The branch of Paris’ Museum for Modern Art fascinates with its sculpture-like construction. The roof consists of laminated spruce, covered with a membrane coated with TiO2 Topcoat. This makes the building, which is illuminated at night, appear almost completely transparent.

Year of Construction: 2009; Architects: Shigeru Ban Architects Europe, Jean de Gastines Architectes, Paris, France; Gumuchdjian Architects, London, UK; Engineering: Ove Arup & Partners, London, UK; Terrell Group, Paris, France; Size/Material: 8,000 m², PTFE glass with TiO2; Location: Metz, France
TAIYO KOGYO CORPORATION

Our company has built the world's first membrane arena.

1922
Kaneshige Nohmura establishes Nohmura Tent Company in Osaka, Japan.

1929
Development of tents supported by inflated tubes instead of tent poles. The building principle is identical in today's large, air-supported buildings and is still being considered a viable concept for many large membrane structures.

1947
Company name is changed to Taiyo Kogyo Corp., Ltd.

1967
An office opens in New York City, USA.

1970
Expo '70: World Expo in Osaka, Japan – first large-scale application of a cable-restrained, air-supported membrane structure: the U.S. Pavilion.

1988
Tokyo Dome is Japan's first permanent air-supported structure, used as a baseball stadium and event space for conventions and concerts.

1992
Taiyo Kogyo acquires common stock and a 100 per cent controlling interest in Birdair, Inc.

1994
Expansion of the Asian market.

1948
Company founder Walter Bird and the Birdair team successfully construct a pneumatic dome with a diameter of 15 m. This dome is the prototype of the so-called radomes.

1956
Birdair Inc. is founded to develop mesh structure technologies for early warning radar systems.

1973
The Campus Center at the University of La Verne, California, is the first permanent tensile membrane structure with PTFE (Teflon-coated fiberglass). This marks the beginning of tensile membrane constructions as a solution for permanent structures.

1981
Hajj Terminal Jeddah – the roof system with a surface area of 443,600 m² is being built to protect people against the heat of the desert sun.

1988
Stromeyer & Wagner GmbH demonstrates active leadership in the areas of lightweight construction and the development of modern tent structures.

1872
Founder Ludwig Stromeyer establishes L. Stromeyer & Co. in Konstanz, Germany.

1957
Dance Pavilion, Federal Horticulture Expo – the pavilion is an extraordinary, impressive and innovative structure. Its function: to protect open-air dancers from sudden rainfalls. It was designed by Professor Frei Otto.

1967
German Pavilion, Expo '67, Montreal, Canada – this building, completely realized as a lightweight construction, uses its own structure to illustrate its revolutionary construction technology. The pavilion, once again designed by Professor Frei Otto, is one of modern architecture's biggest influencers.

1985
Schlumberger Cambridge Research Centre, UK – first large-scale, Teflon coated fiberglass construction in the UK. L. Stromeyer & Co. transforms into Stromeyer & Wagner GmbH.

1997
Together with Birdair, Inc., Taiyo Kogyo buys European competitor Stromeyer & Wagner GmbH in order to support the needs of European customers better. Stromeyer & Wagner GmbH is now Birdair Europe Stromeyer GmbH.

2004
Taiyo Europe GmbH is established in March.

HISTORY
Milestones in Membrane Architecture

BIRDAIR
Birdair, Inc. is the global market leader for tensile and air-supported membrane structures.

TAIYO EUROPE GMBH
Stromeyer & Wagner GmbH demonstrates active leadership in the field of lightweight construction and the development of modern tent structures.

1872
Stromeyer & Wagner GmbH demonstrates active leadership in the areas of lightweight construction and the development of modern tent structures.

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Taiyo Europe GmbH is established in March.

THE TAIYO GROUP
Membranes roof the world.

COMPANIES OF THE TAIYO GROUP
MANUFACTURING PLANTS

USA
Birdair, Inc.

JAPAN
Taiyo Kogyo Corporation

GERMANY
Taiyo Europe GmbH

TAIWAN
Taiyo Kogyo Corporation Taipei Branch

TURKEY
Taiyo Kogyo (Thailand) Co., Ltd.;
Thai Taiyo Tent Co., Ltd.

HONG KONG
Taiyo Kogyo Corporation

AUSTRIA
MakMax Australia;
Taiyo Membrane Corporation Pty. Ltd.

USA
Birdair, Inc.

AUSTrALIA
MakMax Australia;
Taiyo Membrane Corporation Pty. Ltd.

JAPAN
Taiyo Kogyo Corporation

GERMANY
Taiyo Europe GmbH

TALtIITEN
Taiyo Membrane Corporation, Tailand Branch

BRATAL
Taiyo Birdair do Brasil Ltda.

THAILAND
Taiyo Kogyo (Thailand) Co., Ltd.;
Thai Taiyo Tent Co., Ltd.

SINGAPORE
Taiyo Kogyo Corporation

CHINA
Shanghai Taiyo Kogyo Co., Ltd.;
Shanghai Helios International Trade Co., Ltd.

UK
Schlumberger Cambridge Research Centre, UK – first large-scale, Teflon coated fiberglass construction in the UK. L. Stromeyer & Co. transforms into Stromeyer & Wagner GmbH.

TAIYO MEMBRANE CORPORATION

TIJUANA
Birdair, S.A. de C.V.

MEXICO
Birdair, S.A. de C.V.

BRAZIL
Taiyo Birdair do Brasil Ltda.

ITALY
Taiyo Italy S.p.A.

THE TAIYO GROUP

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Taiyo Kogyo Corporation

ITALY
Taiyo Italy S.p.A.

GERMANY
Taiyo Europe GmbH

TAIWAN
Taiyo Kogyo Corporation Taipei Branch

SINGAPORE
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MEXICO
Birdair, S.A. de C.V.

BRAZIL
Taiyo Birdair do Brasil Ltda.

ITALY
Taiyo Italy S.p.A.
WHATSOEVER YOUR NEEDS:
TAIYO IS YOUR IDEAL PARTNER FOR DESIGN AND REALIZATION OF MEMBRANE STRUCTURES

R

ely has a material added so much to modern construc-
tion design of the last couple of decades than textile
membrane architecture. Undoubtedly 50 years ago, the
invention and development of premium-quality textile materials
and related technologies and methods for planning, produc-
tion and installation have provided ambitious architects and
engineers with a powerful tool – a tool that allows the construc-
tion of spectacular roofs or facades bathed in light. With textile
high-performance membranes, formal design has entered a
whole new aesthetic level.

As market leader and as a company with decades of tradition,
Taiyo is proud to have contributed an essential part in the
pioneering development to realize structures with high-class
membranes. In the recent past, we’ve contributed to numer-
ous distinctive and well-known international projects, such as
the Millennium Dome in London, UK, the Olympic Stadium in
Rome, Italy and the Soccer World Cup Stadiums in Cape Town
and Durban, both South Africa.

Designers, architects, developers and investors of complex
and sophisticated major projects can count on Taiyo as their
reliable partner in all future endeavors. Because we are united
in our goal: to realize architectonic visions with the successful
application of stunning membrane architecture.

The realization of extraordinary and complex membrane
structures requires a high degree of know-how and lots
of experience. At Taiyo Europe, a team of creative designers
and engineers work side by side with architects and other
experts to realize technically demanding membrane struc-
tures. Taiyo Europe’s core team brings more than 100 years of
international experience in the realization of high-class mem-
braise architecture to the table. Thanks to the comprehensive
professional expertise of our employees we can answer all
our clients’ and partners’ questions, whether they concern the
feasibility of a structure’s design, the load-bearing character-
isics of the membranes, construction physics, execution time,
cost or durability.

FROM A TO Z:
TAIYO IS YOUR COMPETENT PARTNER AT EVERY STAGE – FROM DESIGN TO COMPLETION
An overview of our services:
- Consulting during the planning phase of the project
- Support with structuring and service definitions
- Establishing cost budgets as a base of decision-making
- Assistance in drafting service descriptions and specifications
- Development of feasibility studies
- Manufacturing of mock-up structures
- Construction work and logistics consulting

Taiyo Europe offers a complete range of project services. We support you during the design of the membrane structure and on request manage the complete execution and work planning. A careful, cost and time-oriented project management is very important to us. Our specialized experts consult you as needed, from the design phase to a time far beyond the completion of the structure. Whether it is design, material choice, technologies, construction physics, costs, deadlines or maintenance and repair, at Taiyo Europe, your project is in experienced and reliable hands right from the start.

IN EACH PROJECT PHASE:
OUR RANGE OF SERVICES IS COMPREHENSIVE, WITH A PRIMARY FOCUS ON THE NEEDS OF OUR CLIENTS AND QUALITY

- Project management (logistics, quality assurance, deadlines, costs)
- Establishing cost budgets as a base of decision-making
- Assistance in drafting service descriptions and specifications
- Development of feasibility studies
- Manufacturing of mock-up structures
- Construction work and logistics consulting

WITH TRADITION AND COMPETENCE:
WE SEE OURSELVES AS PARTNER OF OUR CLIENTS

- Architectural Drawing
- Technical Drawing
- Membrane Manufacturing
- Packaging
- Membrane Installation
- Finished Project

IN EACH PROJECT PHASE:
OUR RANGE OF SERVICES IS COMPREHENSIVE, WITH A PRIMARY FOCUS ON THE NEEDS OF OUR CLIENTS AND QUALITY

- Project management (logistics, quality assurance, deadlines, costs)
- Manufacturing and delivery of prefabricated membranes
- Manufacturing and delivery of pre-mounted structural components
- Installation of roof or facade construction
- Facility management
- Maintenance and repair

Our strengths at a glance:
- Largest global network
- Nearly a century of company heritage
- Extremely experienced employees
- Large number of finished projects and major international references
- In-house research and development department
- Extensive technical know-how
- Latest technologies combined with our own engineering experience

A global market leader for the planning and realization of membrane architecture, we offer our clients custom-made solutions for their projects. Over 1,300 employees that have been with us for many years, the latest technologies, high-end materials, large production capacities as well as our own research and development department guarantee that our clients will receive the best services possible for their sophisticated buildings featuring membrane architecture.
Whether it is in Durban's Soccer World Cup Stadium with its unique membrane roof construction, on Shanghai's Formula 1 track with sliding membrane umbrellas, or in the Olympic Stadium in Rome with the for its time most advanced membrane roof construction: Everybody who is chasing new records does it under a roof that has been realized by Taiyo.

Year of Construction: 2009
Architect: gmp • Architekten von Gerkan, Marg und Partner, Hamburg, Germany
Engineering: Schlaich Bergermann und Partner, Stuttgart, Germany
Size/Material: 46,000 m²; PTFE glass
Location: Durban, South Africa

IT DOESN’T MATTER WHO YOU CHEER FOR: WE’RE MOST LIKELY PLAYING ALONG
MErCEDES-BEnZ ARena
During the rebuilding of the arena, the charm of the old stadium was preserved while architectural modernity of the highest grade was added.
Year of Construction: 2011
Architect: ‘asp’ Architekten Stuttgart, Germany
Engineering: Schlaich Bergermann and Partner, Stuttgart, Germany
Size/Material: 5,760 m²; PVC/PES
Location: Stuttgart, Germany

LEGIa StADIoN
The stadium, originally opened in 1930, was extensively remodelled between 2008 and 2011 and now offers its 31,000 visitors cutting-edge amenities.
Year of Construction: 2010
Architect: JSK Architekci Sp. z o.o., Warsaw, Poland
Engineering: Schlaich Bergermann und Partner, Stuttgart, Germany
Size/Material: 18,400 m²; PTFE glass
Location: Warsaw, Poland

VoLkSpArK StADIoN
Home base of Bundesliga soccer team Hamburger SV and one of the venues of the Soccer World Cup 2006.
Year of Construction: 2001
Architect: MOS Architekten, Manfred O. Steuerwald, Hamburg, Germany
Engineering: Schlaich Bergermann und Partner, Stuttgart, Germany
Size/Material: 35,000 m²; PVC/PES
Location: Hamburg, Germany

OLYMPIc StADIoN ROME
At this venue, the final of the Soccer World Cup 1981 between Argentina and Germany took place.
Year of Construction: 1990
Architect: Italprogetti S.r.l., San Romano, Italy
Engineering: Studio Tecnico Majowiecki, Bologna, Italy
Size/Material: 43,700 m²; PTFE glass
Location: Rome, Italy

SHANGHAI INTERNATIONAL CIrCUIt
The 5,451 km long race track at the periphery of the Chinese harbor city has been hosting Formula 1 races since 2004.
Year of Construction: 2004
Architect: Tilke Gmbh & Co. KG, Aachen, Germany
Engineering: Shanghai Institute of Architectural Design & Research, Shanghai, China
Size/Material: 146,000 m²; PTFE glass
Location: Shanghai, China

KARAISSAKI StADIoN
This stadium was originally built for the first modern Olympic track cycling. Since its reconstruction, it’s one of Greece’s biggest and most modern soccer venues.
Year of Construction: 2004
Architect: aa 1 architects, Stelios Agiostratitis, Kifissia, Greece
Engineering: Decathlon Project Planning & Engineering Consultants S.A., Athens, Greece
Size/Material: 21,800 m²; PVC/PES
Location: Piraeus, Greece
For many passengers, a spectacular terminal building with membrane architecture is the first highlight of their journey – and they haven’t even boarded their plane yet. Many of these airports have been designed, planned and realized by Taiyo.

Year of Construction: 1994
Architect: Fentress Bradburn Architects, Curtis W. Fentress, James H. Bradburn, Denver, CO, USA
Engineering: Severud Associates, Horst Berger, New York, NY, USA
Size/Material: 41,900 m²; PTFE glass
Location: Denver, CO, USA
SAN FRANCISCO INTERNATIONAL AIRPORT

With over 40 million passengers per year, this airport is the ninth biggest airport of the United States and the second biggest airport on the West Coast of the US after Los Angeles’ International Airport.

Year of Construction: 1994
Architect: James Carpenter Design Associates, Inc., New York, NY, USA
Engineering: Ishler Design & Engineering Associates, Santa Monica, CA, USA
Size/Material: 1,100 m²; PTFE glass
Location: San Francisco, CA, USA

SHARM EL-SHEIKH INTERNATIONAL AIRPORT

The terminal is directly located by the Red Sea and has a yearly capacity of about eight million passengers.

Year of Construction: 2007
Architect: Dar Al-Handasah, Lebanon
Engineering: Birdair, Inc., USA
Size/Material: 18,000 m²; PTFE glass
Location: Sharm el-Sheikh, Egypt

HAJJ TERMINAL JEDDAH

Almost every airline passenger and pilgrim headed for Mecca will pass through this terminal that has received numerous international prizes.

Year of Construction: 1981
Architect: SOM Skidmore, Owings & Merrill, USA
Engineering: SOM Skidmore, Owings & Merrill, USA / Geiger Berger Associates, New York, NY, USA
Size/Material: 510,000 m²; PTFE glass
Location: Jeddah, Saudi Arabia

AIRPORT BERLIN BRANDENBURG

With the new Airport Berlin Brandenburg the metropolis in the middle of Europe is not only receiving the most advanced airport of the continent, but yet another regional landmark.

Year of Construction: 2012
Architect: gmp • Architekten von Gerkan, Marg und Partner, Hamburg, Germany
Engineering: Schlaich Bergermann und Partner, Stuttgart, Germany
Size/Material: 41,300 m²; PTFE glass
Location: Berlin, Germany

KANSAI INTERNATIONAL AIRPORT

Four km long and 1,200 m wide, this airport is located on an artificial island five km away from the coast. The sand raised for its foundation could fill 75 times the volume of the Pyramid of Cheops, Egypt.

Year of Construction: 1994
Architect: Renzo Piano Building Workshop, Japan, Nikken Sekkei Co. Ltd., Japan Airport Consultants, Inc.
Engineering: Ove Arup & Partners, London, UK
Size/Material: 11,400 m²; PTFE
Location: Osaka, Japan
SHOPPING MALLS AND WORK ENVIRONMENTS:
WE MAKE SURE THAT EVERYTHING IS COVERED

CENTRE COMMERCIAL DU PARC DES VERGERS DE LA PLAINE

Spectacular roof construction, transparent design, elaborate light reflections, and innovative solutions for roof and facade help create the best shopping and work environments.

Year of Construction: 2012
Architect: SCAU, Paris, France
Engineering: LEICHT, Rosenheim, Germany
Size/Material: 4,500 m²; ETFE transparent and white, single-layer
Location: Chambourcy, France
AVENUE SHOPPING MALL
Shopping mall for grown-ups, playground for the little ones and a sight to behold for fans of architecture: the variable roof construction that can be opened and closed as required makes sure that every visitor can enjoy a weather-independent shopping and recreation experience.
Year of Construction: 2007
Architect: Archicon Ltd., Athens, Greece
Engineering: Maffeis Engineering SpA, Solagna, Italy
Size/Material: 3,400 m²; PVC/PVDF
Location: Paradeissos, Maroussi (Athens), Greece

ATHENS METRO MALL
Flexible roof, 90 stores, 18 restaurants, five movie theaters and a supermarket, playground and 1,200 parking spaces: clearly one of Athens' most modern shopping centers.
Year of Construction: 2012
Architect: Archicon Ltd., Athens, Greece
Engineering: Maffeis Engineering SpA, Solagna, Italy
Size/Material: 2,800 m²; PTFE
Location: Vouliagmenis Av., Agios Dimitrios (Athens), Greece

RUHR-PARK BOCHUM
Approximately 16 million people visit the shops and events of this modern shopping and experience center every year.
Year of Construction: 2012
Architect: Hütténes GmbH, Mülheim a. d. Ruhr, Germany
Engineering: Maas und Partner, Münster, Germany
Size/Material: 690 m²; ETFE transparent
Location: Bochum, Germany

SONY CENTER
Innovative architecture, living and work spaces, a unique connection between historical and modern Berlin. With the Sony Center, its planners and architects have created an internationally respected masterpiece of contemporary architecture.
Year of Construction: 1999
Architect: Murphy/Jahn, Inc. Architects, Chicago, IL, USA
Engineering: Ove Arup & Partners USA, New York, NY, USA
Size/Material: 2,800 m²; PTFE glass
Location: Berlin, Germany

MAIN-TAUNUS-ZENTRUM
This shopping center was modelled after an American-style mall, opened originally in 1964 and was at the same time Germany's first indoor and Europe's biggest mall.
Year of Construction: 2011
Architect: Jost Hering, Hamburg, Germany
Engineering: Maffeis Engineering SpA, Solagna, Italy
Size/Material: 740 m²; PTFE glass with TiO2
Location: Sulzbach, Germany

RIVER WEST MALL
Shopping in an elegant ambience flooded with light or a break for a cappuccino with a view of the Acropolis? The River West Mall offers each visitor just the right thing to do.
Year of Construction: 2010
Architect: Yiannis & Alexis Vikelas & Ass., Architects, Maroussi, Greece
Engineering: Maffeis Engineering SpA, Solagna, Italy
Size/Material: 2,020 m²; PTFE glass
Location: Kifissos, Greece

MAIN-TAUNUS-ZENTRUM
This shopping center was modelled after an American-style mall, opened originally in 1964 and was at the same time Germany's first indoor and Europe's biggest mall.
Year of Construction: 2011
Architect: Jost Hering, Hamburg, Germany
Engineering: Maffeis Engineering SpA, Solagna, Italy
Size/Material: 740 m²; PTFE glass with TiO2
Location: Sulzbach, Germany
LARGE OR SMALL: WE MAKE SURE THAT EYES WILL LIGHT UP

MILLENIUM DOME

Whether it is an exciting leisure experience or a thriller in a spectacular rock concert in the Millennium Dome – Taiyo’s textile architecture solutions guarantee fun for all ages.

Year of Construction: 1998

Project: Millennium Dome, London

Architect: Richard Rogers Partnership, London

Engineering: Buro Happold, Bath, UK

Size/Material: 85,530 m²; PTFE glass

Location: Greenwich, London, UK
The 360 m long, 210 m wide and 107 m high Luftschiff-Werfthalle (hangar) is currently the world’s largest self-supported hall.

Year of Construction: 2000
Architect: SIAT Architektur + Technik, Munich, Germany
Engineers: IPL, Radolfzell, Germany
Size/Material: 40,900 m²; PVC/PES
Location: Brand (Berlin), Germany

A perfect symbiosis of architecture, sports, music and the latest technologies, this venue was designed as an interactive pavilion for London’s Olympic Summer Games.

Year of Construction: 2012
Architects: Pernilla Ohrstedt & Asif Khan, London, UK
Engineering: AKT II, London, UK
Size/Material: 1,560 m²; ETFE transparent, dual-layer cushions
Location: Olympic Park London, UK

From the beginning of time to the far future, from the desert into the depths of the oceans: the Dynamic Earth Project in Edinburgh offers its visitors a fascinating journey through our planet.

Year of Construction: 1999
Engineering: Ove Arup & Partners, London, UK
Size/Material: 2,600 m²; PTFE glass
Location: Edinburgh, Scotland

Play, work or dream away the time on the roof of the open-air stage: hosts artists and visitors and keeps them safe from the elements – always.

Year of Construction: 2012
Architect: Archi-Cad. Szczęsny J., Gdańsk, Poland
Engineering: Maffeis Engineering SpA, Solagna, Italy
Size/Material: 5,225 m²; PTFE glass and PVC/PES
Location: Sopot, Poland

An architectonic masterpiece that redefines the inspiring connection between nature, technology and space in a spectacular way.

Year of Construction: 2012
Architect: Asymptote Architecture, Hani Rashid, New York, NY, USA
Engineering: Withworks, South Korea; konstruct AG, Rosenheim, Germany
Size/Material: 1,990 m²; ETFE, silver printed (twice), white, black, four-layer cushions
Location: Daegu, South Korea

The Theater im Hafen (theater in the harbor) with its over 2,000 seats is located centrally in Hamburg’s harbor and can be reached by ferry.

Year of Construction: 2001
Architect: Klaus Latuske, Hamburg, Germany
Engineering: Form TL, Radolfzell, Germany
Size/Material: 5,530 m²; PVC/PES
Location: Hamburg, Germany

The 250 m long, 200 m wide and 92 m high Cargolifter Luftschiff-Werfthalle (hangar) is currently the world’s largest self-supported hall.

Year of Construction: 2010
Architect: Peter Olke, Hamburg, Germany
Engineering: I. T. R. London, UK
Size/Material: 20,500 m²; PVC/PES
Location: Hamburg, Germany

William Younger Centre / Dynamic Earth Project
Aesthetics and sustainability: the new roof of the Munich’s municipal waste management department (AWM), with its integrated photovoltaic cells fulfil all requirements of a functionally and ecologically advanced structure.

Year of Construction: 2011
Architect: Ackermann und Partner Architekten BDA, Munich, Germany
Engineering: Ackermann Ingenieure, Munich, Germany
konstruct AG, Rosenheim, Germany

Size/Material: 8,000 m²; ETFE transparent, 220 triple-layer cushions
Location: Munich, Germany
PTFE, also known as Teflon, is the abbreviated name of the synthetic material polytetrafluoroethylene. Fiberglass coated with PTFE possesses an extremely high durability, good fire and dirt resistance. The material excels with high transparency and can reflect up to 60 per cent of daylight. Because of their special structure PTFE membranes are water and UV resistant and chemically inactive. Some of Taiyo’s first projects that use glass fiber coated with PTFE are over 40 years old and are still in excellent condition.

Due to a photo catalytic effect, polyester fabrics coated with PVC and glass fiber fabric coated with PTFE that are also coated with TiO2 or titanium oxide possess greatly improved self-cleaning properties far greater than those of regular membranes. The photo catalytic coating effect prevents stains and other surface contaminations. Membranes coated with TiO2 remove considerable amounts of nitrogen oxides from the atmosphere. In the long run, this will help clean and purify the air.

Characteristics:
- Durable, anti-adhesive, non-flammable, highly transparent with excellent reflection properties

Fields of application:
- Stadium roofs, airport terminals, shopping malls, event venues

1. Exit KundenCenter Autostadt Wolfsburg, Germany
2. Observation Tower Erlebnispark Teichland, Germany
3. Main-Taunus-Zentrum, Germany
4. Centre Pompidou-Metz, France

Characteristics:
- Transparent, thermally insulated, durable, minimum maintenance required

Fields of application:
- Sports arenas, shopping malls, airport terminals, cultural buildings and spaces
Ethylene tetrafluoroethylene – short: ETFE – is an ideal base material for thin films thanks to its low inherent weight and its high transparency. ETFE thin films are mainly used in dual- or multi-layer pneumatic constructions. Compared to other transparent synthetic materials and glass, ETFE films possess mission-critical advantages. Thanks to their low inherent weight they can bridge greater spans and thanks to their flexibility they can be formed into irregular and curved surfaces: only creativity is the limit – at least almost. In addition to that, ETFE thin films are printable and dirt resistant.

**Characteristics:**
- Extremely lightweight
- Highly transparent
- Sophisticated, durable
- Printable
- Illuminable
- Dirt resistant

**Fields of application:**
- Stadium roofs
- Train station terminals
- Shopping malls
- Greenhouses

1. Abfallwirtschaftsbetrieb München (AWM), Germany
2. Abfallwirtschaftsbetrieb München (AWM), Japan
3. Talisman Centre
4. Institute of Technical Education (ITE), Singapore

EtFE – STYLISH, LIGHTWEIGHT AND TRANSPARENT

Tensotherm is a product developed by Taiyo. Tensotherm is mainly used in membrane roofs with transparent heat insulation. The membrane consists of two glass fiber layers coated with PTFE. The space between the layers is filled with an insulation material made out of nanogel. The upper layer is in contact with the elements and transfers the load created by wind and snow. The product is delivered to construction sites in assembly-friendly, prefabricated sizes and is then assembled using the usual techniques used for membrane structures.

**Characteristics:**
- Heat-insulating
- Transparent
- Self-cleaning
- Environmentally sound
- Extremely lightweight

**Fields of application:**
- Sports halls
- Atriums
- Indoor pools