



GM WINDOORAIL®

Glass railing for french windows

Flexible, safe, ingeniously simple.



glas**marte**®
railing

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Glas Marte company building

With its powerful combination of tradition and innovation, Glas Marte has established itself as one of Europe's leading glass experts in its third generation. Founded in 1930 and still managed as a medium-sized family business, Glas Marte currently has about 300 employees at their headquarters in Bregenz. In addition to its home market of Vorarlberg and Eastern Switzerland, Glas Marte also manages projects for customers throughout Europe.

GM RAILING® specialises in holistic glass module solutions of highest quality. With the perfect combination of glass and metal, innovative products are created, which exceed glazing as such by far. The secret lies in the fact that glass and metal are combined into one unit in our factory under exactly defined conditions and controlled by a sophisticated quality management system. GM RAILING® connects sophisticated technology with a visually appealing, filigree appearance. Hundreds of glass elements were tested in comprehensive test series.



GM WINDOORAIL[®] general

GM WINDOORAIL[®] glass railing modules for French windows offer modern architecture an unobstructed view outside with transparency, openness and lightness.

The most important facts

- Tested type series, AbP resp. AbZ
- Structure reacts to impact loads
- The modular principle reduces construction and planning efforts
- Over 100 original-component tests
- Pre-installation at the plant of your window manufacturer
- Perfect individual solution for every window



reddot design award
winner 2009

Red Dot Design Award
Winner of the Products category



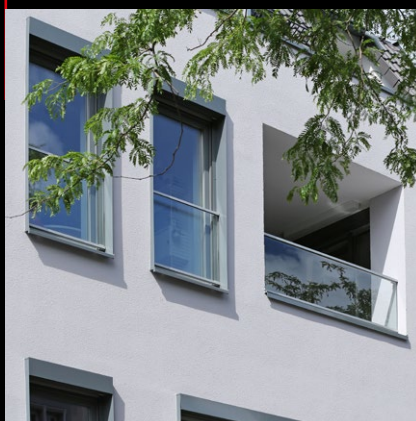
GM WINDOORAIL® are pre-manufactured glass railing modules with an anti-fall function for window elements, which reach up below the required parapet height.

The glass-metal modules guarantee highest safety with an optimal and uniform glass mounting and an optimised, tested and checked fixation – a perfect solution for all types of windows (plastic, wood, wood-aluminium, aluminium, or steel).

With the planning manual you can execute any work preparations yourself.



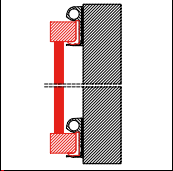
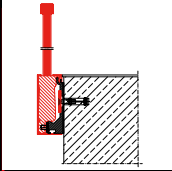
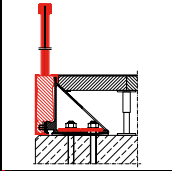
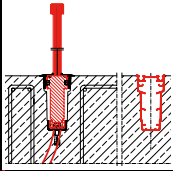
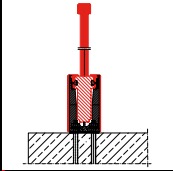
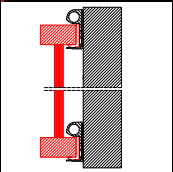
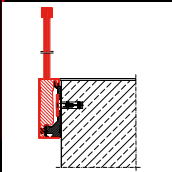
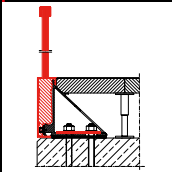
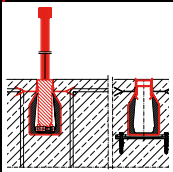
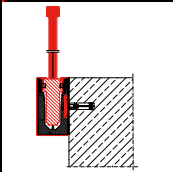
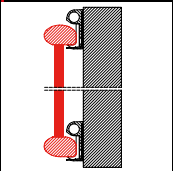
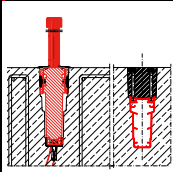
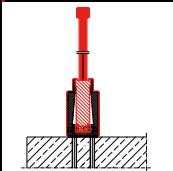
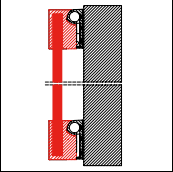
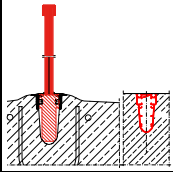
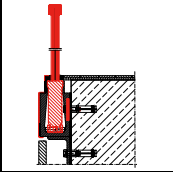
Unifying aesthetics with the visual
lightness of the reduced design.
Transparent, structuring, safe.





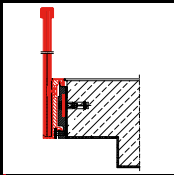
Freedom as far as the eye can reach.

GM RAILING® - Type series

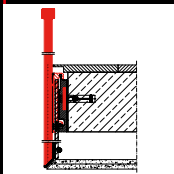
WINDOORAIL	SIDE	TOP	LEVEL	MASSIVE
 <p>Angular</p>	 <p>Side</p>	 <p>Top</p>	 <p>Level U</p>	 <p>Massive UT</p>
 <p>Angular 54/30</p>	 <p>Side 16</p>	 <p>Top 16</p>	 <p>Level A</p>	 <p>Massive US</p>
 <p>Oval</p>	<div>LATERAL</div>	<div>ON TOP</div>	 <p>Level U 30</p>	 <p>Massive AT</p>
 <p>Frameless</p>			 <p>Level/ concrete-base</p>	 <p>Massive AS</p>
<div>WINDOW CONSTRUCTION</div>			<div>IN THE BASE</div>	<div>UNIVERSAL</div>



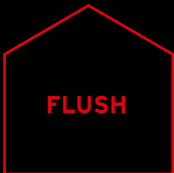
PLAN



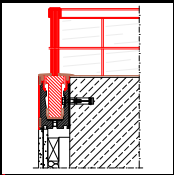
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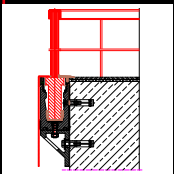
Plan 2



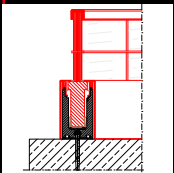
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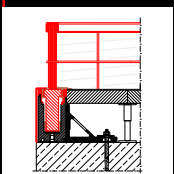
Bent MS



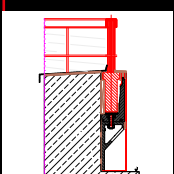
Bent S



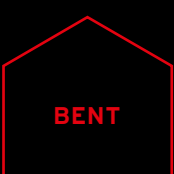
Bent MT



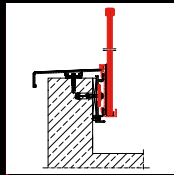
Bent T



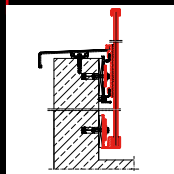
Bent F



FRONT



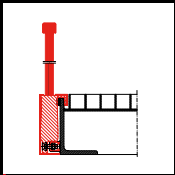
Front AIO



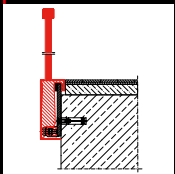
Front AIT



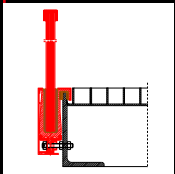
SOLO



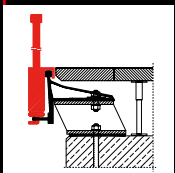
Solo C



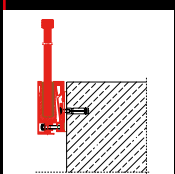
Solo C16



Solo Y



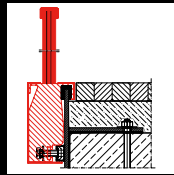
Solo YT



Solo YS



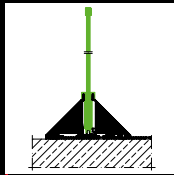
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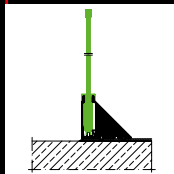
Epic



WINDGARDWALL



A-Type



L-Type





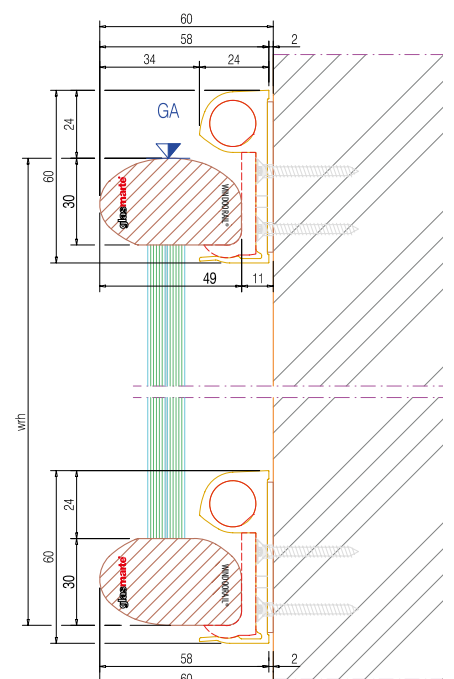
GM WINDOORAIL®

for a fascinating spatial impression

GM WINDOORAIL® is a fixed unit and consists of a lower and an upper metal profile as well as a glass element with bilaterally free, polished edges.

The prefabricated modules are mounted directly onto the construction without tools. The fastening to the window profile allows for tolerance compensation and allows for dilatations. As a rule GM WINDOORAIL® glass railings are installed at the vertical window profiles with at least four fastening elements. It is installed directly on the window frame (plastic, wood, wood-aluminium, aluminium or steel)

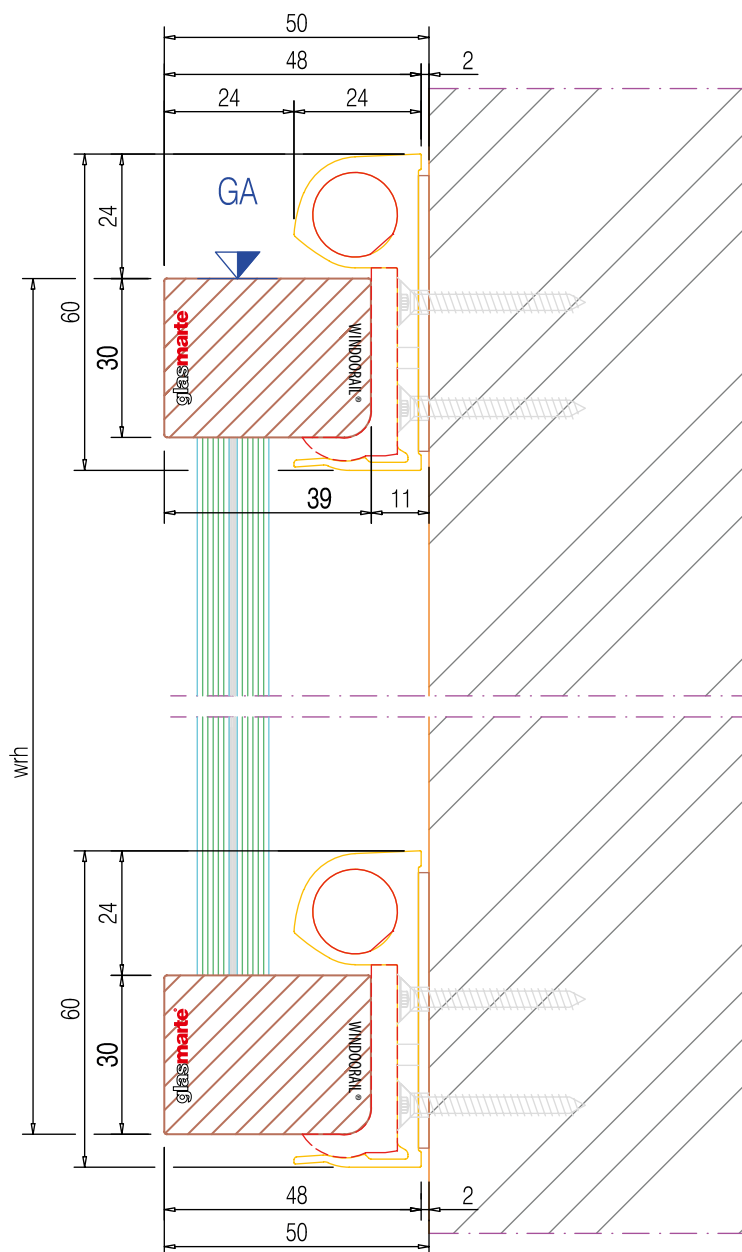
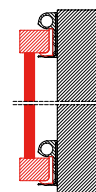
GM WINDOORAIL® Oval





Webshop at
webshop.windoorail.com

GM WINDOORAIL® Angular



Downloads on www.windoorail.com
Drawing not true to scale
Subject to technical modifications

Special advantages

- Variable widths and heights, max. width up to 1400 mm
- Impulse forces are absorbed by the mechanism
- Installation directly on the window frame
- Base plates can be pre-assembled ex works
- Glass element can be mounted without tools in five minutes
- AbP A-13-008

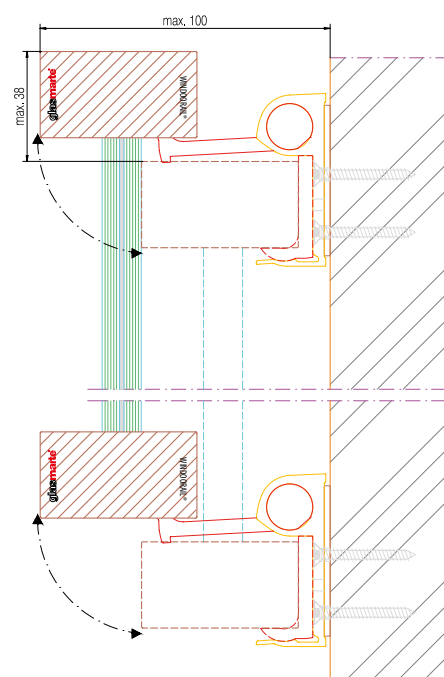
GM WINDOORAIL® Angular 54/30

for oversized solutions

The upper and lower metal profile of GM WINDOORAIL®, and a glass element with polished edges on two sides, together form a fixed unit.

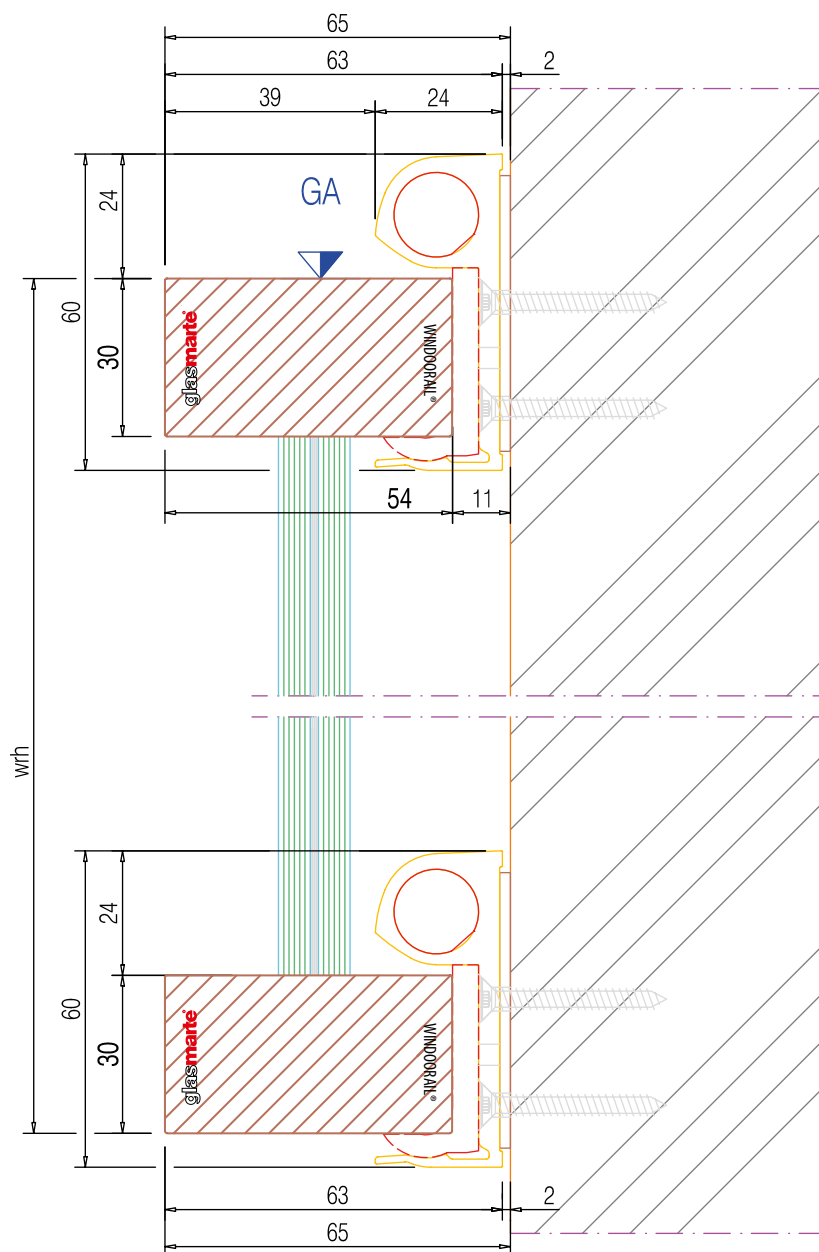
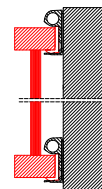
The prefabricated modules are mounted directly onto the construction without tools. The fastening to the window profile allows for tolerance compensation and allows for dilatations. As a rule GM WINDOORAIL® glass railings are installed at the vertical window profiles with at least four fastening elements. It's also possible to mount GM WINDOORAIL® glass railing modules over multiple windows.

GM WINDOORAIL® Angular 54/30 swung out





GM WINDOORAIL® Angular 54/30



Downloads on www.windoorail.com
Drawing not true to scale
Subject to technical modifications

Special advantages

- Variable widths and heights, max. width up to 2500 mm
- Impulse forces are absorbed by the mechanism
- Installation directly on the window frame
- Base plates can be pre-assembled ex works
- Glass element can be mounted without tools in five minutes
- AbP A-13-008



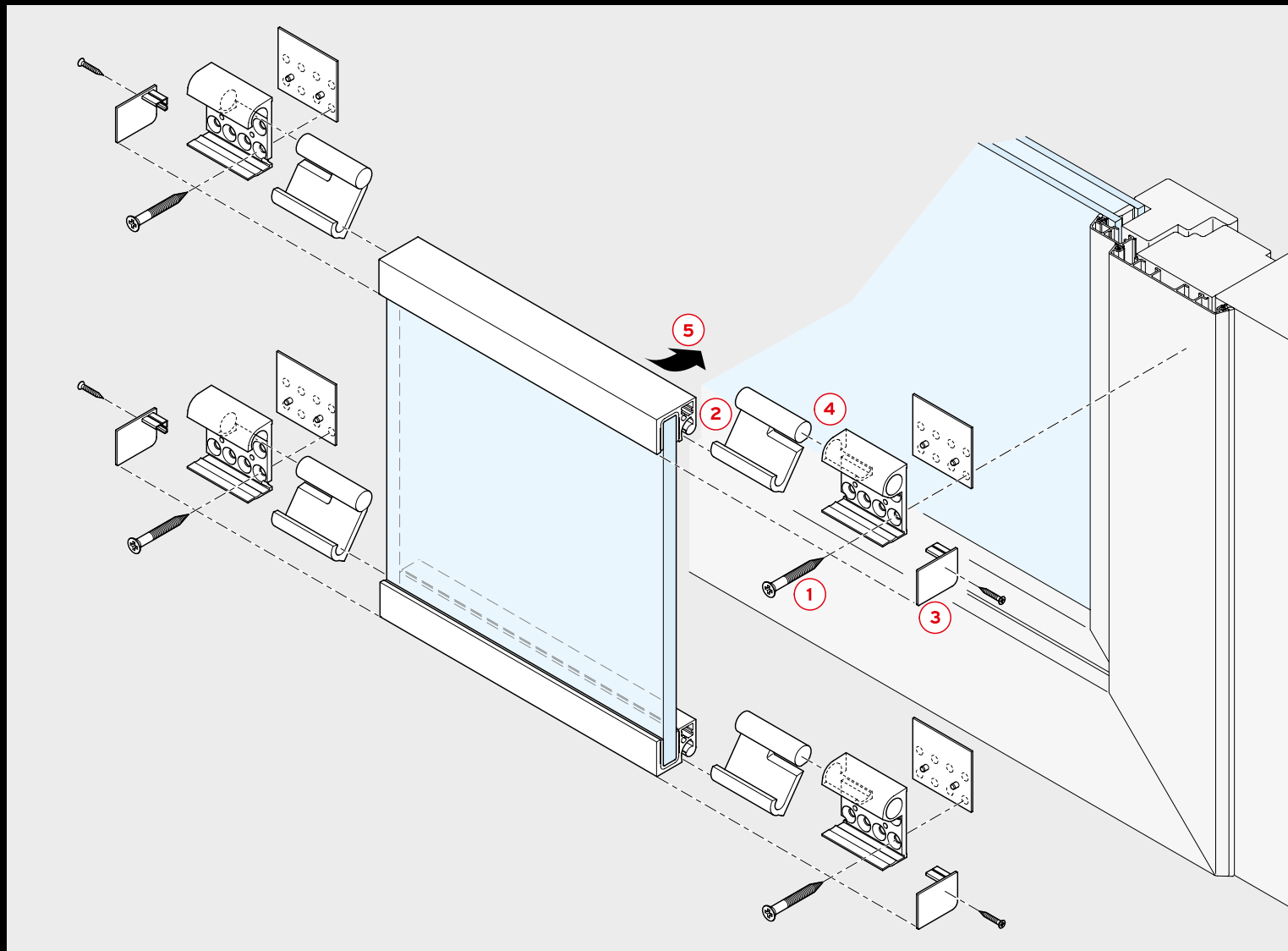
GM WINDOORAIL®

easy installation in 5 steps

GM WINDOORAIL® is precisely thought through from front to rear, as are all our products, and offers the best solution for every idea. The numerous benefits of GM WINDOORAIL® speak for themselves.

Your benefit

- AbP-A-13-008, highest safety, TRAV, Ö-Norm, SIGaB
- no glass drillings
- Handrails are available in two geometries as an angular or oval profile
- 24/7 webshop
- planning manual and assembly instructions available
- Can also be used in combination with outside roller blinds/shutters
- subsequent installation possible
- The modular principle reduces construction and planning efforts
- Prefabricated construction elements for short installation times
- The tested production series makes expensive individual tests and static calculations unnecessary
- accentuates ceiling-high window glazing without visible, unpleasant structural elements



Step 1

Install the base-plates at the window frame - installation at the manufacturing plant on request

Step 2

Laterally insert the mounting brackets into the profiles pre-installed at the glass.

Step 3

Close the profiles with the plastic caps end caps and bolt them. Position the glass railing module at the pre-installed base-plates.

Step 4

Push the mounting brackets up to the stop into the base-plates.

Step 5

Adjust the glass railing module and push it downwards/inwards until the mounting brackets engage.

GM WINDOORAIL® Frameless

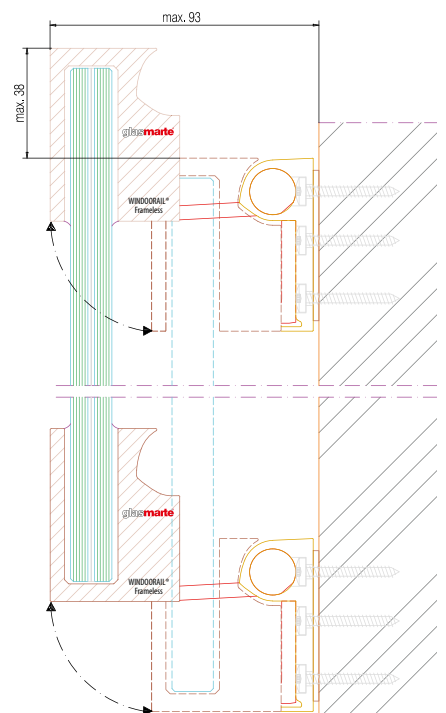
see even more

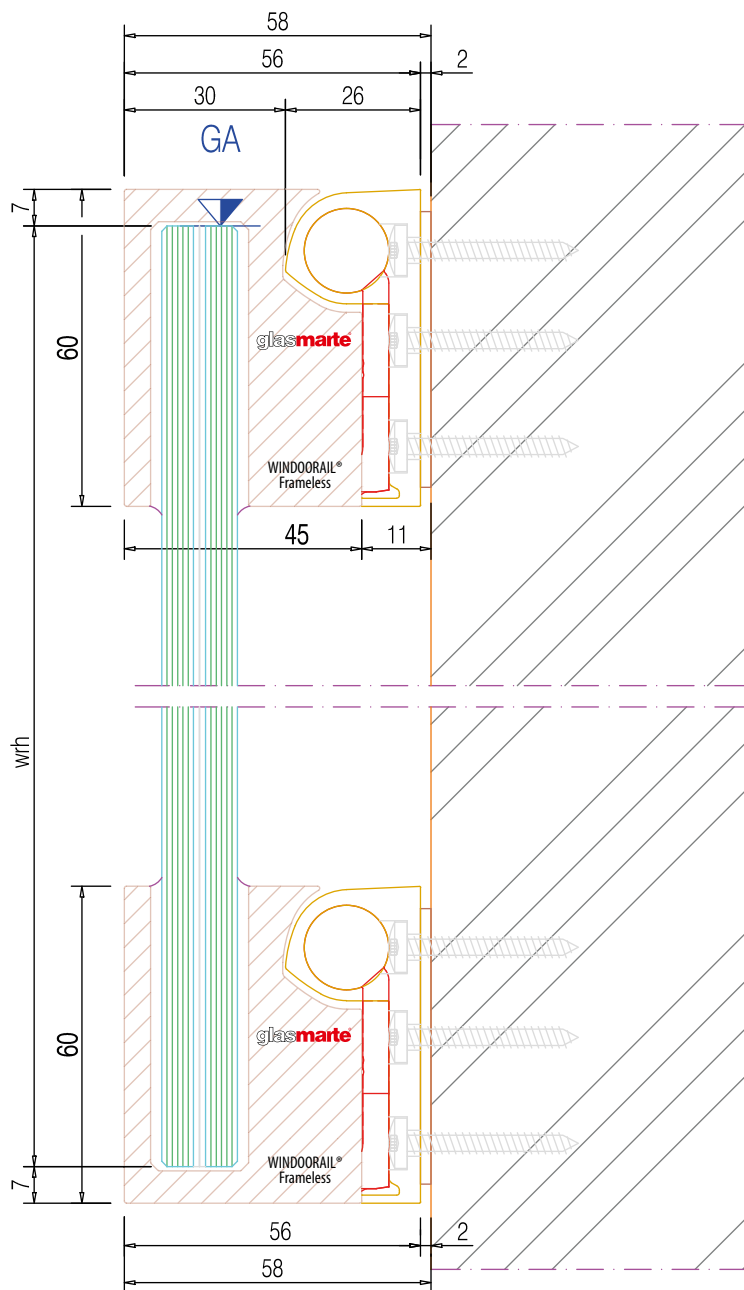
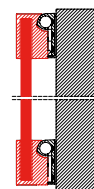
GM WINDOORAIL® Frameless is a fixed unit and consists of a glass element with free, polished edges and 4 glass fixtures in the corners. On site, the pre-manufactured modules are directly suspended, without any tools, into the baseplates previously assembled at the window.

Normally, GM WINDOORAIL® Frameless glass railings are assembled at the vertical window profiles with at least three fastening elements.

It is also possible to assemble GM WINDOORAIL® Frameless glass railings across several windows.

GM WINDOORAIL® Frameless swung out





Downloads on www.windowrail.com
Drawing not true to scale
Subject to technical modifications

- No edge protection or handrail required
- Variable widths and heights, max. width up to 2500 mm
- Impulse forces are absorbed by the mechanism
- Installation directly on the window frame
- Glass element can be mounted without tools in five minutes
- AbZ-Z-70.5-201



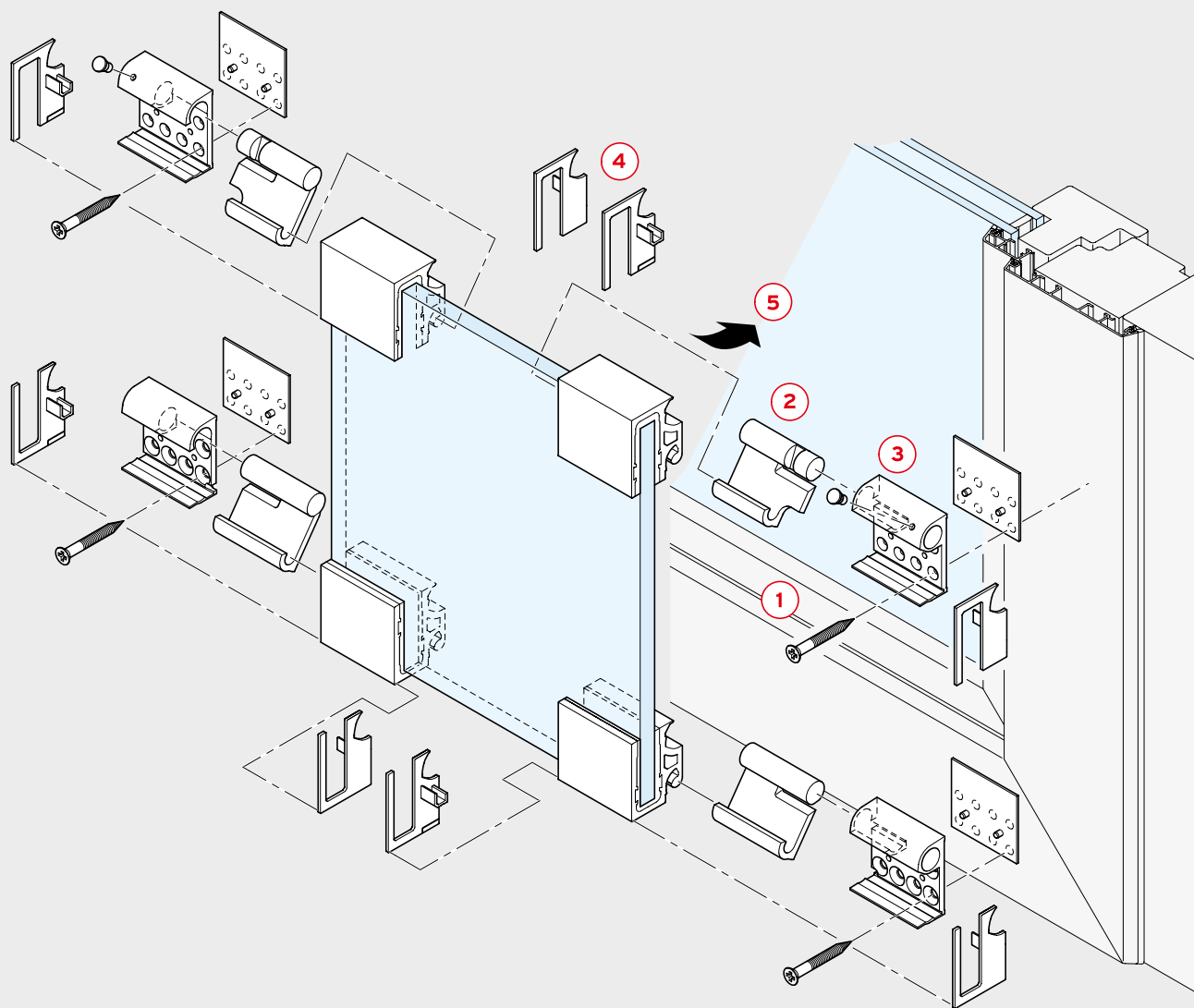
GM WINDOORAIL® Frameless

easy installation in 5 steps

GM WINDOORAIL® Frameless is precisely thought through from front to rear, as are all our products, and offers the best solution for every idea. The numerous benefits of GM WINDOORAIL® Frameless speak for themselves.

Your benefits

- AbZ-Z-70.5-201, highest safety, TRAV, Ö-Norm, SIGaB
- no handrail necessary
- only four glass retainers 65 x 60 mm visible
- planning manual and assembly instructions available
- Can also be used in combination with outside roller blinds/shutters
- subsequent installation possible
- The modular principle reduces construction and planning efforts
- Prefabricated construction elements for short installation times
- The tested production series makes expensive individual tests and static calculations unnecessary
- accentuates ceiling-high window glazing without visible, unpleasant structural elements



Step 1

Install the base-plates at the window frame - installation at the manufacturing plant on request.

Step 2

Position the glass railing module at the pre-assembled base-plates. Insertion of the mounting brackets up to the stop into the base-plates and the glass holders.

Step 3

Fixation of the upper mounting brackets with the knurled bolt.

Step 4

Closing of the glass holders with the interior plastic end caps.

Step 5

Adjust the glass railing module and push it downwards/inwards until the mounting brackets engage.

GM WINDOORAIL® technology

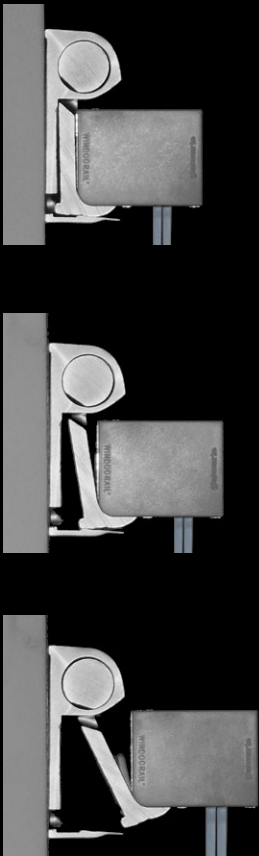
design reacts to impact loads

When it comes to safety, the heart of GM WINDOORAIL® is the construction of the fixture. It was comprehensively tested in pendulum impact tests according to EN 12600 and withstands possible impact loads. The tests of the optimised solutions were performed in compliance with the national guidelines.

In case of impulse forces impacting on the railing, these are cushioned by a simple, but very effective mechanism. In case of an enormous load towards the risk of a fall (like e.g. in case of an accident, if a person falls against the railing), the glass railing edges down in a controlled manner. The fall arresting device can be returned independently in the normal position then.

The impulse forces are cushioned, the loads optimally absorbed by the glass railing and transferred into the substructure. GM WINDOORAIL® was developed for laminated safety glass of float glass. In case of a particular thermal load, laminated safety glass of heat-strengthened glass is recommended. For reasons of residual loadbearing strength, and in particular to avoid distortions and deviations of the planarity, however, laminated safety glass of float glass is often preferred.







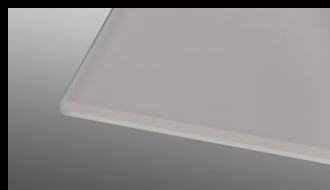
GM WINDOORAIL® design

Glass is an extremely versatile design material. This opens up completely new accentuation options for glass railings on French windows. In addition to easy cleaning and the high durability of glass, this is an additional advantage and convincing argument for GM WINDOORAIL®.

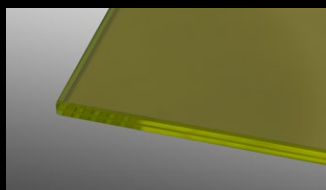
In addition to the whole range of RAL colours in which the glass can be enamelled, new printing methods are the key to an almost unlimited world of design. Almost any motif is possible - whether text, images or logos. Moreover, adhesive labelling or other mechanical treatments are now regarded as standard. Here, we show you a few examples, revealing the design options opened up by GM WINDOORAIL®.

further glasses
and design
variations on
request

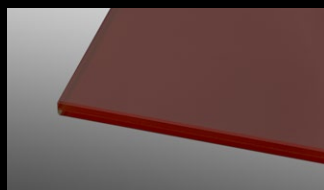
Glass collection - LSG LAMIMART®



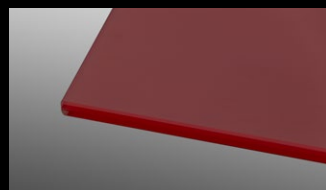
Nr. 2



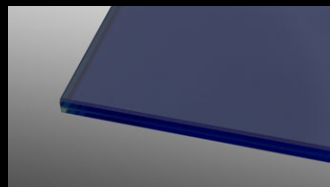
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Nr. 4



Nr. 5



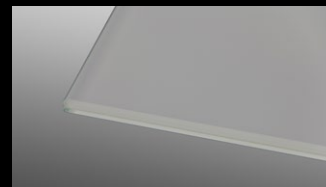
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Nr. 7

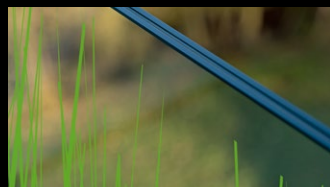


Nr. 8



Nr. 12

Design variations



digital print



screen print

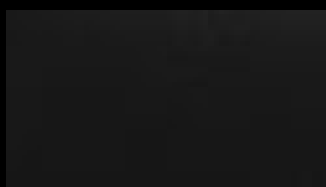


matt film

Aluminium surfaces



EV1 natural anodised

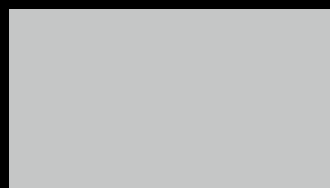


black anodised

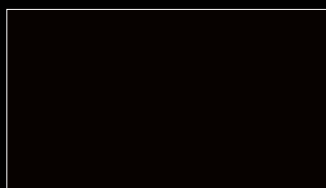


RAL-powdercoated

Plastic parts - end caps, glues, gaskets



light grey



black

GM WINDOORAIL® – All from one source



GM Glass construction modules - even more possibilities

GM RAILING®

All-glass railings

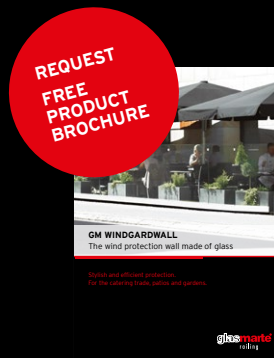
With their prefabricated glass construction modules in connection with a substructure profile and a continuous handrail, the GM RAILING® product range allows for a linear bearing without vertical support. The prefabricated glass construction modules are hung in the underconstruction profiles to be assembled on site, and are screwed together with cheese head screws or particular spacers.



GM WINDGARDWALL

Wind protection wall made of glass

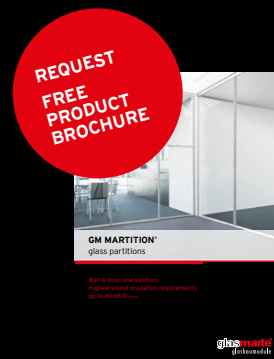
A glass wall as wind and splash water protection for restaurants and cafes, terrace and garden. Flexible in size due to modular principle. Easy assembly and storage. The prefabricated all-glass modules with the glued on mounting rails are suspended into the substructure.



GM MARTITION®

Double-shell glass partition walls

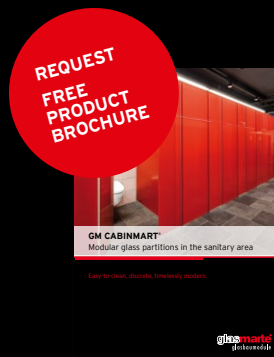
GM MARTITION® are double-shell glass partition walls for the highest requirements - friendly atmosphere in light-flooded rooms with the best possible sound insulation properties. GM MARTITION® is in demand wherever not only the optical impression, but above all the sound insulation properties need to be reached.



GM CABINMART®

Glass partition wall modules in sanitary area

Glass doors and/or partition walls look light and elegant due to the smoothness of their surface appearance, and create the impression of transparency. There are no attachments of handles on the outside of the sanitary partition walls, as the locking element is on the inside. The fitting components are integrated in the glass edge profiles, thus emphasizing the exclusive character of the glass as a result.



Company	
Contact	
Address	
Telephone and Fax	
E-mail	
Commission	

Tel. +43 5574 6722-340
Fax +43 5574 6722-544
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www.windowrail.com

[illegible]

Signature (company stamp)

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○ **INQUIRY**

GM WINDOORAIL® Frameless



☐ STANDARD



- STANDARD with glass overlap

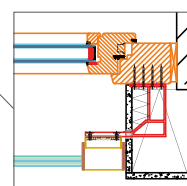


☐ BLOCK FRAME
INSULATION



☐ STANDARD with
FLUSH PANEL

- ☐ 40 ☐ 80 ☐ 120
☐ 60 ☐ 100 ☐ 140

LINELOAD/BEAMLOAD¹

- ☐ 0,5 kN/m private area (D, A)
- ☐ 0,8 kN/m (SWITZERLAND)
- ☐ 1,0 kN/m public areas (D, A)

WINDLOAD¹ and 2

Wind suction
☒ $\leq +0,5 \text{ kN/m}^2$
☐ $\leq +1,0 \text{ kN/m}^2$
☐ $\leq +$

Wind pressure
 $\leq -0,5 \text{ kN/m}^2$
☐ $\leq -1,0 \text{ kN/m}^2$
☐ $\leq -$

GLASS¹.

Execution in accordance with the applicable directive or standard

- ☐ TRAV
- ☐ ÖNORM
- ☐ SIGAB

GLASS SPECIFICATIONS

Intermediate layer¹
○ Clear

Surface sealing
○ UNICLEAN NANO (weather side)

LIGHT METAL PROFILES¹

Surface and design of the components

- EV1 anodized
 - RAL 9010 white
 - Plastic parts: LIGHT GREY**
-
- BLACK anodized
 - BRONZE anodized
 - Plastic parts: BLACK**

- ☐ RAL color:
 - Aluminium small parts:.....**
 - ☐ EV1 anodized
 - ☐ BLACK anodized
 - Plastic parts:**
 - ☐ LIGHT GREY
 - ☐ BLACK

[illegible]

¹ Data is mandatory for quotation!

² Taking into account the installation situation

☐ Check applicable!

_ The specified width (wrw)/height (wrh) is the largest width/height of the element - additional 5 mm in width (wrw) for the plastic end caps.

— Please note the versions according to the planning manual.

Use **www.windoorail.com/webshop/** the WEBSHOP for ordering, calculating, etc.

Place and date..... Signature (company stamp).....



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