

Forster Profile Systems Creative Solutions in Steel



Photo right:
Prime Tower, Zurich, Switzerland
Fire protection doors E30, smoke protection
doors E30 from Forster fuego light and
Forster presto systems

Front page picture:
Huawei Exhibition Center, Peking, China
Thermal insulated mullion/transom curtain
walls, glazings and entrance doors with the
systems Forster therm²vario and Forster unico



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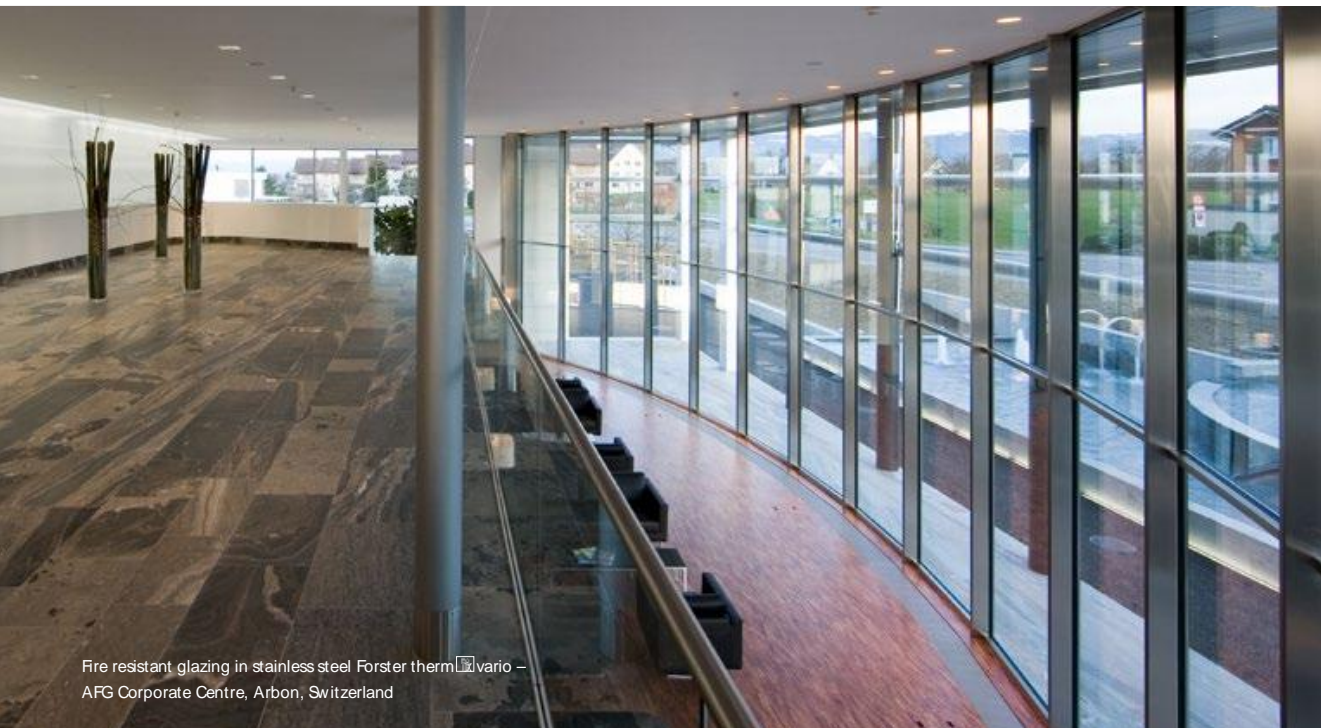
Forster Profile Systems Ltd

Impressive solutions in steel and stainless steel

At its location in Arbon in Switzerland, Forster develops and produces high-quality profile systems for a variety of applications:

- Thermally insulated doors and windows
- Curtain walls and glazed roofs
- Doors and windows without thermal break
- Fire and smoke protection closures
- Security doors and windows (burglary, bullet resistance)

Besides full support from our technical advisers, we provide architects, planners and metal-construction companies with detailed documentation and practical digital aids to help them complete their design and implement the systems.



Fire resistant glazing in stainless steel Forster thermLivario –
AFG Corporate Centre, Arbon, Switzerland

The Forster systems

Windows, doors and curtain walls

Forster offers profile systems for a variety of different requirements and needs. Our systems are continuously updated and expanded by innovations to meet the latest demands of the market.

Forster fuego light

For fire protection doors and glazing at the highest quality level. Many different solutions are tested and approved in numerous countries. Design variants range from single and double-leaf doors through to large-surface sliding doors. The system is convincing due to its very narrow sightline, slender looks and extreme transparency.



SAFE • SLENDER

EI30/EI60/EI90/EI120



Forster unico / Forster unico Hi

Thermally insulated windows, doors and glazings – elements, produced with profiles in this unique framework style, can be fitted indoors or outdoors. The ecological basic profiles are made of 100% recyclable steel and contain no synthetic insulating materials. The clever fastening techniques achieve extremely narrow profile cross-sections previously unattainable with thermally insulated series. This system is therefore ideal for renovating old buildings and listed industrial buildings.



DURABLE • ENERGY-EFFICIENT

WK1/RC2-3/FB4 NS/E30-E60/EW30-EW60



Forster thermfix vario

System for thermally insulated curtain walls based on a mullion/transom construction has a multifunctional use that is combinable with noise reduction, fire protection and burglary resistance. Very narrow facing widths from 45 mm permit a wide range of applications.



MULTIFUNCTIONAL • FLEXIBLE

E30-E90/EW30-EW60/EI30-EI90/RC2-3/FB4 NS



Forster thermfix light

Curtain walls and fixed glazing are simple, quick and economic to install with free choice of substructure. This makes fitting a weatherstripping system simple on commercially available steel and aluminium profiles or wooden substructures. Also ideal for sloped or glazed roofs.



ECONOMICAL • SIMPLE

EI30/E60/EW60



Forster presto

For flush mounted single or double-leaf doors, windows and glazed closures. Forster presto stands for security and safety and meets maximum demands for technical functionality and extreme long-term exposure to stress. The system is suitable for use wherever there are no special thermal insulation requirements. Forster presto is also available in stainless steel for elegant and ambitious solutions.



STURDY • UNCOMPLICATED

E30-E120/EW30-EW60/RC2-3



* Refer to country-specific approvals

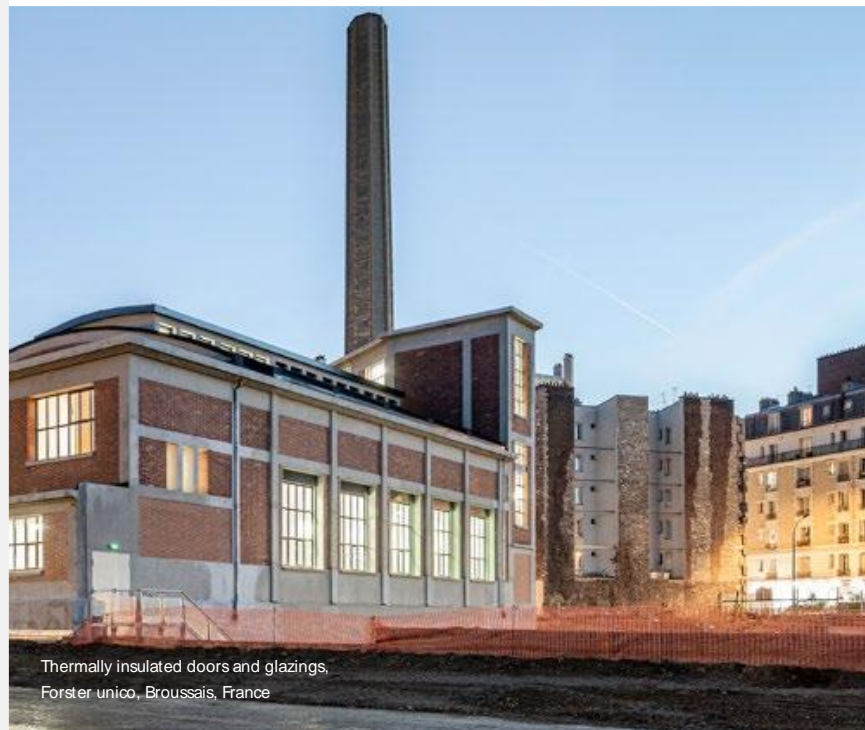
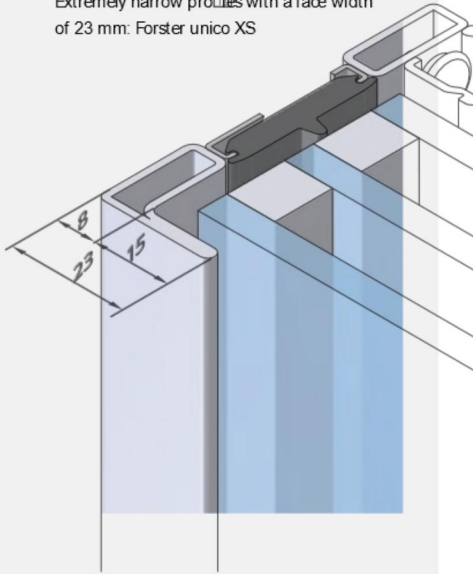
Safer – slender – individual

Freedom of design with profile systems made of steel

Profile steel tubes are an optimal construction element for doors, windows and curtain walls for structural reasons. Large-surface elements with extremely narrow face widths can be produced from steel and stainless steel, which is otherwise not possible with other materials. In many respects, steel as a basic material is a reliable partner, in particular for our Forster profile systems:

- Elegant, transparent, lightweight and slim constructions
- Impressive element dimensions – the structural properties of steel make this possible
- Many varied forms, curved in elevation or in plan
- Easy to combine with materials such as concrete, glass, membranes and wood
- Offers many fitting options
- Durable and economic
- Ecological and sustainable, 100% recyclable
- Ideal for renovations

Extremely narrow profiles with a face width of 23 mm: Forster unico XS



Thermally insulated doors and glazings,
Forster unico, Broussais, France

Sustainable

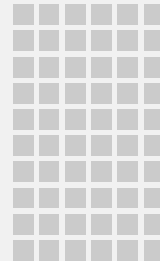
Steel, the recycling champion

Steel is the material with the highest recycling rate in the whole world. Even when adding up all other materials together, such as aluminium, glass and paper i.e. materials that are recycled in larger quantities, the quantity of recycled steel is far greater. 570 million tonnes of steel scrap per year – that is 60 times the quantity of recycled aluminium, for example. Steel is the world's recycling champion by a long margin!

The ecological footprint of steel is smaller than previously estimated due to its multi-recycling properties. At the same time, material quality is retained in every new product cycle. These are the findings of a study performed by the Technical University of Berlin under the direction of Prof. Dr. Matthias Finkbeiner. For the first time, it presents a holistic and comprehensive life cycle assessment methodology for steel. (Source: Steel Information Centre, www.stahl-online.de)

Together with members of the VFF (Association of Window and Façade Manufacturers, Frankfurt), we commissioned ift Rosenheim to produce EPDs (Environmental Product Declarations) in compliance with DIN ISO 14025 and EN 15804 for windows, doors and curtain walls made of steel and stainless steel. You may use these EPDs as the basis to obtain your own manufacturer EPDs which can then be used for building identification.

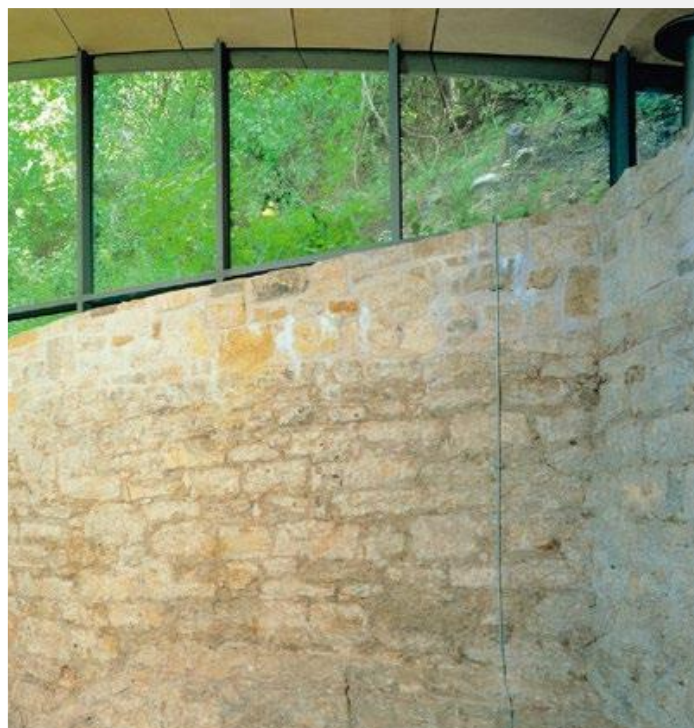
Steel recycling



Aluminium recycling



Thermally insulated curtain wall, Forster thermix
Glashaus der Seine, Rüdersdorf, Germany



Beautiful down to the smallest detail

Nothing to see

Safety need not be ugly or bulky. Slender profiles made of steel, concealed hinges and integrated door closers (ITS) reduce the number of visible elements to a minimum and give doors, glazing and curtain walls a clear, elegant look.

The latest development in fire protection hides its capabilities behind glass. Elements in an all-glass look, whether clad with glass on one or both sides, offer proven fire safety and a modern, elegant design. Only a completely smooth glass surface remains next to the handle.

Generous glass elements for fixed glazing up to 3.5 m high can be aligned in a row with a minimum gap. Fire resistant butt joint glazing which is definitely eye-catching with no transoms.

With our profile systems you receive door elements with a uniform appearance within the entire building. For both fire resistant, smoke controlling and heat insulating, the identical face widths of the various systems guarantee a uniform appearance.



Element in all-glass look



Concealed integrated door closers



Concealed hinges



Butt joint glazing E30 with Forster fuego light – Cycle d'orientation de Drize, Carouge, Switzerland



Our systems for thermally insulated elements

Forster unico / Forster unico Hi

Thermally insulated windows and doors
in steel and stainless steel

Forster thermfix vario Forster thermfix light

Thermally insulated curtain walls
in steel and stainless steel

Energy efficiency

Ecological heat insulation

Our Forster unico system needs no additional synthetic insulating materials. The profile system made completely of steel meets the highest demands for technical and structural functions due to its unique framework style of construction. An ideal combination of the latest technology, energy efficiency and ecological use of materials for responsible and sustainable building.

Forster unico lets you construct doors, windows and glazing for outdoors, no matter whether you are planning a modern new building or renovating an historic building. Of course it is not only combinable with thermal insulation but also with fire protection, and/or burglary/bullet resistance.

Thermally insulated curtain walls with an impressive element size can be achieved using Forster thermfix systems. They are variable and multifunctional and on request meet additional requirements regarding fire protection, burglary or bullet resistance.



Thermally insulated windows, doors Forster unico – Health West, London, United Kingdom



Thermally insulated door elements with round arches from Forster unico pro^{fil}es – Renovation of a mansion in Küsnacht, Switzerland



Over 1,100 Forster unico window elements with glass panels up to 3.1 m high – in the new Edificio Mediapro at the Audiovisual Campus, Barcelona, Spain



Curtain wall and glazed roof on the fully restored 'Limonaia' using Forster therm⁺vario – Museum Sibbert, Florence, Italy



Thermally insulated windows, doors and glazing using Forster unico – Hotel Crowne Plaza, Liège, Belgium

Universal design

Our universal design systems

Forster unico/ Forster unico Hi

Anti-finger trap door with escape route function, insulated barrier-free threshold

Forster fuego light

Barrier-free sliding door E130 with no threshold with/without escape route function, anti-finger trap door E130, side-hung door with free-running function

Finger protection DIN 18650
Barrier-free accessibility DIN 18040
Escape routes EN 179/EN 1125
1 mn cycles EN 12400
CE-marking EN 14351-1

Barrier-free accessibility and finger protection

Current requirements for insulated access without thresholds, automatic or easy to open doors also play a major role for us and so are included in our standard portfolio. The construction variants range from single-leaf doors through to large-surface sliding doors and escape doors with anti-panic function (full panic or partial panic) or swing-out function.

Our anti-finger trap doors, designed in single or double-leaf versions, offer a reduced risk of injury and come with numerous other protection features.



Fire and smoke resistant doors Forster presto and Forster fuego light –
Medical Clinic, Heidelberg, Germany





Fire resistant door E30 made of Forster fuego light profiles with bar knob –
Federal Ministry of Labour, Social Affairs and Consumer Protection, Vienna, Austria





Safety

Our systems for fire protection and smoke control

Forster fuego light

Fire resistant doors and fire resistant glazing

E30/B60/E90/E120

Fire resistant sliding doors E30 with/without escape route function

Sheet metal clad tubular frame doors

E30/B60

Forster presto

Doors and fire resistant glazing

E30-E120/EW30-EW60 (DE RS/G30)

Forster therm vario

Fire resistant glazing E30/B60/E90/

E30-E120/EW30-EW60 (DE G30)

Forster therm light

Sloping fire resistant glazing E30/E60/EW60

* Refer to country-specific approvals

Fire and smoke protection

Forster ProLife Systems lead in the sector of safety. Our systems have been tested and approved with success in a large number of countries. The wide range of versions allows planners a high degree of freedom of design and functionality. Despite the highest requirements, the aesthetic design aspects are not overlooked.

Close co-operation with glazing and fittings manufacturers ensure that all components are optimally compatible with each other. Forster works intensively on further developing its systems. This results in constant new tests and product line supplements.



Stainless steel fire resistant door E30 –
Prime Tower, Zurich, Switzerland



Fire resistant glazing E30 –
Mercury Tower, Moscow, Russia



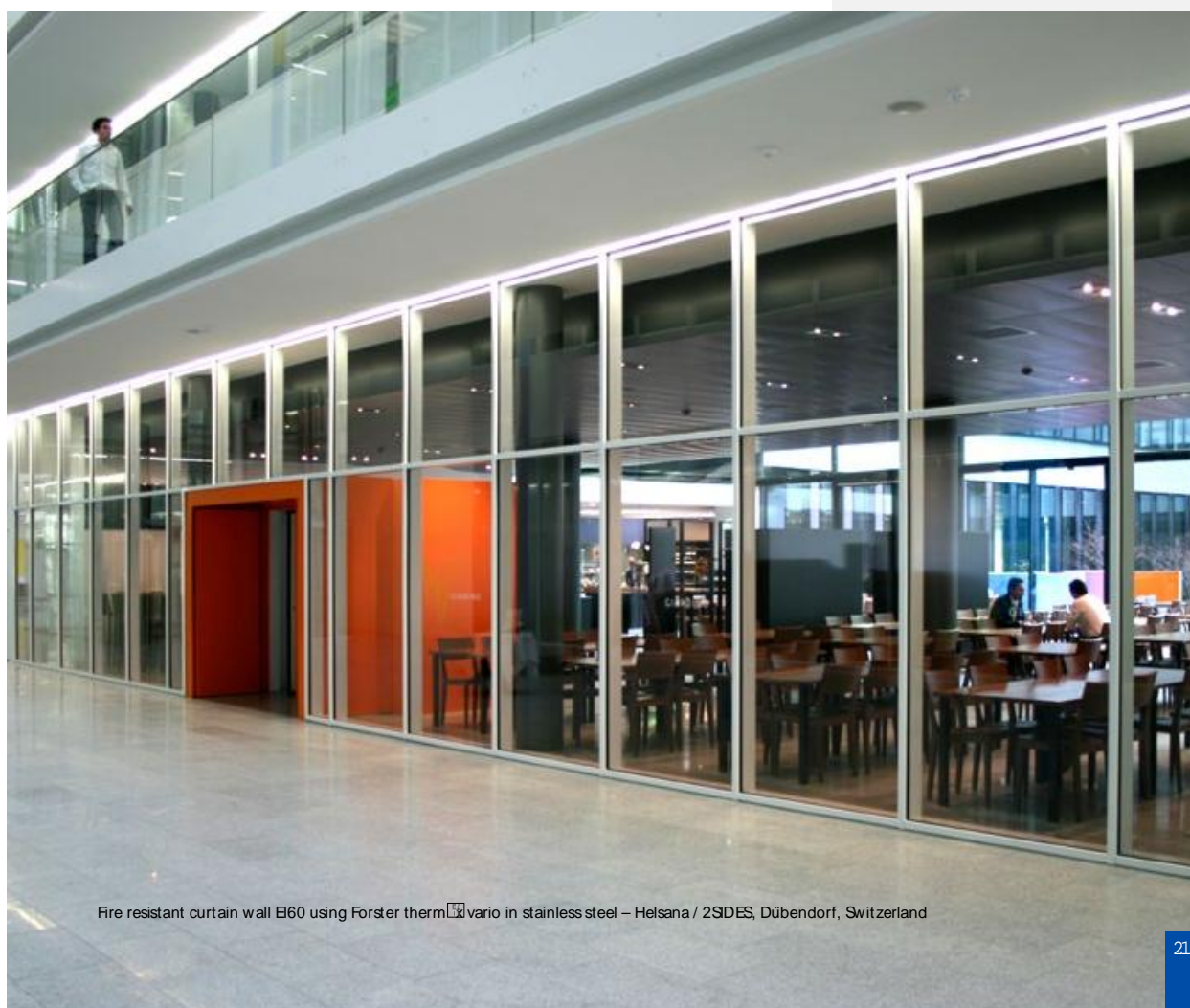
Fire resistant glazing E30/B60 –
Karlsplatzpassage, Vienna, Austria



Fire resistant doors and closures E30 using Forster fuego light – The Dolder Grand ****, Zurich, Switzerland



Fire resistant doors and curtain wall E30 using Forster therm[®] vario and Forster fuego light –
Wildbachgut residential building, Zurich, Switzerland



Security

Our systems for burglary resistance

Forster unico / Forster unico Hi

Thermally insulated windows and doors in steel, stainless steel WK1 / RC 2-3 according to EN 1627-1630

Forster therm¹⁵ vario

Mullion/transom curtain wall WK1 / RC 2-3 according to EN 1627-1630

Forster fuego light

Doors WK1 / RC 2-3 according to EN 1627

Forster presto

Doors WK1 / RC 2-3 according to EN 1627-1630

Our systems for burglary resistance

Forster unico / Forster unico Hi

Thermally insulated window and door systems FB4 NS according to EN 1522

Forster therm¹⁵ vario

Thermally insulated mullion/transom curtain wall FB4 NS according to EN 1522

* Refer to country-specific approvals

Burglary and bullet resistance

The need for security in the past few years has risen immensely and this is reflected by more stringent system requirements for doors, windows and curtain walls.

Our profile systems in steel or stainless steel cover a wide range for increased security indoors and outdoors. Our doors, windows and glazing have proved to be one of the best world-wide, in particular when it comes to burglary and/or bullet resistance. The same visual appearance for different security areas offers a maximum in aesthetic design and inconspicuous integration in the overall architecture.



Fire resistant door and bullet resistant glazing T30 / F30 – Puls 5, Zurich, Switzerland



Burglar resistant door and glazing in stainless steel – Belgian Embassy, Athens, Greece



Burglar resistant thermally insulated glazing – KBA NotaSys, Lausanne, Switzerland



Burglar resistant display window glazing WK3 using Forster therm[®] vario – Sotheby's, Zurich, Switzerland



Fire resistant doors and closures and burglar resistant doors WK3 Forster presto and Forster fuego light – Finance Centre in Aachen, Germany



Burglary and bullet resistant doors and glazing RC3/FB4 using Forster unico and Forster thermivario – Belgian Embassy, Athens, Greece



Thermally insulated windows and glazing, burglar resistant using Forster therm[®] vario and Forster unico –
KBA NotaSys SA, Lausanne, Switzerland

Your partner

On the safe side

Tested and approved

Forster systems have been tested and approved in many countries for fire and smoke protection as well as burglary and bullet resistance.

Support and assistance

A number of technical aids are available to you for our Forster proLife systems. Our technical advisers support you in planning your projects. They are delighted to help you with questions and doubts to facilitate your work.

Time-saving

Forster systems feature short processing times and offer a large number of aids for cost-effective production. This not only saves money but also gives you peace of mind.

Ecological

Steel and stainless steel are durable and are made of 100% recyclable materials. Forster ProLife Systems is certified to the Environment Management System ISO 14001:2004.

Safe – slender – innovative

Our development team works constantly on new innovative solutions for you to meet both functional and visual requirements.

You will find more information about us and our proLife systems on our website at www.forster-proLife.ch or simply contact one of our advisers in your vicinity. We always have an open ear for you.

Services

Besides comprehensive technical information in brochures and application catalogues, Forster offers a wide range of services:

Project consulting

- Highly trained technicians are available to advise you on projects, designs and detailing
- Assistance in drafting specifications
- Project-specific solutions

Tender specifications

Our website also contains numerous tender specifications on our profiles and end products.

CAD profile catalogue

The latest version of the CD-ROM contains the individual system components as well as entire system drawings in DWG format.

U-value calculator

The easy to understand program calculates the U-values (heat transfer coefficient) of complete components, such as doors, windows and façades, to EN ISO 10077-1:11.2000 using a database as a source. Likewise it is possible to selectively describe and calculate complex building units – a simple and helpful design tool.

Design and processing information

CD-ROMs with all the latest documentation on Forster systems in PDF format are available for designers and manufacturers.

www.forster-profile.ch

The Forster website download section includes all product information as well as an extensive reference database, all specification texts and PDF documents and much more useful information.

CE marking

Our website, www.forster-profile.ch also contains extensive information on CE marking:

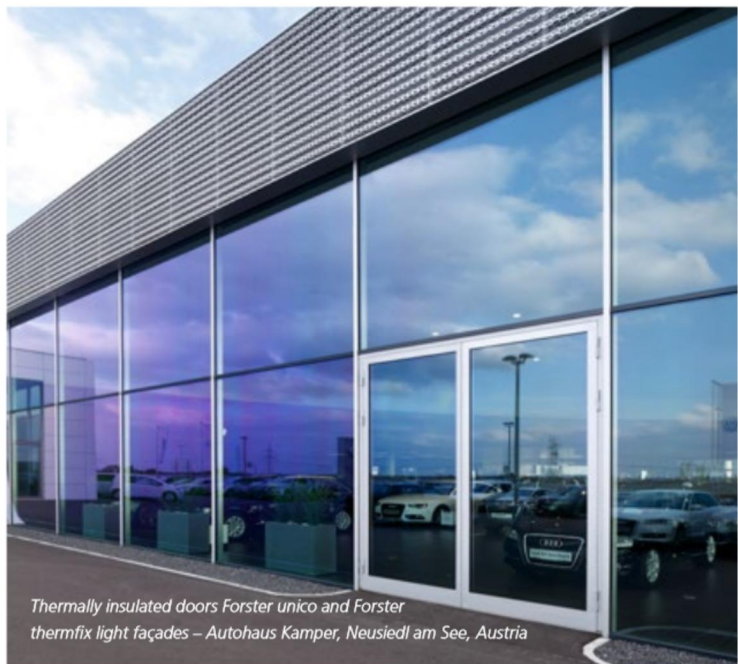
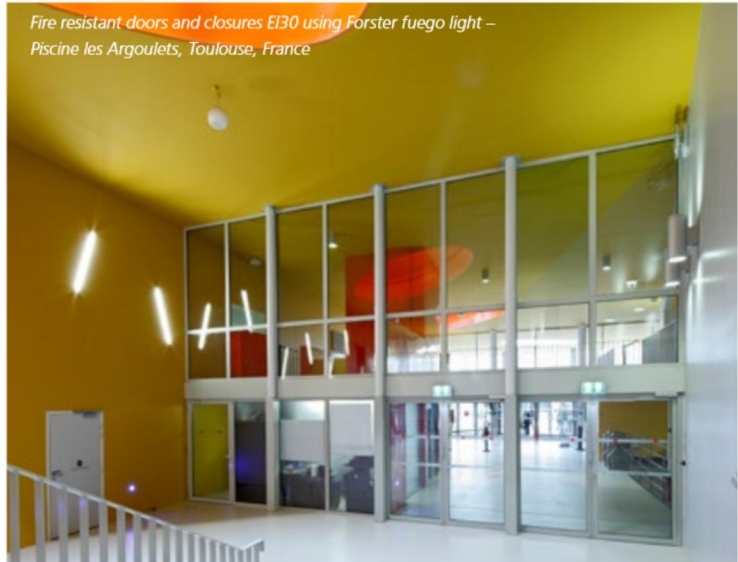
- Curtain walls to EN 13830
- Windows and external doors to EN 14351-1

Forster profile systems in steel and stainless steel

*Thermally insulated windows and glazing using Forster unico –
Rustoord Ancrosite, Wilsel, Belgium*



*Fire resistant doors and closures EI30 using Forster fuego light –
Piscine les Argoulets, Toulouse, France*



*Thermally insulated doors Forster unico and Forster
thermfix light façades – Autohaus Kamper, Neusiedl am See, Austria*

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forster
A leading brand of  **AFG**

908338/10012657/3000/01-15

Doors and windows with thermal break

In steel and stainless steel



System for energy efficient windows, doors and screens

Sustainable, ecological, 100 % steel

Forster unico is the revolutionary, thermally insulated profile system for single and double-leaf doors, for windows as well as for exterior glazed units. The basic profiles comprise 100% recyclable steel and contain no synthetic insulating materials – in contrast to all other insulated systems.

This innovation, uniquely evocative of a framework style of construction, satisfies the most stringent demands relating to physical and structural functions.

The impressive slim aspects of window elements combine architectural design, comfort and well-being with excellent heat and sound insulation.

This is the latest technology, energy efficiency, attractive design and the ecological use of materials for a responsible and sustainable construction.

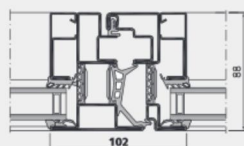
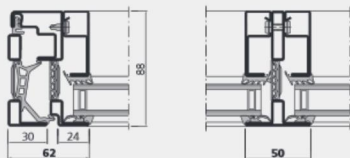
Forster unico Hi

Forster unico Hi combines all the benefits of standard Forster unico systems with even higher insulation parameters. The system complies with the latest requirements for heat protection, e.g. EnEV 2009 (DE) and SIA 380/1 (CH).

The structural profile depth allows the integration of 2- or 3-pane insulated glazing – for U_w values of up to $0.9 \text{ W/(m}^2\cdot\text{K)}$.

Simple construction: Only two additional components are needed to make Forster unico into a very efficient heat insulating Forster unico Hi element.

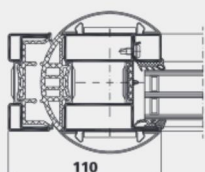
leaf



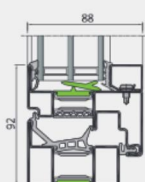
frame / fixed glazing



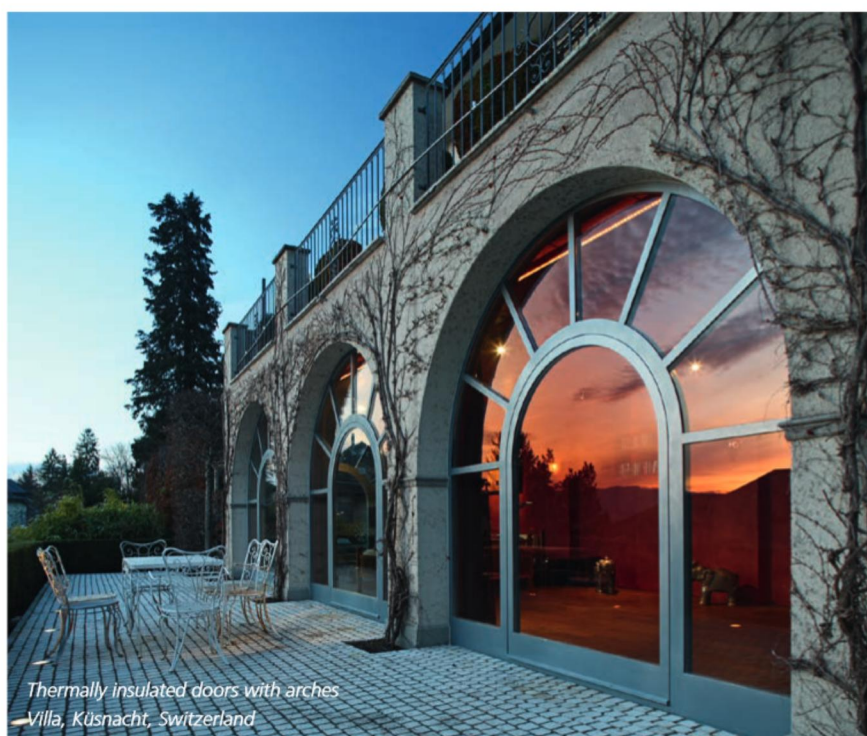
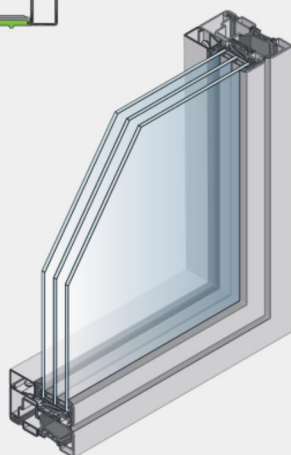
finger protection door



higher insulation parameters with Forster unico Hi



MINERGIE®
1000 x 2000 mm
1500 x 2000 mm



Thermally insulated doors with arches
Villa, Küssnacht, Switzerland

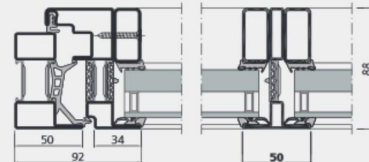


Technical details

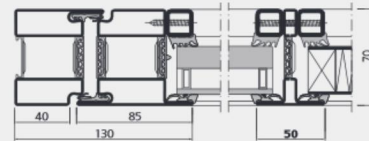
Material options	Steel bright / steel galvanized / stainless steel, grinded, grain 220-240
Performance specifications*	Thermal insulation Forster unico: $U_w > 1.4 \text{ W/(m}^2\text{K)}$ Thermal insulation Forster unico Hi: $U_w \text{ bis } 0.9 \text{ W/(m}^2\text{K)}$ Sound insulation up to 47 dB (doors and glazings) Burglar resistance RC 1-3 acc. to EN 1627 Burglar resistance RC 4 acc. to EN 1627 for fixed glazings Bullet proof FB4 according to EN 1522 Certified according to EN 14351-1 (CE marking) Finger protection door according to DIN 18650 Fire protection E30 / EW30 (doors and windows) SHEVS acc. to EN 12101-2 for side-hung and tilt only windows
Fittings	System fittings for doors up to 350 kg leaf weight, windows up to 150 kg Concealed Forster system fittings for both single and double casements of side-hung and turn/tilt windows
System properties	Facing widths of frame profiles 30 - 90 mm Narrowest facing widths for single and double vent casements from 62 mm and fixed glazings from 30 mm Compatible with Forster fire and smoke protection systems Fillings up to 60 mm (triple insulation glass) Wet and dry glazing, stress-relieved and drained Stove enamelling or powder coating with no temperature restrictions 1- and 2-leaf lift-up sliding doors Insulated flush floor threshold, barrier-free accessibility (0 mm) Outward opening windows, tested according to BS6375-1 Parallel slide and tilt windows (PST)

*Refer to country-specific approvals

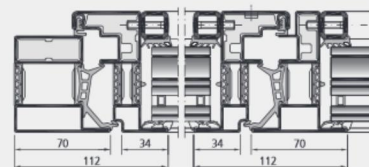
burglar resistant windows RC3



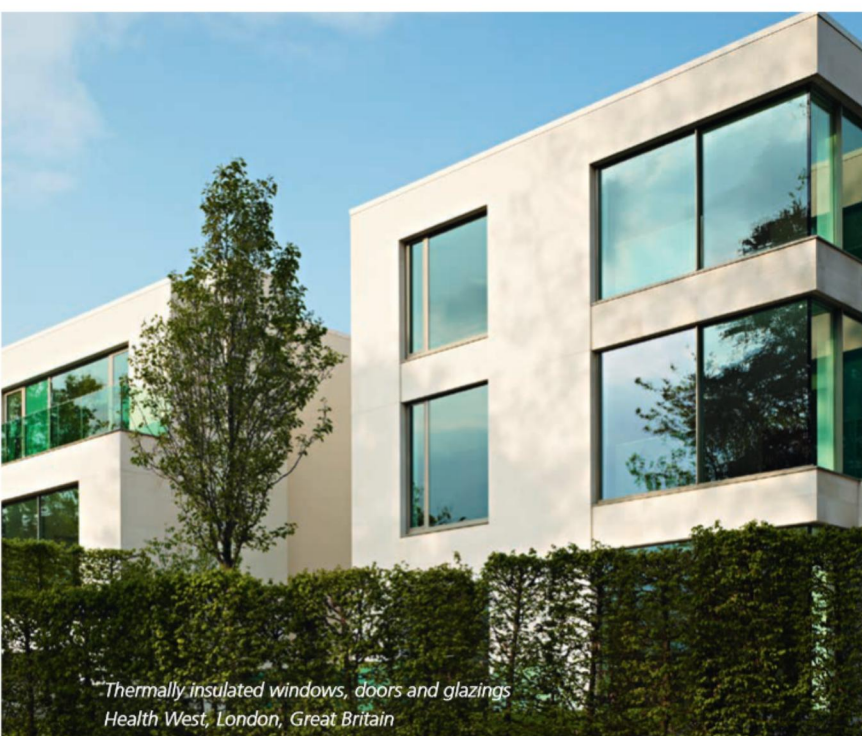
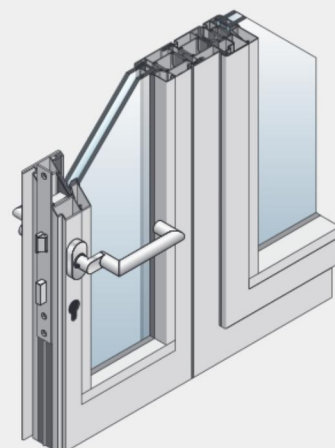
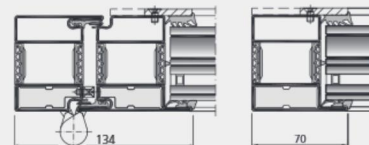
burglar resistant doors RC3



bullet resistant windows FB4

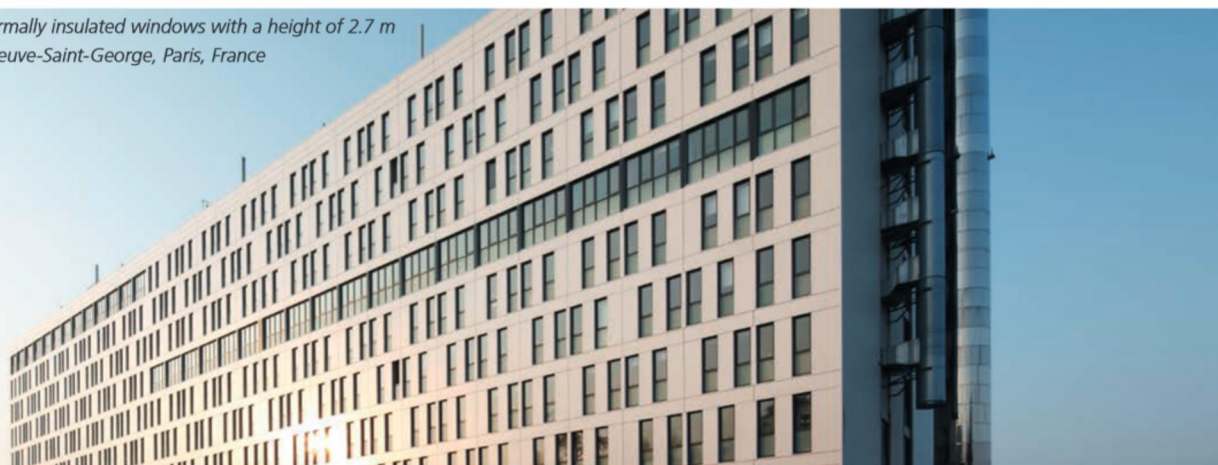


bullet resistant doors FB4

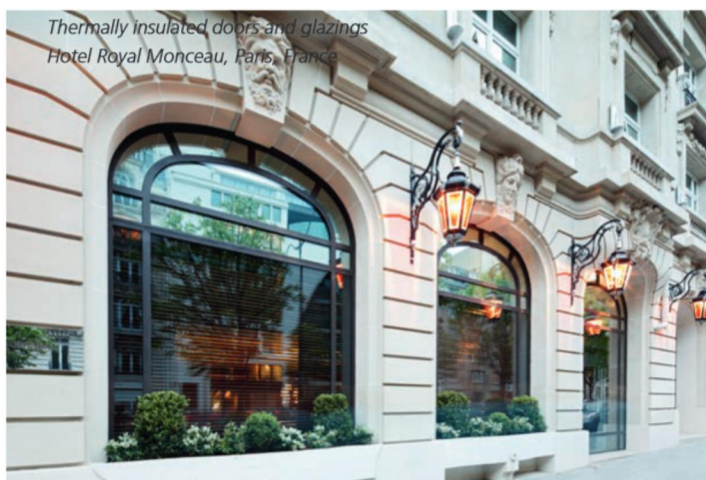


Thermally insulated windows, doors and glazings
Health West, London, Great Britain

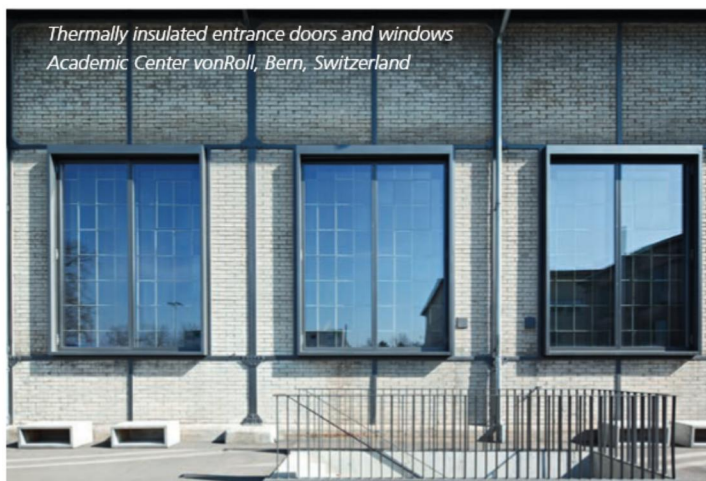
Over 1100 thermally insulated windows with a height of 2.7 m
Hospital Villeneuve-Saint-George, Paris, France



Thermally insulated doors and glazings
Hotel Royal Monceau, Paris, France



Thermally insulated entrance doors and windows
Academic Center vonRoll, Bern, Switzerland



Thermally insulated windows and glazings
Flanders Business School, Antwerp, Belgium



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forster
A leading brand of  **AFG**

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