

STADIA
ARENAS

vector foiltec
CREATE. SUCCESS.



LITTLE CAESARS ARENA,
DETROIT MI

U.S. BANK STADIUM,
MINNEAPOLIS MN

STADIUM FAÇADES.

TEXLON® ETFE SYSTEMS – CREATING THE ULTIMATE FAN EXPERIENCE

WHEN ENTERTAINING 100,000 PEOPLE, YOU SHOULD HAVE THE RIGHT LIVING ROOM.

When you are inviting people to your home, you always make sure everything is perfect, and your home is inviting no matter how big the event. Things are quite clear when it comes to building a new home for sports teams. Vector Foiltec has created stadia all over the world, for all kinds of sports in a variety of climates. And our clients love them, just as their clients – the fans – love them.

Texlon® ETFE gives architects the freedom to design the iconic masterpieces that make stadia and arena's the new landmarks of their host city. But it is far more than just stunning architecture and spectacular lighting effects that convince our customers. Natural daylight keeps the spirit of an outdoor sport indoors, when it is played in a comfortable, inviting and enclosed environment. Additionally, the possibility to cover areas around the main venue enables owners to establish a whole community with office space, shopping, and dining for a development that is so much more than just a sports venue.

Talking bottom line: You can turn your stadia and arenas into champions from an economical perspective, offering strong value and durability, that is easy to manage and maintain with year-round revenue. If you are looking for the perfect stadium experience, call us and let us show you what being picked in the first round of drafts is like and what an experienced team we are. Only thing that is missing are our cheerleaders and team jerseys – but we are working on it.



Benefits of working with
Vector Foiltec:

- / Market leader in ETFE application
- / Design and engineering competence in ETFE and structure
- / Deep understanding of construction processes and schedule
- / Support in acoustic, climate and lighting design
- / Largest ETFE fabrication capacity for big-scale projects
- / Worldwide presence



Benefits of ETFE:

- / Design flexibility for iconic architecture
- / Efficient structures with maximum free span
- / Ultra lightweight transparent cladding solutions
- / LED integration for stunning illumination effects
- / Maximum long term system durability
- / Suitable for every climate and environment
- / Perfect for LEED & BREAM and DGNB certifications



LITTLE CAESARS ARENA DETROIT MI USA

Project:
Little Caesars Arena

Owner:
Olympia Development of Michigan

Architect:
HOK

Texlon® System:
3 Layers of transparent ETFE foils,
dot matrix printed outer layer with light
silver ink (DM4:74)

Structure:
Steel

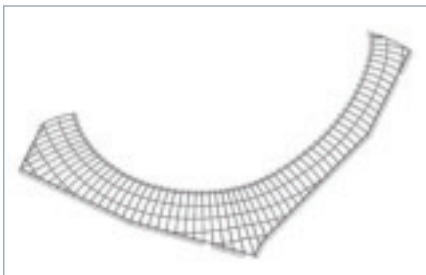
Vector Foiltec Scope:
Texlon® ETFE system design, fabrication
and installation, steel structure design and
engineering.

© Olympia Development of Michigan

A GAME CHANGER FOR DETROIT.

The Little Caesars Arena is not just a stage for major league hockey and basketball games in Michigan. Municipalities and Investors realized a much bigger plan: The District Detroit, which puts the arena in the middle of a rejuvenation project for the city.

Why build a sports venue as a stand-alone destination on the outskirts when you can embed it into a whole entertainment ecosystem with restaurants, offices, shopping and housing? Detroit had the right idea and carried it out to perfection. Focused on the entertainment hotspot is the light flooded via space around the arena. Vector Foiltec delivered both the transparent cladding solution and the complex steel structure for a space that is used throughout the year. An architectural icon and a go-to place for locals and guests to enjoy, while creating jobs and revenue.



Sixty-five custom built steel trusses span between the arena and the adjacent buildings where they rest on huge slide bearings.



CHALLENGE 1: A TURN KEY SOLUTION.

Vector Foiltec was a vital part in the design and engineering of the Via Space roof. The contract included the delivery and installation of the Texlon® ETFE system, including the custom-built steel structure.

CHALLENGE 2: MOVEMENT.

The transparent foil cushions and the steel trusses span up to 38 m between independent buildings. The structure and roofing panels need to cope with 3D movements up to 15 cm.

CHALLENGE 3: LOCAL REQUIREMENTS.

Working with strict local building codes and the involvement of unions, MWBEs and local contractors are common practice for Vector Foiltec. We are a global player that feels at home wherever our projects land us.



U.S. BANK STADIUM MINNEAPOLIS MN USA

Project:
U.S. Bank Stadium

Owner:
Minnesota Sports Facilities Authority (MSFA)

Architect:
HKS

Texlon® System:
3 layers of ETFE foils, dot matrix printed on
outer layer with light silver ink

Structure:
Steel

Vector Foiltec Scope:
Texlon® ETFE system design, fabricati-
on and installation, assist with structural
engineering

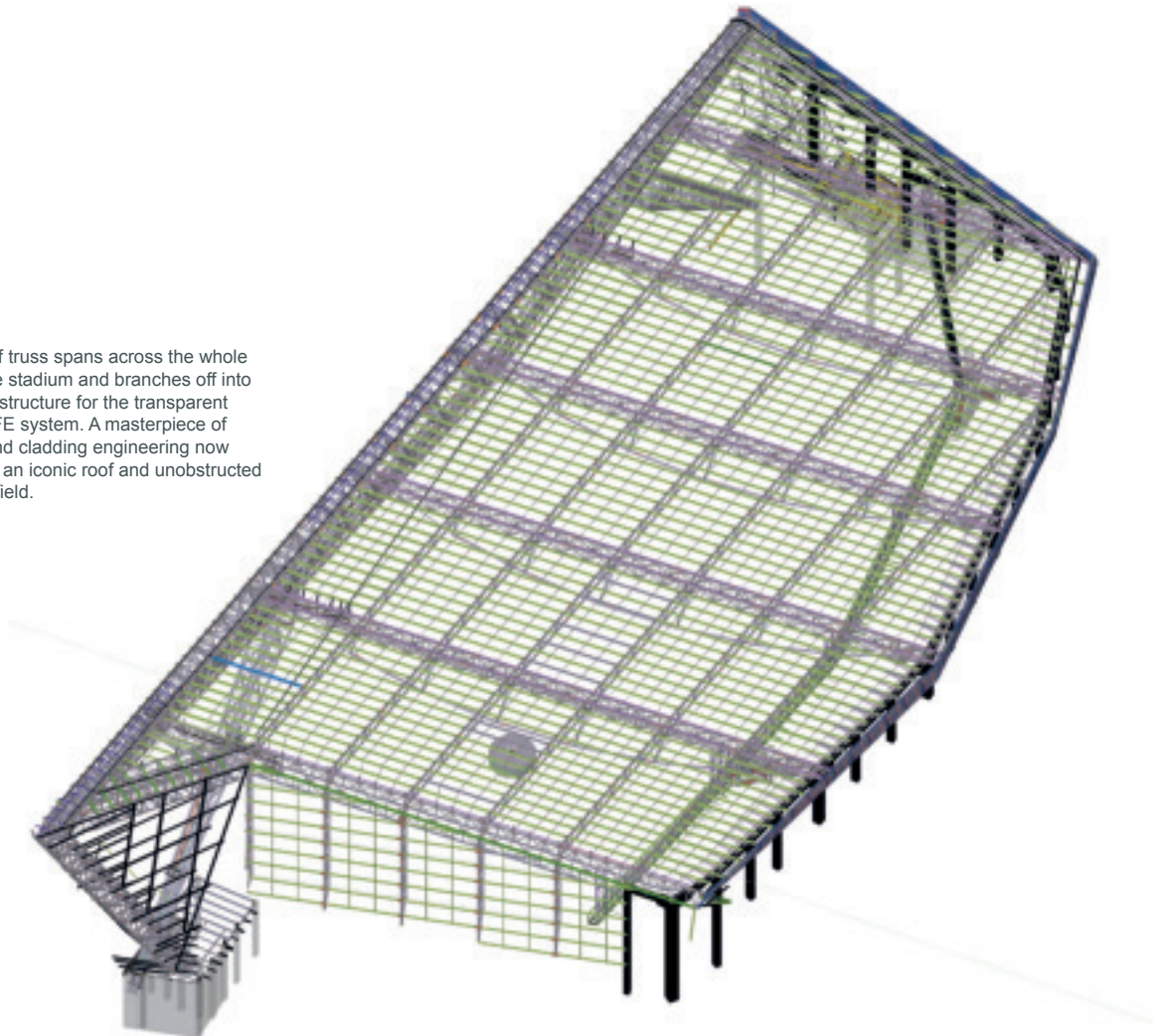
© technical drawing Thornton Tomasetti
© interior photo Joe Aker
© aerial night photo Mark Goodman

TRANSPARENT IS THE NEW RETRACTABLE.

The Minnesota Vikings neither fear their opponents nor the harsh elements in their home state. How do you battle the extremely low temperatures during Minnesota's winters? You build an enclosed stadium to host football games and a lot of other events. Natural light and an open feel were the main goals of the stadium design team at HKS.

The 22.300 m² ETFE roof set the bar for the next generation of sports venues, especially in rough climates. The dimensions were already a challenge – but adding alpine snow loads, hurricane grade wind loads and a fast track construction schedule called for experts in all areas of design and engineering.

A single roof truss spans across the whole length of the stadium and branches off into the support structure for the transparent Texlon® ETFE system. A masterpiece of structural and cladding engineering now provides for an iconic roof and unobstructed view of the field.



Vector Foiltec joined the design and engineering team early in the process to ensure that the roofing system was designed to endure the environmental loads. This resulted in the longest ETFE cushions ever produced, spanning a breathtaking 100 meters from ridge to eave. This was not just beneficial for insulation and weight. The long unobstructed cushions allow snow to slide easily down the 14-degree pitch into massive snow gutters. Furthermore, this required less framing while leaving insulation values unaffected.

Vector Foiltec carefully thought through the logistics and installation methodology, which were a vital part in an important but rarely seen event: The stadium construction was completed several weeks ahead of schedule.

The largest transparent stadium roof in NFL history was only possible with the lightweight, but Viking-strong, Texlon® ETFE roof. Creating a transparent feel and flooding the interior with natural daylight was part of architect HKS' concept, which features many new technologies and achieved LEED Gold certification.



CHALLENGE 1: ENVIRONMENTAL LOADS.

High snow loads and hurricane grade wind loads needed to be considered for the vast transparent roof. Sliding snow simulations and customized loadbearing techniques made this giant skylight possible.

CHALLENGE 2: FAST TRACK SCHEDULE.

The installation schedule was a key element of success. Structure and Texlon® ETFE cladding needed to be completed before the arctic-like winter temperatures made most installation work impossible.

CHALLENGE 3: SITE LOGISTICS.

Just in time deliveries were necessary to cope with the tight space on site. Offsite warehouses, local delivery specialists and well-coordinated site crews made for perfect construction clockwork.

STADIUM FACADES

BAKU NATIONAL STADIUM BAKU, AZERBAIJAN



both daylight photos © Altkat Architectural Photography

Ultimate recognition factor:
The Texlon® ETFE panels covering
the stadium façade are both a high
performance envelope and unique
design element for this monument.

BUILDING ENVELOPE? GIANT VIDEO SCREEN!

It is a beauty by day: The Baku National Stadium is a stunning landmark with 600 diamond shaped ETFE panels. But at night, the 38.000 m² Texlon® ETFE façade turns into a giant video screen. The excellent compilation of an LED system and the white foil is the dream setup for endless possibilities to tint the whole stadium in all colors of the rainbow – or literally show high-resolution videos on the whole building envelope. The stadium experience just got a whole new dimension!

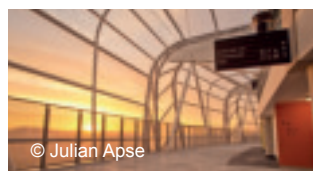


EDEN PARK STADIUM AUCKLAND, NEW ZEALAND

A VISUAL REDO AND THE GLOWING CANDY EFFECT.

Transforming a dull concrete wall into a unique and beautiful envelope – this was the goal of giving the Eden Park Stadium in Auckland a new façade. The lightweight transparent Texlon® ETFE system was the solution to outfit the venue with a whole new face. Minimum structure and maximum visual impact - the ETFE system forms the breathtaking exterior of the well-known stadium. Not to miss: Spotlights create the unique illumination throughout the building skin – we call it the glowing candy effect.

A great view from the inside out and outside in. The signature Texlon® ETFE façade provides shelter for fans and turns the stadium into eye-candy.



© Julian Apse

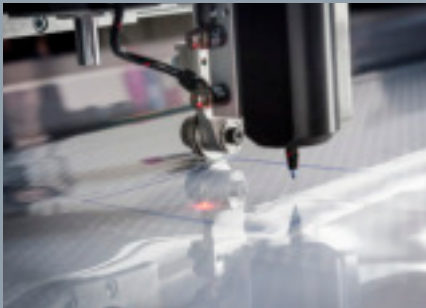


ONE-STOP-SHOP



CONCEPT AND DESIGN.

When a project first hits the drawing board, it is vital to have final result in mind. And that does not just go for structure and cladding, but also for the use of the building. With far more than 1,500 references, we have an extensive pool of knowledge that we share with our clients from day one. Getting your project right from the start saves you money and takes away risk.



THE TEXLON® SYSTEM.

As the inventors of the Texlon® ETFE system, we can humbly say: We know our stuff! An optimized supply chain, the most rigorous quality assurance measures, and our in-house design and engineering team, make the core of our system the best in the industry. And if you have big plans: We've got you covered with our two high performance production facilities that grant on-time delivery, even for the biggest challenges.



ALL AROUND THE TEXLON® SYSTEM.

Putting together the structure, skin and perimeter interfaces seems easy on paper, but contractors know: The devil is in the details. At Vector Foiltec we believe that the best ETFE system is only one piece of the puzzle. But rest assured, we have the other ones covered as well! An orchestrated arrangement of optimized components is what really creates the overall success.



PUTTING IT ALL TOGETHER.

Access, hoisting, schedule, local restrictions: There are a lot of challenges on the last mile of a building marathon: The construction / installation. That's why you should choose a partner that knows the ins and outs. So here we are! With 18 offices around the world, connections to local labor unions and the solution to that little detail that no one thought about. In short: Let us put it all together for you!



YOU'LL NEVER WALK ALONE!

There is not much additional that our Texlon® ETFE system needs. But for the few things that it does need, our Service Team will be there! We care for your system and make sure it serves you well for decades. Our maintenance crews come for regular check-ups. And in urgent cases, we are right around the corner. That is our promise as a true global player.



vector-foiltec.com