FRENER
REIFER

minimo_FR

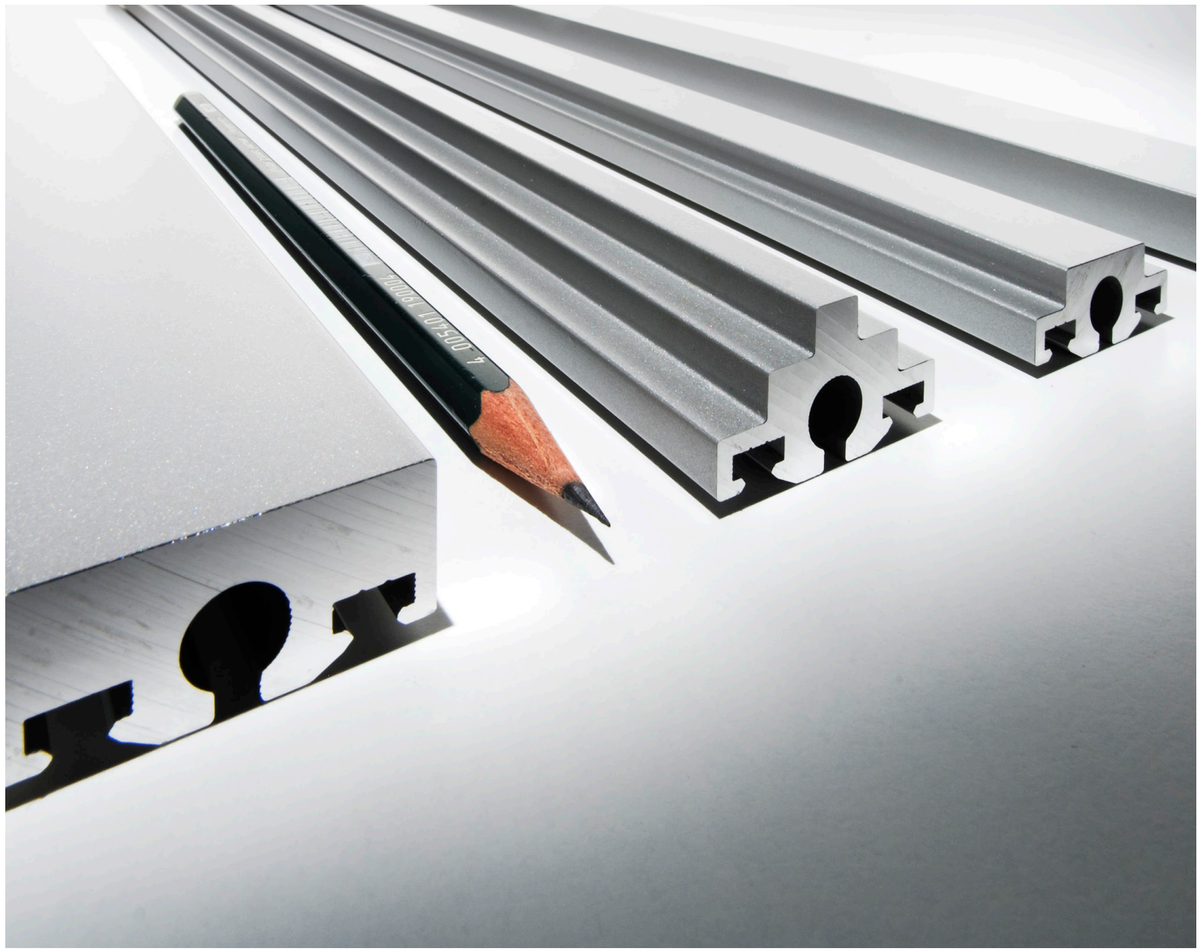
Stick system construction principle
with minimal face widths

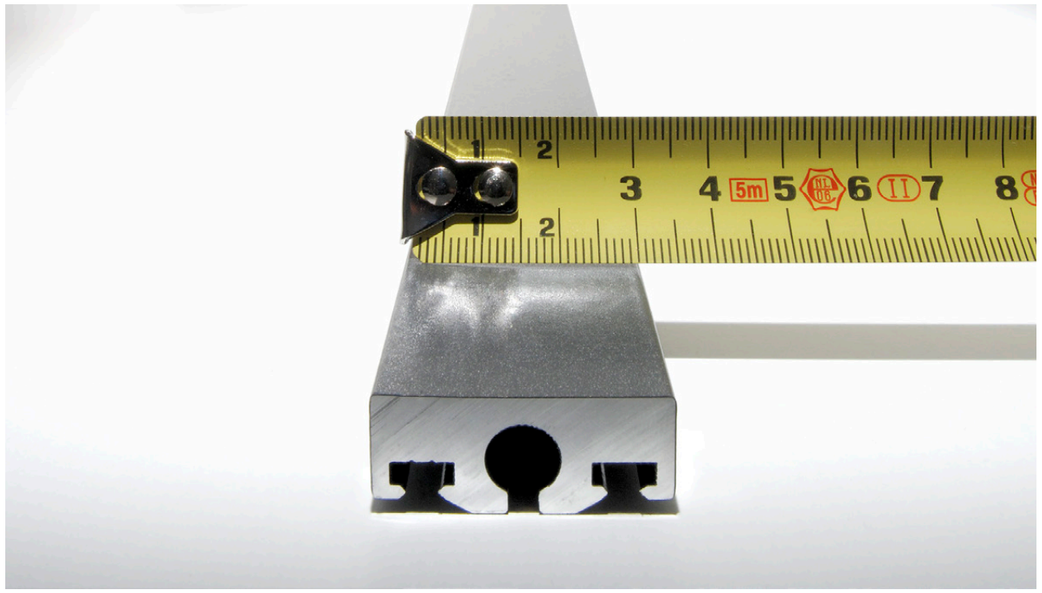
FASSADEN

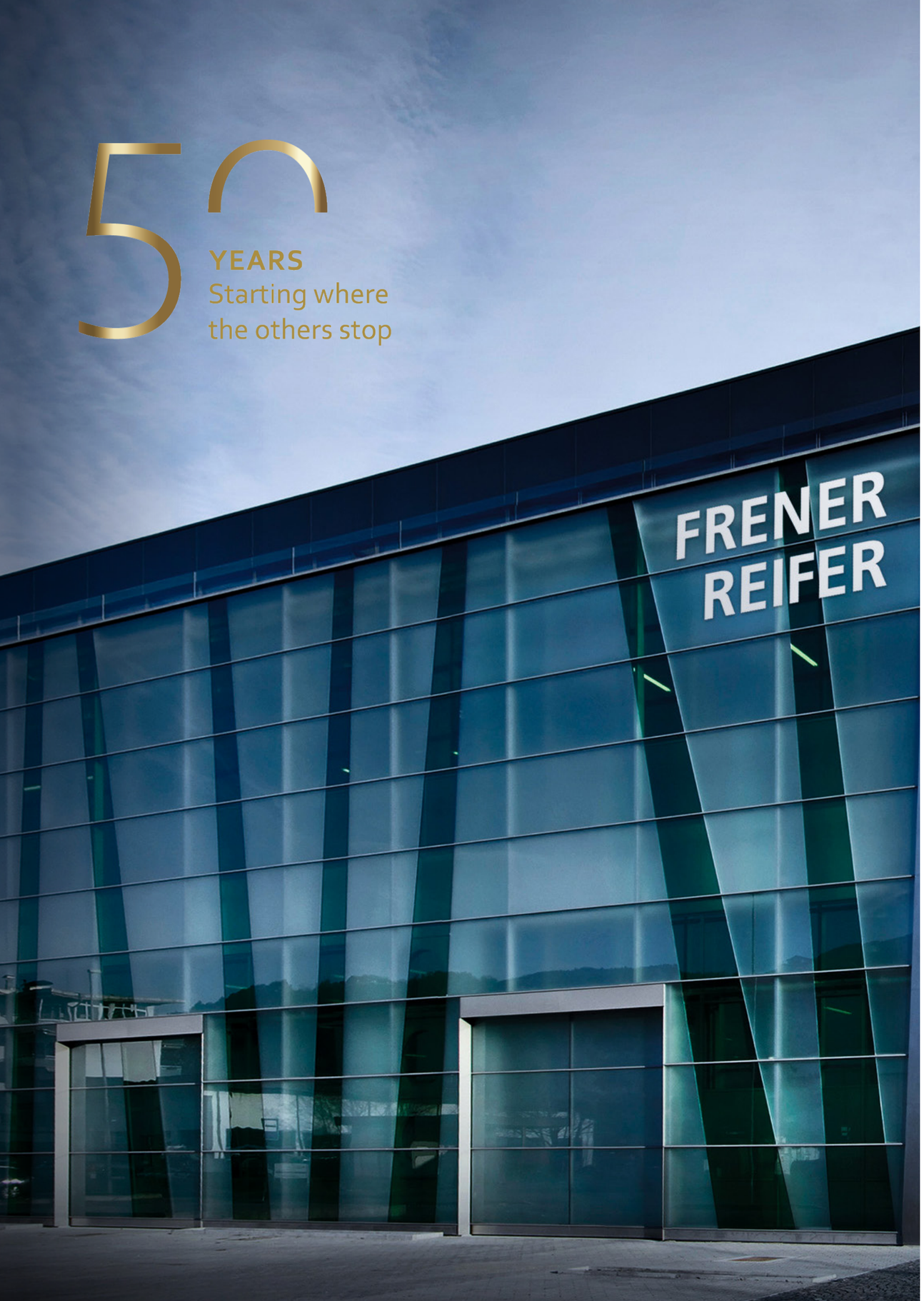
minimo_FR

Minimised profile faces
Maximum transparency
Individually adaptable

Suitable for large format glass facades, sliding doors, windows and curved glass elements.







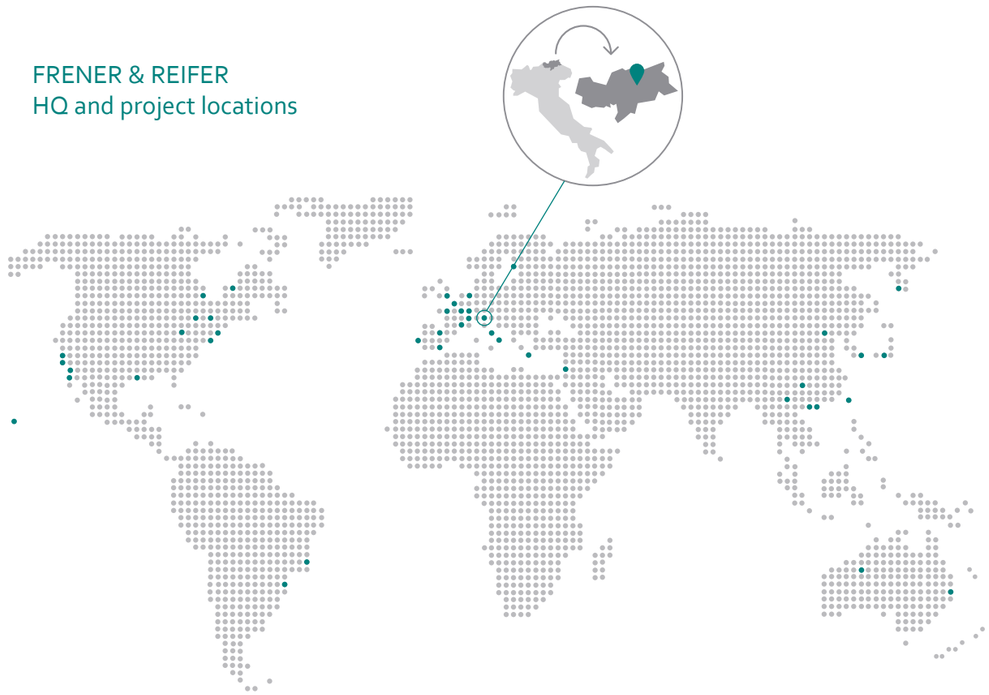
Excellence in facades since 1974

FRENER & REIFER is a globally active, innovative building envelope construction company based in South Tyrol, Italy.

As a solution developer, FRENER & REIFER engineers, fabricates and installs bespoke constructions in glass, metal and other materials for demanding clients and investors to designs by daring architects, worldwide. Subsidiaries in Germany, France, Great Britain and the USA realise solutions developed by the parent company and individually tailored to their respective markets.

Founded as a traditional company 50 years ago, FRENER & REIFER today realises both highly complex building envelopes for major international projects and exclusive custom-made architectural designs as a modern structured operation.

FRENER & REIFER
HQ and project locations



Complete package facade

As a full-service provider and general facade contractor, we partner clients, architects and specialist planners through the entire process.

Our partners appreciate our solution-oriented flexibility and the way we approach every single project challenge with tireless inventiveness.

We act as team players, providing constant creative input and thinking two steps ahead. We live our shared credo: "starting where the others stop". For excellence in structural facade engineering.

DESIGN

CONSULTATION

Customised solutions.
Design studies. Material proposals.
Indicative and budget prices.

DEVELOPMENT

Preliminary planning of new solutions.
Binding price quotations.
Variants. Design recommendations.

PROTOTYPING + TESTS

Visual mock-ups.
Performance mock-ups.
Functional tests: certifications.

NEW BUILD & REVITALISATION

DESIGN

3D. Parametric. BIM.
In-house structural engineers.
Project management.

FABRICATION

Efficient production.
Industrial craftsmanship.
Quality and environmental management.

INSTALLATION

In-house installation managers.
Qualified installation teams.
In-house construction and logistics team.

SERVICE

MAINTENANCE

Portfolio maintenance.
Operational reliability.
Value retention.

REPAIRS

Rapid response times.
Ready availability of special spare parts.

REFURBISHMENT

Consultancy and repairs. Renovation.
Maintenance of facades in existing buildings.

minimo_FR

The stick system developed by FRENER & REIFER

The minimo_FR transom/mullion concept developed by FRENER & REIFER offers architects and designers the possibility of realising almost completely transparent facade architecture. Technical execution can be individually customised in terms of form, dimensions and materiality in accordance with structural requirements. The minimalistic profiles guarantee maximum freedom in the design of puristic building envelopes.

The minimo_FR concept can be employed for classic outsized, vertical glass facades with construction heights of up to 14 m as well as for sliding doors and windows and curved glass elements. Maximum possible construction height for free-standing facades is 20 m.

All design variants – whether featuring steel, solid, hollow, stainless steel or aluminium profiles, or floor-to-ceiling height glass fins - are patented. Total profile face widths are between 30 and 40 mm.

minimo_FR
transom/mullion design concept

minimo_FR
Unitised Facades

minimo_FR
Sliding Leafs

minimo_FR
Pivot Doors

TECHNICAL CHARACTERISTICS

Compliance	minimo_FR complies with the technical regulations for the use of linear mounted glazing (TRLV)
Watertightness Group	R6 / RE 1200
Wind resistance	permissible load 2.0 kN/m², increased load 3.0 kN/m²
Air permeability	AE
Thermal transmittance	dependent on glazing type and glass format selected. Single, double and triple layer insulation glazing are all system-compatible.
Colour	Surfaces of the transom/mullion profiles can be coated in any colour shade from the entire RAL range as standard and, optionally, DB (German Railways) and other special colours can also be used.
Material	aluminium, steel, stainless steel, bronze, brass
Drive Technology	Low-maintenance and maintenance-free drive technology solutions for one-off customer requests and demanding designers: from bespoke electro-mechanical constructions for sliding and pivot doors to hydraulic gate systems.




CUSTOMIZED CONSULTING AND EXECUTION

Every minimo_FR partition wall system can be further **developed individually beyond the standard** and adapted to specific requirements.

Whether XL special formats, extravagant design solutions or special surface treatments - **we find a solution for every request**.

We live our shared credo:

FRENER & REIFER
Starting where the others stop

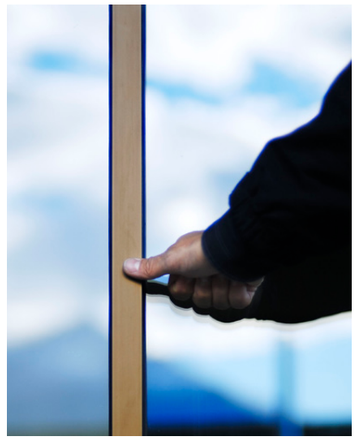
minimo_FR for facades

Transom / Mullion Design Concept in Steel

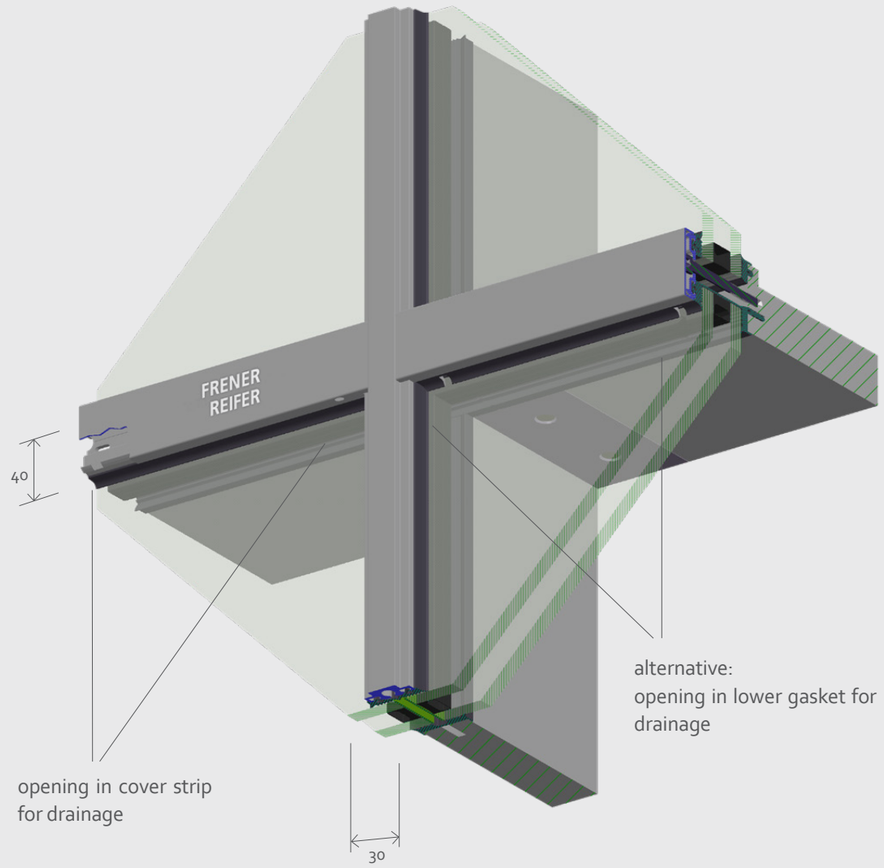
The filigree minimo_FR transom / mullion profiles in steel are structurally particularly suitable for glass heights of above 3.5 m.

The steel minimo_FR transom / mullion design concept with its minimalist aesthetic offers design freedom for tall glass facades while simultaneously fulfilling all structural requirements. With internal and external face widths of 30 - 40 mm the load-bearing structure creates an exceptionally slender, streamlined effect and offers maximum transparency for large-scale glazed areas.

There are versatile concept variants for designers, all of which can be adapted to the structural requirements necessary for different facade heights and widths. Thermal transmittance (Uf) depends on the glazing type and glass format selected.



System Variant:
minimo_FR transom / mullion solid steel profile with external cover strips



minimo_FR for facades

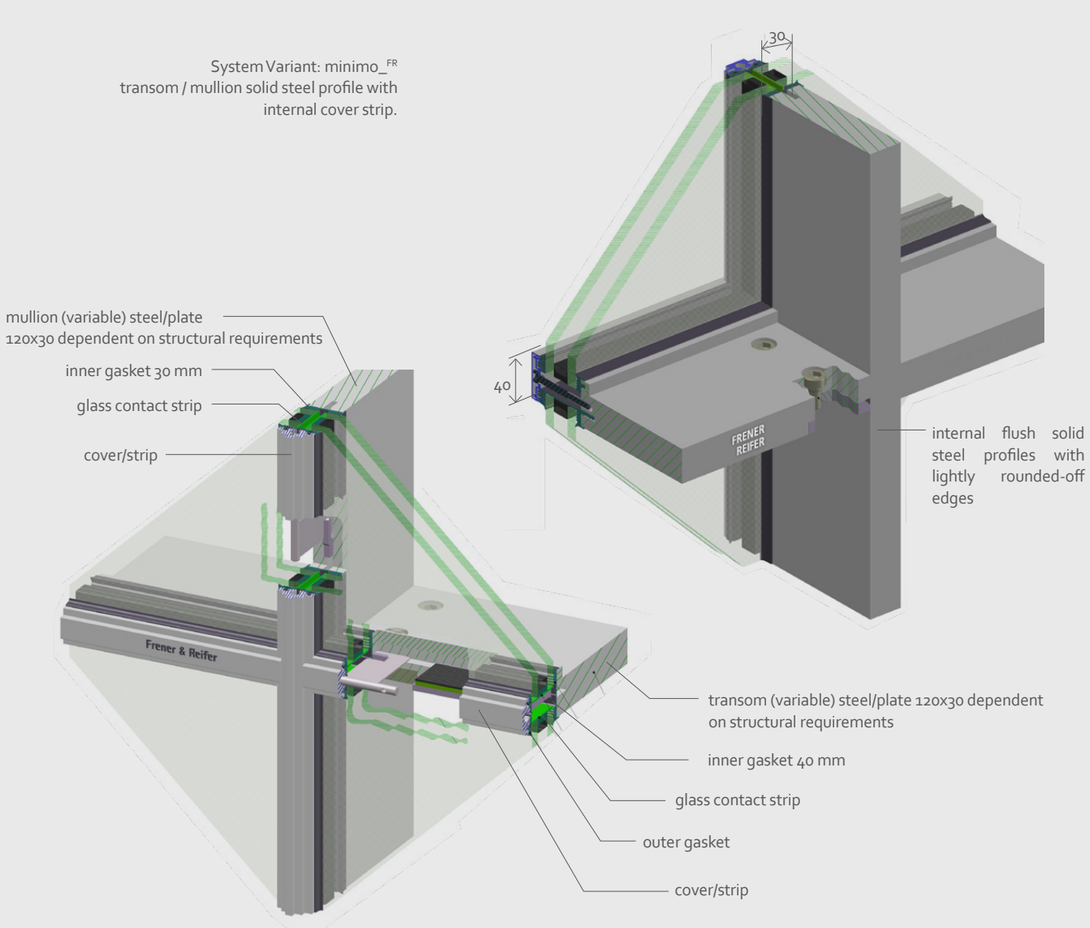
DESIGN VARIANTS

Profiles are custom-made according to requirements: the minimo_FR design concept offers an endless variety of design possibilities.

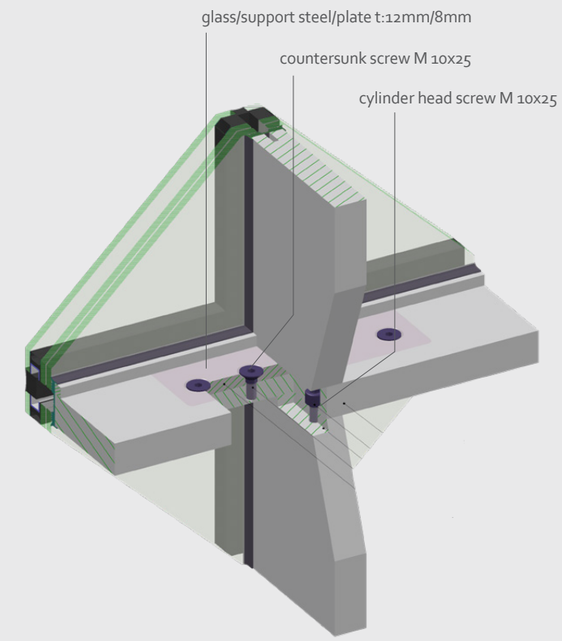
ADVANTAGES

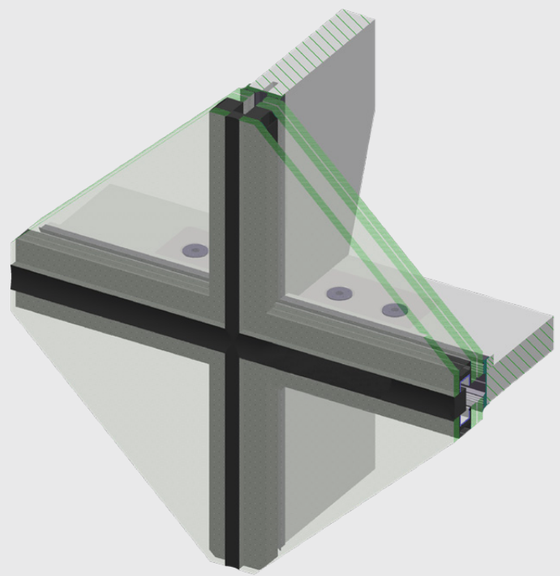
- The minimo_FR steel transom / mullion profiles are particularly suited to tall glass formats.
- Technical execution is individually developed according to form, dimensions and chosen material in accordance with structural requirements.
- The minimal steel profiles allow maximum transparency.
- High quality standards guarantee almost unlimited service life.

System Variant: minimo_FR
transom / mullion solid steel profile with internal cover strip.



System Variant: minimo_FR
Variant with structural glazing





VITRAHAUS, SHOWROOM

Weil am Rhein, Germany

Herzog & de Meuron

Herzog & de Meuron wanted to optimise the presentation of the exhibition spaces at Vitrahaus and was therefore looking for a solution that would maximise transparency.
The minimo_FR system with its 30 mm wide steel mullions and cover caps was chosen for the front, exterior and interior facades (total area approx. 1,000 m²).

KIA HEADQUARTERS ISRAEL

Tel Aviv, Israel

Bar Orian Architects

The filigree minimo_FR unitised facade enables very high quality deployment, especially for large projects with very short construction times.
The minimo_FR unitised facade can be used for standard storey heights and mullion grids in compliance with the technical guidelines.
The system fulfils all challenging building physics and climatic requirements in every design and profile variant.
Bar Orian Architects opted for the minimo_FR SSG unitised facade with 40 mm profile face width for the main building and the minimo_FR steel facade for the showroom.

minimo_FR for facades

PRIVATE OFFICE BUILDING

Münster, Germany

Allmann Sattler Wappner Architekten

The architects favoured the minimo_FR system with a face width of 30 mm for all the terrace facades with their high aesthetic requirements.
This was chosen as the preferred option for the visually dominant „frame" facade element with integrated, external sliding leafs.

FONDATION JÉRÔME SEYDOUX–PATHÉ

Paris, France

Renzo Piano Building Workshop

At the two entrance areas, the minimo_FR system was customised and adapted to the curved glass elements of the ground floor.

HOTEL THERME MERANO

Merano, Italy

Matteo Thun

Matteo Thun's design for the Hotel Therme Meran is characterised by a visually and structurally reduced facade architecture.
He opted for the minimo_FR system for the 820 m² entrance area, lobby and ground floor facades.
The structural requirements for the lobby facade (height 7.20 m, length 28 m) required the use of solid steel profiles for mullions and transoms (30 mm x 120 mm). The overall structure consists of a grid with welded nodes.

INVESTCORP BUILDING

London, UK

Zaha Hadid Architects

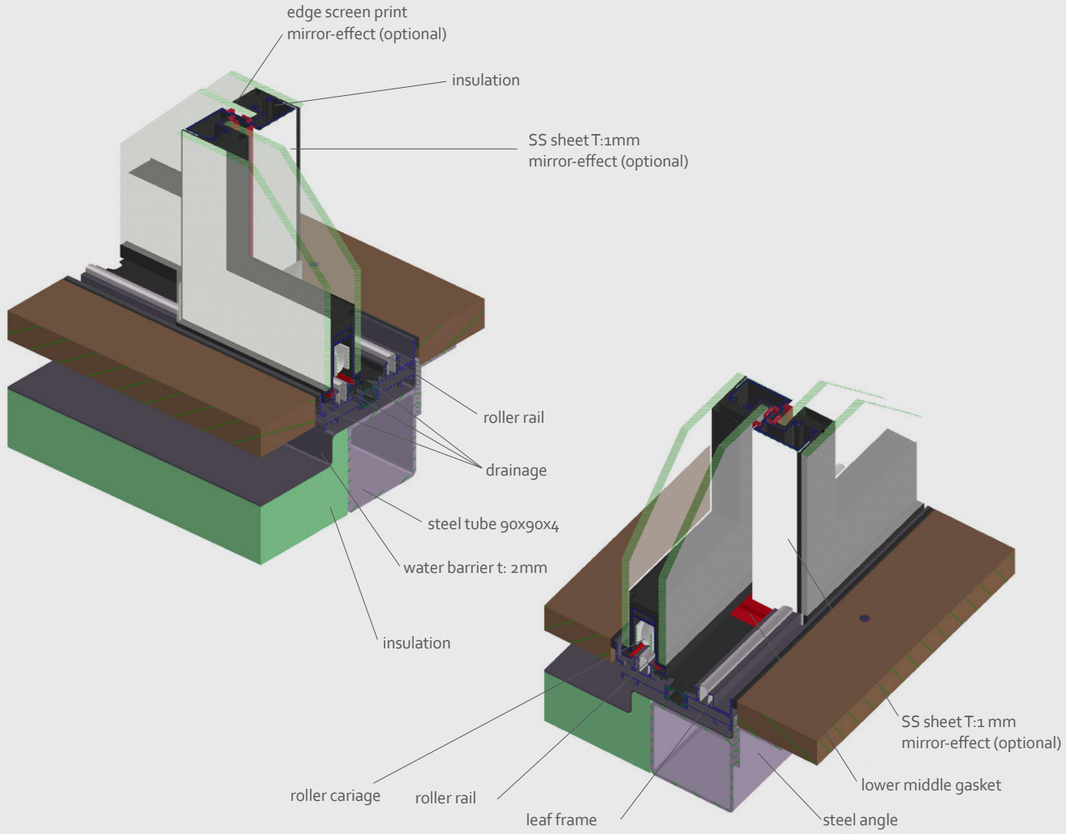
Both the elegant, filigree ground floor entrance façade, and the 130 m² stick system glass facade above it, are customised structures based on the minimo_FR construction principle with a width of 30 mm.
Characteristics of the glass facade: varying glass geometries and graduated dot screen printing as sun protection.

minimo_FR Sliding Leafs

The elegant, smooth-running minimo_FR transom/mullion design concept for sliding leafs.

The all-glass minimo_FR sliding leaf gives architects complete design freedom and is characterised by its simple, minimalistic design, with individually tailored handle solutions available to meet customers' personal requirements.

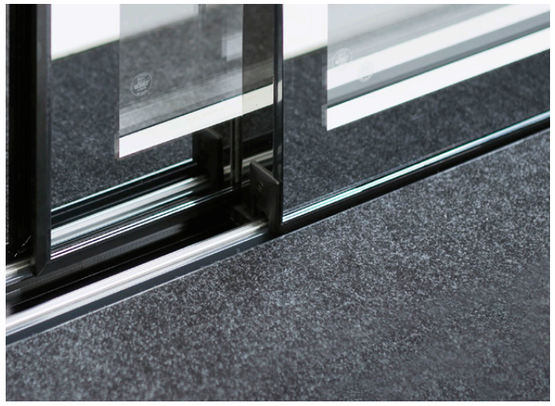
All design variants comply with the building-physics and climatic requirements for daylight-friendly sliding systems. Longevity and genuine smooth running are guaranteed thanks to sophisticated industrial hardware and drive systems.



minimo_FR Sliding Leafs

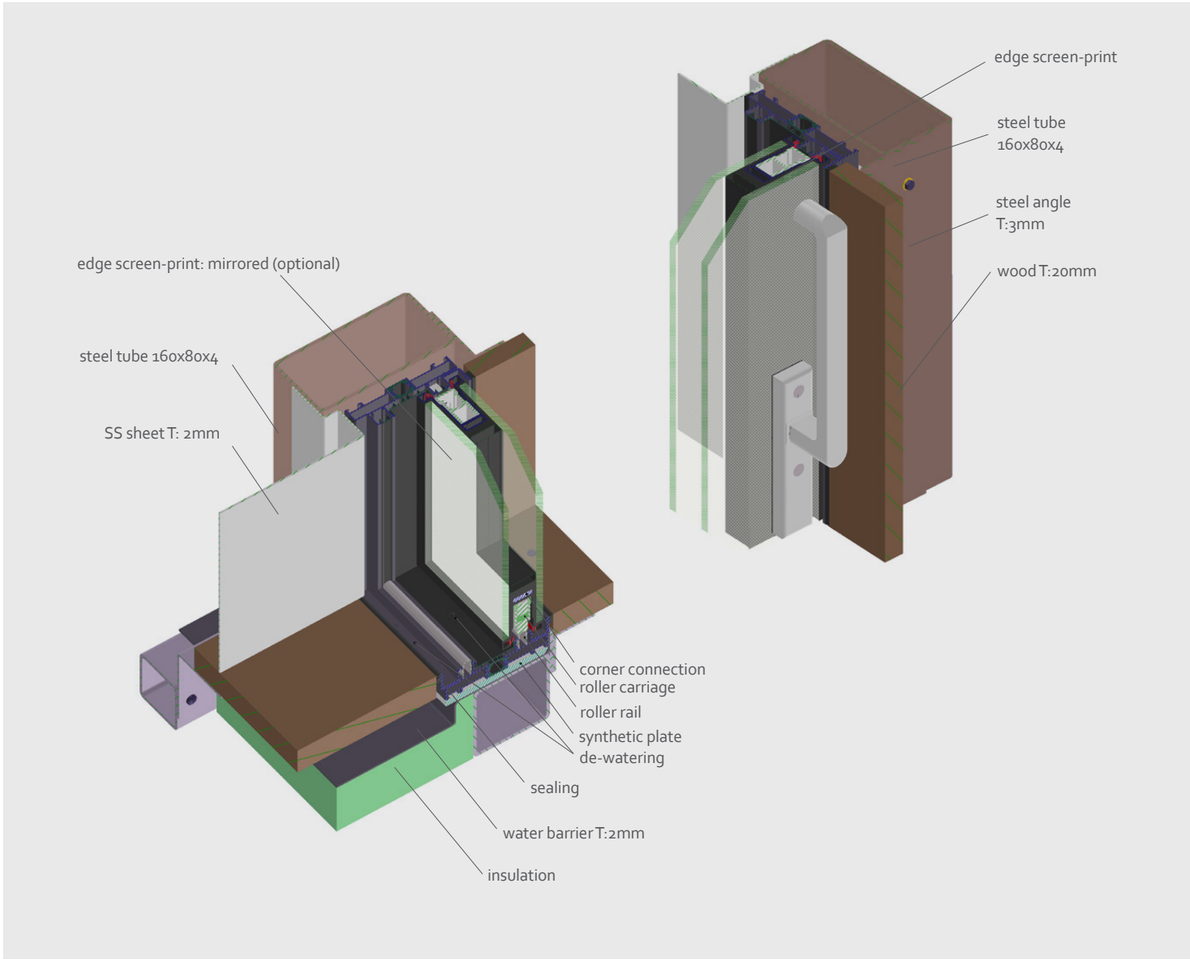
DESIGN CONCEPTS

FRENER & REIFER minimo_FR sliding leaf design concepts are slender and elegant, designed down to the last detail and offer a high degree of functionality across a wide range of variants and unusual formats.



VORTEILE

- Sliding leafs for a high degree of comfort and safety
- Current maximum realised width 5.6 m. 6.0 m feasible
- Current maximum realised height 9.5 m
- Special design requests can be fulfilled
- Outsize special window designs or alternative drive concepts are both possible
- Motor-driven or manually operated, according to size and structural requirements
- An expensive refinement: double-sided glazed leaf frames with "mirrored screen print".



minimo_FR Sliding Leafs

PRIVATE VILLA

Germany

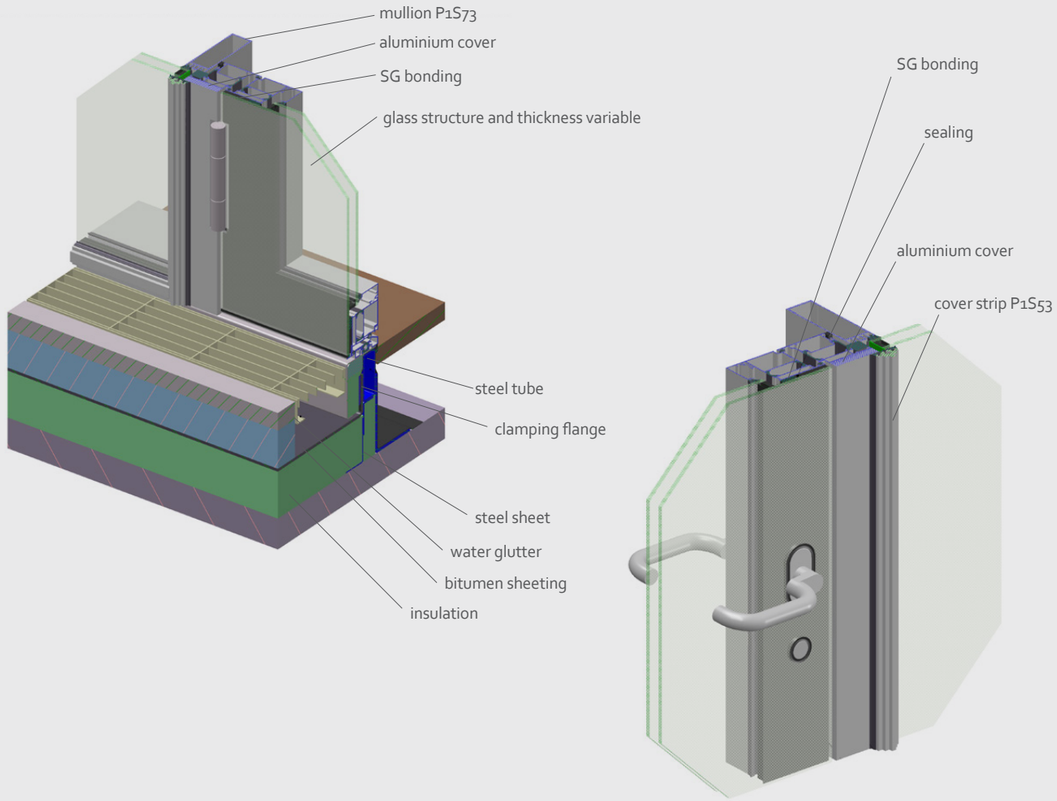
Kohlmayer Oberst Architekten

The large-format minimo_FR sliding leafs create the seamless transition between indoor and outdoor areas required by the customer and offer maximum transparency for a comfortable ambience.

minimo_FR Pivot Doors

The FRENER & REIFER all-glass insulated doors with concealed fittings and aluminium profiles have been specially developed for use in busy public buildings and are suitable for both indoor and outdoor use.

Door sealing can be achieved via brush seals or by using soundproof rebates. The brush seal variant allows the doors to be opened independently of each other in one direction.



minimo_FR Pivot Doors

FREE UNIVERSITY OF BOLZANO

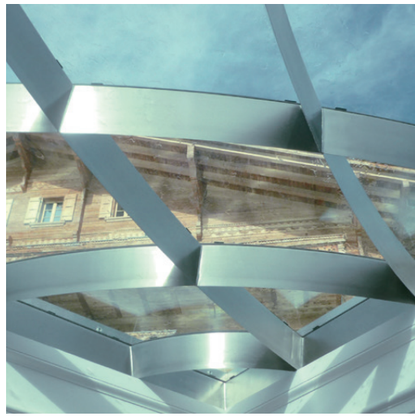
Bressanone, Italy

Kohlmayer Oberst Architekten

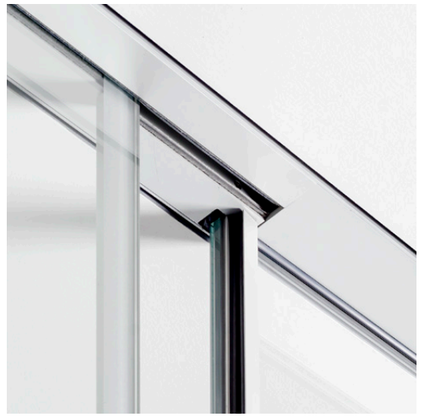
minimo_FR all-glass insulated doors, with concealed fittings
and integrated aluminium profiles

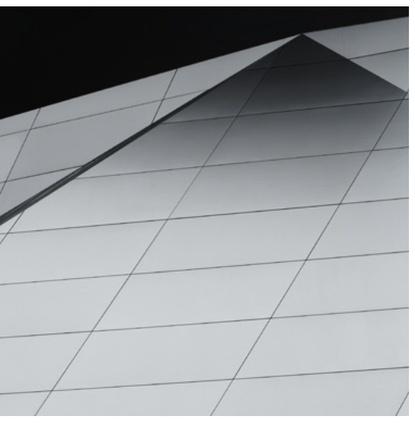
EXPERT CRAFTSMANSHIP AND PRECISION DOWN TO THE LAST DETAIL.










FRENER
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www.frener-reifer.com