

MHB 

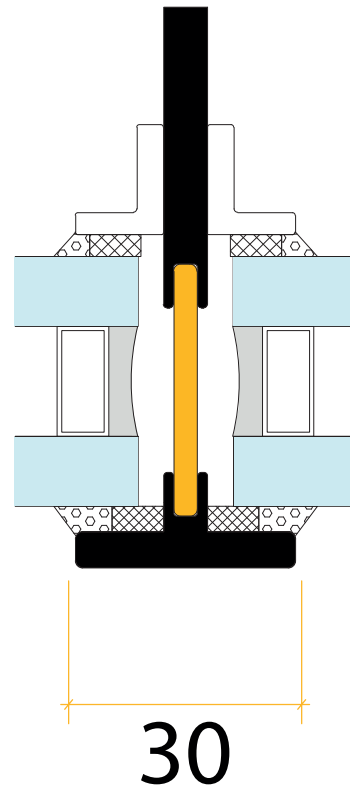
## More Light

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

Discover more benefits on [mhb.eu](https://mhb.eu)

*Dutch Masters of Steel since 1667*





## The world's slimmest...

“

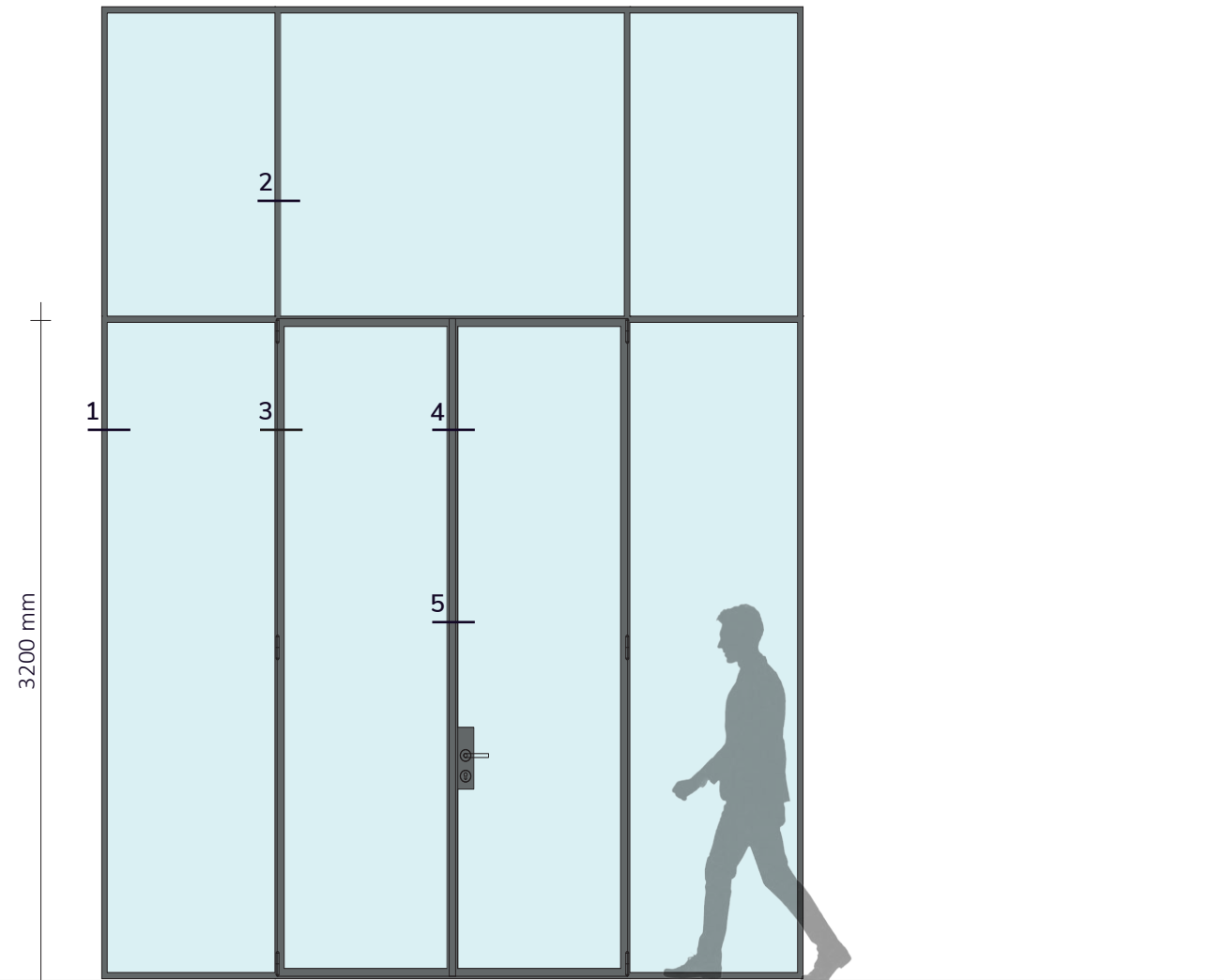
*The SL30-ISO® profile is one of MHB's most valued innovations. It makes use of the specific qualities of steel to create a very slim, strong and durable profile that is perfectly wind and watertight and has insulation values few others can match.*

*With a sight line of 30 mm it makes it the slimmest steel profile system on the market today.*

”



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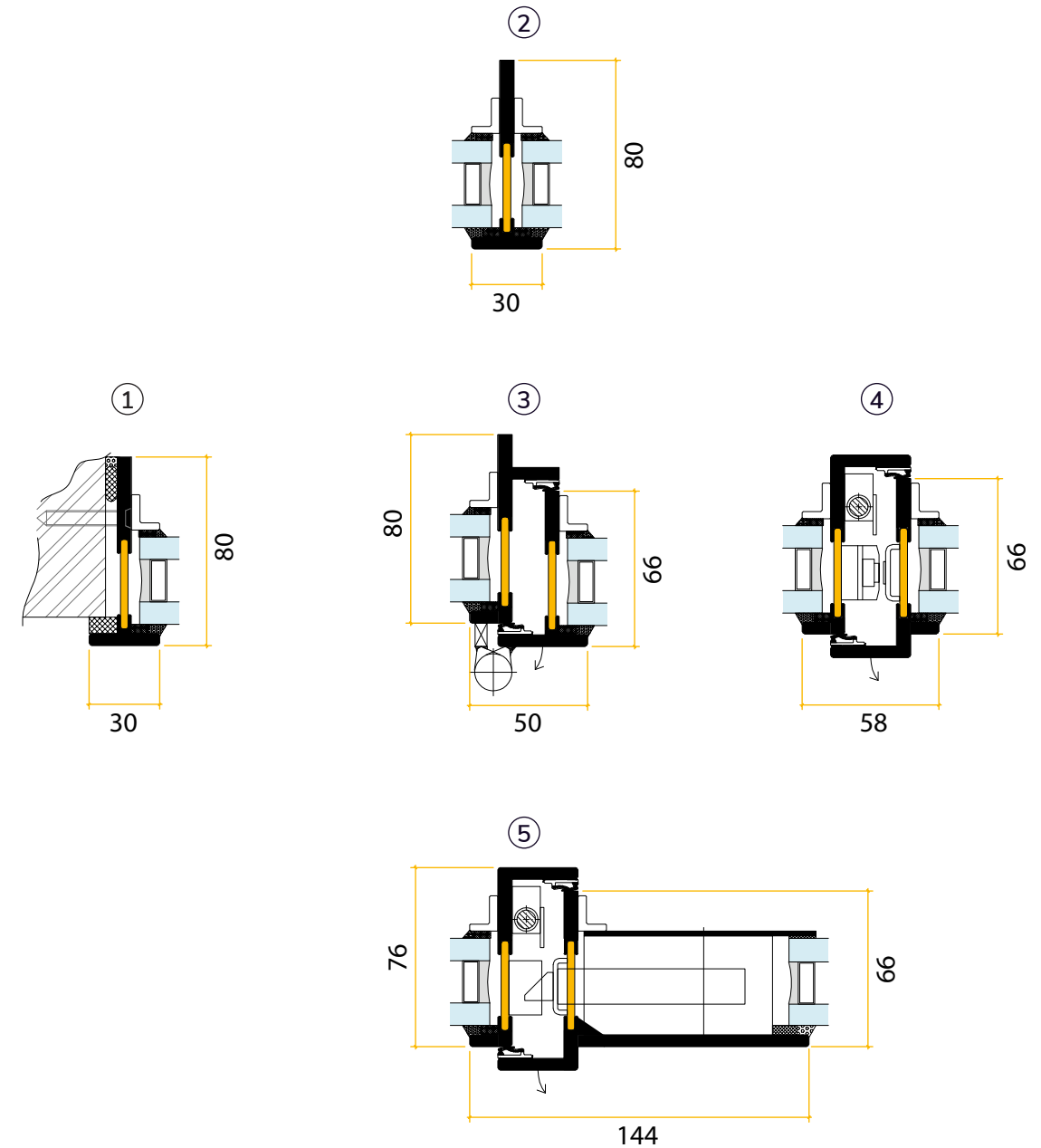
## ... in every detail

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.



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More Light

Distillery Monkey 47, Germany



*Dutch Masters of Steel since 1667*



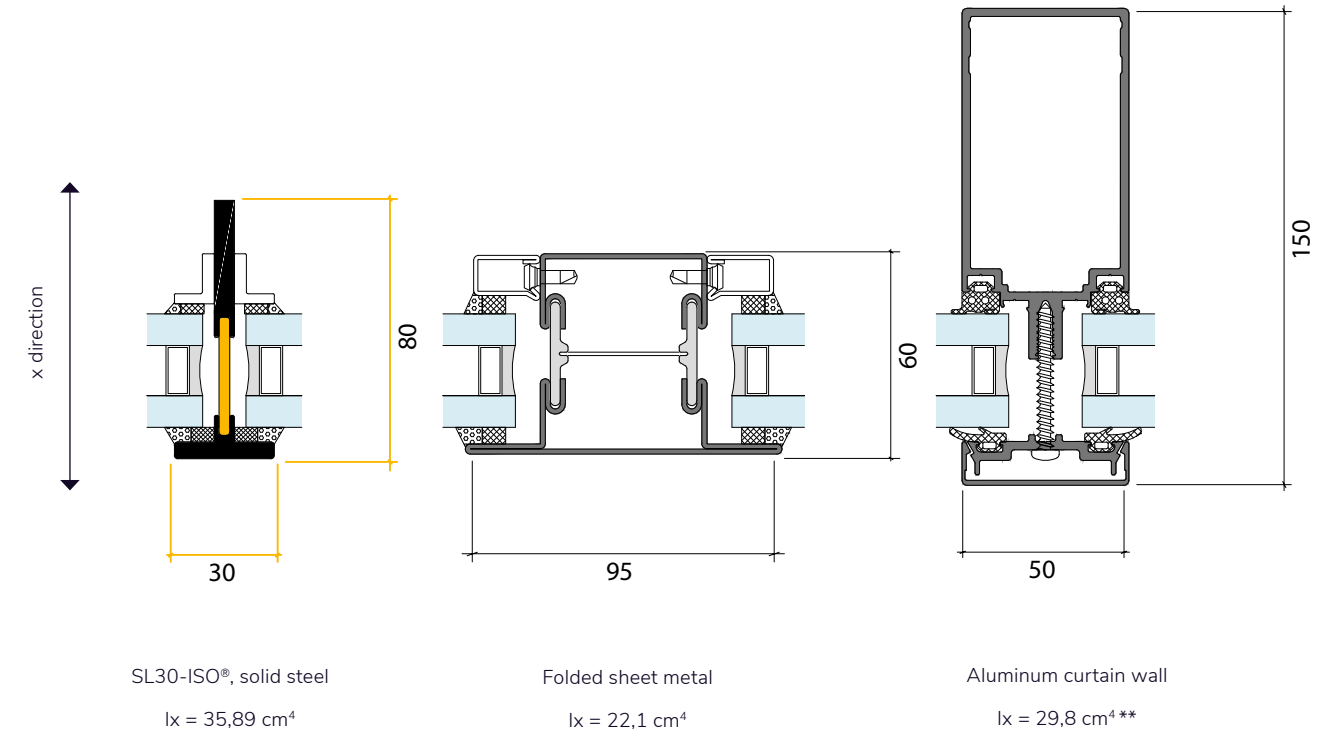
## The power of solid steel

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

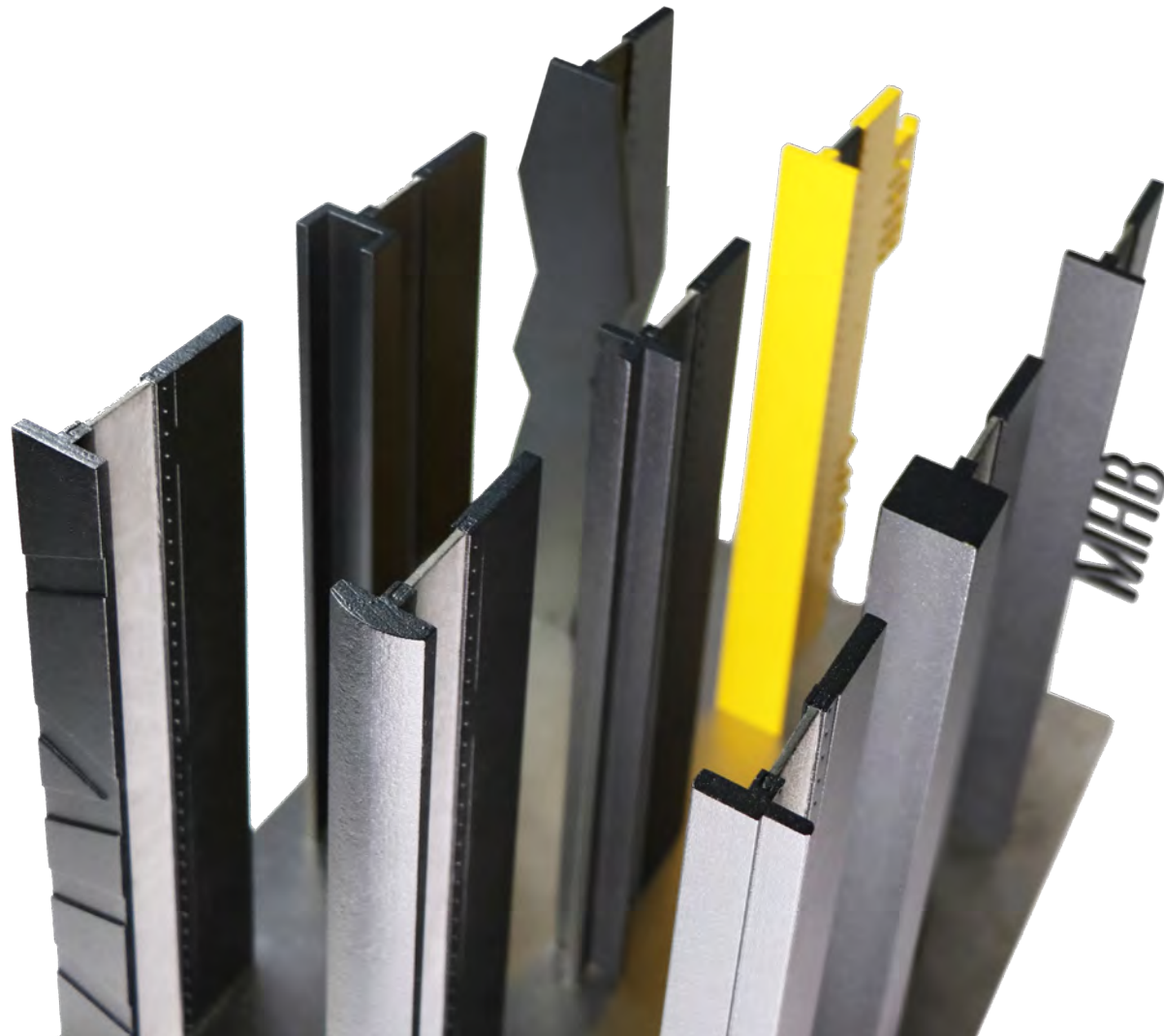
Standard MHB profiles have a very high bending resistance value in comparison with other common profile systems.



\* 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.





## 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.

## MHB products

### Strength

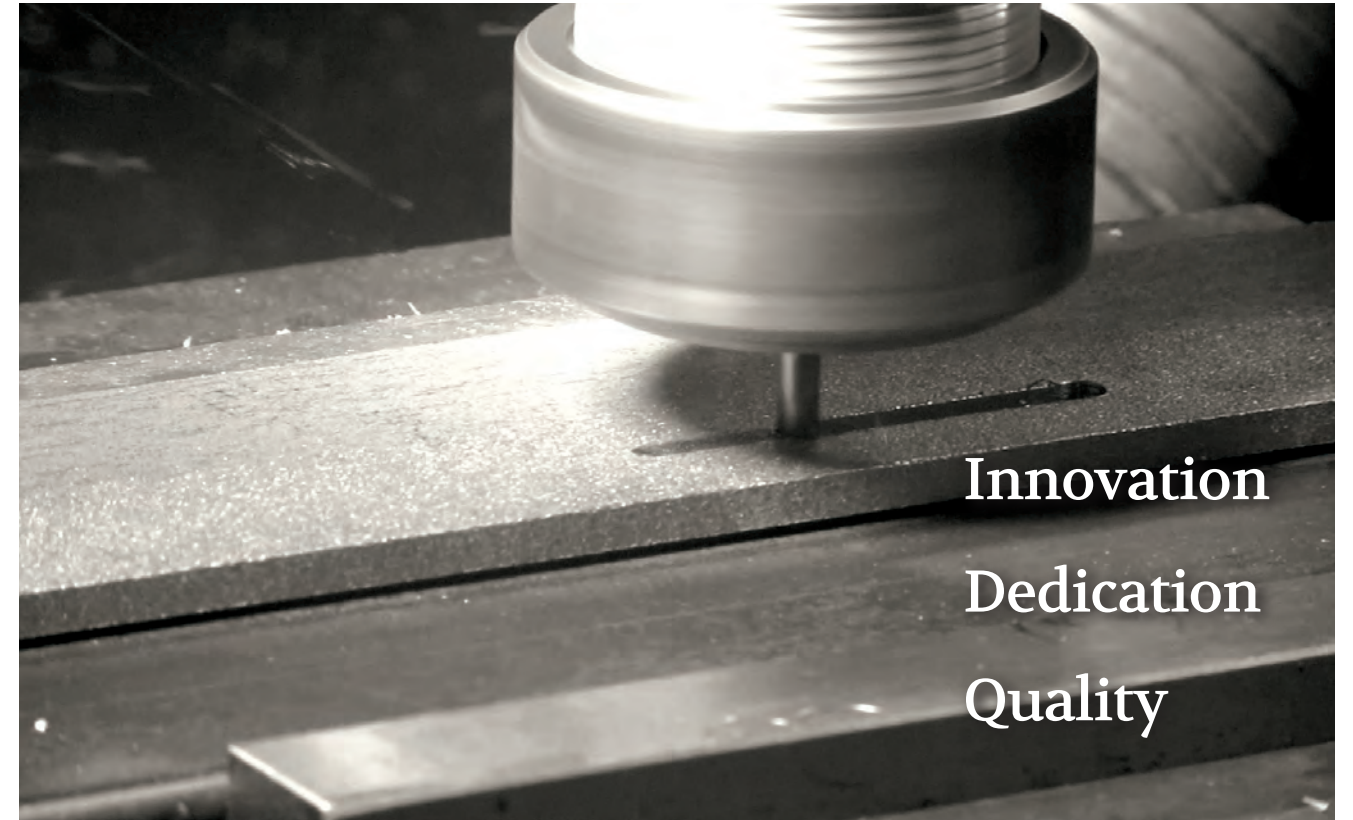
The MHB profile system is the slimmest and strongest profile system in the world. The patented crimping technology allows the thermally broken profile to maintain the strength of solid steel.

### 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 prediction of more than 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.





Jan, Mark and Remko Mathijssen



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

## A tradition of craftsmanship & innovation

“ *Our mission more light 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

In the year 1667, Mathijs Henricx started paving the way for the company as a master blacksmith in the centrally located Dutch village of Herveld. For more than 350 years, the age-old craft of steel mastery has been passed on from father to son. Today, MHB employs over 200 steelmasters 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.





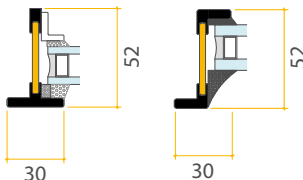
# MHB Steel profile systems

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

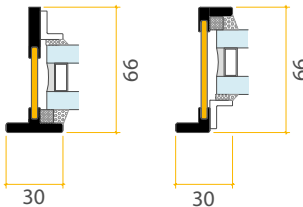
Classic-ISO®

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.



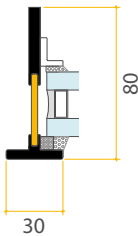
Classic-ISO-PLUS®

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.



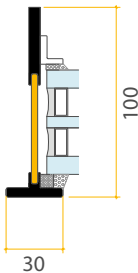
SL30-ISO®

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.



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.



2011

2014

2009

2013

25

## Maximum sizes for windows and doors (horizontal hinging)

Height in meters

| Profile                  | Width (m) | Height (m) |
|--------------------------|-----------|------------|
| SL30-ISO & SL30-ISO-PLUS | 0.3       | 1.6        |
| Classic-ISO-PLUS         | 0.3       | 1.5        |
| Classic-ISO              | 0.3       | 1.4        |

## Maximum sizes for windows and doors (vertical hinging)

Height in meters

| Profile          | Width (m) | Height (m) |
|------------------|-----------|------------|
| SL30-ISO         | 0.3       | 3.2        |
| SL30-ISO-PLUS    | 0.3       | 3.0        |
| Classic-ISO-PLUS | 0.3       | 2.6        |
| Classic-ISO      | 0.3       | 2.2        |

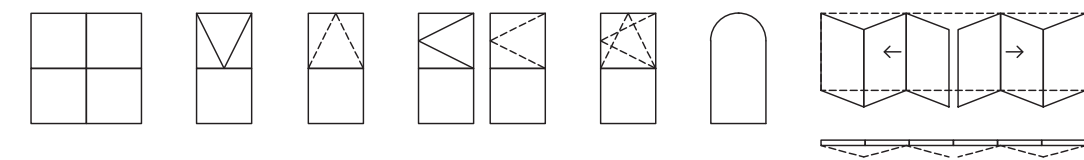
*Dutch Masters of Steel since 1667*



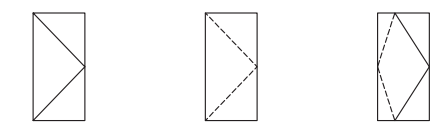
# System configurations

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.

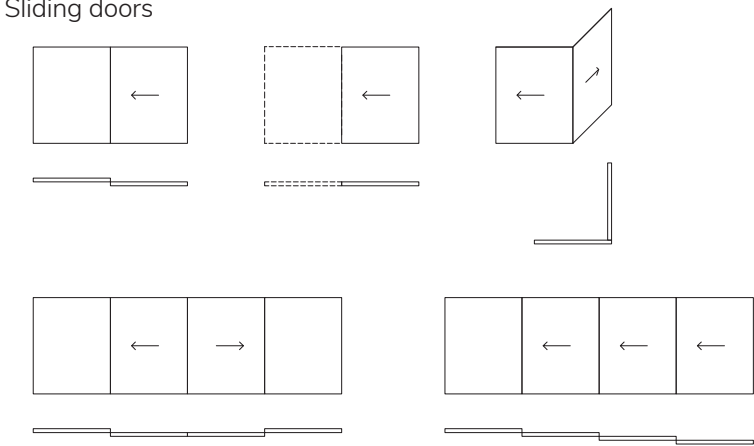
## Windows



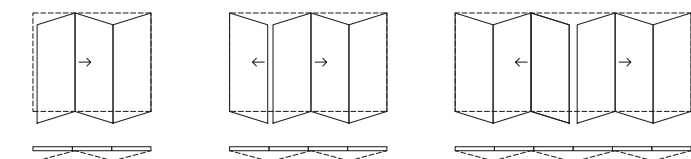
## Doors



## Sliding doors



## Folding doors





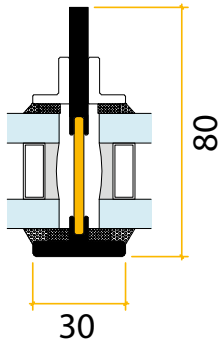
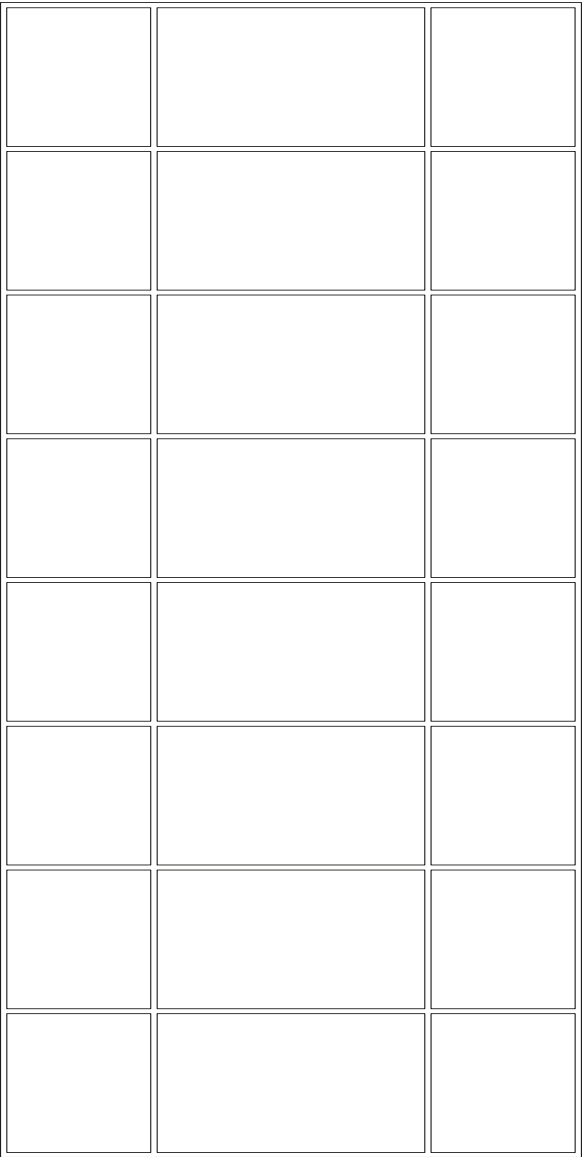
Villa Lake Austin, TX, USA



## Fixed glazing

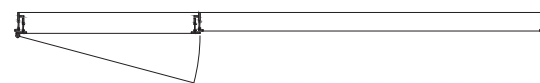
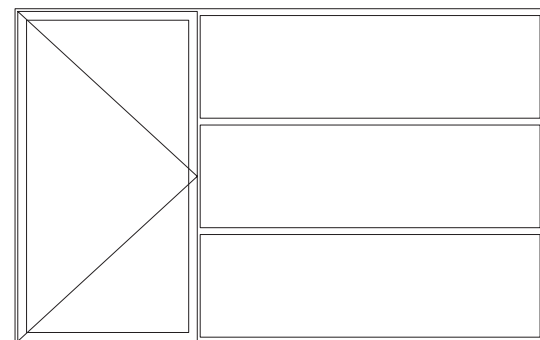
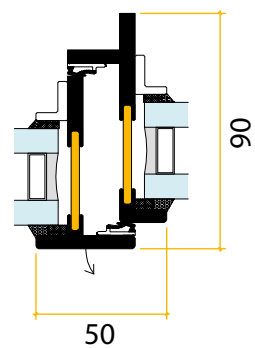
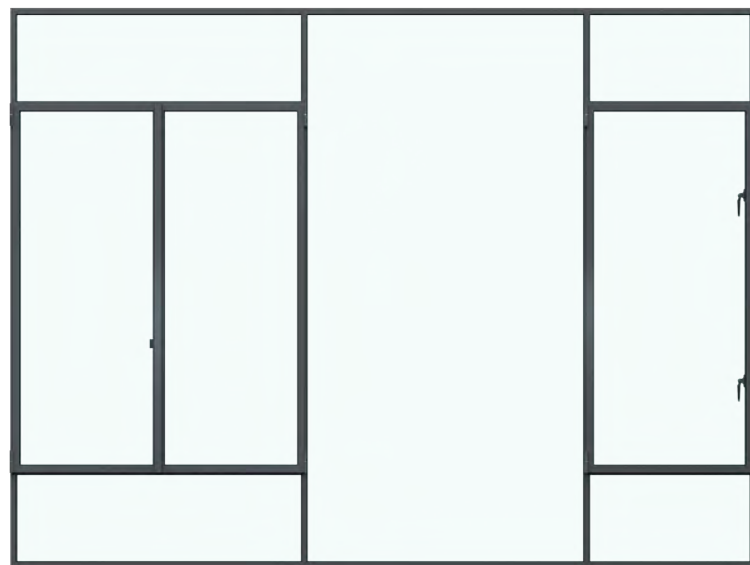
MHB's fixed glazing window profiles make it possible to realize transparent steel facades with large (True Divided Lite) glass surfaces with minimal sightlines of 18 mm (building to glass) and 30 mm (glass to glass).

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.



# Windows

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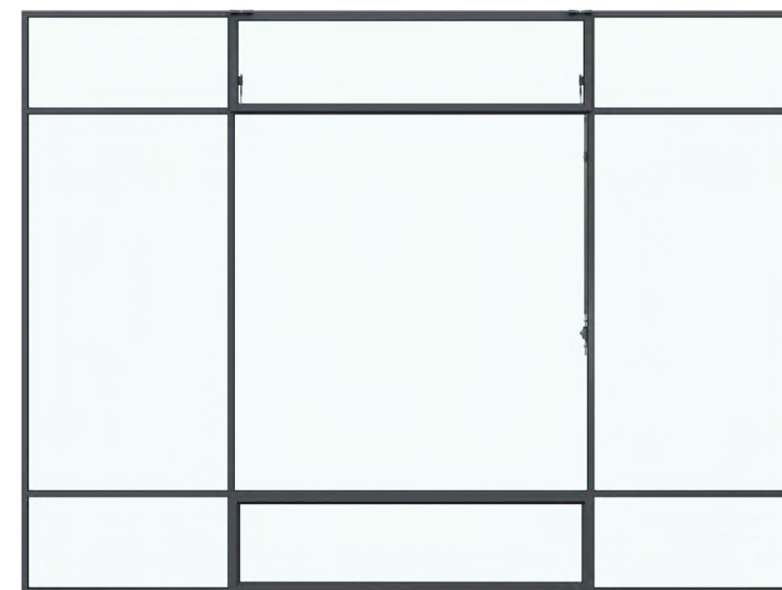
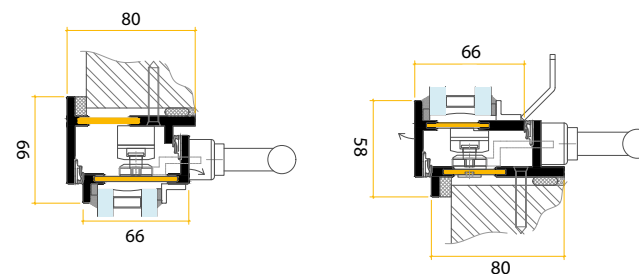
Edge of wild Austin, TX, USA

*Dutch Masters of Steel since 1667*



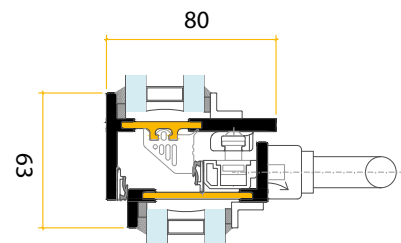


## Awning & Hopper windows

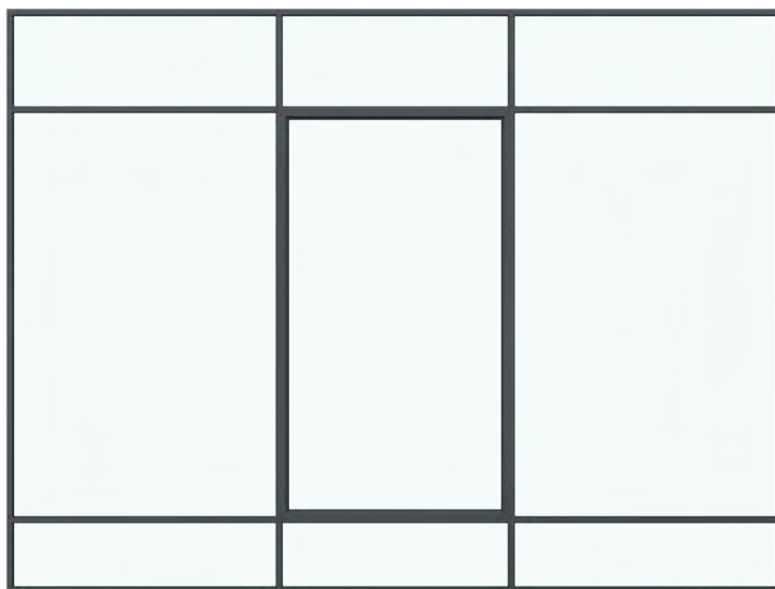
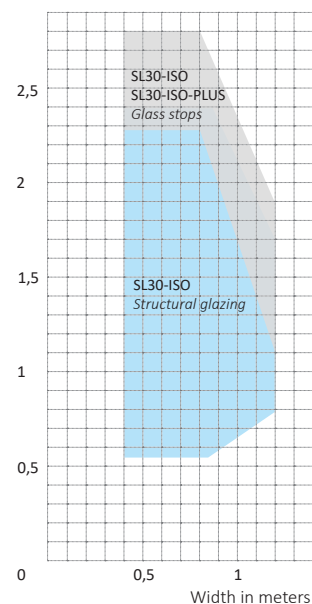


# Tilt and turn windows

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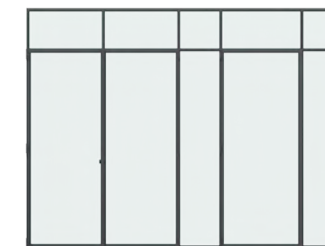
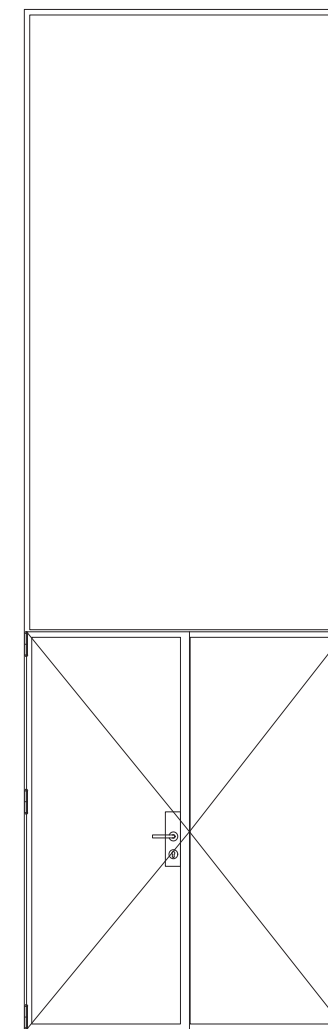
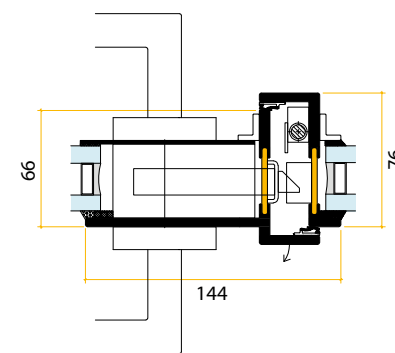
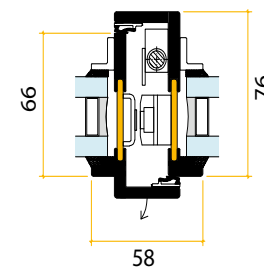


Maximum size  
Height in meters



Developed since 1966

## Doors



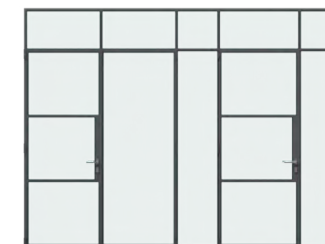
FRENCH DOOR



LOCKING CASE



FLOATING LOCKING CASE



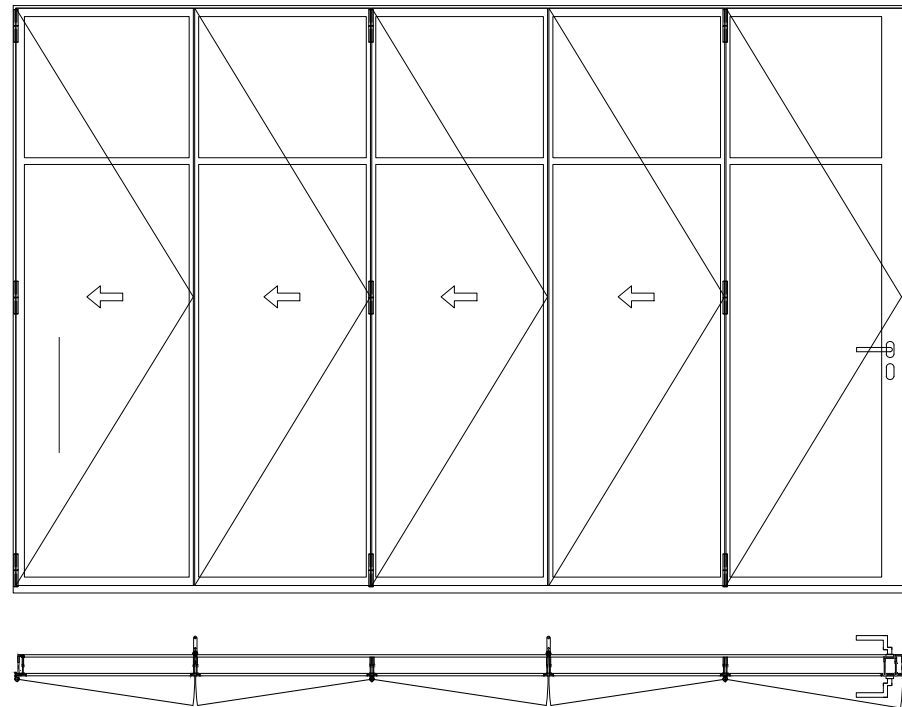
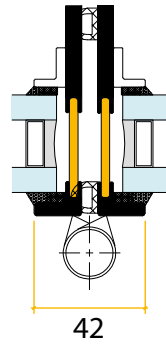
PARTIAL LOCK MULLION



LOCK MULLION

# Folding doors

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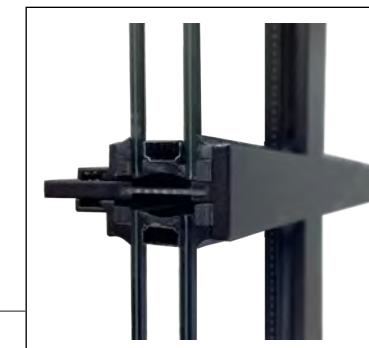
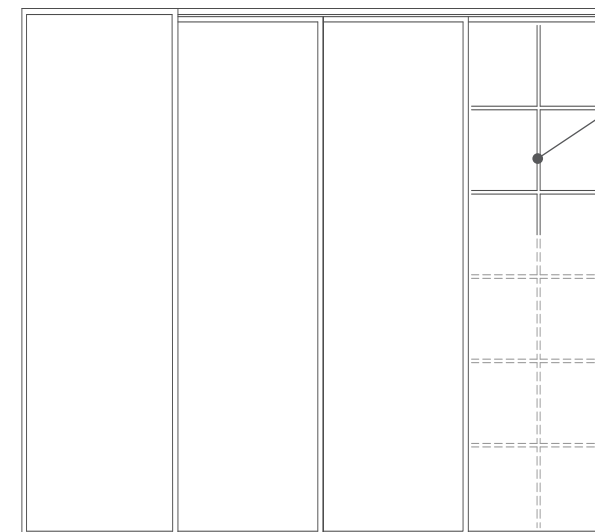
Extension Rotterdam, the Netherlands



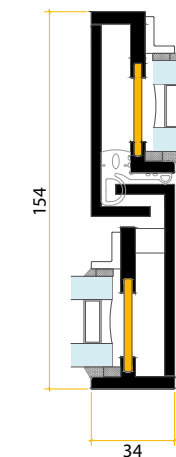
*Dutch Masters of Steel since 1667*



## Sliding doors



True Divided Lite



**Pocket**  
Up to 3 tracks

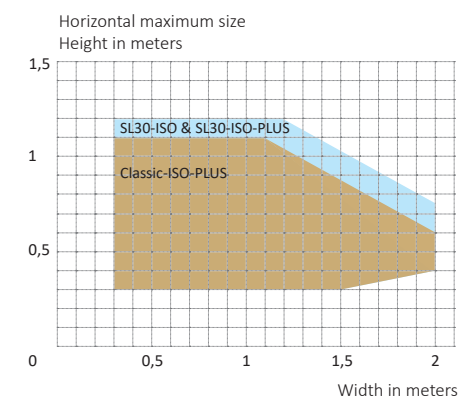
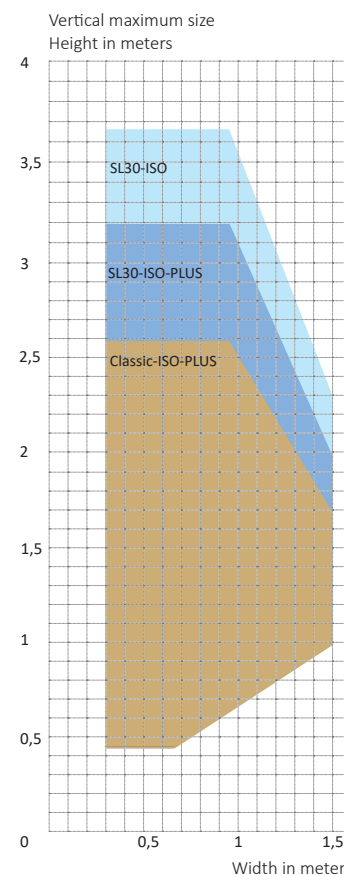
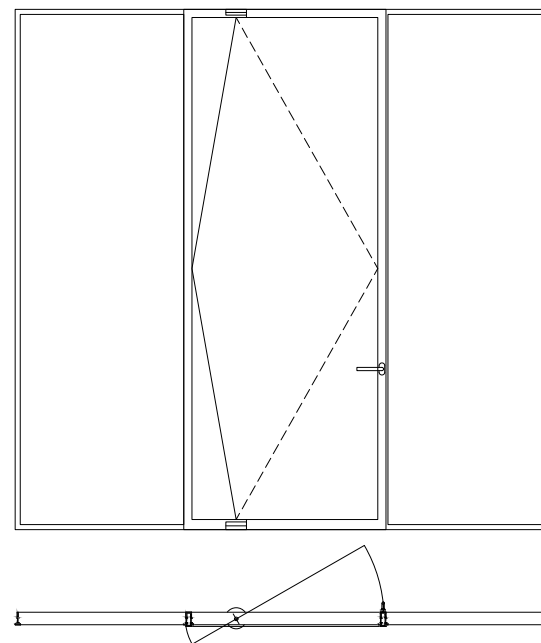
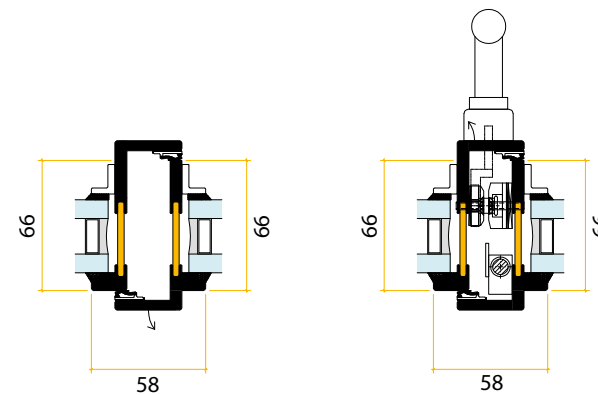


**Sidelight**  
Up to 3 tracks





## Pivot windows and doors



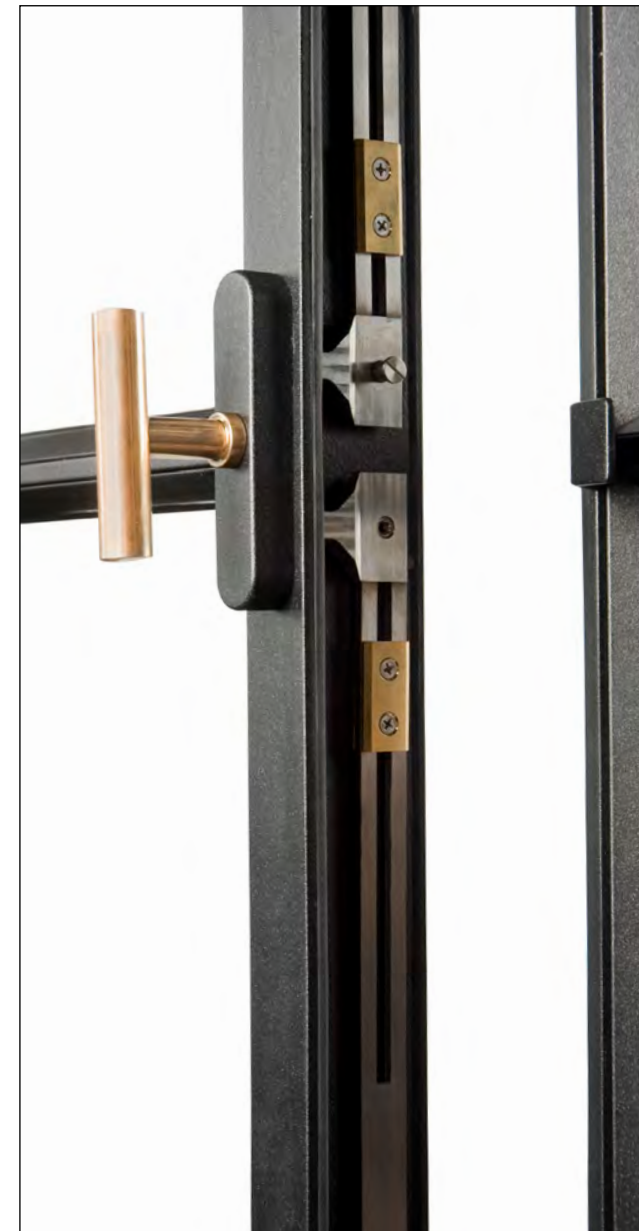
Detail of folding door handle



## 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.



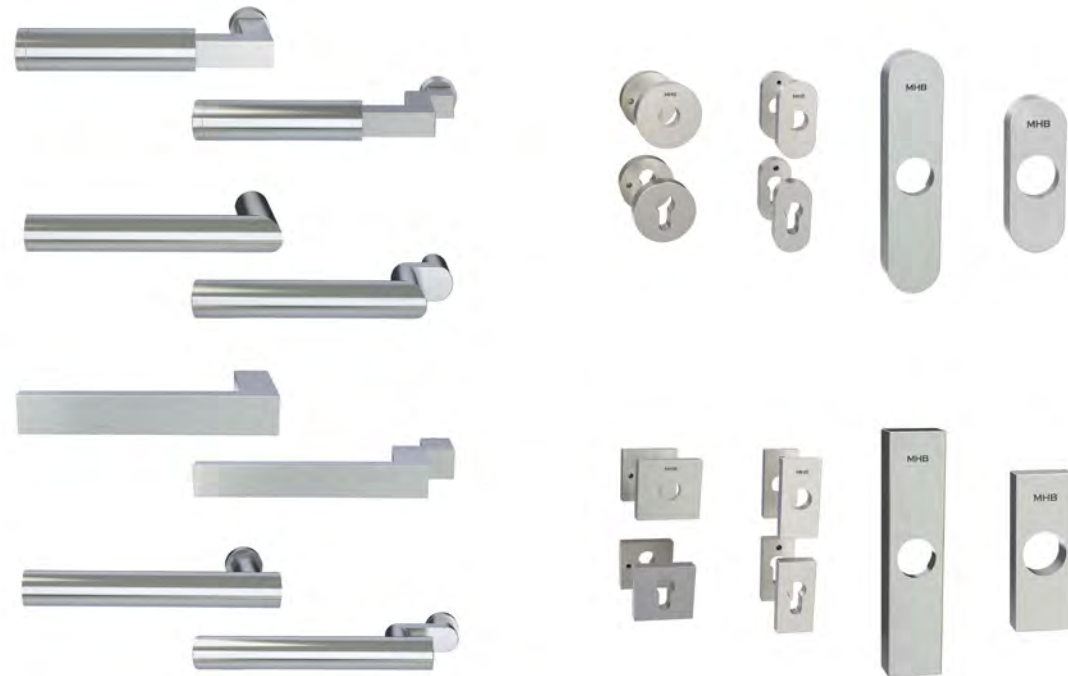
MHB's multipoint lock system

## MHB hardware line

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MHB has designed a high quality, solid stainless steel line of handles and escutcheons with a unique advantage: they are all interchangeable. All the handles and escutcheons are incredibly durable and have a genuinely different touch. The MHB hardware line is available for all MHB concealed closing system configurations and can be powder coated in any RAL colour.

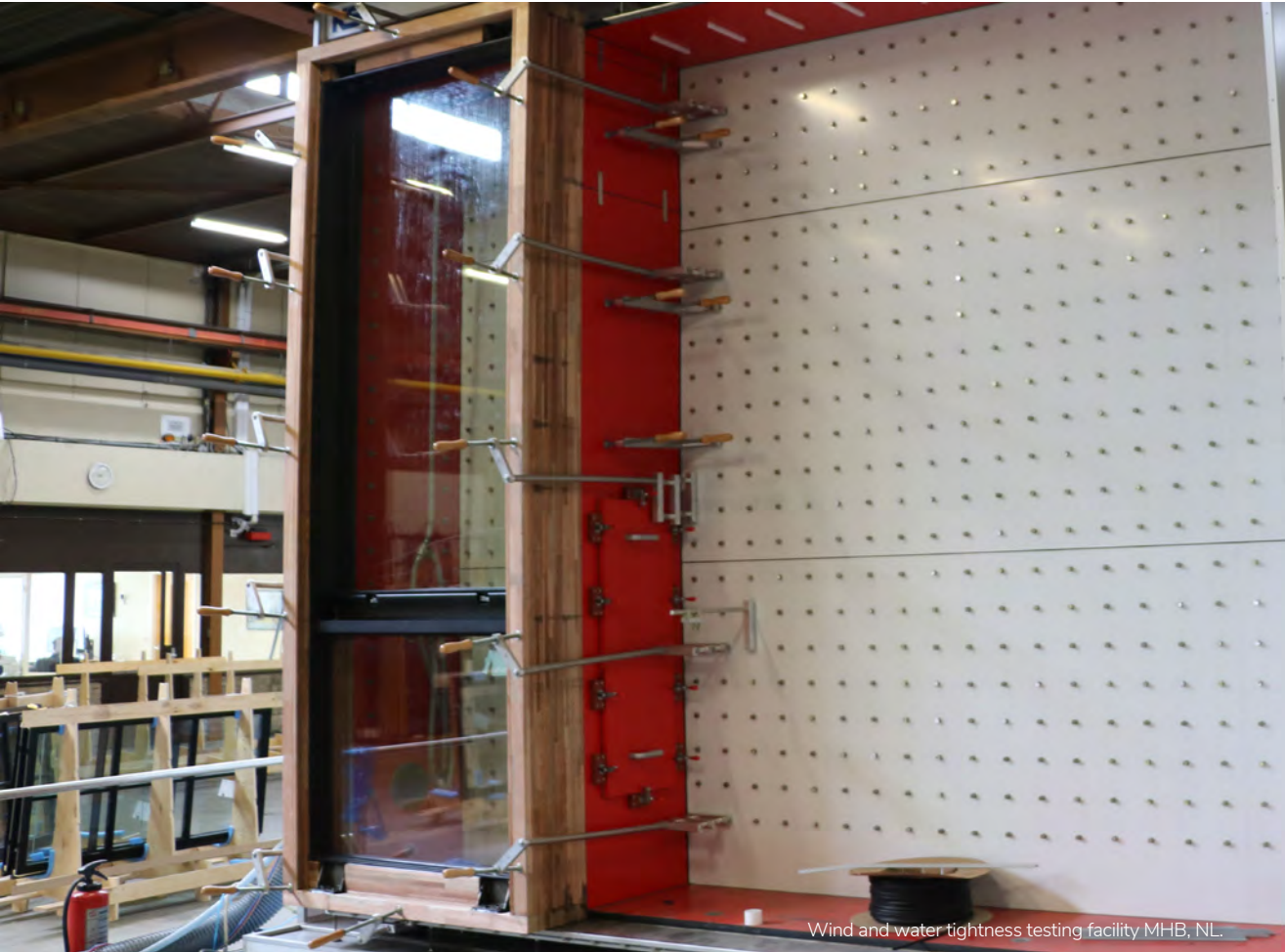
The design of our products is done completely in-house, this guarantees full adherence to the highest quality standards.



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## 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 at minimum with class 7A - 150Pa of EN12208 for water resistance (with sills) and with class 4 of EN12207 for wind resistance (sliding door with class 3). When required, MHB can guarantee a higher performance.



## 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.

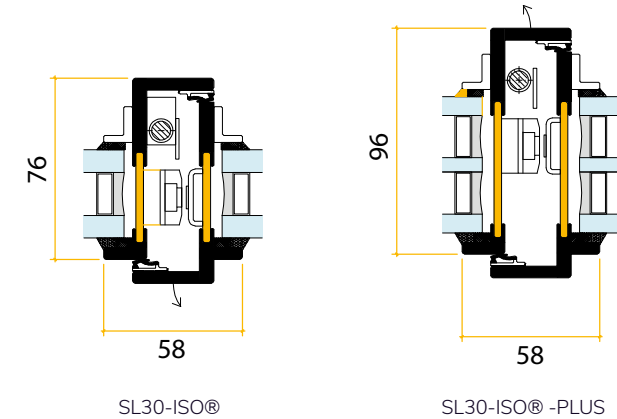


MHB's window and door systems are NFRC tested (100/200/500-2014)\*

Here is a selection of performance values for fixed glazed windows (SL30-ISO®) achieved with three types of glazing according to NFRC standards. Test results as low as shown below:

| Glazing type: | Fixed glazing | Solar glazing | Low-E |
|---------------|---------------|---------------|-------|
| U-factor:     | 0.16          | 0.27          | 0.27  |
| SGHC:         | 0.22          | 0.16          | 0.30  |

\* NFRC certified products available exclusively in USA via MHB distribution partners



## 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 muntins) ranging from 10 mm (Classic-ISO® IG) to 69 mm (SL30-ISO-PLUS® IG). The narrow sightlines are maintained for every configuration.



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



# Surface treatment

Proper surface treatment is crucial for a product's life span. All MHB windows and doors are powder-coated in MHB's powder coating facility. 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. Out of all treatments, powder coating provides the thickest protective layer, maximizing the lifespan of our products to 100+ years with minimal required upkeep. MHB is unique worldwide to have a Qualisteelcoat C5 certification as a steel windows and doors manufacturer, the highest possible certification for steel surface treatment.

## Quality, efficiency, durability

All applied coatings and colours are certified as “super durable quality” and fulfill the requirements for outdoor applications worldwide, all RAL colours are available with this high quality.

“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 colour stability.

The following finishes are available:

- 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



*Dutch Masters of Steel since 1667*



## Surface treatment

Depending on the location of the project, MHB applies different surface treatments: MHB distinguishes between 2 classifications:

1: Class C3 - Medium corrosive environment\* - ISO 12944-2:2018

Gritblasting SA 2.5, a 3-layer powder coating:

- The first layer is a 60 µm thick zinc-containing primer.
- The second layer is a 60 µm thick sealing primer.
- The third layer is a 60 µm thick Super Durable top coating (see MHB colour collection).

2: Class C5 - Very high corrosive environment\*\* - ISO 12944-2:2018

Gritblasting SA 3.0, followed by thermal spraying and a 2-layer powder coating:

- The first layer is thermal spraying of a 60 µm thick zinc layer.
- The second layer is a 60 µm thick sealing primer.
- The third layer is a 60 µm thick Super Durable top coating (see MHB colour collection).

\* Medium corrosive environment: Applicable in urban and industrial areas with moderate pollution. Production halls with high humidity and some pollution: laundries, breweries, food processing industry.

\*\* Very high corrosive environment: Applicable in industrial areas and coastal areas with high humidity, high salinity and



## MHB Rembrandt Collection

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The surfaces of MHB's exclusive Rembrandt Collection finishes of the actual metal, for example bronze, in its solid form. These surfaces have the physical and optical properties of the metal used and will take on a unique and characteristic look. You can choose to further refine the characteristics by sanding, polishing, patinating or oxidising the surface.

The metal design surface will evolve in the same fashion as the metals would in its solid and original form. Colour variation may occur between different frames as this is a normal characteristic of the metals used. Over time this will give the frame an even more unique appearance. Sanding, polishing, patinating and oxidising is very labour intensive and is real craftsmanship done by hand, giving every frame a unique character. Minor differences in colour, colour effect and texture may occur. Characteristic within its kind, but always different. For all configurations MHB advises to use the aluminium L-shaped or triangle shaped glass stops, for optimal results.

### Testing

MHB exclusive finishes have successfully underwent 3.000 hours of rigorous independent QUV-Testing and 720 hours of Salt Spray Testing according to the most stringent European quality norms (NEN-EN ISO 4892-3 and NEN-EN ISO 9227 NSS respectively).

Based on the achieved positive testing results MHB is able to give a warranty of up to 5 years for a C3 corrosive environment.



## 100+ Years service life prediction

The MHB thermally insulated steel profile system has received a “more than 100 years” service life prediction certification according to ISO 15686-2.

The SLP method has a maximum set at 100 years, making the 100+ years SLP certification for MHB unprecedented. The Service Life prediction has been audited by the external agency ABT.

The 100+ years SLP certification has been achieved based on the following unique MHB steel profile system characteristics:

- ✓ MHB uses solid steel and solid stainless steel instead of folded thin-walled sheet material.
- ✓ As solid steel is used, the surface treatment reaches and protects every inch of the profile system.
- ✓ All pre-treatment and surface treatments take place at the same production site; the MHB factory. This also means there is no transport necessary between processing steps, decreasing the risk of contamination.
- ✓ Application of a sustainable top coating (Qualicoat 2).
- ✓ MHB applies regular independent quality testing. This ensures the highest quality.



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