

# RAICO

## PRODUCTS & INNOVATIONS

Systems for sophisticated architecture



[www.raico.com](http://www.raico.com)

# Welcome to our trade fair stand!

## THE PROFESSIONALS' PROFILE.

RAICO Bautechnik GmbH is the acknowledged specialist for sophisticated building envelopes: We develop and distribute custom-made glass curtain walls which make unique architectures shine in all their glory. Be it constructions made of wood, steel or aluminium, we always provide the right RAICO solution to meet any given demands of design.

Creative designs and extraordinary buildings often call for individual detailed solutions. Whether it is window and door elements, roof constructions with flexible standard systems which we constantly improve or complex bespoke solutions, this RAICO principle applies to all of them:

**The extraordinary is our daily routine!**

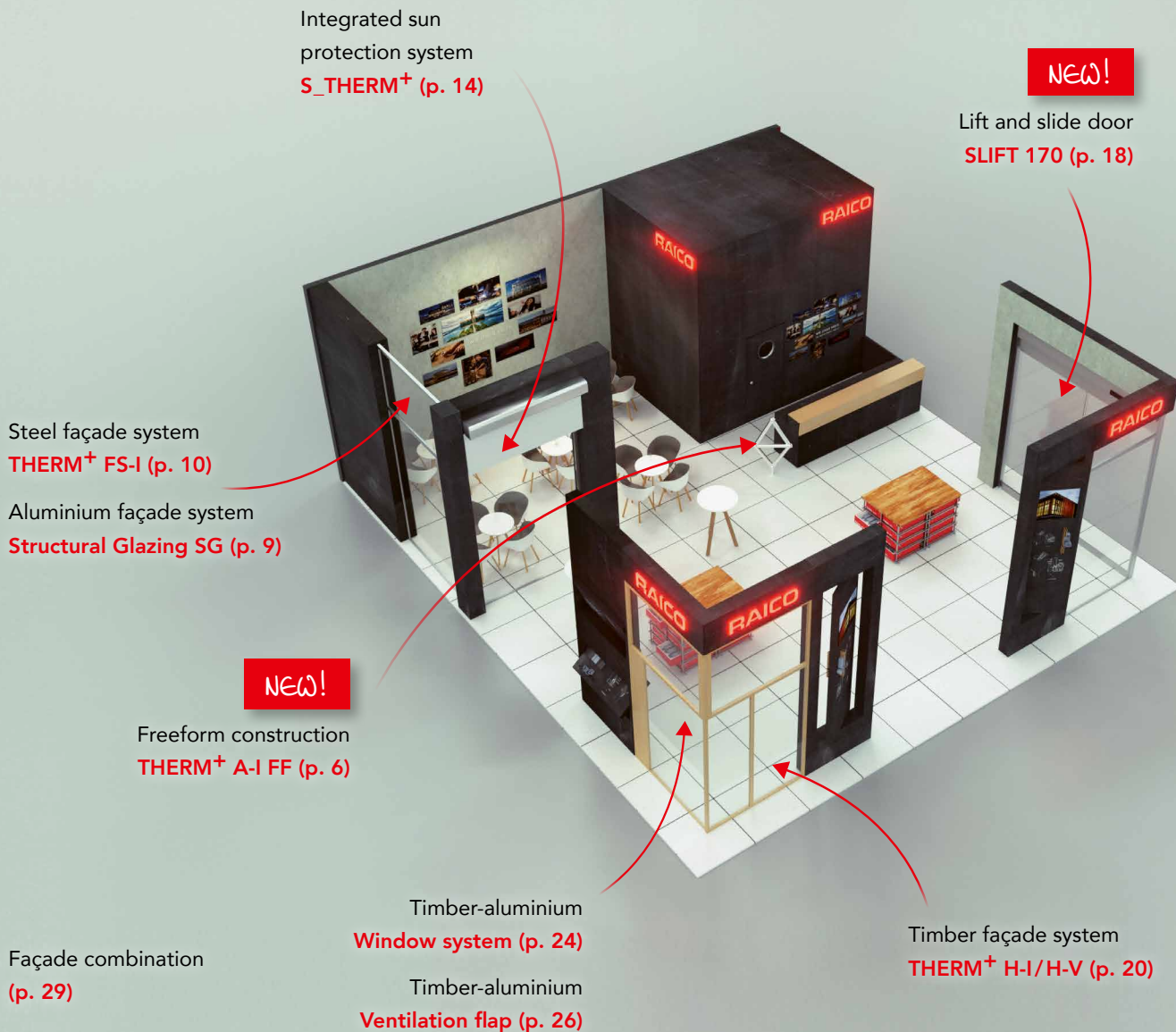
We are pleased to showcase **two RAICO innovations** at Fensterbau Frontale 2020.



Managing directors  
Dr. Stefan Lackner & Manfred Hebel

**”** *"RAICO's spirit of innovation is lived in practice and considered the most important prerequisite for advancing future-oriented ideas. We can gladly explain the benefits to you in a personal conversation!"*

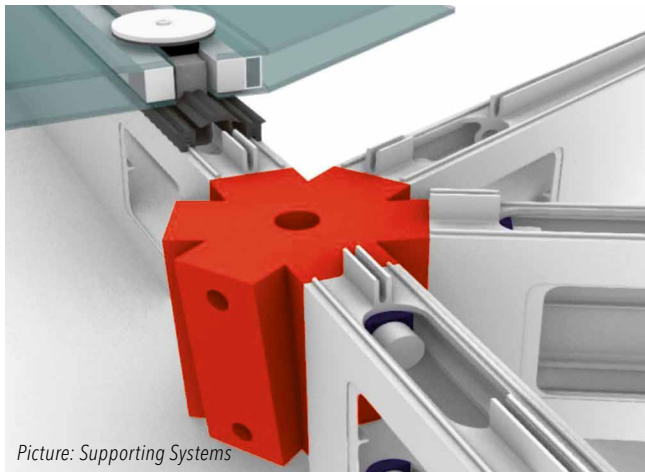
# Content



## Freeform construction

The freeform construction is a clear spanning supporting structure constructed from aluminium, which is used for geometries that deviate from plane geometry. Usually these are dome, pyramid or arched roofs, which can also be asymmetrical in the floor plan.

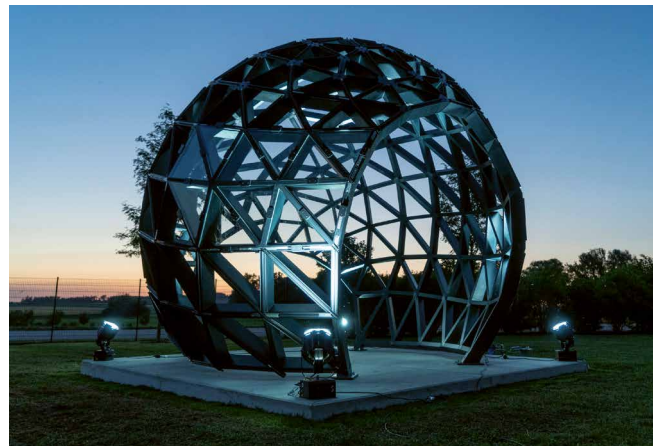
- Thermally separated freeform construction
- Direct assembly without a secondary support structure
- System-tested 3-layer joint sealing system
- Three-dimensional milled junctions with a torque rigid connection to the connecting rods
- High level of preconfiguration (assembly kit), quick assembly
- Object-specific construction<sup>1</sup> incl. verifiable statical calculations<sup>2</sup>



Picture: Supporting Systems

### Exceptional and uncomplicated:

- Wide span
- Complex geometries
- Filigree supporting structure
- Impermeability provided by the tested RAICO system
- No welding work required
- Maximum planning precision thanks to customised software







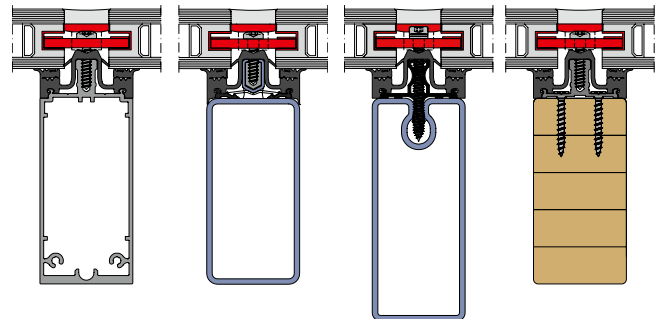
Turnmill, London, UK

# STRUCTURAL GLAZING SG

## Aluminium façade system

The THERM<sup>+</sup> Structural Glazing SG curtain wall systems feature the most intricate glazing technique. A narrow silicone joint is the only visible line between the insulation glass panes. Retention of the internal pane is enabled easily, quickly and securely with the use of SG glazing toggles.

- For double or triple glazing, from 32 to 64 mm thickness
- Efficient and safe glass fixation with structural glazing toggles
- High heat insulation down to  $U_{m,t} = 0.90 \text{ W/(m}^2\text{K)}$
- Available in 50 and 56 mm versions of all THERM<sup>+</sup> systems
- Application in glass curtain wall and glass roof possible



THERM<sup>+</sup> A-I

THERM<sup>+</sup> S-I

THERM<sup>+</sup> FS-I

THERM<sup>+</sup> H-I

# THERM<sup>+</sup> FS-I

## Steel façade system

Thanks to the steel façade system THERM<sup>+</sup> FS-I you can connect the pressure profile of the glass façade directly with the steel substructure – without welding. The integrated screw channel in the profile tube makes it possible.

Direct screwing of the pressure bar with the steel substructure

Integrated screw channel in the steel tube ► reducing of planning, production and assembly costs

Sharp-edged profiles due to small radii

- Exterior view 50 or 56 mm, interior view 50 or 60 mm
- Passive-house certification in all system widths
- Maximum thermal insulation down to  $U_{m,t} = 0.77 \text{ W/(m}^2\text{K)}$  incl. screw influence
- No welding necessary
- Different T-connectors for single-bar assembly or ladder construction available (p. 12 – 13)
- Implementation options such as RC2/RC3

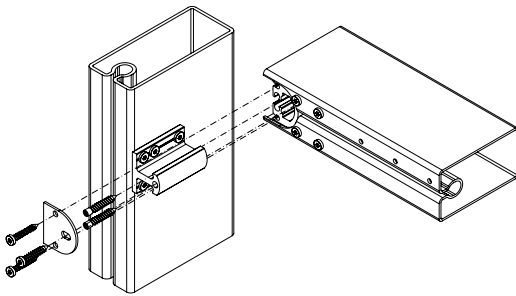
Screw holes separated from water-bearing level through hat seals

Seal guide through one-piece plastic profile



Scan the QR code and watch the video!

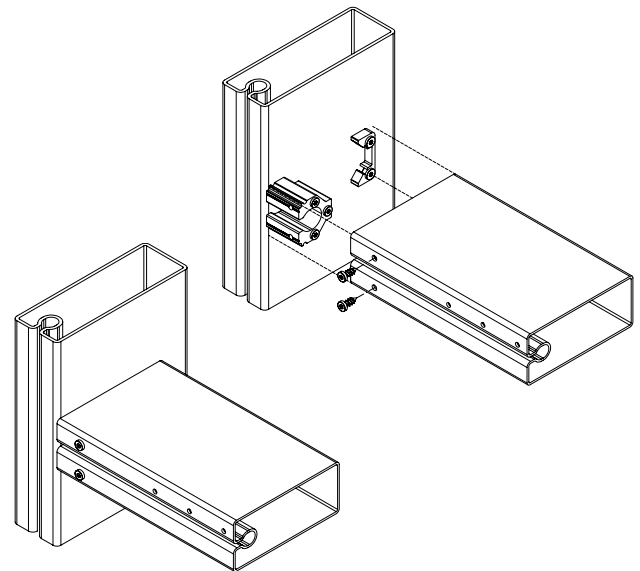
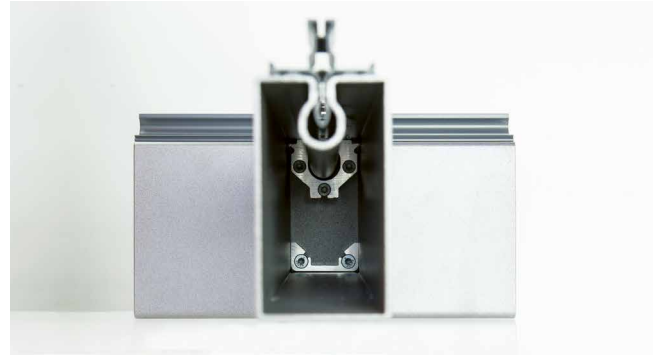
## Two T-connectors ...



### Standard connector SC

- Connecting element of the mullion and transom profiles
- Variably adjustable fixing part for the tolerance compensation of the tube interior dimensions
- Smart connector concept for the tolerance compensation in the façade grid
- Threaded tube and customary steel profile on contact pressure and as twist lock screwable and stable for transport
- Suitable for the subsequent installation of the transom

## ... for even more freedom



### Ladder connector SCL

- For threaded tubes and customary steel profiles
- On contact pressure screwable

# S\_THERM<sup>+</sup>

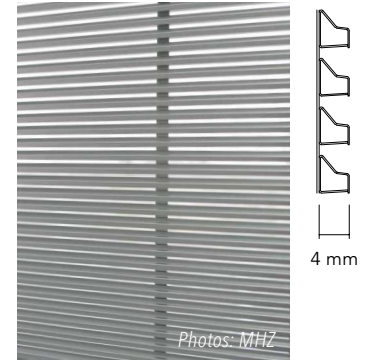
## Integrated sun protection system

Optically appealing, weather-resistant sun protection system built into the façade. Can be combined with the RAICO aluminium, timber or steel mullion-transom façade systems.

- Modern aluminium design
- Sun protection with a high degree of transparency for optimal visibility
- Small installation dimensions due to small angular diameters
- Low weight thanks to the roll formed profiles
- Optimal level of daylight
- Maximum size 2.7 x 3.3 m
- Extremely wind resistant, suitable for tall buildings



## S\_ENN



- Modern stainless steel design

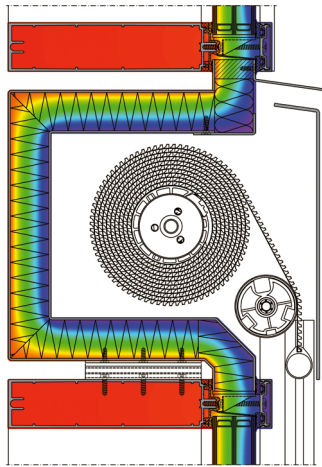
## S\_ENRO



- Modern aluminium design
- Choice of colour scheme

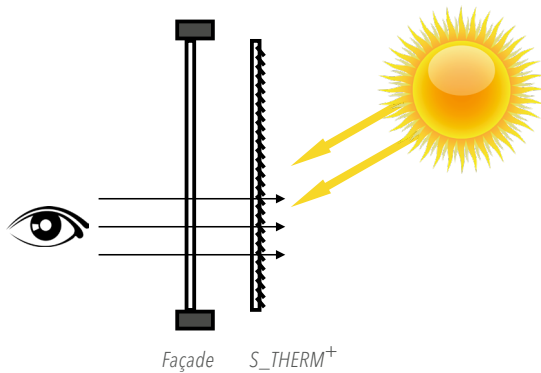


## More highlights of all advantages



Vertical section with heat flow

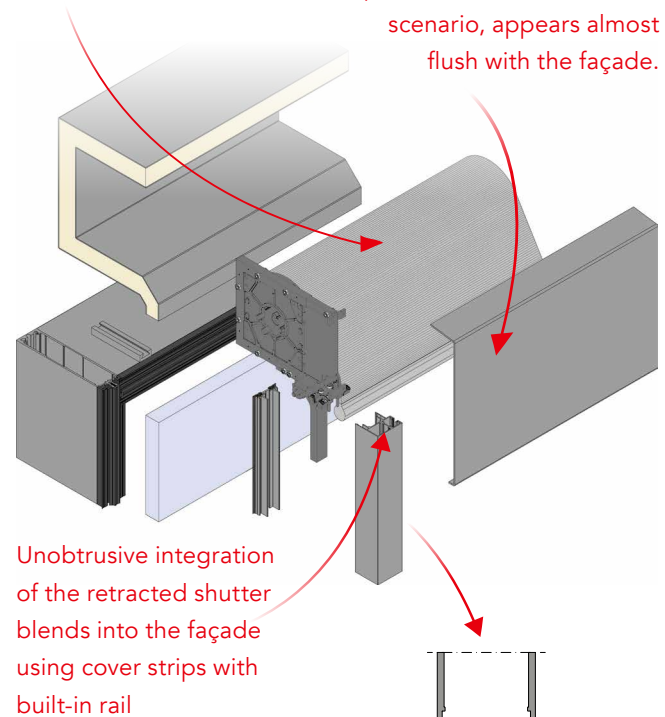
- Thermal bridge-free application loads into the supporting structure
- Total solar energy transmittance with glazing:  $g_{\text{tot}} = 0.05$



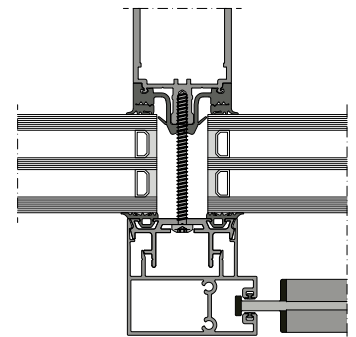
- From an inclination angle of 21 degrees:  
Protection from direct sunlight

Small angular diameter:  
minimal space requirement  
with maximum shutter size

Optically discrete installation  
scenario, appears almost  
flush with the façade.



Unobtrusive integration  
of the retracted shutter  
blends into the façade  
using cover strips with  
built-in rail



S\_THERM<sup>+</sup>

# SLIFT 170

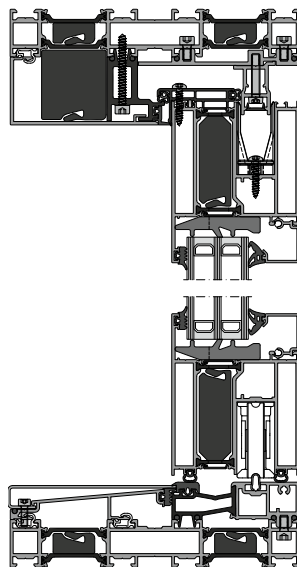
NEW!

## Lift and slide door

The slim and elegant RAICO SLIFT 170 facilitates a modular system design with recurrent structural components for a variety of design configurations. We offer a wide range of additional options such as soft close, an anti-vibration handle, a safety stop function, an electric drive (surface-mounted) and much more.

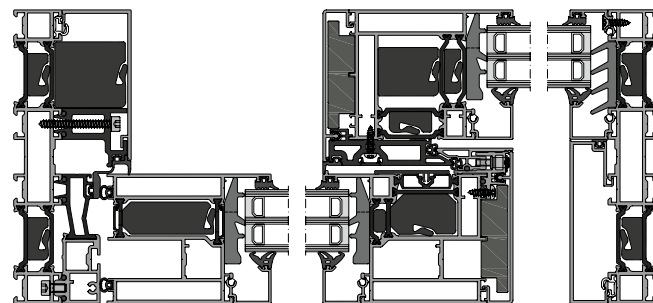


*Example lift and slide door*



*SLIFT 170 lift and slide door*

- Highly thermally insulated profile design with double insulation in the frame and condensation-free meeting stiles.
- Versatile and optimised assembly thanks to the modular system and multifunctional profiles such as, for example:
  - A frame profile attached to a mitre or butt-joint
  - Identical corner brackets (inner/outer shell)
- Glazing possible from both the inside and outside (multiple assembly options)
- Leaf dimensions up to max. 4000 x 3200 mm
- Possible leaf weight of up to 440 kg
- Easy and safe operation (soft close, safety stop, etc.)
- Can be combined with existing RAICO systems
- Wind resistance up to class C4/B4
- Air permeability rating of class 4
- Water tightness rating of E 750
- $U_f$  value 2.0 W/m<sup>2</sup>K (average value)
- Burglar resistant with resistance class 2



*SLIFT 170 lift and slide door*

# THERM<sup>+</sup> H-I/H-V

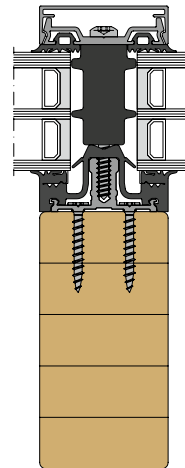
## Timber façade system

The THERM<sup>+</sup> façade system provides an approved glazing technology application to structural frames made of any timber based material from 50mm width. For a sustainable and lasting function the consistent system design assures strict separation between the structural elements and the functional components of aluminium profile and gaskets.

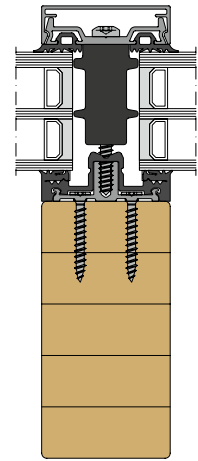


Agrodolores – El Jimenado, ES

- Passive house certified in system widths 50, 56 and 76 mm
- Maximum thermal insulation with insulating block variant down to  $U_{m,t} = 0.76 \text{ W/(m}^2\text{K)}$  including screw influence
- Screw fixings officially endorsed by European Technical Approval, for timber product derivatives having widths of 50 mm
- Quick and easy fitting of the base profiles; also suitable for assembly with magazine fed electric screwdrivers
- Integrated drainage system in the continuous hat sealing in three levels



50 H-I with insulating block P



50 H-V with insulating block P

## The RAICO timber connector TC

The connectors between mullion and transoms on a timber curtain wall must fulfill additional specific requirements. The dead load of the infill units is positioned in front of the timber structure, and the connectors must compensate for this torsional effect in addition to wind pressure and suction forces:

- Two patented RAICO timber connector options: SOLO and KOMBI for glass weights up to 481 kg
- For THERM<sup>+</sup> H-I/H-V
- For transom depth from 60 up to 300 mm
- Minimum preparation: rebated grooves at each end of the transom and drilled holes to both the mullion and transom

- Simplified assembly: fix mullions – insert transom – secure transom with nail screws – finished
- Automatic flush position of the transom due to the integrated stop device
- Option to pre-fabricate into transportable units
- Aesthetically correct joints due to T-connector pressure across the profiles



Timber connector TC SOLO



Timber connector TC KOMBI

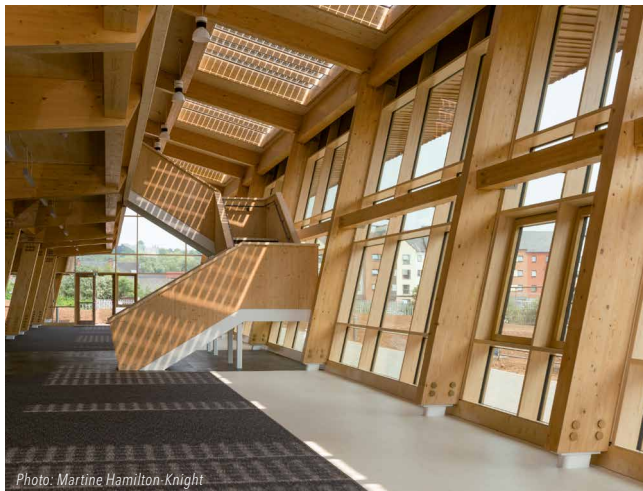


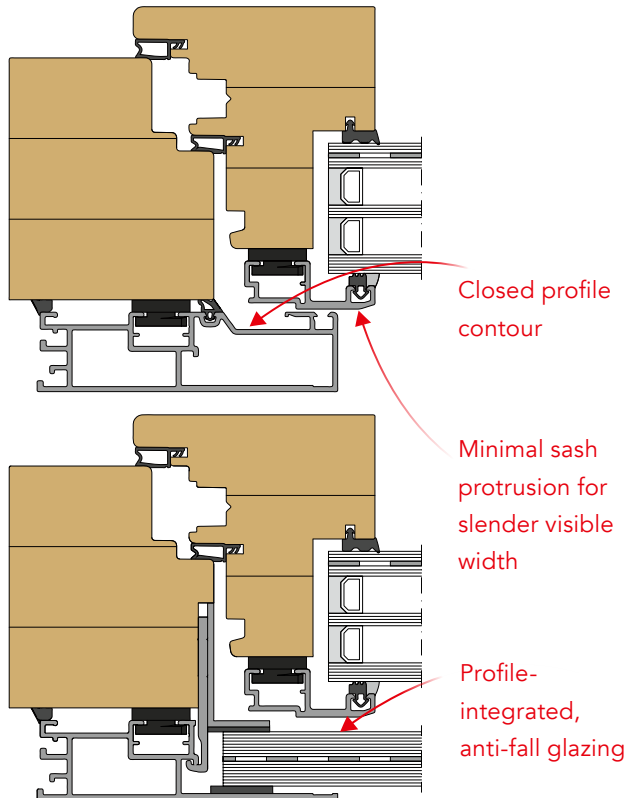
Photo: Martine Hamilton-Knight

University of Nottingham – Nottingham, UK

# WINDOW SYSTEM

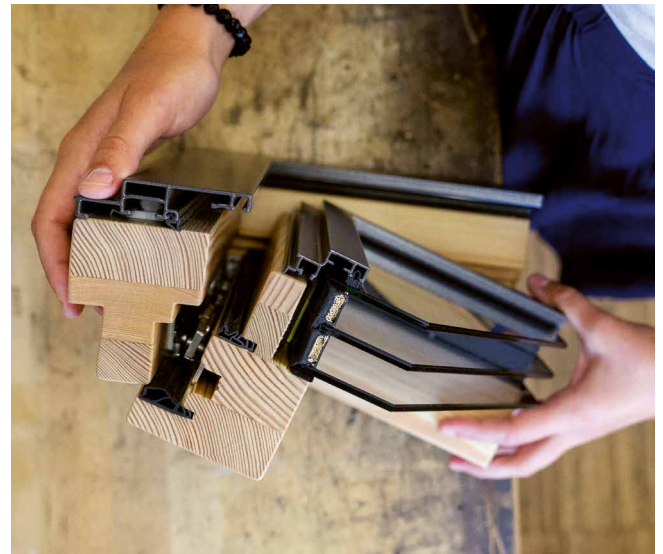
## Timber-aluminium

New timber-aluminium window systems and proven THERM<sup>+</sup> façade systems from RAICO demonstrate a perfect interplay between window and façade for your project! Everything from one source!



Timber-aluminium window system  
(Shown example: our partner STEMESEDER)

- Closed frame profiles in the rebate area are a visual highlight even when open
- Closed frame profiles for a better look
- Profile-integrated, anti-fall glazing for ceiling-high window elements
- System-tested fastening technology for mounting the aluminium facing shell quickly and easily
- Available for all thicknesses of timber
- Also available in a design with concealed fittings
- Glass thicknesses of up to 60 mm – depending on thickness of timber
- $U_f$  values  $\leq 1.0 \text{ W}/(\text{m}^2\text{K})^*$



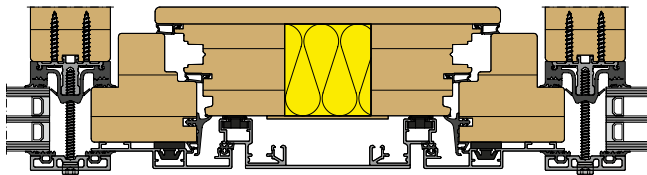


# VENTILATION FLAP

## Timber-aluminium

The ventilation flap provides quick room ventilation and at the same time a fall protection through a defined opening width. The ventilation flap is an exceptional design element and is also perfectly suited for the night cooling of commercial buildings.

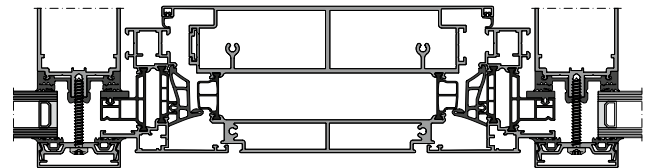
- Fall-proof due to fixed opening width of 120 mm
- Optimized ventilation of the exterior aluminium shell
- Different elongations in length are absorbed by easily attached clip-on joints
- Can be used in all mullion and transom façade systems
- Ceiling-high side-hung sashes for rapid room ventilation
- Concealed fitting solutions available
- Manual or motoric fitting solutions
- $U_w = 1.2 \text{ W}/(\text{m}^2\text{K})^*$



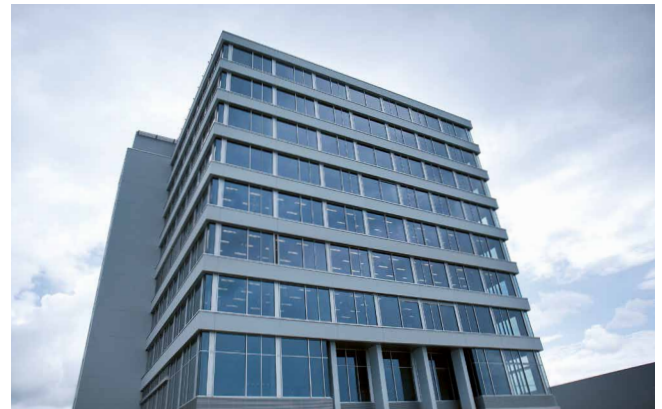
Ventilation flap - 120 mm

## Ventilation flap FRAME<sup>+</sup> 75 LF

- Ceiling-high ventilation with a compound profile broken profile without the need for a frame or glazing beads
- Inside and outside homogeneous, flat surface
- Burglar resistance RC2
- Fall-proof due to fixed opening width of 120 mm (for FRAME<sup>+</sup> 75 LF 200)
- U values down to  $U_w = 0.86 \text{ W}/(\text{m}^2\text{K})$
- With outer frame profile also possible for integration into curtain wall
- Available for self-fabrication or as pre-assembled units



FRAME<sup>+</sup> 75 LF - 200 mm



GROB B6, Mindelheim, DE



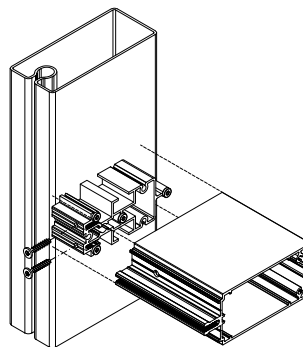
Nürnberg Messe, Nuremberg, DE | Photo: Heiko Stahl

# FAÇADE COMBINATION

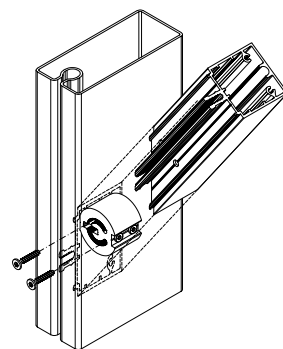
## Aluminium – Steel – Timber

Expand the design possibilities within a façade by using timber, steel and aluminium bearing profiles. Combine your static and visual requirements on the façade in an easy and price-efficient way thanks to our innovative connector technology. Choose from the following combinations:

- Steel mullions from the THERM<sup>+</sup> S-I and THERM<sup>+</sup> FS-I systems with aluminium transom from the THERM<sup>+</sup> A-I system
- Steel mullions from the THERM<sup>+</sup> S-I and THERM<sup>+</sup> FS-I systems with wooden transom from the THERM<sup>+</sup> H-I system
- Aluminium mullions from the THERM<sup>+</sup> A-I system with wooden transom from the THERM<sup>+</sup> H-I system



Standard connector



Variable connector



**Thank you**  
for visiting our  
trade fair stand!

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