments: MHB distinguishes between 3 different types of location :

1: Inland: > 6 km from the sea

Gritblasting SA 2.5, a 3-layer powder coating:

- The first layer is a primer containing zinc
- The second layer is a sealing primer
- The third layer is a Super Durable top coating (see MHB color collection)

Total thickness is at least 150 µm according to Dutch quality requirements.

2: Coastal locations: 1 - 6 km from the sea

Gritblasting SA 2.5, followed by thermal spraying and a 2-layer powder coating:

- Thermal spraying is applying a 35 µm thick zinc layer
- The second layer is a sealing primer
- The third layer is a Super Durable top coating (see MHB color collection)

Total thickness is at least 150 µm according to Dutch quality requirements.

3: Direct coastal locations: < 0 - 1 km from the sea

MHB coated stainless steel (suitable for class C5 according to Qualisteelcoat EN1090-2 | ISO 12944 1:1998)

A 2-layer enameled powder coating is applied to the pre-treated stainless steel:

- The first layer is a sealing primer
- The second layer is a Super Durable top coating (see MHB color collection);

Total thickness is at least 100 µm according to Dutch quality requirements.



“By using the Qualisteelcoat certification we ensure our customers the best surface treatment possible. To achieve the highest quality we powder coat in-house.”

Villa Lieshout, the Netherlands

Photo: MHB





Nedinsco Venlo, the Netherlands

Photo: MHB

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