



A Studio of Fabric Images®



CASE STUDY: BURNHAM PAVILION

Outdoor Installation of Steel and Fabric Architecture

Client: Burnham Plan Centennial | **Architect:** Zaha Hadid Architects
Local Architect: Thomas Roszak | **Structural Engineer:** Rockey Structures
Lighting & Electrical: Tracey Dear | **Multimedia Content:** The Gray Circle



DREAM BIG AND DELIVER RESULTS

Fabric Images® masterfully executed the Burnham Pavilion installation in Chicago's Millennium Park. The architectural masterpiece covers 3,185 sq. ft. and stands nearly 20 ft in height.

Fabric Images' confidence, understanding of the vision, and knowledge of engineering and fabrication led to a contract through the City of Chicago to complete the project. Although six months were initially allotted for the build, the original fabricator was pulled off the project after failing to finish on time and producing a frame structure that was unsafe and unable to pass code. As a result, Fabric Images was contracted with only 30 days to re-engineer the frame structure and produce the elaborate fabric covering.

Key considerations for the project included:

Consideration 1: The high-profile nature and on-site manufacturing of the project would place the entire Fabric Images team on display in Chicago. On-site manufacturing also meant moving all equipment, materials, and people to the site for 30 days.

Consideration 2: The tight timeline and unknown variables of the pre-existing structure required on-site staff to work 10-12-hour days (or longer).

Consideration 3: By taking the project over from a smaller local manufacturer out of Lincolnwood, IL, Fabric Images would have to evaluate repairing and rebuilding an existing framework that was not structurally sound.

Consideration 4: The engineering of the structure and fabric had to account for many extraneous factors, such as electrical, lighting, projection, photography, music, sound, and the synchronization of all of these.

In a statement by Zaha Hadid about the design, she stated:

"The Burnham Plan Centennial is all about celebrating the bold plans and big dreams of Daniel Burnham's visionary Plan of Chicago. It's about reinvention and improvement on an urban scale and about welcoming the future with innovative ideas and technologies. Our design continues Chicago's renowned tradition of cutting-edge architecture and engineering, at the scale of a temporary pavilion, whilst referencing the organizational systems of Burnham's Plan. The structure is aligned with a diagonal in Burnham's early 20th Century Plan of Chicago. We then overlay fabric using contemporary 21st Century techniques to generate the fluid, organic form - while the structure is always articulated through the tensioned fabric as a reminder of Burnham's original ideas."

Once on-site, Fabric Images began re-engineering and re-working the frame structure. Modifications included the addition of 300 crossbars and weldments and redoing 19 of the 24 trusses. As work was underway on the frame, fabric engineering and execution began.

Starting from scratch, Fabric Images engineered the fabric by creating precise patterns that would enable the fabric to fit the frame smoothly and tautly. On the exterior, Starfire, a polyester-cotton blend chosen for its acrylic topcoat that facilitates cleaning and is fade and mildew resistant.

The interior surface merged two fabrics - Celtic, a woven polyester, and FlagKnit, a firmer polyester knit with a slight sheen. Together, these fabrics provided a surface area for immersive projections and film.



The last component of the fabric is the skylights. To offer a contrast of light and shadow on the interior curvature of the pavilion during the daylight, a combination of clear vinyl and black vinyl encapsulated polyester mesh.

In total... 28 days, 14 hours per day, 1 vision, 1 task, 4 welders, 6 sewers, 4 fabrication assistants, 2 project managers, 1 vision casting guru, 4 sewing machines, 1 metal bending machine, 2 welding stations, 7,000 pieces of tubing, 300 support weldments, a whole lot of fabric and a vision brought to life.



A Studio of Fabric Images®

NEED HELP ON YOUR NEXT PROJECT?

We develop custom solutions for our clients and love new challenges. Let us know how we can help!

DISCUSS A PROJECT

fi-interiorssales@fabricimages.com | www.fi-interiors.com | 847.488.9877