Schüco FACID

The textile facade

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BUILDING ENVELOPE SOLUTIONS™

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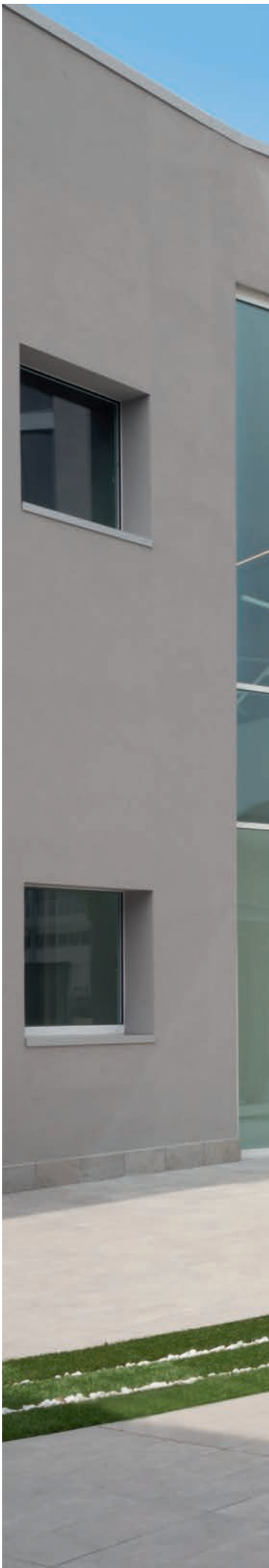
The demands placed on facades in terms of function and flexibility are growing ever higher. Now more than ever, architects, investors and building users must be given the tools to unlock new forms of creativity. Schüco FACID is the key to flexible facade concepts that can be used to put an aesthetic spin on all kinds of building structures. It combines the advantages of a rear-ventilated curtain facade with virtually unlimited design possibilities and maximum versatility.

With its patented tensioning system, Schüco has succeeded in decoupling facade design from the constraints of the floor plan, as well as making it possible to integrate new functions into existing facade. Effective weather resistance, glare protection and sun shading while ensuring clear views to the outside, as well as fast, cost-effective adjustments while the building is in use make Schüco FACID the perfect solution for creative, modern building structures.



Gotha Cosmetics, Bergamo

Schüco FACID combines the advantages of a curtainwall with almost unlimited design options.

Agilent - 'FIVE', Waldbronn

Schüco FACID - The textile facade

Schüco FACID M

This modular frame system can be used to adapt the external appearance of a building to new requirements quickly and efficiently - without any functional restrictions.

With their stable fabric surfaces, the elegant and lightweight elements create a flawless, frame-free-frontage.

Schüco FACID 65

This highly flexible facade system can be used to create complex, three-dimensional or curved facade structures. Schüco FACID 65 creates unique building envelopes that elevate the design - and give architects unbeatable recognition value.

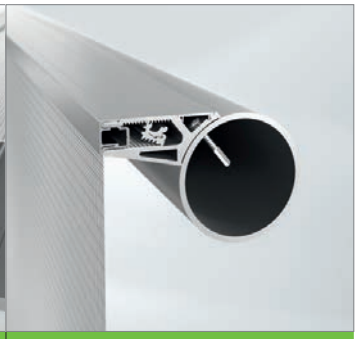
Thanks to the wealth of configuration options offered by Schüco FACID 65, it is possible to create unique façades in elegant shapes and colours that can be installed in any orientation. Each section can be rotated individually for an exclusive facade structure with alternating high and low points. Designers can choose from rectangles, squares, trapeziums, polygons and arched forms.

Schüco FACID Freestyle

This innovative refinement of the Schüco FACID 65 textile facade system brings new design possibilities for modern textile façades with organic and curved shapes that draw the eye. The pioneering system also makes it possible to realise ambitious architectural facade solutions for buildings of all types.

The facade system can be adapted and shaped to fit a wide array of surfaces. The result is a unique design that can also be adapted quickly without any business interruptions thanks to the use of system profiles.

Schüco FACID M can be used to create a two-dimensional facade geometry, while Schüco FACID 65 is the right choice for complex three-dimensional or curved structures. For designers with their sights set on organic shapes, Schüco FACID freestyle is the answer.



	SCHUCO FACID M	SCHUCO FACID 65	SCHUCO FACID Freestyle
Spanning windows and structures	■	■	■
Skipping windows and structures	■	■	■
Two-dimensional facades	■	■	■
Horizontal and vertical orientation	■	■	■
Modular facade fields (rectangle, square)	■	■	■
Polygon or trapezium design		■	■
Three-dimensional facades		■	■
Free orientation		■	■
Curved shapes		■	■
Organic shapes			■

Planning advantages

- Suitable for a wide range of building types, such as car parks, offices mixed-use buildings, shopping centres and public buildings.
- System solutions for a variety of facade constructions
- Individual design possibilities thanks to a choice of shapes and colours
- Hi-tech fabric offers effective privacy, sun shading, glare protection and weather resistance
- Exceptional surface stability
- Can be welded to create large facade surfaces

Installation advantages

- Fabric can be installed and removed quickly and easily without special tools.
- Time-saving pre-assembly
- Fabric does not lose tension over time
- Fully or partly reversible without any business interruption
- Accessible work platforms can replace unwieldy scaffolding
- No time-consuming re-tensioning at any point in the building's life
- Patented fabric clip technology - perfectly tensioned all the way to every corner.

Product advantages

- Free choice of shape, high recognition value and individual designs to suite the building surroundings
- Can be lit from the front and back
- Decorative or rear-ventilated curtain facade
- Fire resistance classes B1 and A2
- Can be retrofitted onto existing buildings
- Windows and structures can be spanned or skipped
- Can be used on diverse building types
- Privacy, glare protection, sun screening and weather resistance
- An individual design can be printed onto the fabric
- Horizontal, vertical or free orientation
- Modular facade fields: rectangle, square, trapezium, polygon
- Curved and organic shapes

Schuco car park, Bielefeld

Thanks to its sophisticated system technology, the textile facade offers functional and exceptional design freedom.

Gantner Instruments GmbH, Schruns

Tirolia Spedition, Ebbs

Building planning

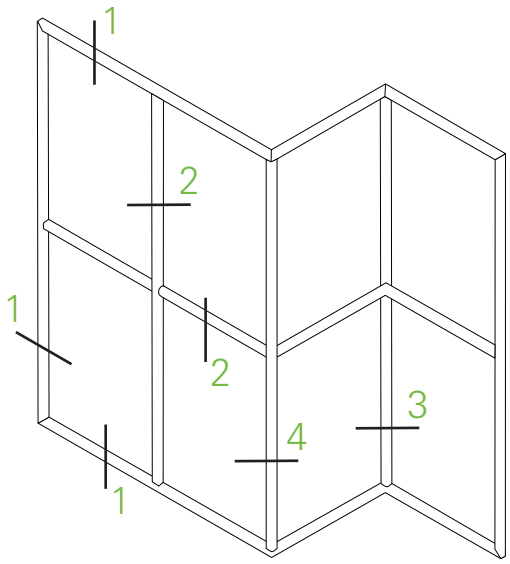
Testing the load bearing capacity of the existing wall structure
A high load-bearing capacity means e.g. that wider fabric sections can be used. If the load-bearing capacity is low, the width of the fabric sections can be reduced, the number of attachment points in-creased, or the loads supported with reinforcing struts.

Fabric section width
The standard width of a fabric section without a fabric weld seam is 2.5 meters, and is dependent on the maximum available roller width for the fabric type in question. The maximum width of a fabric section with a weld seam should not exceed 10 metres.

The wider the section, the more the fabric moves in stormy weather. For widths greater than 5 meters, these movements are perceptible earlier on (similar to the side of a tent in the wind). When choosing a width, it is important to consider the value of the building and the way it is used. The membrane forces are significantly higher at greater fabric section widths. The wind load zone and the load-bearing capacity of the surface on which the facade is to be installed are the factors that determine the maximum possible section widths (see page 18: Structural analysis).

Tirolia Spedition, Ebbs

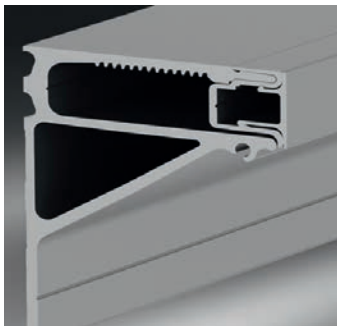
Facade design



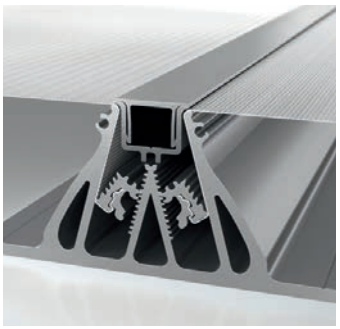
The Schüco FACID design must be enclosed to connect on all sides with edge profiles. Joint profiles are used to connect fabric fields in the facade. Corners are designed with the respective profile for inner or outer corner. All profiles must be fixed to a substructure which takes structural loading into account.

The max. field size depends on two factors:

- Panel width / length of the fabric
- Statics

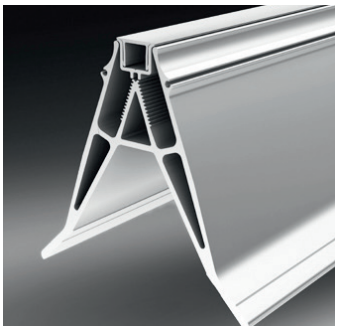


1. **Edge profiles:** profiles for the edge regions of the walls e.g. roof joins, areas above or below windows or building overhangs.



2. **Join profiles:** these profiles couple together two fabric sections virtually invisibly, making it possible to create three dimentional facades or span large facade areas.

3. **Inner corner profiles:** profiles for optimum design and layout of the fabric in inner corners.



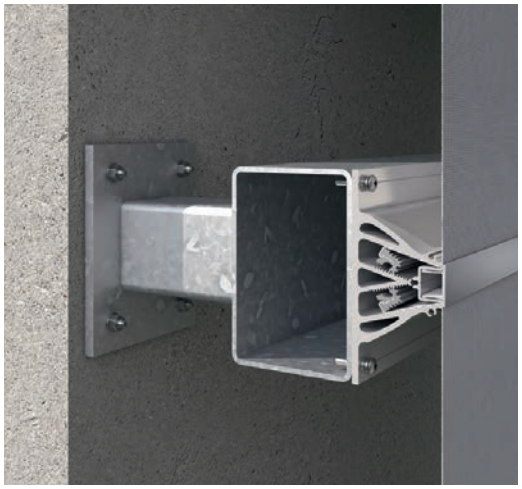
4. **Outer corner profiles:** specially shaped profiles that keep the fabric sections lowing seemlessly around outer corners.

S.E.A. House, Dortmund

Facade types

The Schüco FACID system consists of extruded base profiles into which an architectural fabric is inserted. The fabric is fixed in place with aluminium fabric clips. In order to give the facade a unique and distinctive design, the tensioning channels in the Schüco FACID 65 base profiles are finished with cover profiles and clip-on profiles. The base profiles are attached to the substructure, which in turn is fitted onto the exterior wall of the building.

Schüco FACID as rear-ventilated curtain facade



Schüco FACID as a decorative facade

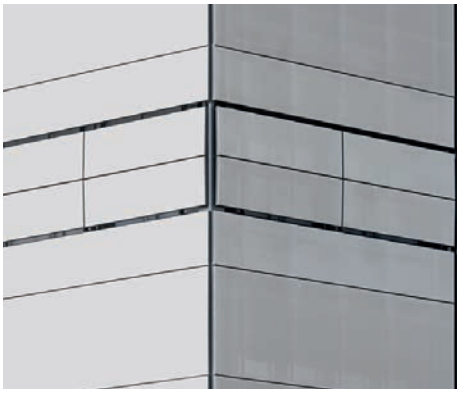
The Schüco FACID 65 system offers the benefits of a rear-ventilated curtain facade (RVC), giving the building long-lasting protection against the elements. In order to ensure that the RVC facade has sufficient ventilation at the rear, the Schüco FACID 65 system is equipped with a rear ventilation gap measuring 65mm. The water-channelling plane forms a sub-membrane that is diffusible, UV-stable and impermeable to driving rain. This membrane is applied over the entire surface of the thermal insulation and the substructure.

Adapting the Schüco FACID 65 join profile to a continuous steel substructure on the load-bearing wall: depending on the prevailing conditions, the substructure can be made from e.g. aluminium, stainless steel or galvanised steel and its overall depth can be adjusted if necessary.

Sport Box, Bulgaria

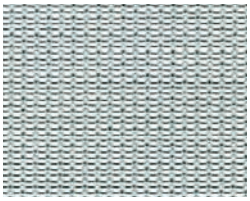
Structural analysis - Detailed planning

The precise building location is needed, as well as detailed information about the type of wall structure. The data indicating the wind loads on the building facade must be provided. The applicable local standards and regulations form the basis for the further structural calculations in each case.

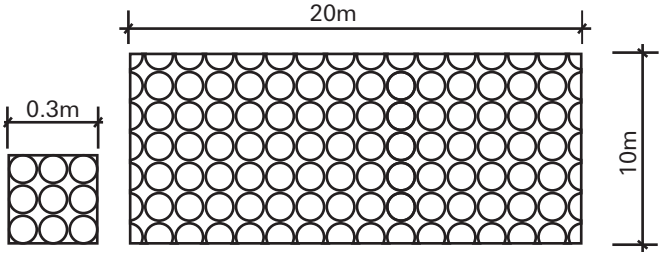


PVC Polyester fabric

Example:
Bielefeld site
Windload zone 1
Building height <10m
Velocity pressure 0.5 kN/m²
PVC polyester fabric



Surface weight min. 400g/m², max. 800g/m²
Example:
Fabric: 265753
Colour: Metallic silver
Weight: 600g/m²
Width: 2670mm



Minimum grid dimension Maximum grid dimension

The Schüco FACID 65 base profiles have undergone structural testing according to Eurocode 9. Schüco offers a planning tool that can be used to determine the bolting forces for the respective membrane loads. In order to determine the loading exerted by the Schüco FACID 65 aluminium profiles for the project at hand, the planner or developer must first have a structural engineer calculate the membrane forces. Once the membrane and bolting forces are known, the structural engineer can plan the design of the substructure and decide how the aluminium profiles will be attached to it.

The size of the fabric sections to be used always depends on the prevailing membrane forces, which in turn are dictated by the building geometry and position, and the resulting wind loads.

Substructure - Design planning and installation

Schüco FACID 65

The results of the membrane structural analysis are used to plan the individual substructure, which is then manufactured and fitted by the metal fabricator.

Unwinding direction/fabric batch
The unwinding direction must always be the same during installation, otherwise colour differences will be visible on the finished facade. Upon request, Schuco can deliver pre-assembled fabric sheets itemised on a material list with the unwinding direction clearly marked.

Order from one single production batch, including sufficient reserve material, for each building (or at a minimum for each side of the facade).

Installation temperature
Fabric should only be installed at temperatures of +5 °C or above. At lower temperatures, there is a risk of damage due to bending of the material, and the installation time increases significantly as a result of the fabric being more rigid.

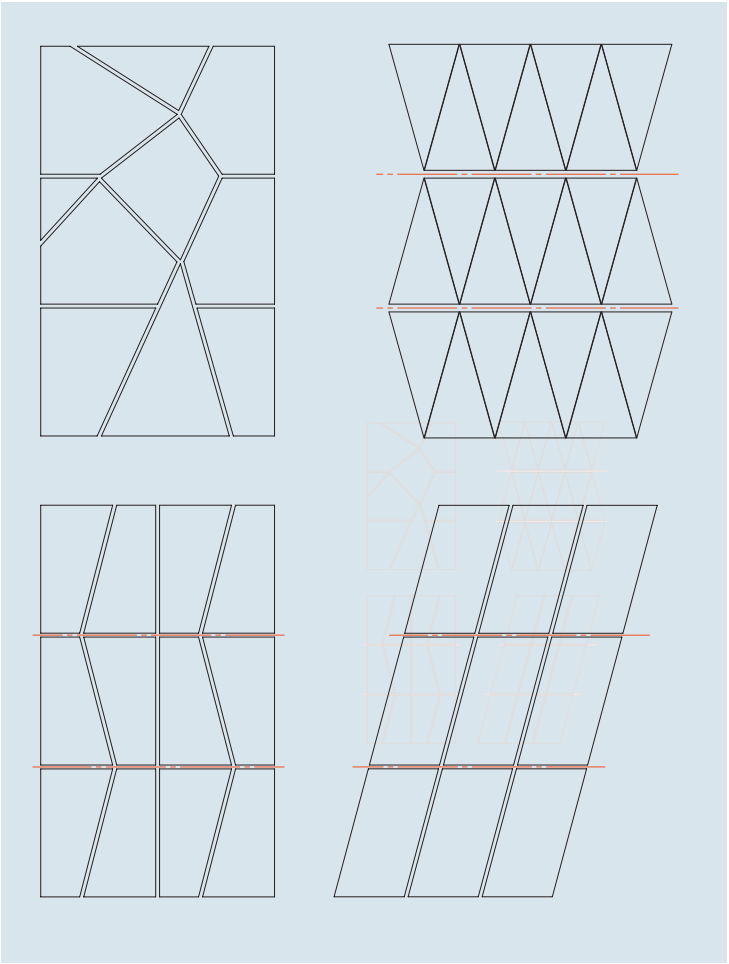
Tirolia Spedition, Ebbs

The Schüco FACID 65 base profiles must be attached to the substructure according to the provisions of the structural analysis, which must also be referred to when creating sliding and fixed points. The structural calculations also form the basis for deciding which fastening elements to use.

Facade geometry - two dimentional

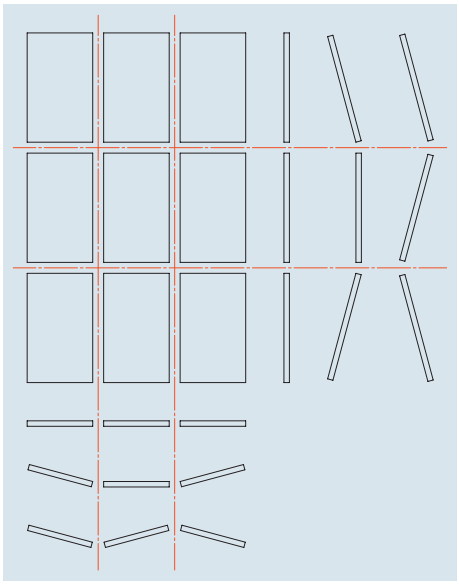
Agilent - 'FIVE', Waldbrom

With Schüco FACID, two dimensional facade design can be created that has maximum design flexibility when it comes to shape and colour. The facade fields can optionally take the form of a triangle, rectangle or polygon - with angles up to 30°. The fabric can also be digitally printed with, for example, a snappy message for a permanently eye-catching display. Schüco FACID 65 profiles are installed on a continuous steel substructure. And what's more, frame elements with Schüco FACID can be pre-assembled.

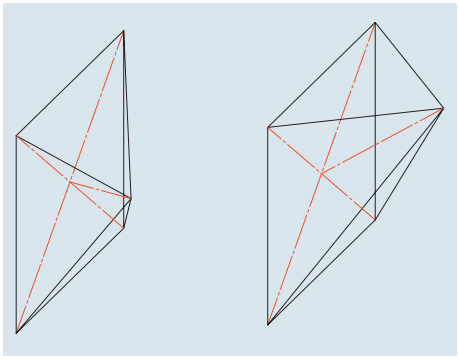


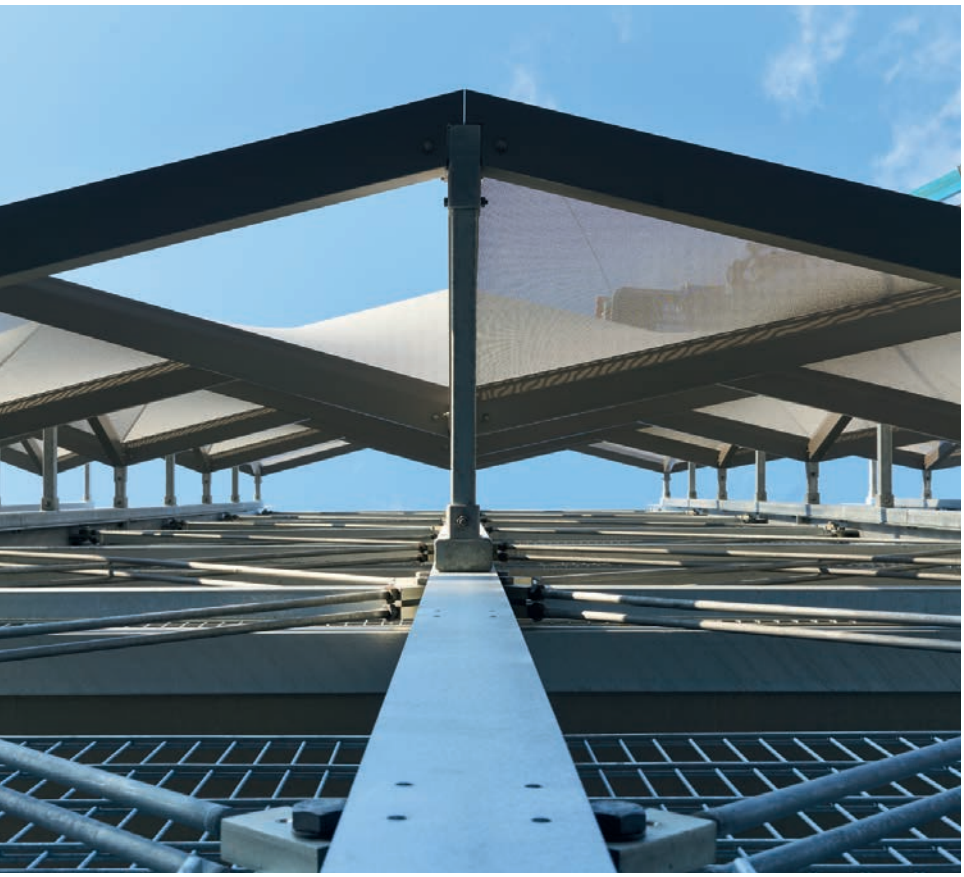
Facade geometry - three dimensional

Pleats Wedding Hall, Saitama



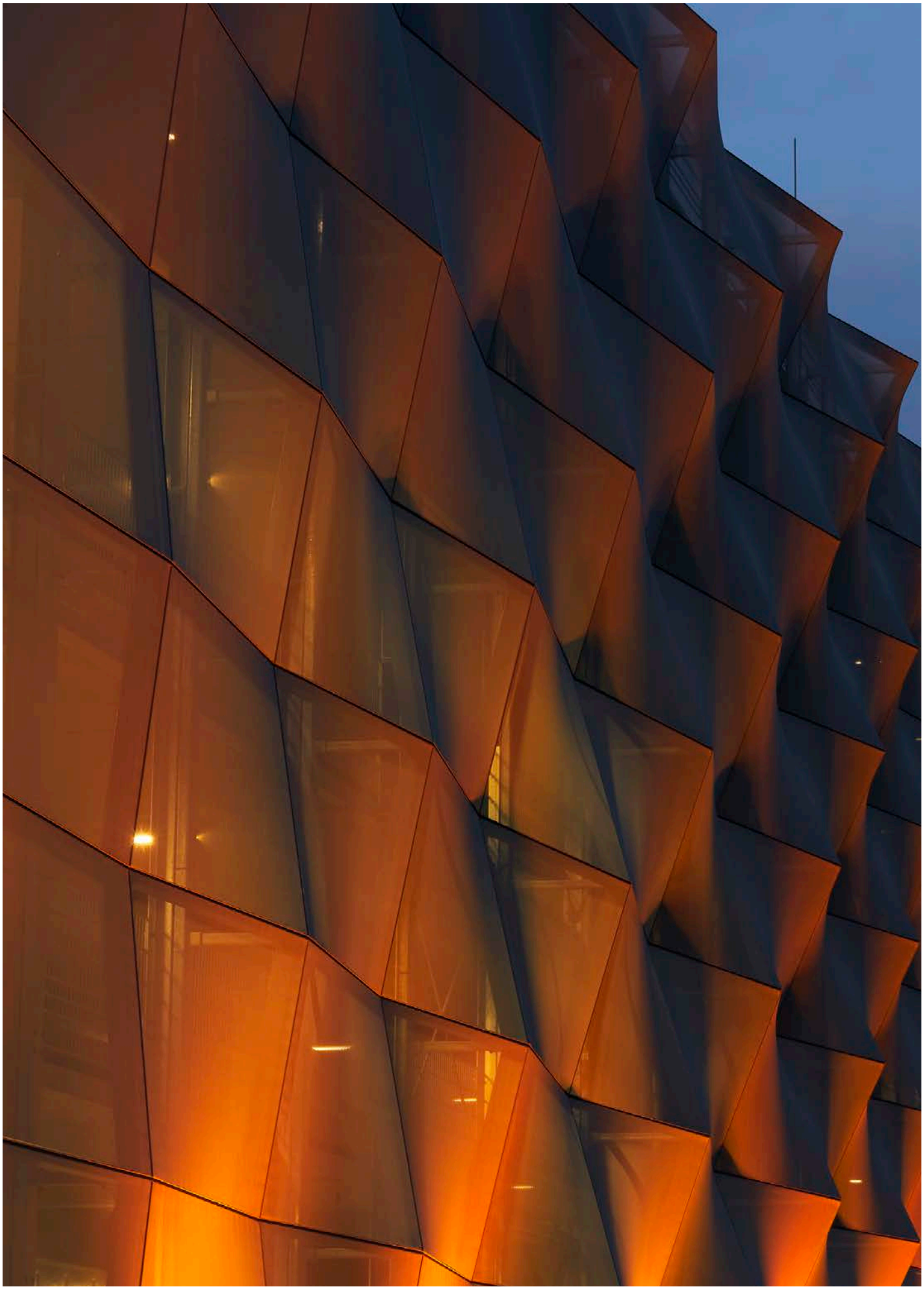
Thanks to the wealth of configurations options offered by Schüco FACID, it is possible to create three-dimensional facades in elegant shapes and colours that can be installed in any orientation.





Each section can be rotated individually, while projections of up to 700 millimetres can be created by shifting the nodal points on the depth axis.

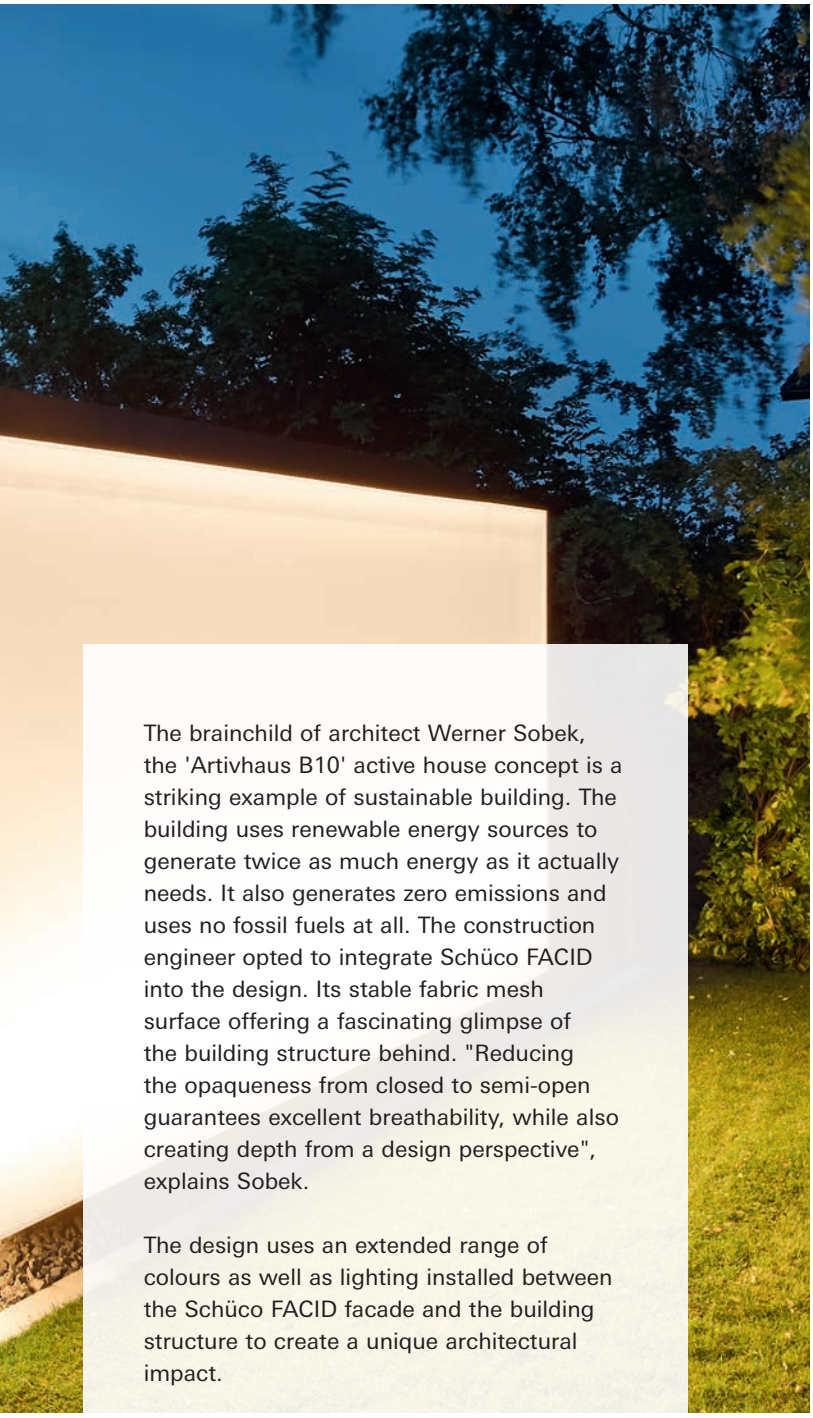
By alternating high and low points, it is possible to create a unique facade structure. Designers can choose from rectangles, squares, trapeziums, polygons or arched forms.



Schüco car park, Beilefeld

Structural connections

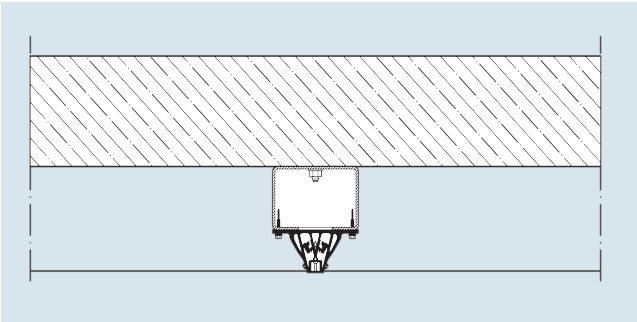
Aktivhaus B10, Stuttgart



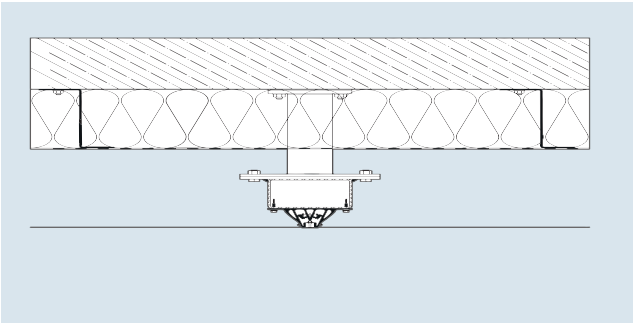
The brainchild of architect Werner Sobek, the 'Artivhaus B10' active house concept is a striking example of sustainable building. The building uses renewable energy sources to generate twice as much energy as it actually needs. It also generates zero emissions and uses no fossil fuels at all. The construction engineer opted to integrate Schüco FACID into the design. Its stable fabric mesh surface offering a fascinating glimpse of the building structure behind. "Reducing the opaqueness from closed to semi-open guarantees excellent breathability, while also creating depth from a design perspective", explains Sobek.

The design uses an extended range of colours as well as lighting installed between the Schüco FACID facade and the building structure to create a unique architectural impact.

With Schüco FACID's partially transparent fabric, it is possible to realise all manner of creative lighting designs. The building's exclusive finish is enhanced by the coloured lighting effects, which also serve as the architect's calling card. Illumination from the front or rear can be used for added impact.

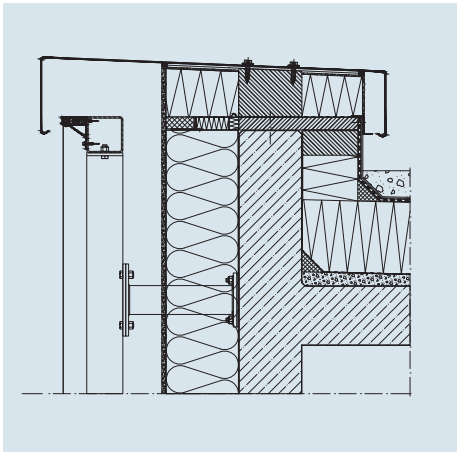


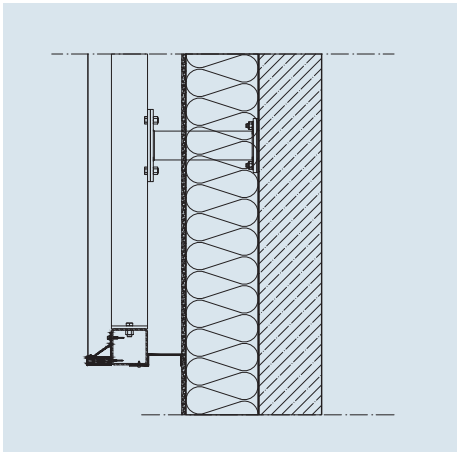
Directly on concrete



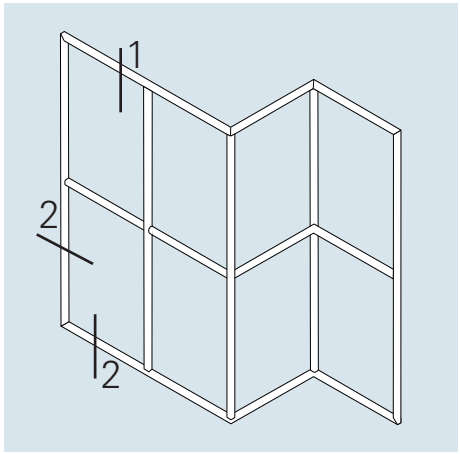
As a suspended rear-ventilated facade

Structural connections

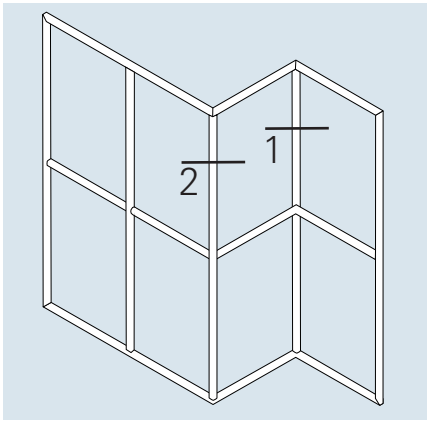




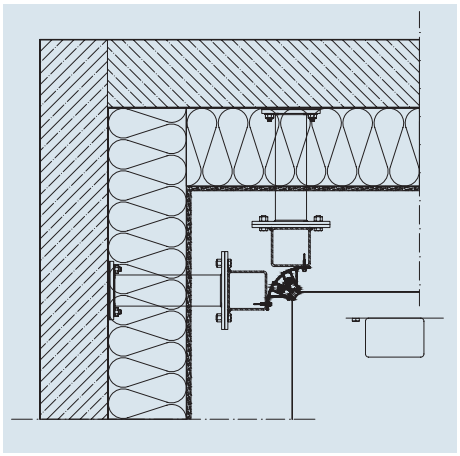
Eggersmann Küchen, Hiddenhausen

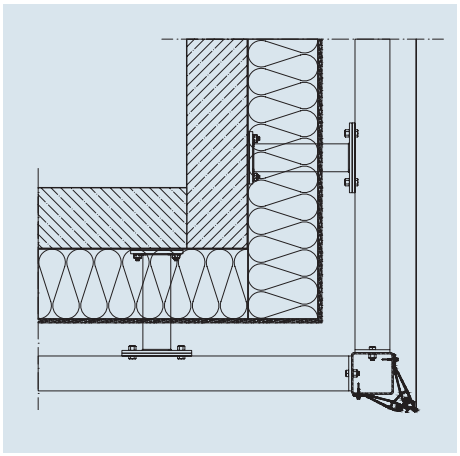


Sustainable and efficient interlinking of individual forms and functions is the key to meeting the requirements for all facade connections. Edge profiles are sued to achieve optimal results when carrying out installation at wall edges, for instance where the wall meets the roof, and in areas above and below windows or building overhangs.



Sneakerbox, Kulmbach





Freed from the constrains of the floor plan, the flexible facade design can span windows and structures. The Schüco FACID fabric an also be printed with a personalised design, offering a professional and eye-catching way to showcase corporate architecture. Thanks to the easy installation that requires no special tools or machinery, and the flexible adjustment options, the facade can be given a facelift at any time without interrupting ongoing business. By pairing personalised fabric print with a lighting concept, Schüco FACID guarantees that your message will be seen - even at night. And with special inner and outer corner profiles, the fabric is tensioned perfectly even at the corners of the building.

Fabric properties

Architectural fabrics for textile facades must satisfy a wealth of technical requirements, and are subjected to a battery of tests during the production process.

Parameters such as tear resistance and trap tear strength of the warp and weft threads, light transmission, usage temperature and other characteristics are tested according to intentionally recognised standards. This means that in addition to their decorative effect, the technical fabrics also fulfil functional requirements. The complex layer structure of the Schüco FACID fabrics makes them hi-tech material. When used to span windows the fabric reduces glare and drafts indoors - the effect of the fabric depends on how open or closed it is.

1. As a physical value, the transmission defines how permeable the material is for e.g. light.

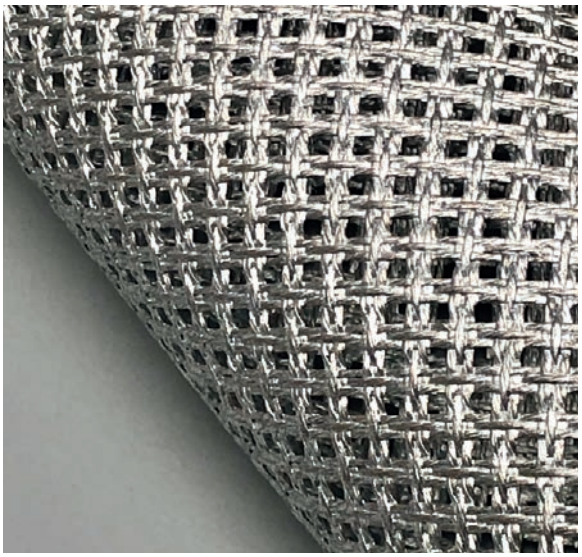
2. With regard to sun shading, reflection describes the ability to repel and divert away light and heat waves that reach the building. A high value means the material has a high level of protection against light and heat.

3. Through absorption, the material takes on the light and heat energy that reaches the surface and prevents it from entering the room.

4. The g_{tot} value denotes the proportion of energy from the sun that manages to effectively get into the room through the material and the window.

5. The proportion and the pattern of open areas in the material is summarised in the open factor. A high value means that the incoming light rays may have a greater incline and therefore enter the room more easily.

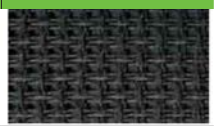
6. Each fabric has two sides which may differ in both their technical properties and appearance. It is possible that both sides can be used as the outer side, i.e. the side facing the sun, and the inner side. It is essential that the outer and inner sides are defined upon ordering.



Glass fibre fabric -
an overview of this non-flammable material

How is this architectural fabric for facades and shading made? First of all, glass fibres are spun into threads, which are then woven to form fabric sheets. In a high-temperature facility, these sheets are coated with PTFE (Teflon). The fundamental properties of the glass fibres make them highly resistant to tensile forces. With this material, post-stretching is also kept to a minimum, meaning that it does not need to be re-tensioned at any point during its service life. All glass fibre fabrics satisfy fire safety and building regulations. With the fire resistance classification A2, they are a non-flammable architectural fabric that also offers protection against sunlight.

Schüco car park, Bielefeld

Colour	White, Nature	Silver	Black
			
General			
Article number	265762	265763	265764
Open factor	21%	21%	21%
Roll width	3.20m	3.20m	3.20m
Roll length	50m	50m	50m
Thickness	1.1m	1.1m	1.1m
Partial roles	No	No	No
Weldable	Yes	Yes	Yes
Printable	No	No	No

EN 14501 selection criteria

	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Summer thermal insulation	■	■	■			■	■	■	■		■	■	■	■	
Glare protection	■					■					■				
Visibility to the outside	■	■	■	■		■	■	■	■	■	■	■	■	■	■
Screening at night	■					■					■				

Structural fabric properties

Solar Transmission (TS)	33%	20%	25%
Solar Absorption (AS)	39%	51%	2%
Solar Reflection (RS)	27%	28%	72%
Normal-hemispherical visible light transmission (TVn-h)	34%	20%	26%
External Solar Factor (glazing type [gt_{ot}])	0.17	0.11	0.17
Air permeability	1.890 l/dm²/min	1.890 l/dm²/min	1.890 l/dm²/min

Technical properties

Fire protection class	A2; A2-s1, d0		
Weight	670g/m²	670g/m²	670g/m²
Tensile Strength	5000/4.800 N/5cm	5000/4.800 N/5cm	5000/4.800 N/5cm
Trap Tear Strength	500/500 N	500/500 N	500/500 N
Temperature	-30°C /+200°C		

PVC polyester fabric
an overview of this low-flammable material

One thread of this architectural fabric consists of 200 polyester fibres that are produced by extrusion. Three threads are spun together to create a specail yarn, which in turn is woven into fabric sheets. The fabric is tensioned in the warp and weft direction throughout the production process, and is fixed with a PVC coating. The result is a product with exceptional surface stability, mechanical properties and flatness. Thanks to the pre-tensioning during the production process, post-stretching is also reduced to 10 -15 percent. This means that re-tensioning is not necessary at any point in the material's service life. Owing to the use of pretensioning during production, this fabric is particularly suited to use in warm, humid climates.

The white fabric can be used in combination with digital printing to realise attractive designs for an especially eye-catching finish.

All PVC polyester fabrics are certificed to fire resistance class B1 and offer excellent sun protection too.

Kita airfield Böblingen

Colour	Midnight blue	Pumpkin	Glowing Red	Choco
				
General				
Article number	220417	265738	265739	265740
Open factor	28%	28%	28%	28%
Roll width	2.67m	2.67m	2.67m	2.67m
Roll length	50m	50m	50m	50m
Thickness	0.95m	0.95m	0.95m	0.95m
Partial roles	Yes	Yes	Yes	Yes
Weldable	Yes	Yes	Yes	Yes
Printable	Yes	Yes	Yes	Yes

EN 14501 selection criteria

	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Summer thermal insulation	■	■	■			■	■	■			■	■	■			■	■	■		
Glare protection	■					■					■					■				
Visibility to the outside	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Screening at night	■					■					■					■				

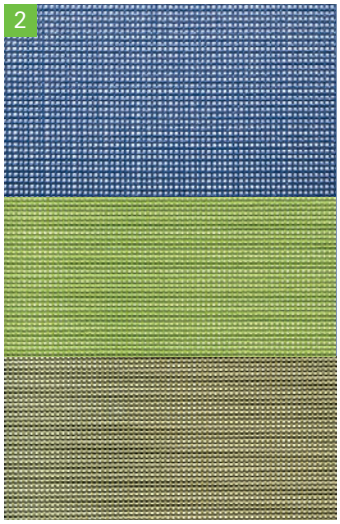
Structural fabric properties

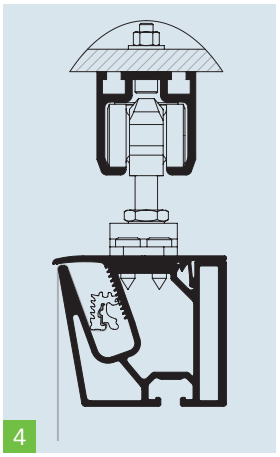
Solar Transmission (TS)	28%	30%	29%	27%
Solar Absorption (AS)	21%	27%	19%	10%
Solar Reflection (RS)	27%	43%	52%	63%
Normal-hemispherical visible light transmission (TVn-h)	64%	28%	29%	27%
External Solar Factor (glazing type [gt_{ot}])	0.16	0.17	0.17	0.18
Air permeability	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min

Technical properties

Fire protection class	B1; B-s2, d0			
Weight	550g/m²	550g/m²	550g/m²	550g/m²
Tensile Strength	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm
Trap Tear Strength	800/900 N	800/900 N	800/900 N	800/900 N
Temperature	-30°C /+70°C			

Fraunhofer Institute, Potsdam



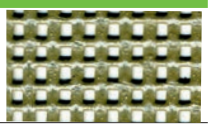


1. Even when the facade spans the windows, daylight and fresh air can still enter the office spaces, unhindered.

2. Fabric: PVC polyester fabric
Area: 350m2
Colours: Midnight blue, spring green, cactus green
Fire resistance class: B1

3. The use of Schüco FACID technology ensures a clear view to the outdoors at all times, even with a closed external appearance.

4. The Schüco profile system FACID M (528060) implemented as motorised sliding shutters

Colour	Ash blonde	Slate	Spring green	Cactus green
				
General				
Article number	265741	265742	265743	265744
Open factor	28%	28%	28%	28%
Roll width	2.67m	2.67m	2.67m	2.67m
Roll length	50m	50m	50m	50m
Thickness	0.95m	0.95m	0.95m	0.95m
Partial roles	Yes	Yes	Yes	Yes
Weldable	Yes	Yes	Yes	Yes
Printable	Yes	Yes	Yes	Yes

EN 14501 selection criteria

	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Summer thermal insulation	■	■	■			■	■	■			■	■	■			■	■	■		
Glare protection	■					■					■					■				
Visibility to the outside	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Screening at night	■					■					■					■				

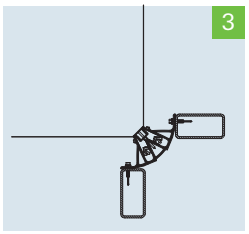
Structural fabric properties

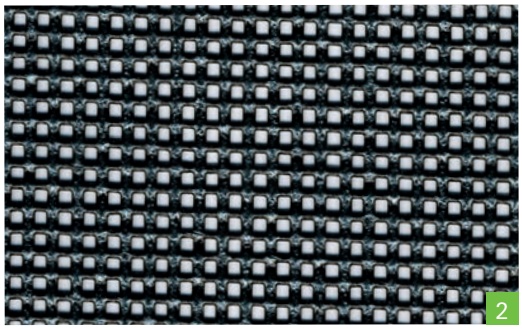
Solar Transmission (TS)	28%	27%	27%	30%
Solar Absorption (AS)	37%	9%	26%	37%
Solar Reflection (RS)	35%	64%	47%	33%
Normal-hemispherical visible light transmission (TVn-h)	28%	27%	27%	27%
External Solar Factor (glazing type [gt_{ot}])	0.15	0.17	0.16	0.16
Air permeability	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min

Technical properties

Fire protection class	B1; B-s2, d0			
Weight	550g/m²	550g/m²	550g/m²	550g/m²
Tensile Strength	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm
Trap Tear Strength	800/900 N	800/900 N	800/900 N	800/900 N
Temperature	-30°C /+70°C			

Eggersmann Küchen, Hiddenhausen





1. The two dimensional Schuco FACID facade unites the original building with the extension to create a harmonious architectural unit.

2. Fabric: PVC polyester fabric
   Area: 250m2
   Colours: Black Cherry
   Fire resistance class: B1

3. Schüco FACID 65 inner corner profile 90° (503330) adapted to fit continuous steel substructure.

4. Detail of the outer corner design; view of the outer corner profile with cover profile.

Colour	Milky green	Black cherry	Inteference grey	Sand beige
				
General				
Article number	265745	265746	265747	265748
Open factor	28%	28%	28%	28%
Roll width	2.67m	2.67m	2.67m	2.67m
Roll length	50m	50m	50m	50m
Thickness	0.95m	0.95m	0.95m	0.95m
Partial roles	Yes	Yes	Yes	Yes
Weldable	Yes	Yes	Yes	Yes
Printable	Yes	Yes	Yes	Yes

EN 14501 selection criteria

	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Summer thermal insulation	■	■	■			■	■	■			■	■	■			■	■	■		
Glare protection	■					■					■					■				
Visibility to the outside	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Screening at night	■					■					■					■				

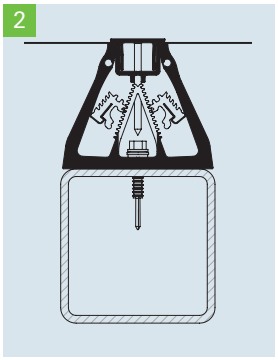
Structural fabric properties

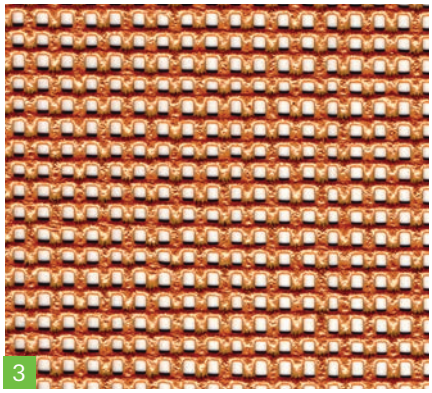
Solar Transmission (TS)	30%	28%	31%	29%
Solar Absorption (AS)	41%	6%	33%	34%
Solar Reflection (RS)	29%	66%	36%	37%
Normal-hemispherical visible light transmission (TVn-h)	29%	28%	30%	28%
External Solar Factor (glazing type [gt_{ot}])	0.15	0.18	0.16	0.16
Air permeability	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min

Technical properties

Fire protection class	B1; B-s2, d0			
Weight	550g/m²	550g/m²	550g/m²	550g/m²
Tensile Strength	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm
Trap Tear Strength	800/900 N	800/900 N	800/900 N	800/900 N
Temperature	-30°C /+70°C			

Patisserie Walter, Kleinheubach





1. Whether used as a rear-ventilated curtain facade or lightweight facade, Schüco FACID guarantees stylish and durable cladding.

2. Installation position of the join profile (528010) on the continuous steel substructure.

3. Fabric: PVC polyester fabric
   Area: 450m2
   Colours: Cinnamon copper
   Fire resistance class: B1

4. Installation position of the join profile (528010) on the continuous steel substructure.

Colour	Temperment gold	Hammered metal	Cinnamon copper	Silver metallic
				
General				
Article number	265749	220417	265751	265752
Open factor	28%	28%	28%	28%
Roll width	2.67m	2.67m	2.67m	2.67m
Roll length	50m	50m	50m	50m
Thickness	0.95m	0.95m	0.95m	0.95m
Partial roles	Yes	Yes	Yes	Yes
Weldable	Yes	Yes	Yes	Yes
Printable	Yes	Yes	Yes	Yes

EN 14501 selection criteria

	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Summer thermal insulation	■	■	■			■	■				■	■				■	■			
Glare protection	■					■					■					■				
Visibility to the outside	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Screening at night	■					■					■					■				

Structural fabric properties

Solar Transmission (TS)	28%	28%	27%	30%
Solar Absorption (AS)	28%	21%	20%	31%
Solar Reflection (RS)	44%	64%	53%	39%
Normal-hemispherical visible light transmission (TVn-h)	27%	27%	28%	28%
External Solar Factor (glazing type [gt_{ot}])	0.16	0.16	0.16	0.16
Air permeability	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min

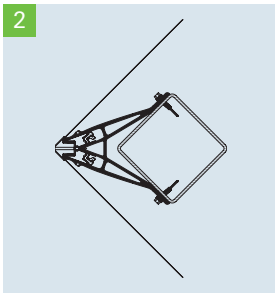
Technical properties

Fire protection class	B1; B-s2, d0			
Weight	550g/m²	550g/m²	550g/m²	550g/m²
Tensile Strength	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm
Trap Tear Strength	800/900 N	800/900 N	800/900 N	800/900 N
Temperature	-30°C /+70°C			

1

Otto Fuchs KG office building, Meinerzhagen

2



3

4

1. Fabric can be printed with an individual design for professional and attractive presentation of the corporate architecture.

2. Schüco FACID 65 outer corner profile 90° (503340) on continuous steel substructure.

3. Highly durable and versatile facade with maximum flexibility.

4. Fabric: PVC polyester fabric
   Area: 1100m2
   Colours: White (digitally printed)
   Fire resistance class: B1

Colour	White	White	Alu
			
General			
Article number	265754	265755	265756
Open factor	28%	20%	20%
Roll width	2.67m	2.67m	2.67m
Roll length	50m	50m	50m
Thickness	0.95m	0.95m	0.95m
Partial roles	Yes	Yes	Yes
Weldable	Yes	Yes	Yes
Printable	Yes	Yes	Yes

EN 14501 selection criteria

	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Summer thermal insulation	■	■				■	■	■	■		■	■	■		
Glare protection	■					■					■				
Visibility to the outside	■	■	■	■		■	■	■	■		■	■	■	■	
Screening at night	■					■					■				

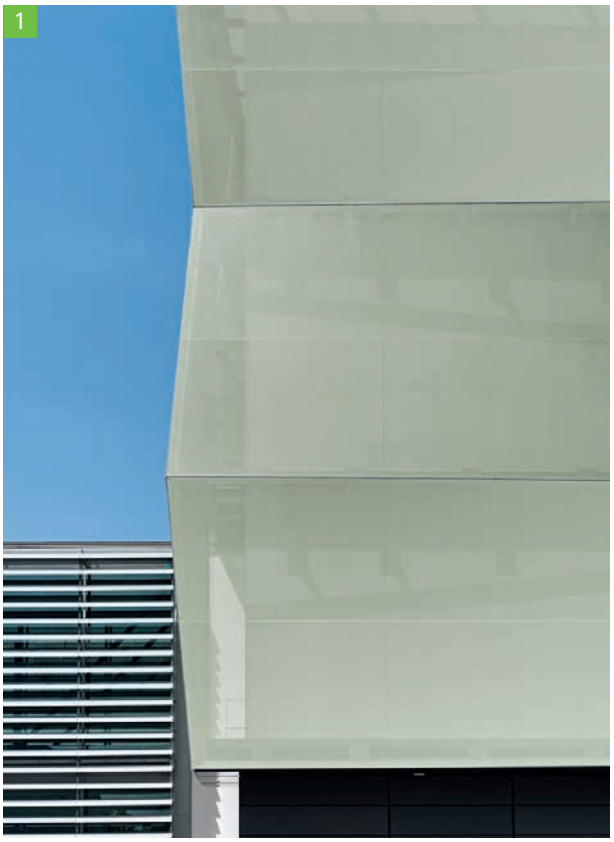
Structural fabric properties

Solar Transmission (TS)	36%	31%	30%
Solar Absorption (AS)	55%	57%	42%
Solar Reflection (RS)	0%	12%	28%
Normal-hemispherical visible light transmission (TVn-h)	35%	28%	28%
External Solar Factor (glazing type [gt_{ot}])	0.16	0.14	0.15
Air permeability	2.488 l/dm²/min	2.488 l/dm²/min	2.488 l/dm²/min

Technical properties

Fire protection class	B1; B-s2, d0		
Weight	550g/m²	440g/m²	440g/m²
Tensile Strength	3.300/3.300 N/5cm	3.300/3.300 N/5cm	3.300/3.300 N/5cm
Trap Tear Strength	800/900 N	600/600 N	600/600 N
Temperature	-30°C /+70°C		

1



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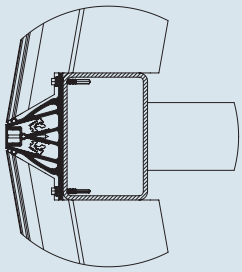

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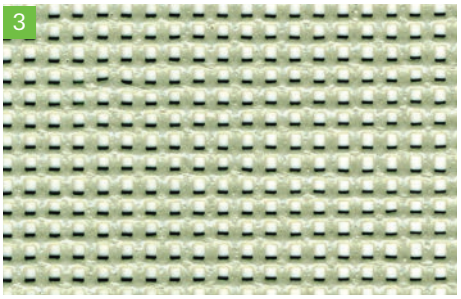


4

1. Freed from the constraints of the floor plan, the flexible facade design can span windows and structures.

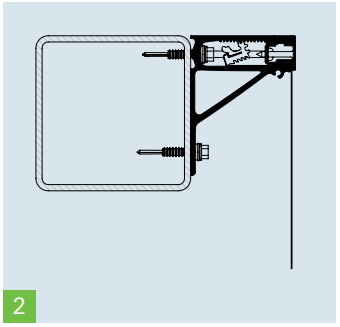
2. Join profile (503300), installed on a continuous steel substructure.

3. Fabric: PVC polyester fabric
   Area: 4500m2
   Colours: Milky green
   Fire resistance class: B1

4. The architecture firm LUDES Architekten used Schüco FACID to create a transparent, decorative facade that offers thermal protection, privacy and weather resistance.

Schüco car park, Bielefeld

1



2

3

4

1. The exterior lighting concept creates a real impression in the dark.

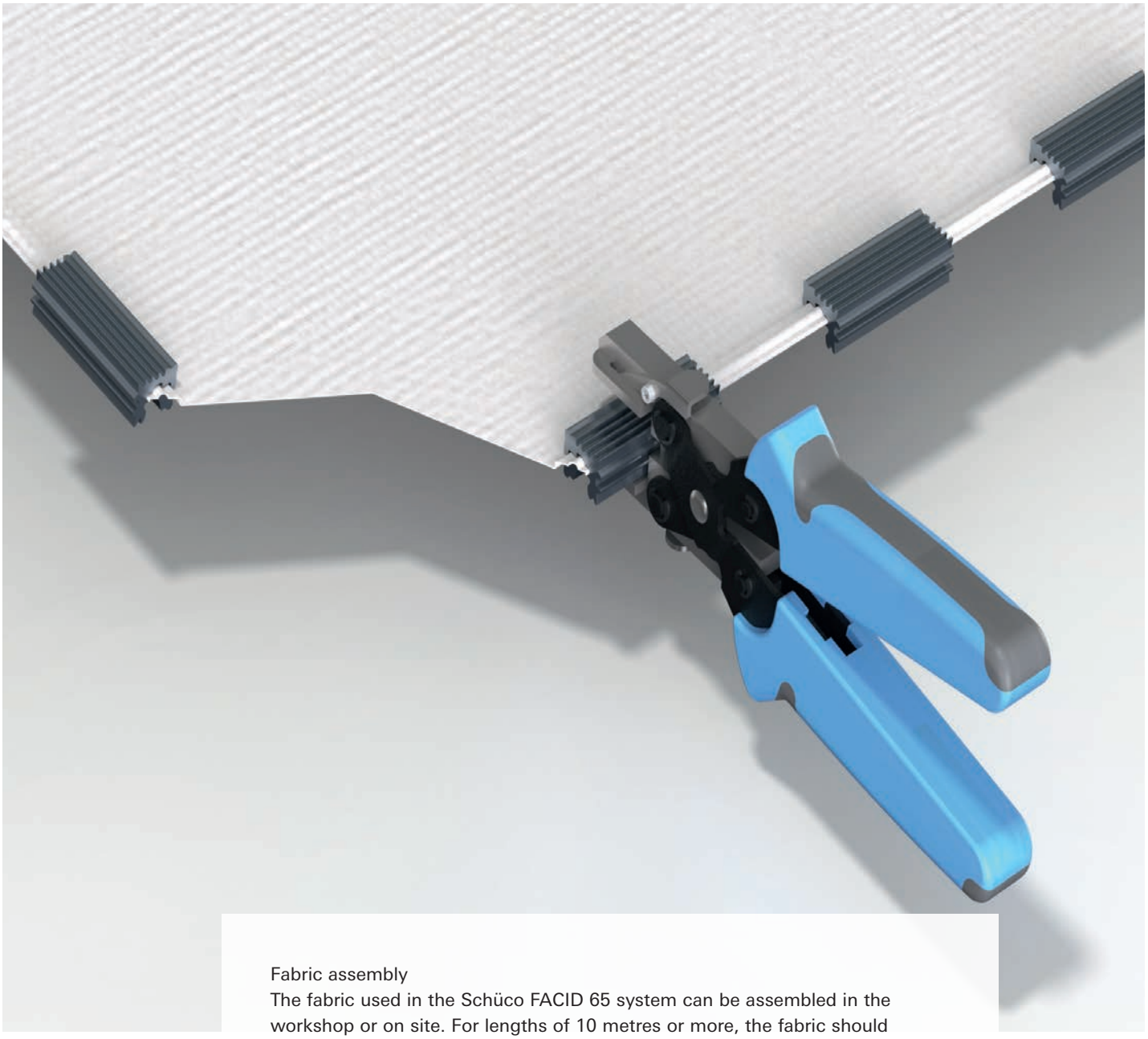
2. Installation example of the Schüco FACID 65 finishing profile (503370) on the continuous steel substructure.

3. Fabric: PTFE-coated glass fibre fabric
   Area: 2949m²
   Colours: Palladium*
   Fire resistance class: A2

4. The three-dimensional facade with the fabric panels at maximum rotation creates a unique structure.

*discontinued

The patented fabric clip technology



Fabric assembly
The fabric used in the Schüco FACID 65 system can be assembled in the workshop or on site. For lengths of 10 metres or more, the fabric should always be assembled on site. When using fabric lengths >10 metres, it is recommended to leave a 50cm excess on the fabric and cut it to length when installing. For lengths >25 metres, an excess of 100cm should be left on the fabric. If this is not done, temperatures fluctuations during cutting and installation could result in fabric being cut too short. In order to ensure that the fabric facade has a uniform appearance, all the fabric on one side of the facade must come from the same production batch. This eliminates the risk of even minor colour differences. When installing the fabric facade, it must be ensured that the fabric is always laid in the same direction, i.e. the unwinding direction or warp direction he fabric must always be the same.

Gantner Instruments GmbH, Schruns

When installing fabric, a distinction is made between horizontal, vertical and diagonal orientation. Only horizontal and vertical installation of long fabric sheets is discussed here.

Vertical orientation

In order to install the fabric vertically, fabric clips are attached to the horizontal side and the fabric sheets are suspended at the top of the Schüco FACID 65 base profiles. The fabric clips are gently guided one after the other into the tensioning channel of the base profile, where they latch into place.

During installation, the clips and the fabric must be pulled away from the starting point together in order to prevent pleating. To align the fabric sheet it is recommended to release the fabric corners before fastening the clips, especially when using particularly long sheets. The fabric clips should be situated in the first notch of the finishing profiles. The fabric is then unwound downwards, with clips being attached vertically on both sides, and gradually guided into the tensioning channel. Before all clips are attached to long fabric sheets, individual fabric clips should be attached in order to secure the fabric against gusts of wind.

Fitting of the bottom end of the fabric can then be completed: if there is an excess e.g. in the case of long fabric sheets, the fabric can now be cut to the correct length (make sure to leave a sufficient margin) and secured with clips. The fabric is then tensioned. The short horizontal sides at the top and bottom are tensioned first, followed by the vertical long sides at the left and right. It is recommended to use a lift truck or scissor lift for this installation method.

Osnabrück University

Horizontal orientation
When using this installation method, it is advisable to use an unwinding device for the fabric, especially if long sheets are being used. This can be fastened to scaffolding at one end of the fabric sheet, for instance, thereby allowing the fabric to easily unwind from the reel. The free end of the sheet is now secured with fabric clips and positioned in the vertical Schüco FACID 65 finishing profiles. The fabric clips are gently guided one after the other into the tensioning channel of the base profile, where they latch into place. In order to ensure that long sheets of fabric do not sag too much horizontally during installation, a fabric clip should be attached every five metres or so to fix the fabric in place and secure it against gusts of wind. Once fully unwound, the fabric can now be secured horizontally at the top using fabric clips and positioned in the finished profiles.

It is recommended to release the fabric corners before attaching the fabric clips so that the fabric an be aligned horizontally. To prevent pleating, the fabric clips must be pulled taut together with the fabric, moving away from the starting point. The fabric sheet can then be cut horizontally to the correct length (make sure to leave a sufficient margin). The free vertical side of the fabric is then secured with clips and positioned in the finishing profiles.

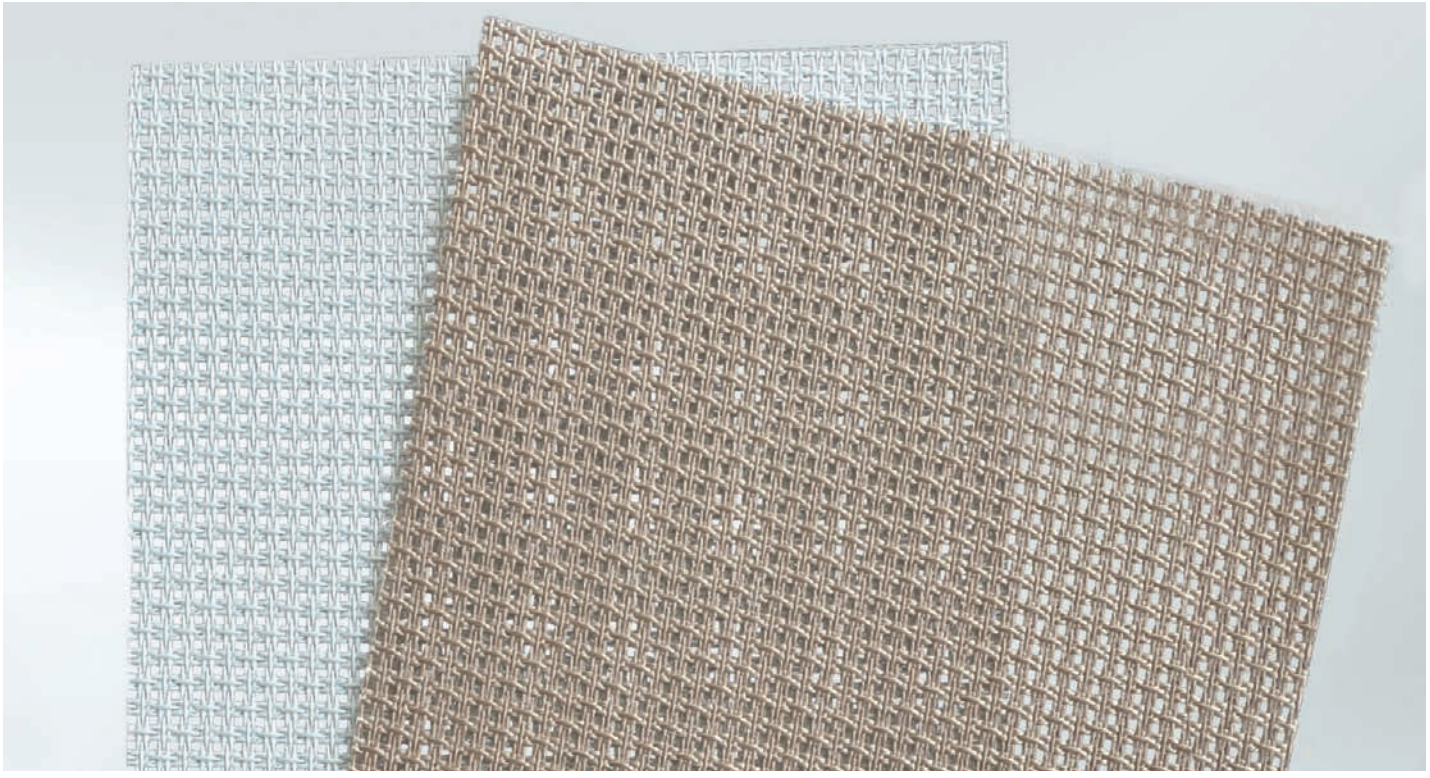
The short vertical sides on the left and right are tensioned first. The free horizontal side at the bottom of the fabric is then secured with clips and positioned in the finishing profiles. Finally the long horizontal sides at the top and bottom are tensioned.

Natural bleaching effect - glass fibre fabric

Thanks to is sophisticated system technology, the Schüco FACID textile facade offers exceptional versatility in terms of design and functionality, along with numerous additional benefits. The result is a flexible, intelligent solution that meets the ever-growing requirements placed on building architecture. A wide range of colours is also available to choose from. Owing to the way that glass fibre fabric is manufactured, the Schüco FACID textile will still have an additional beige colour component upon delivery. This is bleached out naturally by the sunlight, with the result that Schüco FACID facade will take on the originally chosen colour after a few weeks.

Please note that the time needed to achieve full UV bleaching of the PTFE-coated material is influenced by many different variables and may therefore vary. These variables include the time of year that the facade is installed, the breadth of the project, the shape of the structure, natural shading present near the building (e.g. from trees) and air quality. The speed and intensity fo the "bleaching rate" has been studied in extensive tests. During the first few weeks, the colour shifts slightly as a result of exposure to daylight. This is hardly noticeable to most observers. Complete brightening - the point at which reflection and transmission do not change any further is generally achieved within two to four months and various depending on the material.

It is also important to remember that both glass fibre reinforcement and PTFE coatings are almost fully insensitive to UV. This means that although the visual appearance of the textile facade changes within a short period of time, the fabric has long-term stability after this "maturing process". The mechanical properties of the material are not affected by this maturing process at any point.



Cleaning the Schuco FACID® textile facade system - the flexible facade

Note

- Proper cleaning of the facade system must be conducted in accordance with the provisions of RAL Quality Mark RAL-GZ 632 (metallic coating).
- Only neutral cleaning agents in the pH range from 5 to 8.5 that have been approved by the organisation GRM may be used.
- The use of acidic or alkaline clenaing agents can cause irreparable damage to the face substructure
- A representative trial surface must be set up before cleaning the entire facade
- It is recommended to clean the facade on both sides (visible side/rear) in order to prevent residual dirt on the rear face from contaminating the visible side.

Information

RAL Quality Mark and testing specifications RAL-GZ 632 (version dated 2015/05/21), GRM - cleaning agent list and qualified quality seal holders from the Gutengemeinschaft für Reinigung von Fassaden e.V. (German quality association for facade cleaning, GRM), based in Schwäbisch Gmünd, available to the public at www.grm-online.de.

Cleaning methods

The following cleaning methods are recommended for the care and maintenance of the Schuco FACID textile facade system - the fexible facade: Initial cleaning E 1b, intermediate cleaning Z 5 in accordance with GRM RAL-GZ 632/1 (version dated 2015/09/21).

Cleaning procedure

Cleaning should be carried out with plenty of flowing de-mineralised water and a fixed or rolling brush attachment. Harder or softer brushes can be used to improve the cleaning quality. Hard (red) brushes give the best clenaing results. Depending on the amount of the dirt present, the process may need to be repeated. For intermediate cleaning, an approved GRM special cleaning agent (III) or GRM neutral cleaning agent (N) can be used, before further rinsing with de-mineralised water.

Cleaning outcomes

The removal of loose or slightly adhering dirt is guaranteed. Alge and moss come loose and can be removed.

Thorough clenaing G 12 in accordance with GRM RAL-GZ 632/1 (version dated 2015/09/21)

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Schüco FACID - The textile facade

The Schüco FACID combines the benefits of curtain walling with almost unlimited design freedom and a high degree of flexibility for architects, investors and users of the building. Schüco separates the facade design from the room layout and its patented clamping system allows new functions to be integrated in existing facades. Effective weather resistance, glare protection and sun shading while ensuring clear views to the outside, as well as fast, cost effective adjustments while the buidling is in use make Schüco FACID the perfect soltuion for creative, modern building structures.

Schüco International KG
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Schüco – System solutions for windows, doors and façades

Based in Bielefeld, the Schüco Group develops and sells system solutions for windows, doors and façades. With 6330 employees worldwide, the company strives to be the industry leader in terms of technology and service both now and in the future. In addition to innovative products for residential and commercial buildings, the building envelope specialist offers consultation and digital solutions for all phases of a building project – from the initial idea through to design, fabrication and installation. Schüco works with 10,000 fabricators and 30,000 architectural practices, as well as construction professionals who commission buildings around the world. Founded in 1951, the company is now active in more than 80 countries and achieved a turnover of 1.995 billion euros in 2021. For more information, visit www.schueco.com

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