

ARTOS®

ANDRITZ Kufferath wire cloth
in architecture and design



ARTOS®

Architectural and design cloth

ANDRITZ Kufferath is one of the leading manufacturers of metal fabrics and wire cloth, which are used in a wide range of applications. Whether they are used as facade cladding, suspended ceilings, wall covering, flooring, partition walls or protection against the sun, these fabrics develop their particular appeal in a multitude of applications.

ARTOS® fabrics stand for excellent interior and exterior applications. They are used in architecture and also as design elements. The special appeal of the material is its

transparency, reflection capability, and its structure. By weaving fine, flexible cables in lengthwise (warp) direction and full profiles in cross (weft) direction, the material offers stability in one direction and flexibility in the other. The fabric gives the designer almost unlimited creative leeway.

The stainless steel material guarantees a high degree of reflection and almost unlimited durability. With the ARTOS® program, ANDRITZ Kufferath offers the designer a wide variety of different mesh types.

Of course, the ARTOS® team will provide support with all the installation details or develop a new solution, tailor-made for you, to meet your individual requirements. Benefit in your planning work from the know-how of your system supplier, ANDRITZ Kufferath.

Translucency and physicality

Architects and designers hold the special characteristics of ARTOS® wire cloth in high esteem. This material succeeds in solving the apparent contradiction in terms between being open and being closed, as almost no other material can.

the force of natural lighting and ventilation need not breach the building structure by penetrating it at many different points. By using architectural fabrics, a uniform skin is created that retains physicality, while still guaranteeing openness and vista.

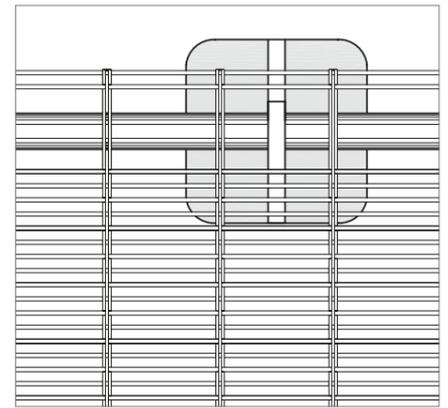
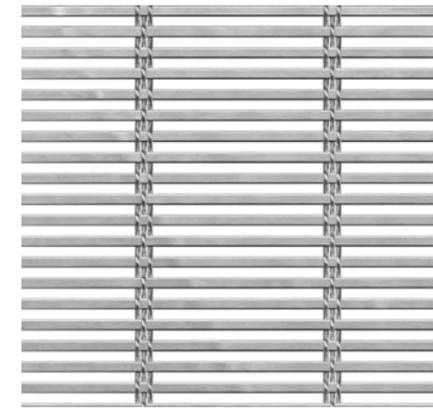
With ARTOS® wire cloth fabrics, we offer the designer a material that unifies opposites so that architectural concepts can be realized. No matter whether vertical wall panels, cubes or sculptural shapes,

Both natural and artificial lighting provide interesting reflection and color effects. Depending on the angle of the lighting, the fabric can change from being transparent to become opaque.

If light radiates from inside the body of the object, the fabric becomes a translucent membrane, and if the light shines on the fabric from outside, it forms a closed surface that is dominated by reflection effects.

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“Architecture is the masterly, correct and magnificent play of masses brought together in light.” Le Corbusier



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Suzhou Garden

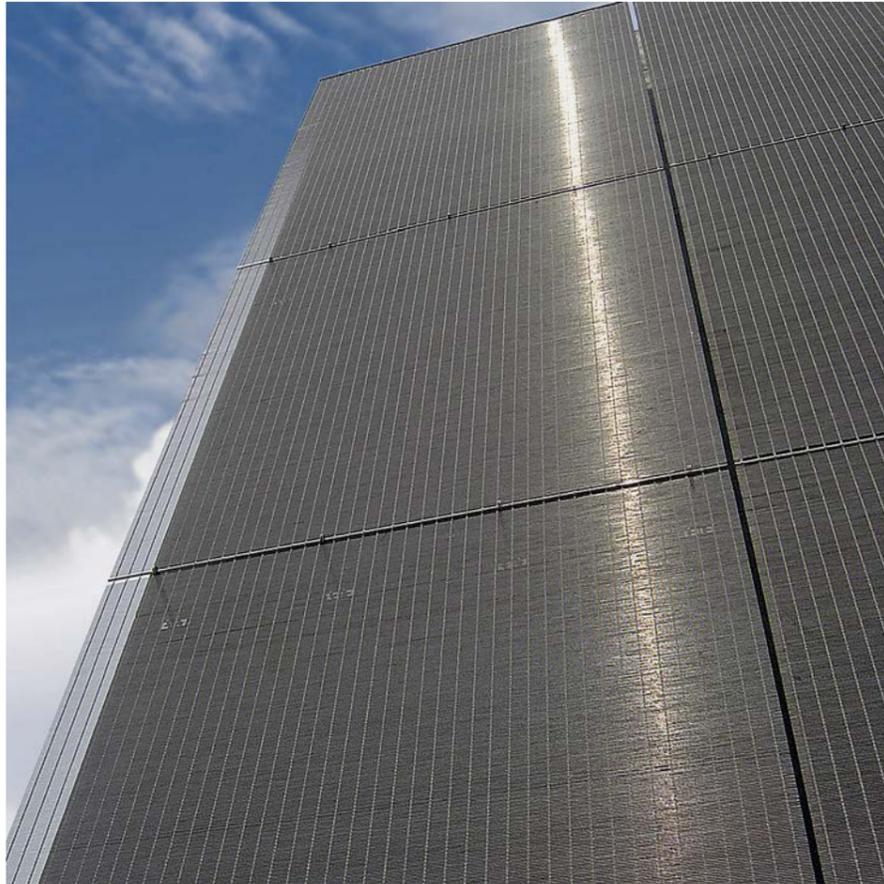
Semi-transparency in the Chinese tradition

Wire cloth: ARTOS® sigma 3

Microsoft is a byword for the latest innovations worldwide and has changed our everyday lives permanently with its computer software developments. So it is not surprising that the designers of the new company headquarters in Suzhou, China, wanted to use the ARTOS® sigma 3 fabric in order to reflect the company's philosophy in the visual appearance of the architecture.

Modern, groundbreaking and surprising, the building is enclosed in our fabric and thus shows its stoic power, but without losing any of its airiness and shine. A successful project that was completed in a very brief planning and production period. With the Suzhou Garden project, the philosophy of China's traditional architecture is combined with the international modernity that is characteristic of semi-transparency, as offered by an ARTOS® fabric.

The light, transparent nature of a pre-tensioned fabric web moves our senses and creates a level of diffusion and greater vitality. The stainless steel fabric material changes depending on the direction of the light rays and the time of day, accentuating the sun's path across the sky and the passing of time, and with it the infinite loop of our perpetual vitality and transience.



Foyer of an office building in Moscow

The dynamics of the wave



Architects: Atelier Achatz, Munich

Wire cloth: ARTOS® sigma 1

The undulating shape of the ceiling draws the visitor's eye to the reception desk. At the same time, the dynamics of the wave reflect the function of this room: It is not a place to linger, it is a place of transition. The atmosphere reflects a cool elegance that is created by means of high-quality and sophisticated materials, such as ARTOS® sigma 1 with rear lighting. The result is a brightly lit, spacious area that obtains its special quality from translucent materials and their lighting effects.



Deutsche Telekom trade fair booth

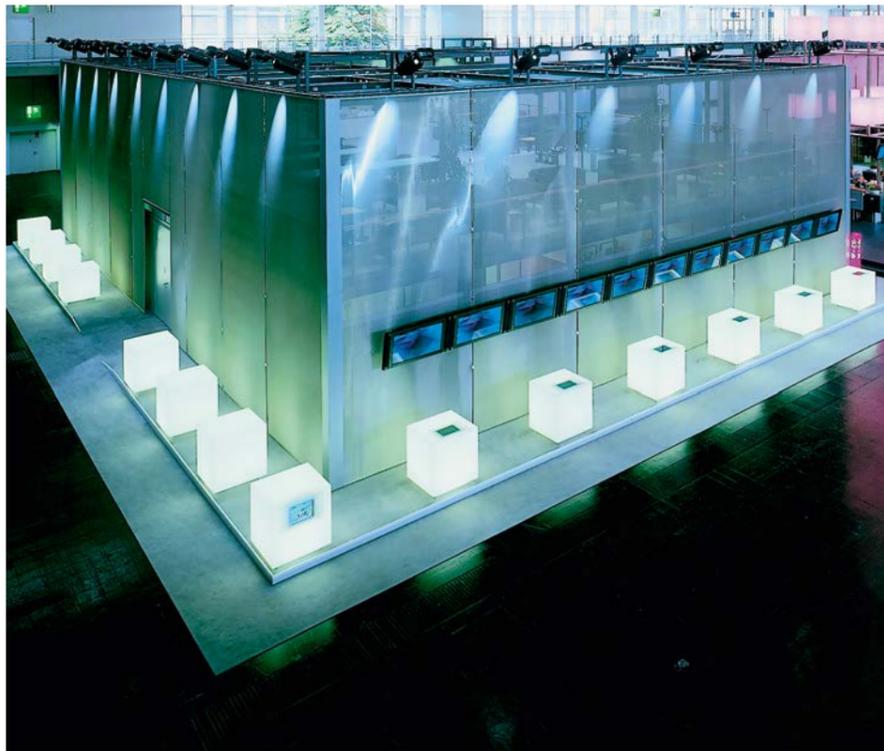
Large shapes – simple and modern

Architects:
q-BUS Mediatektur, Berlin

Wire cloth: ARTOS® gamma 3

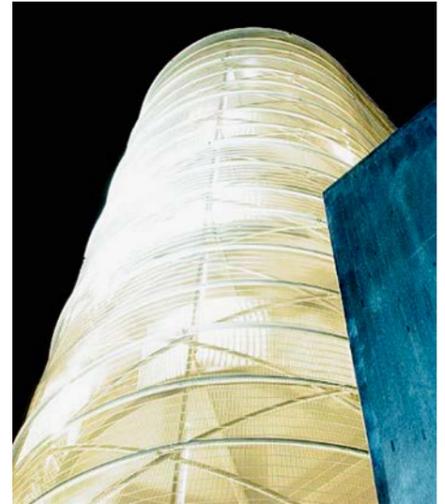
Progressive, modern, simple, elegant, and luxurious – what material could be more suitable for the trade fair booth of an up-and-coming high-tech company than a wire cloth from the ARTOS® product range?

Large shapes that are simple and modern define the architecture of this trade fair booth, which draws its character to a large extent from the ARTOS® gamma 3 stainless steel fabric used. This translucent material envelops the inside of the booth, although still providing some insights as to what is inside. Aided by a sophisticated lighting concept, the architects from q-BUS Mediatektur GmbH in Berlin have created a truly exceptional booth.



Berlin Wall viewing platform

Steel blue and gleaming bright



Architects:
Zerr Hapke Nieländer, Berlin

Wire cloth: ARTOS® sigma 2

The observation tower is rather like a sculpture that has docked onto the parish hall facilities of the Church of Reconciliation.

ARTOS® sigma 2 fabric, with its large open area of almost 70%, encloses the sophisticated sub-structure of diagonal and curved steel profiles, providing an unrestricted view. For the inside stairway, a closer weave fabric was built into the railing panels. In addition to supplying the fabric, ANDRITZ Kufferath also provided technical consulting services for planning of the sub-structure.

Office building in Suzhou, China

Entrance with vertical lamellas



Wire cloth: ARTOS® sigma 6

Large external lamellas made of stainless steel fabric on an office building in one of the most charming cities in China.

Large vertical lamellas made of ARTOS® sigma 6 wire cloth at the entrance give this building its distinctive appearance.

The lamellas guarantee the required screening and protection against the sun, while also highlighting the soaring entrance hall.

Light reflections and lighting that varies according to the angle of the sunlight give both the interior and the outside of the building their special character.



Uptown Munich, Germany

Transparency, elegance, simplicity and structure



Architects:
Ingenhoven und Partner, Düsseldorf

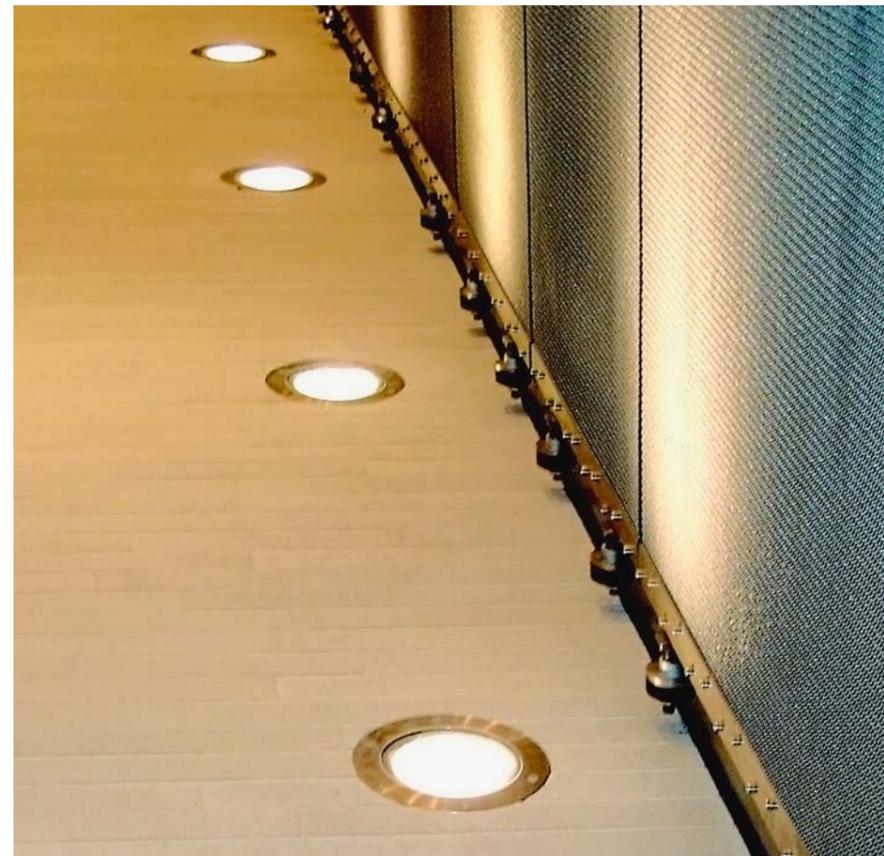
Wire cloth: ARTOS® beta 1

Located at the Georg-Brauchle-Ring opposite the legendary Olympic Stadium Uptown Munich is an extraordinary project in every respect. The architects of Ingenhoven and Partners reshaped Munich's skyline with a 146 meter office tower, the city's tallest and most prominent office building.

The towers use of sophisticated materials and generous space form the special character of its lobby. In contrast to the natural stone floor, 800 square meters of stainless steel panels of semi gloss ARTOS® beta 1 wire cloth can be seen glistening in the most elegant way.

The panel brackets were specifically designed and manufactured by ANDRITZ Kufferath for this project. Varying outside light conditions result in different reflections inside the lobby giving the lobby an ever changing spirit.

The lobby's crowning moment occurs in the evenings when artificial light reflecting off the fabric panels transforms the room into a warm and inviting space.



Church of St. Severin, Hanerau-Hademarschen/GER

Fabric ceilings and views from below



Architects:
 Petersen Pörksen und Partner,
 Hamburg

Wire cloth: ARTOS® sigma 6

The Romanic stone church that burned down to its bare walls in a devastating fire in 2003 was rebuilt by the architects Petersen Pörksen und Partner in cooperation with the German historic monuments authority. In designing the ceiling view beneath the gallery in the Church of St. Severin, the architects favored our ARTOS® sigma 6 fabric. The technoid material of the stainless steel fabric stands in exciting contrast to the historic architecture of the worship area of the Church of St. Severin in Hanerau-Hademarschen.

When the fabric ceiling was being designed, the engineers from the ARTOS® team assisted the architects and the metal construction company by providing help and advice.



Petite Passage / Luxembourg

View from below

Architects:
 Becker Architecture & Urbanisme,
 Luxemburg

Wire cloth: ARTOS® sigma 6

When approached by the architects of Becker Architecture in Luxemburg, ANDRITZ Kufferath developed a fabric ceiling as a succinct architectural element at Place Guillaume right beside the ducal palace,

in the pedestrian passageway between Place Guillaume and the Rue de Chimay shopping street. It was the will of the city and the architects to give this impressive location a special uplift. Use of the ARTOS® sigma 6 cloth and other highgrade materials defines the character of excellent architecture, which was accepted with great success.



Designer Outlet Center, Brennerpass / CH

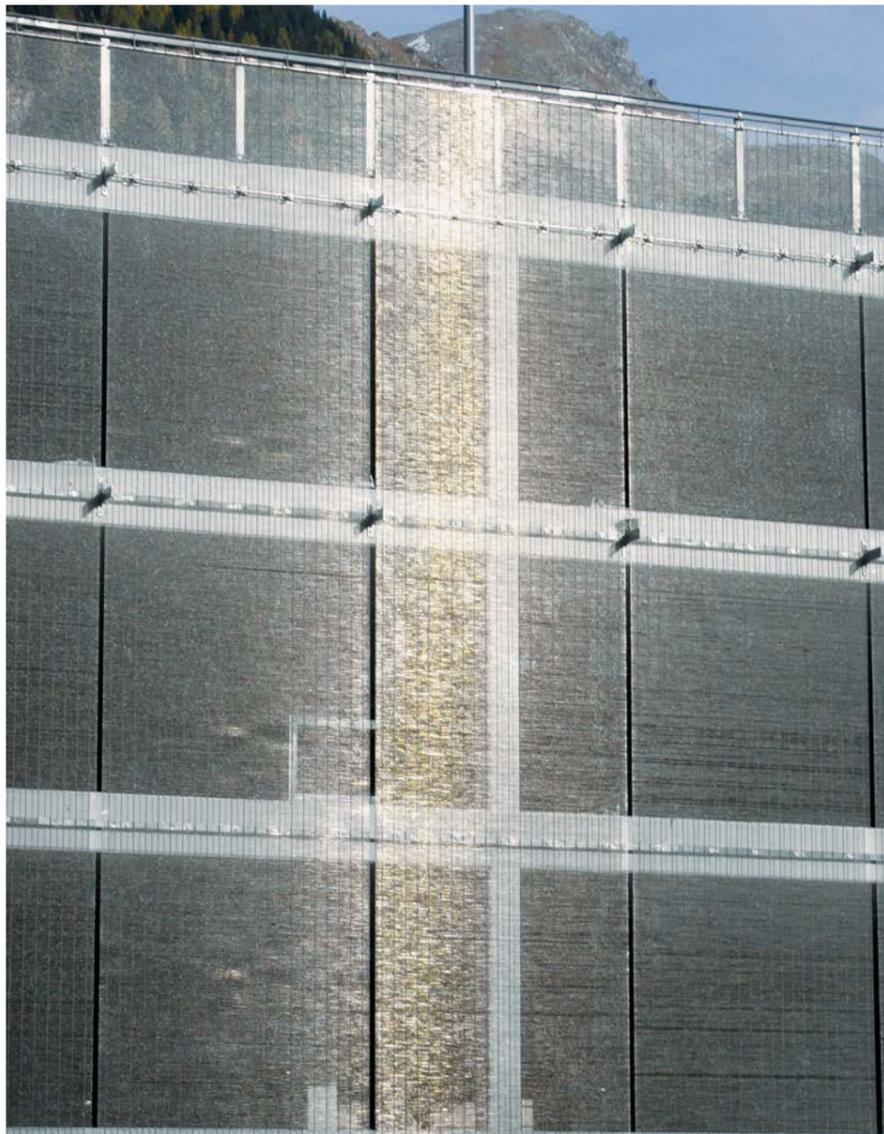
Protection with aesthetic value

Architects:
Holder Matthias Architects, London

Wire cloth: ARTOS® sigma 2

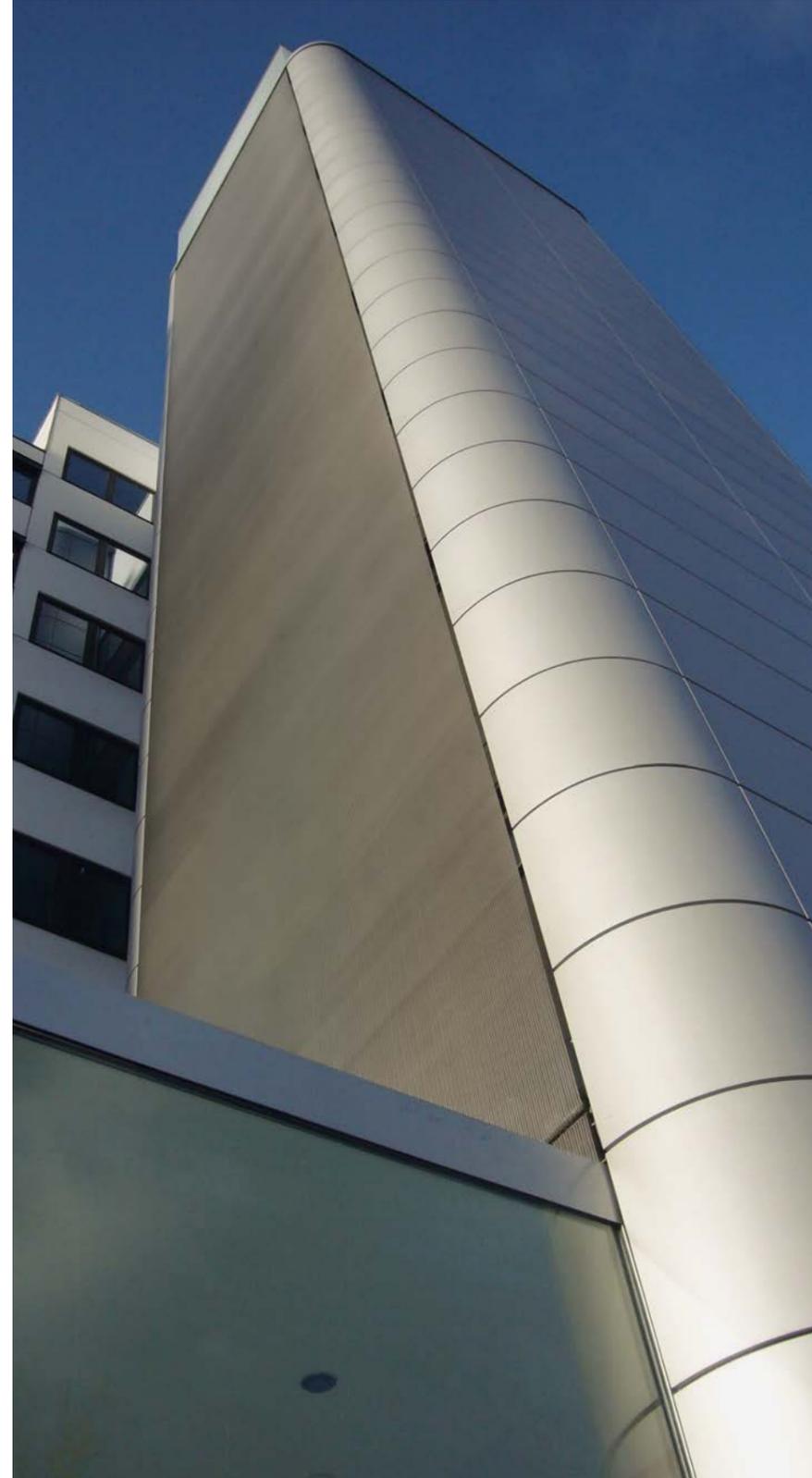
The ARTOS® sigma 2 wire cloth lends the parking deck on the Brenner Pass that special touch in addition to the functionality of the architecture. As protection against falling and with its high aesthetic value, the fabric demonstrates its strength under the extreme conditions of ice build-up and gale-force winds high in the Alps. Even under these severe conditions, ARTOS® wire cloths hang in lengths of approximately 10 m and 2.5 m wide, durable and maintenance-free.

The facade on the Brenner Pass was developed in cooperation between the Tragkonzept engineering firm, Kaser Metallbau GmbH, and the ARTOS® Team.



Office Building, Düsseldorf / GER

New appearance sets new standard



Architects:
Collignon Fischötter Architekten, Berlin

Wire cloth: ARTOS® lambda 1

Extensive refurbishment work was needed to transform the administrative headquarters of a construction firm into an attractive office location for a modern service industry company.

The repairs to the facade completely changed the appearance of the building and set a new standard on the northern side of Düsseldorf. ANDRITZ Kufferath was able to make the architects' ideas reality in creating a 30 m high and 5.5 m wide wire cloth web to be hung without any visible mounting points, flush with an aluminum panel facade.

The planning, static calculations and final assembly work were provided from a single source by the ARTOS® engineers and experienced ANDRITZ Kufferath production staff.

Multi Story Car Park, Princesshay Exeter / UK

Turning into an architectural experience

Architects:
Chapman Taylor Architects, London

Wire cloth: ARTOS® sigma 2

The fabric facade for the parking deck at the new Princesshay shopping mall in Exeter was planned and built with partners in the UK. A facade made from 800 m² of sigma 2 wire cloth was installed in only a few days. The planners at Princesshay opted for a double layer of fabric, creating an interesting moiré effect: flickering and circular optical movements can be perceived when walking alongside the facade – an almost cinematic effect that takes an ordinary building and turns it into an architectural experience.



Bangkok Suvarnabhumi Airport / Thailand

High transparency and magnificent appearance

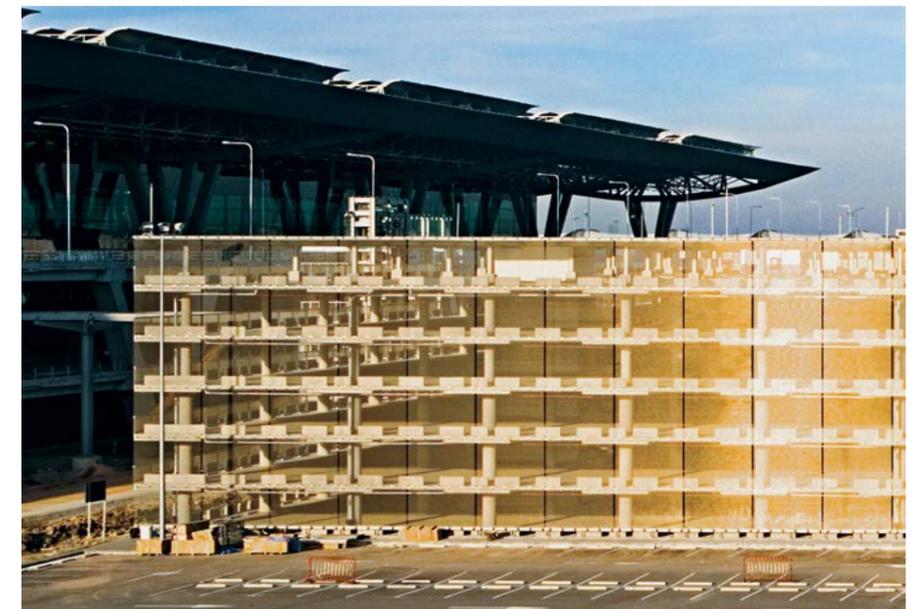


Architects:
Murphy Jahn, Chicago

Wire cloth: ARTOS® sigma 2

Thanks to a persuasive design, Murphy Jahn was able to win an international architectural competition for the Bangkok Suvarnabhumi Airport. The airport power plant, as well as the six storied parking garage were covered with a facade of more than 10,000 square meters of ARTOS® sigma 2 metal mesh fabric. Following the idea of Murphy Jahn, the fabric was customized for the buildings axes to achieve a modern architectural look.

Despite the high transparency of the wire-cloth facade it wraps the parking garage in a shimmering glint and gives these functional buildings a magnificent appearance beside the raised main airport terminal. The innovative design of the facade system, structural engineering, project management, and support at the site were performed by ANDRITZ Kufferath architects.



Concert hall, Jinan / China

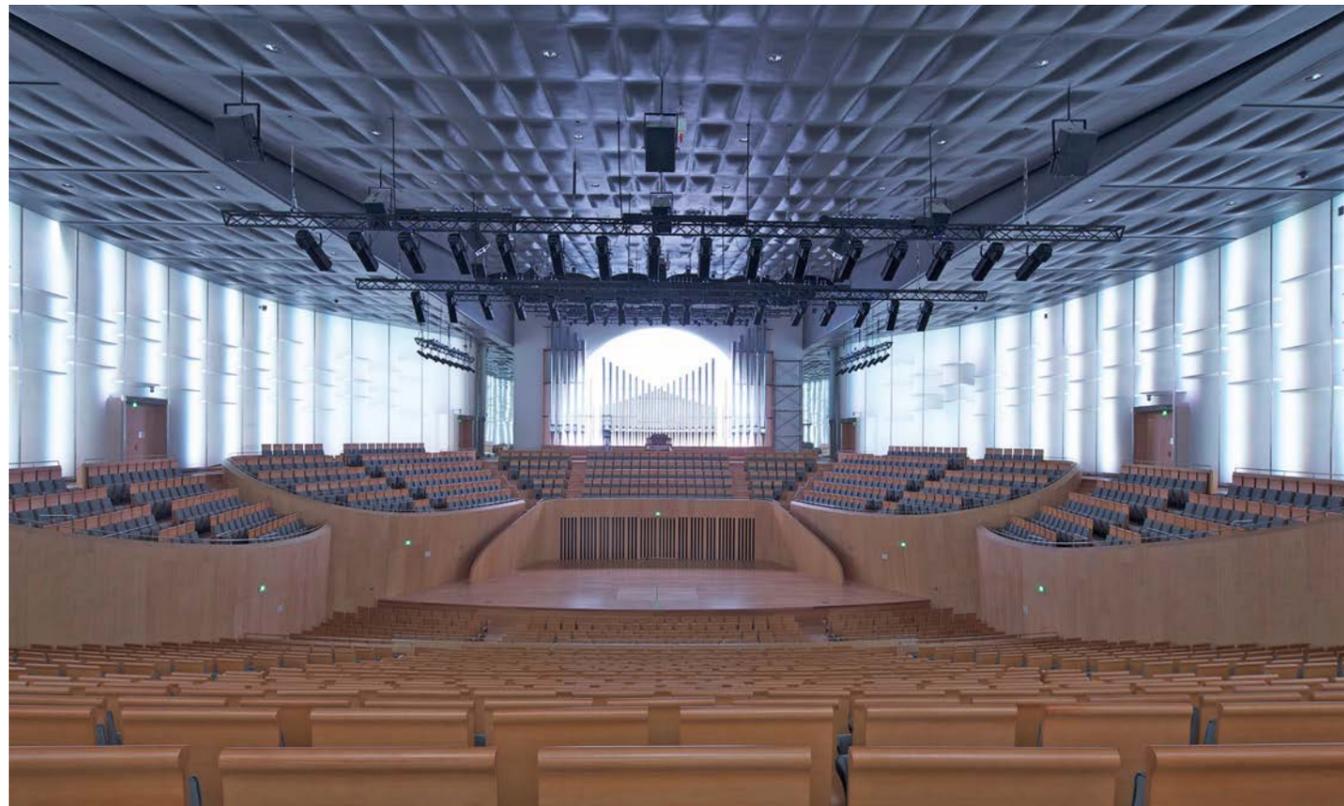
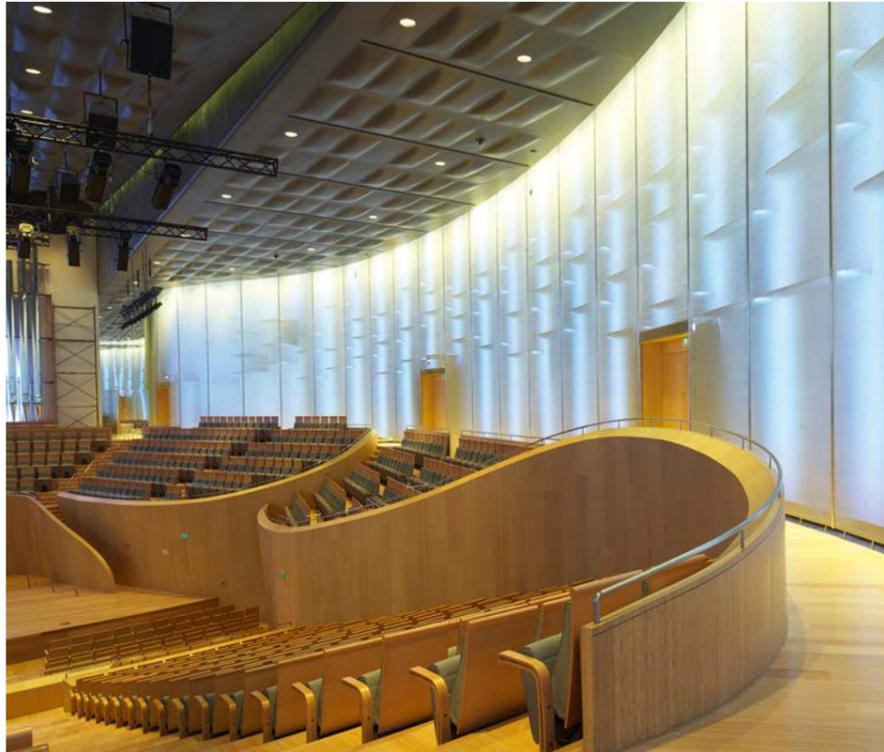
Sophisticated illumination for a cultural highlight

Architects:
Paul Andreu, Paris
Richez Assoziates, Paris /Kuala Lumpur

Wire cloth: ARTOS® beta 2

The ARTOS® team worked with the architects from the office of Richez and Paul Andreu to develop wall coverings that meet the specialized requirements of a concert hall in one of the great cities of China.

The fabric was specially designed to meet the customer's requirements. The distances between the ropes and weft wires were selected so as not to affect the acoustics. The fabrics are suspended just clear of the walls and conceal fastenings and attachments. The changing lighting emphasizes the lightness and creates a uniquely formal atmosphere. The same type of fabric with gold threads has been used in the foyer of the opera house.



BMW car dealership / Chile

Facade cladding and sun shade



Architects:
Jorge Iglesias + Leopoldo Prat,
Santiago de Chile

Wire cloth: ARTOS® sigma 3

The BMW head office in Santiago de Chile reflects the high-tech philosophy of BMW with the use of our architectural textiles as sun protection and a designer facade. The fabric forms an additional layer in front of the glass facade and lends it a character of lightness and transparency, while at the same time providing a feeling of luxury and technical elegance.

Spiral car park, Dinslaken / Germany

Semi-transparent covering producing light effects

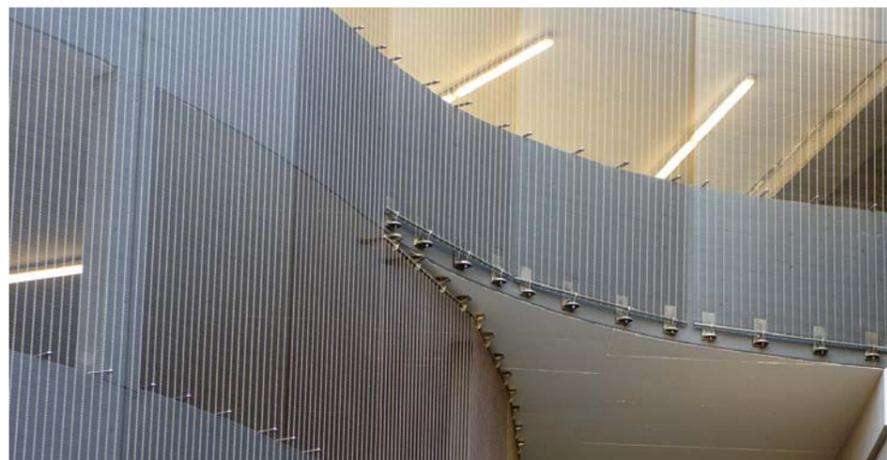
Architects:
 RKW Rhode Kellermann Wawrowsky,
 Düsseldorf

Wire cloth: ARTOS® sigma 3

The cladding of the spiral car park for the newly erected shopping mall 'Neutor Galerie' held a challenge, as the client required a semi-transparent covering producing various light effects. Through the

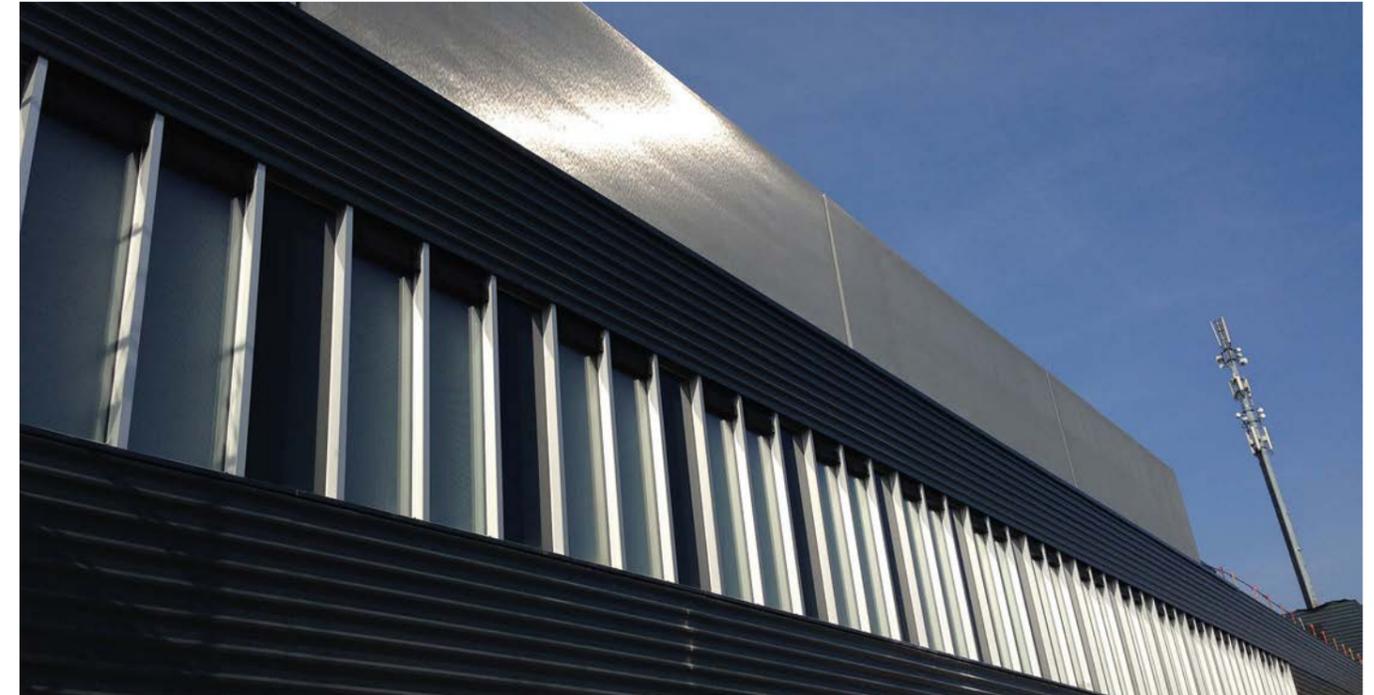
use of our 'sigma 3' type fabric we were able to emphasise the geometric form of the circular spiral and satisfy the requirement for a light and homogeneous cladding material. The fabric webs with web widths of 2.00 m and various lengths according to the slope of the ramp were suspended next to each other. The total amount of fabric corresponding to the unwound surface area was 812 m². The building is illuminated at night and the

stainless steel surface reflects the incoming light in a dramatic and imposing way. A newly developed solution from ARTOS® was implemented to enable nearly completely concealed fastening at the middle of each web on every level. Although the ARTOS® team became involved very late in the project, it was still possible to complete the planning, manufacture and installation within six weeks.



LuxConnect data centre / Luxembourg

Solar shading solution creating stark contrast



Architects:
 Paczowski et Fritsch Sarl, Luxembourg

Wire cloth: ARTOS® beta 1

The technical equipment mounted on the roof of the LuxConnect data centre needed a solar shading solution, so the architects at Paczowski et Fritsch Sarl were brought in to find a solution. The creative ideas of the architects were made possible through

a new development in the area of fabric facades, which was used on a large scale for the first time ever in this project. The fully concealed and completely flat fastening system with horizontally running warp cables did not require additional prestressing, making it ideal for the already planned steel substructure. The fabric type 'beta 1' was used in a modified form. Fabric webs of length 12.50 m and width 3.50 m were mounted in a free-floating manner at lofty

heights on prefabricated tenter frames. The distinctive material properties of the stainless steel fabric for this building are set against the dark facade to create a stark contrast. The monolithic structure is situated in the hilly landscape surrounding Bettembourg and the shimmering band of stainless steel fabric can be seen from a great distance. A total of 18 large-scale frames were constructed over only two on-site installation days.

University building, Bochum / Germany

Visual statement that conveys innovation



Architects:
Axthelm Architekten, Potsdam

Wire cloth: ARTOS® sigma 3

The Ruhr University in Bochum built by the architects Hentrich Petschnik und Partner was a ground-breaking project in the education environment of the early seventies in Germany. Yet education is going through a period of change, and buildings too live through their potential to undergo transformation.

By establishing the Vitacampus, the private medical school within the leading research university in Germany is facing up to international challenges: Extensive refurbishment was needed to a building that had certainly seen better days. The architecture makes a visual statement that conveys innovation and new technologies.

The planning work by Axthelm Architekten in Potsdam was continued by the ARTOS® team and went on to become structural reality. The cloth was mounted by the ARTOS® technicians.

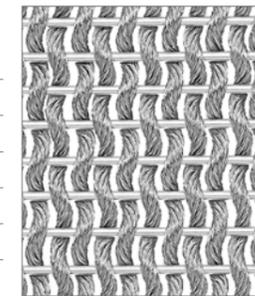
ARTOS® beta

ARTOS® beta is coined by a lively animated surface. The fabric is rather dense and of high stiffness. Stiff in the direction of the weft and flexible in the other direction, this wire cloth has its optimum application as wall- or ceiling elements, on facades or as partition walls.



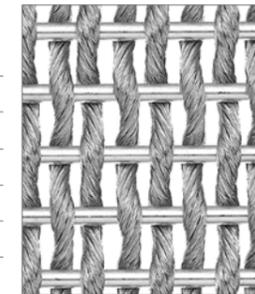
ARTOS® beta 1

material	stainless steel
warp	2 mm
weft	1.5 mm
warp cable pitch	3.5 mm
weft wire pitch	5.7 mm
open area	31.60%
weight	7.43 kg/m ²



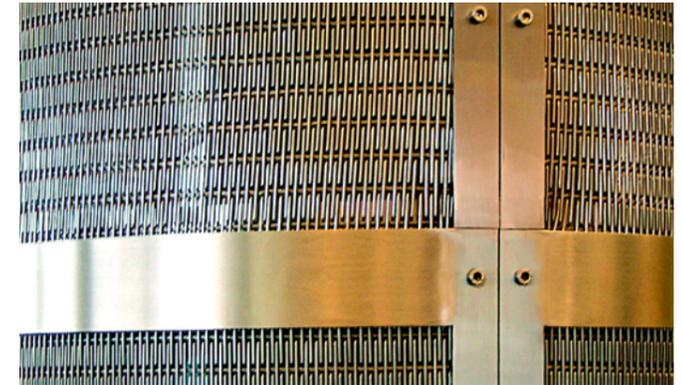
ARTOS® beta 2

material	stainless steel
warp	3 mm
weft	2.75 mm
warp cable pitch	5 mm
weft wire pitch	9.75 mm
open area	28.90%
weight	12.49 kg/m ²



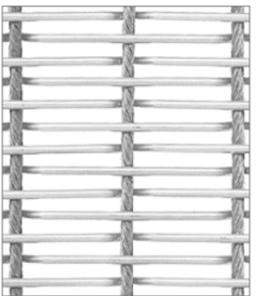
ARTOS® lambda

ARTOS® lambda is a kind of wire cloth with diverse structures on the front- and on the backside. This fabric is defined by the cams on the one, and the absolutely flat surface on the other side. Stiff in the direction of the weft, flexible in the direction of the warp, this fabric is often used for curved constructions as well as partition walls, ceiling coverings, sun protection and booths. Densely woven, it can also be used as floor covering.



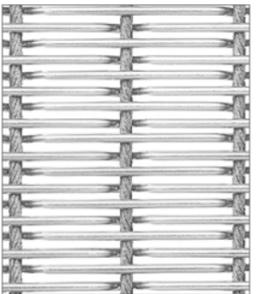
ARTOS® lambda 1

material	stainless steel
warp	2 mm
weft	1.5 mm
warp cable pitch	17.5 mm
weft wire pitch	3.5 mm
open area	50.60%
weight	4.87 kg/m ²



ARTOS® lambda 2

material	stainless steel
warp	2 mm
weft	1.5 mm
warp cable pitch	17.5 mm
weft wire pitch	2.5 mm
open area	35.40%
weight	6.78 kg/m ²



ARTOS® sigma



ARTOS® sigma is a fabric with high translucency, flexible in the direction of the warp, stiff in the other direction. Variable in its weave ability with 2, 3 or 4 warps and customizable in the mesh size, you can reach a great range of openness. Suitable for wall- or ceiling coverings, on facades or as sun protection, as well as for banister fillings or balconies.

ARTOS® gamma

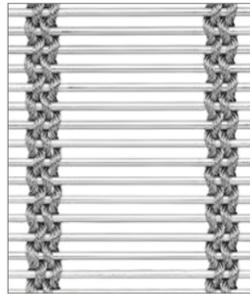
ARTOS® gamma is a very fine woven material, flexible in the direction of the warp and simultaneously stiff in the direction of the weft. Due to its textile character, it is often used for luxury interior designs as suspended ceilings, wall coverings as well as for trade fair constructions.

ARTOS® alpha

ARTOS® alpha is characterised by its stiffness in two directions, as we use the same rod material for the warp and for the weft thread. It is often used for covering wall, ceiling, or heating elements.

ARTOS® sigma 1

material	stainless steel
warp	4 x 2 mm
weft	2.75 mm
warp cable pitch	50 mm
weft wire pitch	6 mm
open area	39.80%
weight	9.76 kg/m ²



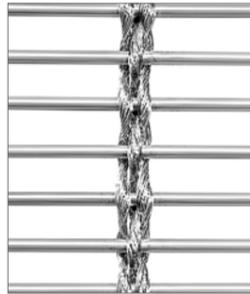
ARTOS® sigma 4

material	stainless steel
warp	4 x 0.75 mm
weft	1.5 mm
warp cable pitch	26.4 mm
weft wire pitch	3 mm
open area	44.10%
weight	5.18 kg/m ²



ARTOS® sigma 2

material	stainless steel
warp	3 x 2.75 mm
weft	4 mm
warp cable pitch	110 mm
weft wire pitch	14.5 mm
open area	66.40%
weight	8.41 kg/m ²



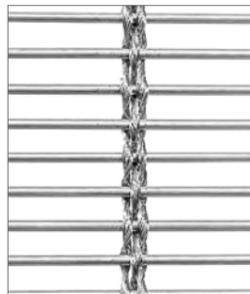
ARTOS® sigma 6

material	stainless steel
warp	4 x 1 mm
weft	2 mm
warp cable pitch	36 mm
weft wire pitch	4 mm
open area	43.97%
weight	6.61 kg/m ²



ARTOS® sigma 3

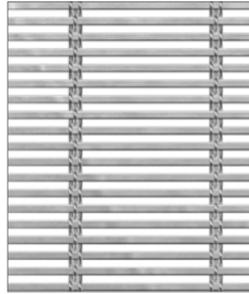
material	stainless steel
warp	3 x 2 mm
weft	3 mm
warp cable pitch	80 mm
weft wire pitch	10 mm
open area	64.75%
weight	6 kg/m ²



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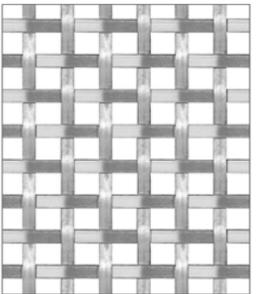
ARTOS® sigma 8

material	stainless steel
warp	3 x 1 mm
weft	2 mm
warp cable pitch	36 mm
weft wire pitch	4.2 mm
open area	44.76%
weight	5.12 kg/m ²



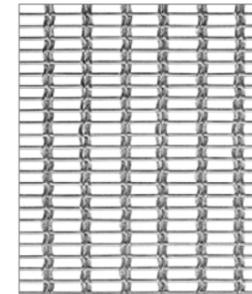
ARTOS® alpha

material	stainless steel
warp	1.75 x 0.6 mm
weft	1.75 x 0.6 mm
warp cable pitch	5 mm
weft wire pitch	5 mm
open area	43.30%
weight	2.63 kg/m ²



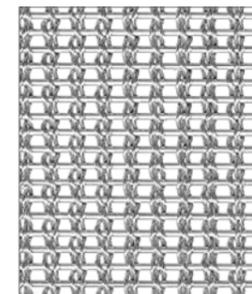
ARTOS® gamma 1

material	stainless steel
warp	3 x 0.5 mm
weft	0.6 mm
warp cable pitch	5.7 mm
weft wire pitch	2.2 mm
open area	53.50%
weight	1.95 kg/m ²

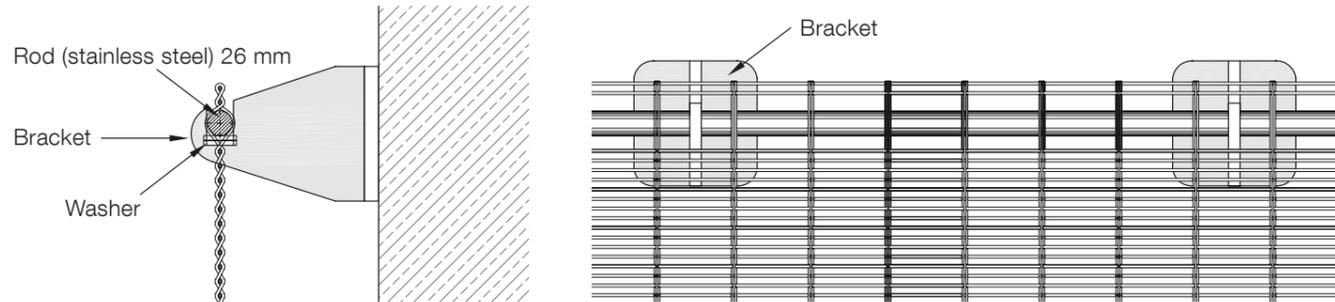


ARTOS® gamma 3

material	stainless steel
warp	3 x 0.5 mm
weft	0.8 mm
warp cable pitch	3.4 mm
weft wire pitch	2.1 mm
open area	34.80%
weight	3.82 kg/m ²



Mounting variants

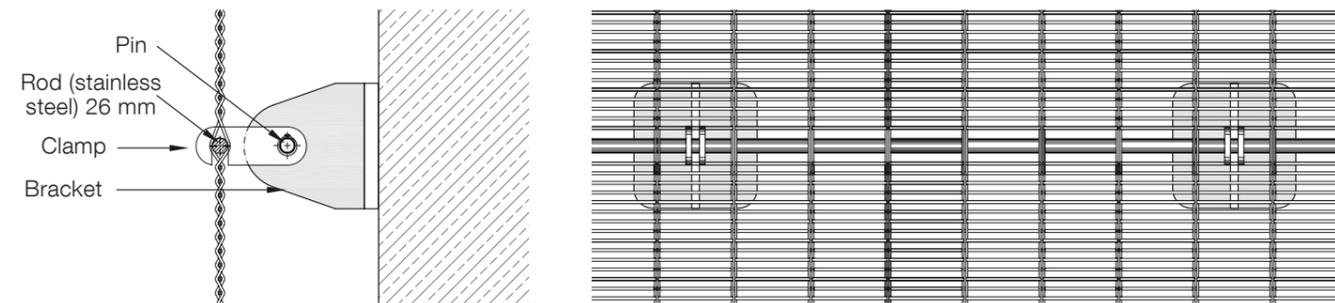


Top mounting point

Standard metal fabrics contain stainless steel rods inserted at the edges (parallel to the weft wire). When the fabric edge

has been stabilized in this way, it is easy to hook it into the appropriate bracket. This guarantees quick and easy installation, as well as providing a minimalistic and striking

design. Mountings with round rods are particularly suitable for ARTOS® sigma.

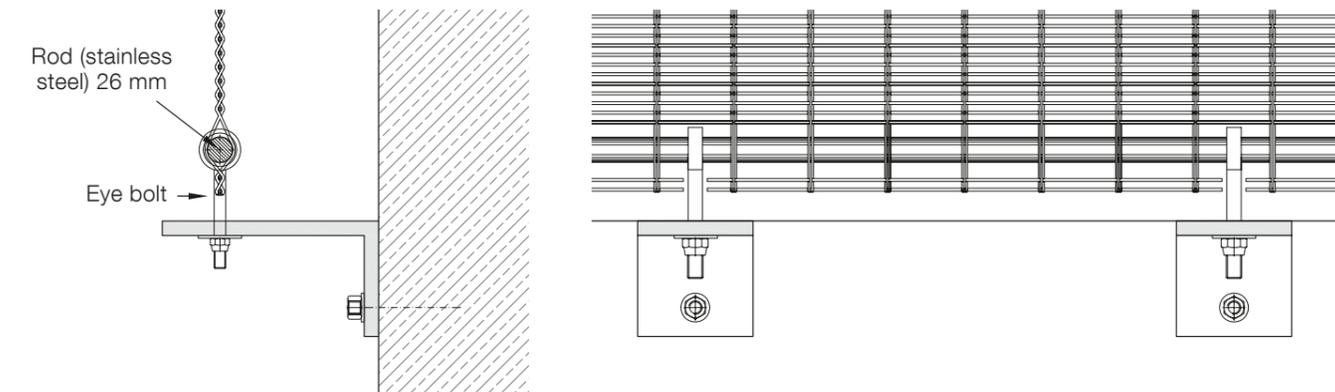


Intermediate mounting point:

By inserting stainless steel rods, additional intermediate mountings can also be included at the storey ceiling level for greater span heights. This substantially reduces

the span widths relevant in static calculations and thus also the pre-stressing forces needed. If the intermediate mountings are designed to open downwards, they can be mounted directly on site instead of being

inserted together with the rods at the manufacturer's workshop. Mountings with round rods are particularly suitable for ARTOS® sigma.

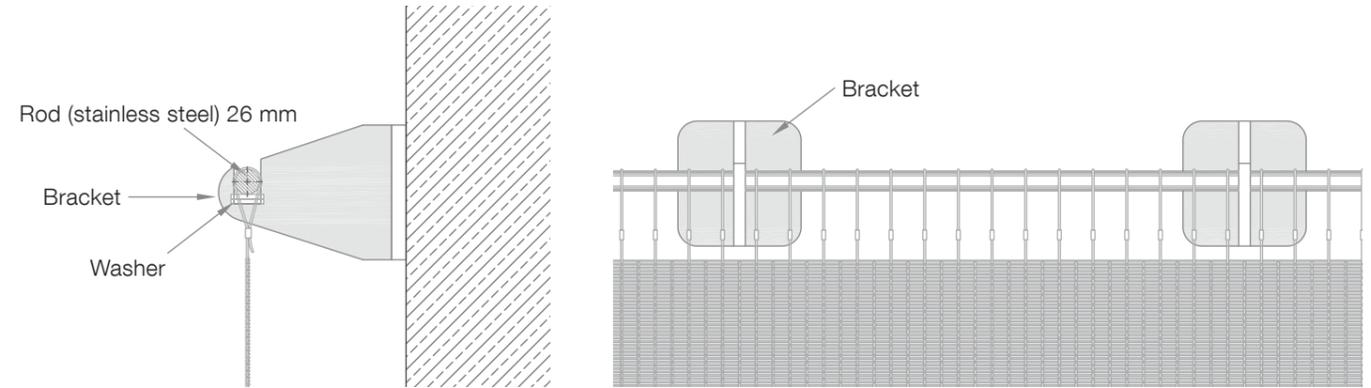


Bottom mounting point with eye bolt:

Since the fabric has round rods worked into the edges, the material is tensioned almost invisibly. With the eye bolt it can also be adjusted with high precision and forms a

simple and elegant mounting. The ARTOS® wire cloth is secured in place over its entire width using the round rod. The round rod may also be secured to the fabric by threading through loops in the warp cables.

Mountings with round rods are particularly suitable for ARTOS® sigma.

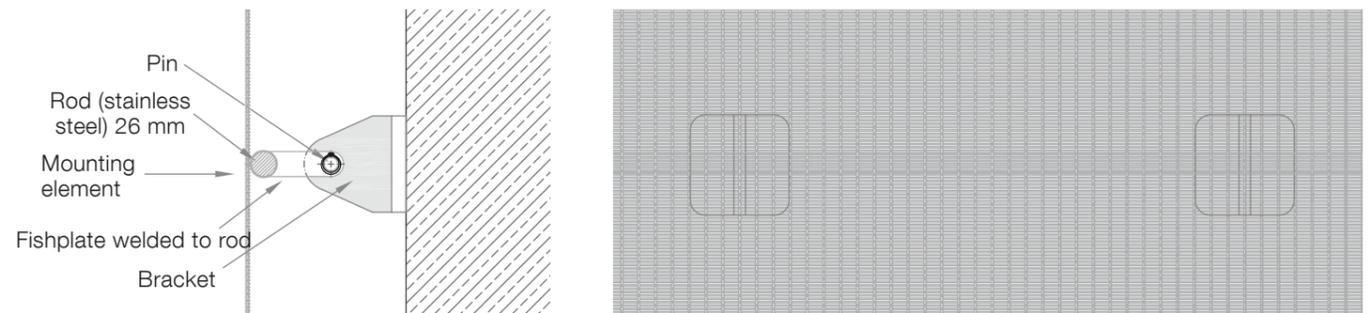


Top mounting point:

As an option, the fabric ends can also be made into a loop. By inserting a round

rod, the fabric edge is stabilized and can be hooked easily into a suitable bracket, guaranteeing quick and easy installation.

Round rod mountings with loops are particularly suitable for ARTOS® lambda.

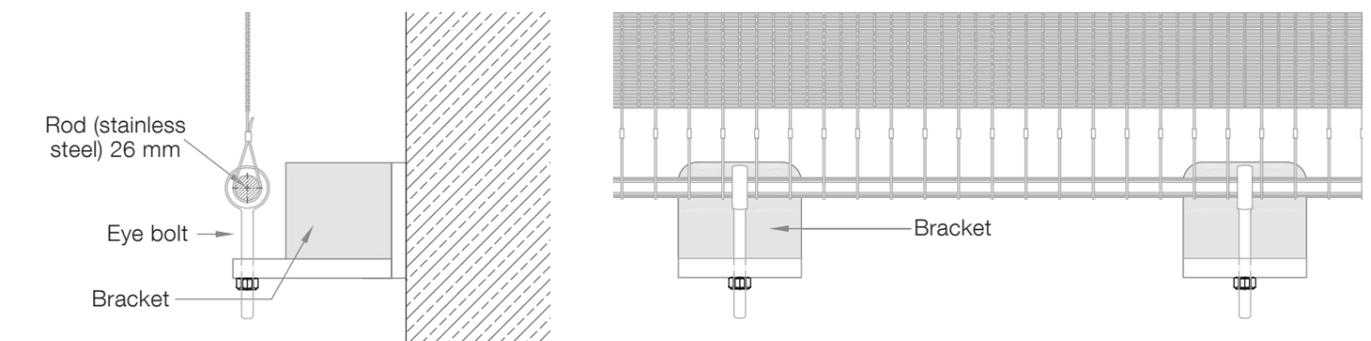


Intermediate mounting point:

By inserting a stainless steel rod behind the fabric, the mounting is virtually invis-

ible. The fabric is secured subsequently to the stainless steel rod.

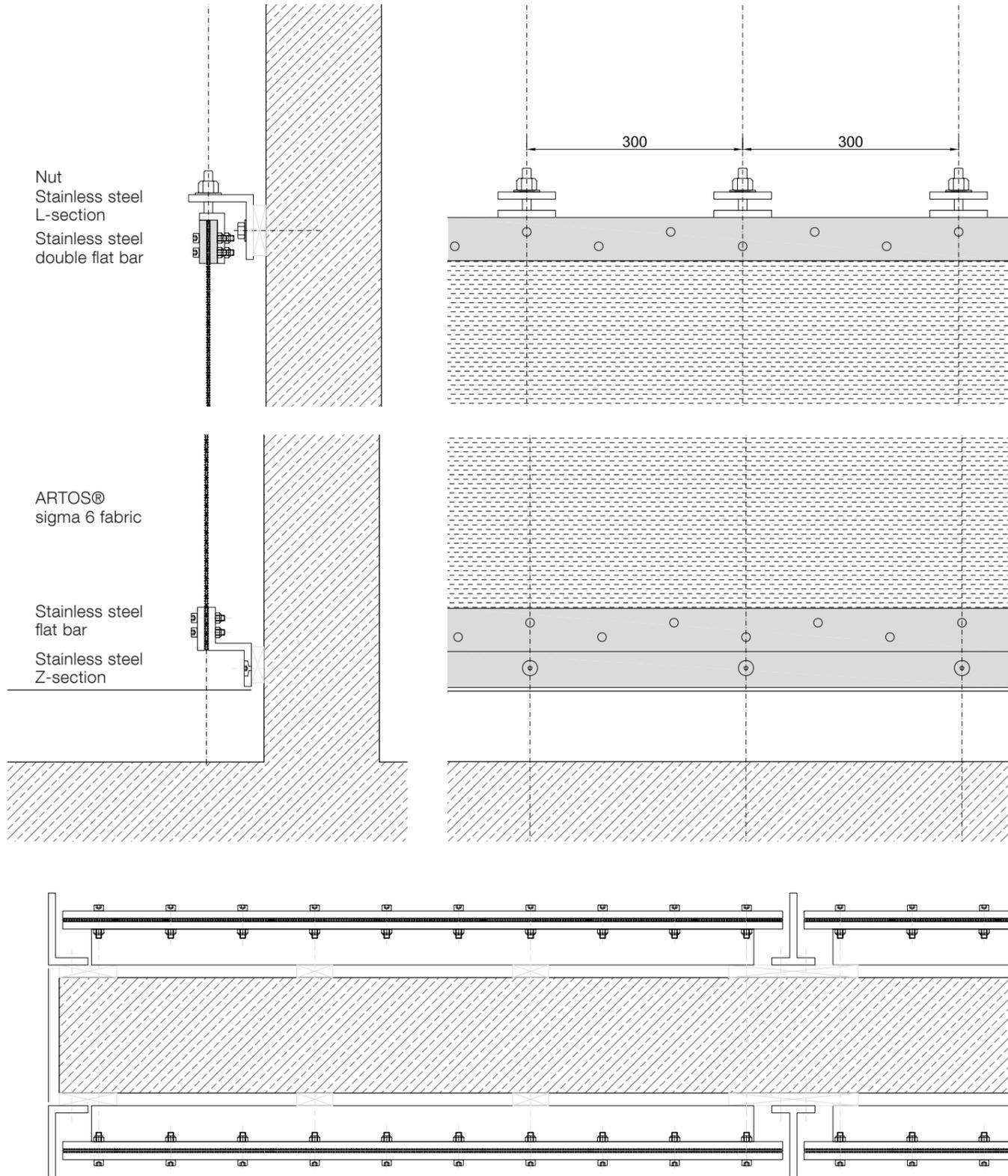
This type of mounting is particularly suitable for ARTOS® lambda, ARTOS® sigma, and ARTOS® beta.



Bottom mounting point with loop and eye bolt:

Round rod mountings with loops are particularly suitable for ARTOS® lambda.

Standard mounting system



Installation

Using ARTOS® architectural fabric is easier than you think. With its extensive experience and specialist knowledge, ANDRITZ Kufferath will accompany you right from the planning stage and assist you in developing the necessary detailed aspects. We will help you with your design so that you can realize your own ideas and find the optimum solution for your particular application.

Of course, we will not leave you alone with subsequent engineering work. If necessary, the ARTOS® team will be present on site to install the fabric. The ready-to-mount fabric is delivered to sites around the world in sturdy wooden crates and is then taken directly from these crates to be hung and secured, usually also with the aid of a mobile crane. The fabric lengths are first suspended from pre-

mounted brackets and tensioned. Large facade sections can be completed in only a few hours by two to three technicians.

Always consider the short installation time as well in your cost calculations.



Service & consulting



According to client's wishes or needs, ANDRITZ Kufferath offers the following services additionally to the fabric supply:

- Consulting services to select the optimal fabric type for each application.
- Development of typical-details (specific to project) in cooperation with the planners considering the structural engineering.
- Design drawings as well as implementation drawings for all sub-constructions.
- Preparation of tendering documents.
- Structural engineering fulfilling all audit requirements.
- Mock-up construction for large projects at ANDRITZ Kufferath.
- Installation manual.
- Supervising of installation on site.

Depending on the project, we can also offer installation of the whole system including all necessary sub constructions.

If you have any questions about products or services, just get in touch!

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