GKD METALFABRICS

Airport Architecture Ready for Takeoff: New Design Horizons with Metal Fabric

Cambridge, MD – Modern airport architecture is both challenging and prestigious. With rapidly increasing passenger numbers – 4.1 billion transported worldwide in 2017 alone – architects and designers of these high-profile projects are adapting to visitors' needs by tailoring amenities and design accordingly. In the competition for attracting air travelers, airports are transforming a dated and utilitarian model of transportation to one that is more hospitality-driven, with sophisticated design and a full range of passenger offerings.

As airports continue to up the ante in traveler amenities, consumer expectations of airport offerings will also continue to rise. For airport owners and operators – which in the United States is made up almost entirely of federal, state and local governments – economic constraint is often a key factor in design decisions. To this end, rental income from retail, restaurant and other hospitality services like salons become indispensable when it comes to financing upgrades and new construction.

One element of this evolving design strategy is applying new product innovation to accomplish highly technical, functional yet elegant design solutions. Of the many products that are developing in advance of airport architecture, metal fabric as a material provides a range of design solutions for many areas of these complex transportation hubs. Whether it is an expansion and upgrade to meet consumer demand or regulatory requirements or altogether new construction, metal fabrics are becoming an established standard in global airport architecture.
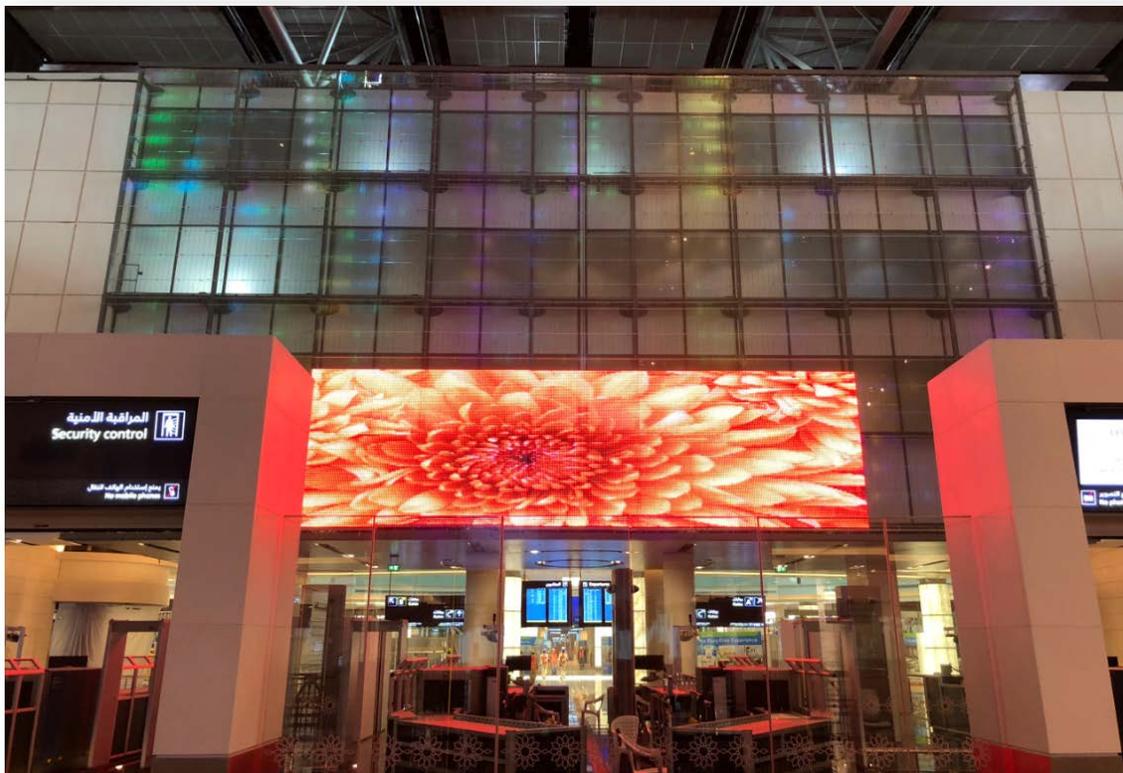
Key Material Benefits:

- A limitless range of design options for façades, ceilings, walls, and parking garages which balances aesthetic value with functionality and return on investment.
- With weavable dimensions of 26 feet (8 meters) in width and more than 328 feet (100 meters) in length, metal fabrics are ideal for the design of these large, sophisticated buildings.
- Besides a wide range of fabric weaves, design visions can also be realized through colored surfaces and etching.
- Stainless steel fabric makes a valuable contribution to gaining sustainability certificates, as it supports optimization of building energy consumption, long service life, and material-specific recyclability.
- Transparent media façade systems, such as MEDIAMESH® and ILLUMESH from GKD, combine the benefits of a high-performance LED display for advertising and entertainment with technical properties of transparency and flexibility.

Exterior Façades

In the mid-90s, a parking garage façade made of GKD metal fabric at Terminal II of Cologne Bonn Airport represented an architectural turning point for the design of transportation architecture. Used as parking garage cladding, GKD metal mesh allows proper ventilation, protection from the elements, and natural daylight illumination, while lending these large façades a particularly expressive and tactile materiality.

For example, some 27,000 square feet of LAGO fabric encapsulates the parking garage at Van Nuys Airport in Los Angeles. Large letters attached to the metal fabric form the word Flyaway, underlining the airport's brand identity. Parking garages at London Heathrow, as well as the airports in Barcelona, Brisbane and Madrid are also clad in GKD metal fabric.

This multifunctional material is also widely used on terminal exteriors. Airports such as Paris-Charles de Gaulle and London Stansted gain their singular look from metal fabric which also meets demands in energy efficiency, user comfort, and security. Spain's major airport, Madrid Barajas, enveloped two control towers with more than 17,000 square feet of ESCALE 7x1 stainless steel fabric. At Adelaide Airport in Australia, some 22,000 square feet of TIGRIS stainless steel fabric were used for the extended and slanted façade of a corridor connecting the terminal with the parking garage.

Recently, Newark Liberty International Airport applied 25,400 square feet of OMEGA 1510 stainless steel mesh as perimeter fencing for its transformer station. An etching process was used to apply a generous wave pattern to the fabric. Despite its graceful design, stainless steel mesh is highly resilient, withstanding adverse weather conditions and vandalism.
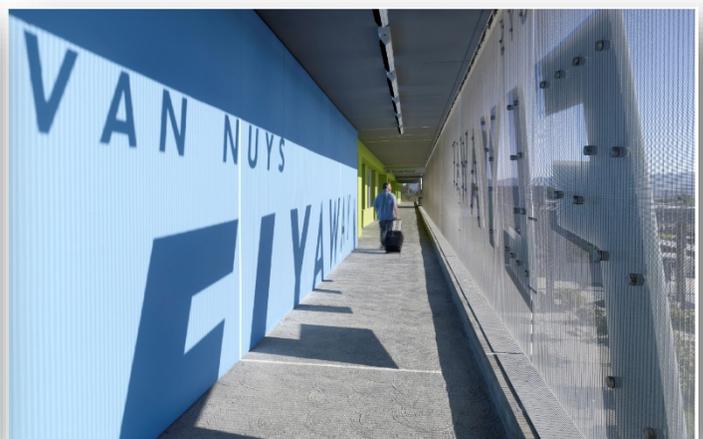
Elegant Ceiling Design

In airport interiors, stainless steel fabric is a highly successful specification due to its multifunctionality and versatility. Used as a suspended ceiling, metal fabric hides unsightly HVAC systems while maintaining access. The non-combustible material also meets the strict safety requirements of public buildings. Examples of this application include:

- At the Hong Kong International Airport Midfield Concourse, architects designed 24 three-dimensional, curved elements made of ESCALE 5x1 fabric to trace massive ceiling arches.
- In the new passenger terminal at Muscat International Airport in Oman, curved panels attached to steel construction form semi-transparent canopies over moving walkways. These freely suspended ceiling elements, each measuring 140 feet in length, harmonize with the metal fabric elements applied to three nearby raster ceilings, as well as a projecting counter canopy.
- At the Hilton Frankfurt Airport Hotel, MANDARIN bronze metal fabric shapes a sweeping ceiling construction in the reception area.

Resilient Wall Cladding

Used as wall or column cladding, metal fabric opens new design opportunities in the field of airport construction. Its robust texture is resistant to the wear and tear of highly trafficked areas, while also producing refined spatial effects when used with back lighting and light reflections.

For example, at Muscat International Airport, wall cladding made of LAMELLE fabric and measuring 80 feet high visually enhances the retail area. Nearby, a 90-foot-high and 160-foot-wide ILLUMESH screen acts as a partition wall between two building segments. At Dubai International Airport, GKD metal fabric was used as cladding for columns that span multiple floors.
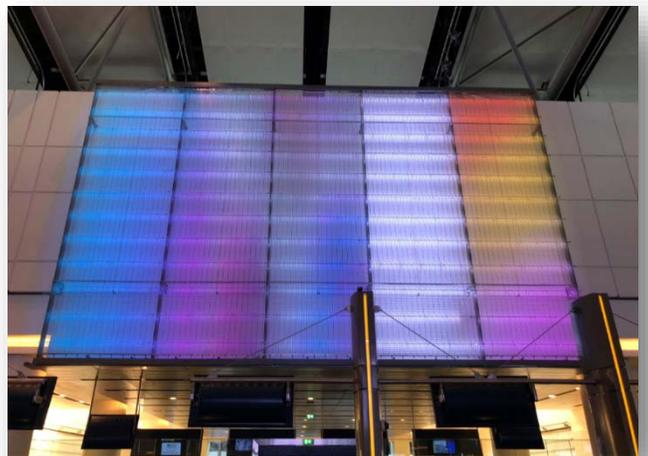
Multifunctional Space Dividers

Due to metal fabrics' alternating transparency or opacity based on the respective viewing angle and type of lighting, metal fabrics offer a fascinating appearance for visitors in terminals and lounges when used as space dividers. Transparent media facades, when installed in front of windows or corridors, achieve communication needs yet allow light transfer and maintain views to the outside.

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- At New Doha International Airport in Qatar, four MEDIAMESH® screens in the main terminal create an attention-grabbing advertising platform for global luxury goods while its transparency guarantees unobstructed views from the rooms behind them.
- At Muscat International Airport, a mixed media screen, which combines the transparent MEDIAMESH® and ILLUMESH media façade systems, marks a transition to the retail area.
- Two MEDIAMESH® screens installed at Minneapolis-St. Paul International Airport, each measuring 270 feet, demonstrate effectiveness as passenger information hubs.
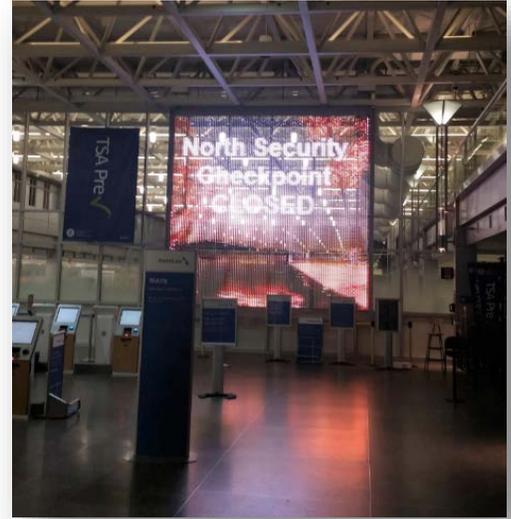
About GKD Metal Fabrics

As the leading provider of woven metal fabric for architectural solutions, GKD Metal Fabrics offers architects the ability to create dynamic, modern environments that address numerous building challenges. Drawing on more than 95 years of German engineering excellence and precise American manufacturing, GKD revolutionized the category of metal fabric applications. With thousands of interior and exterior installations constructed worldwide, architects and specifiers recognize GKD as the metal fabric authority. With its headquarters in Germany and five other facilities in the US, South Africa, China, India and Chile – as well as its branches in France, Spain, Dubai and worldwide representatives, GKD is close to markets anywhere in the world.

For more information, visit www.gkdmetalfabrics.com or call 800.453.8616.

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