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US **Builders** Review

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Birdair Inc.

Providing Solutions to Challenging
Structural Concepts

Birdair Inc.

Providing Solutions to Challenging Structural Concepts

Produced by Sean Barr & Written by Jeanee Dudley

Walter Bird founded Birdair Inc. (Birdair), the first company to develop and build air-supported membrane structures, in 1956. In 1972 Birdair introduced Teflon-coated fiberglass, and the first permanent tensile membrane structure was constructed at LaVerne College in California. Birdair is headquartered in Buffalo, N.Y., from which the team continues to provide unique structural solutions for tensile architectural projects spanning the globe.

“In 1992 Birdair was acquired by Japanese company Taiyo Kogyo,” says Michele Roth, marketing manager of Birdair. “We have subsidiaries located across the world, and continue

to perform work for large events, like the World Cup and the Olympics.”

Birdair has been known as a global leader in fabric structures since inception. “We’re the largest tensile membrane contractor in the world,” says Roth. “As a full-service specialty contractor, Birdair provides preconstruction assistance, including design assistance, budgeting, construction methodologies and project schedule development.”

The Birdair team handles every aspect of execution in house. “For the past 50 years, architects, engineers, contractors,



owners and developers have relied on Birdair for turnkey services,” explains Roth. “Our in-house capabilities consist of design, fabrication and installation, as well as a 24-7 service department.”

Birdair is known best for fabricating and installing signature tensile roofing systems at stadiums worldwide, but Roth says the company’s portfolio is far more diverse than it appears. “The biggest misconception is that we mainly construct membrane roofs for sports stadiums,” she explains. “In actuality, we manufacture and install membrane roofs and facades for both large and small projects, such as amphitheaters, malls and transportation facilities.”

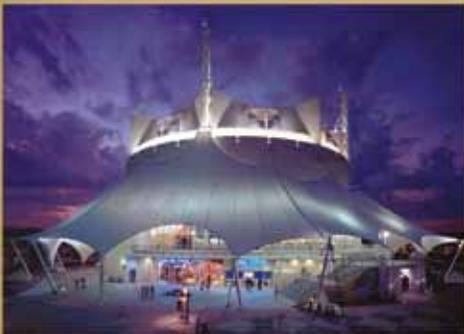
A Diverse Portfolio

Birdair has completed over 1,500 unique tensile systems for a range of customers. All are different and require an impressive level of engineering, but a few recent projects stand out for Roth.

“We recently finished up an entrance canopy for



Supporting Our Friends At Birdair For Fifteen Years



In collaboration with Birdair, Custom Fab has fabricated structural pipe support systems for Cirque du Soleil in Florida, Strong’s Butterfly Museum in New York and Cohen Stadium in Arizona, just to name a few.

Custom Fab’s Architectural Division provides fabrication and installation of specialty steel, ornamental and piping structures across the United States.

We are proud to be a partner with such a fine organization as Birdair.



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the Empire City Casino at Yonkers Raceway,” says Roth. “It features Ethylene Tetra Fluoro Ethylene (ETFE) film, which was most notably used at the 2008 Beijing Olympics Water Cube and is very popular in Asia and Europe. It’s a growing trend in the United States, and we are seeing more and more projects across the country using it.”

The material is extruded into foil or film, which are highly transparent, strong and lightweight sheets. The foil or film can be used in a single layer or in a pneumatic system comprised of multiple layers. “Due to its lightweight nature and high transparency, it’s a great alternative to traditional materials, such as glass,” explains Roth. The Birdair team successfully completed the casino project in fall 2012.

The Birdair team is working with the Denver Airport, a repeat client that has garnered international recognition for its unique designs. “Our project role involves designing and building the temporary steel shoring towers to accept the roof loads that were being held by eight cables and roof anchors, which comprise the south end roof eyebrow,” explains Roth. “We constructed the signature roof back in 1994, and now we’re helping as the airport puts in a hotel and a new transit system as part of the redevelopment project. We feel this type of project truly highlights our capabilities as a specialty contractor.”

Roth goes on to explain the complexity of Birdair’s job. “The roof featured tieback cables that anchored into the ground, which supported the roof load for the airport’s south end,” she says. “Unfortunately, they were in the way of the construction for the new redevelopment project. We had to figure out a temporary solution to resolve the loads without compromising the structural integrity of the roof system. Every step was closely monitored and verified by the engineering and construction teams to ensure the project was successful.”

Custom Fab - The Fabricator of Choice for Strong’s Butterfly Museum in N.Y.

Due to Custom Fab’s history of proven performance, Birdair chose Custom Fab to build the complex Butterfly Museum. The 95 foot wide wing span consists of 18” diameter steel pipe which changes radius every 11 feet. The intersection of the body consists of 6 different pipe diameters.





Fabricating and temporarily erecting the structure at Custom Fab’s facility in Orlando, FL assured that on-site work in Rochester, NY would be kept to a minimum. After fabrication, the structure was disassembled, sandblasted, primed, painted and wrapped for shipment. In Rochester, Custom Fab reassembled the Structure, paving the way for completion of what would go on to become Birdair’s 50th Anniversary Calendar Centerpiece.



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A Bright, Lightweight Future

The demand for tensile roof systems continues to grow, and Birdair has several major projects in the pipeline for the next few years. “We’re working on three stadiums for the 2014 World Cup in Brazil,” says Roth. “The tensile membrane roofs will provide numerous aesthetic and functional benefits for the facilities during both the World Cup and Olympic events.” Birdair’s successful systems constructed for previous championships and events have brought international acclaim to the team, as well as several project awards.

“Tensile architecture attracts architects due to the ability to create signature designs for client’s facilities, cities or an entire region,” explains Roth. Overall, Birdair’s roof and canopy systems use significantly less material than a conventional roof, while also reducing manufacturing and installation time. The lightweight, translucent fabric membrane offers natural daylighting while reducing energy needs, which does not go unnoticed.

The unique niche the Birdair team has carved out helped

to sustain the business throughout the recession, which did present challenges. “We were certainly adversely affected by the recession,” says Roth. “The amount of commercial projects being built was very limited.”

Having an established network of strategic alliances has also helped Birdair. The team works closely with a handful of architectural firms, engineering firms and general contractors, all of which are equally dedicated to innovative projects. According to Roth, Birdair is starting to see a slight rebound in construction industry. “It’s still slow,” she says. “But we did fairly well last year, and we hope to continue that trend into next year.”

Birdair has proven itself a specialty contractor able to continually find unique opportunities in the construction industry. The Birdair team remains committed to building iconic structures and providing solutions for building envelopes. With support from Taiyo Kogyo, the business will continue to grow for years to come. With no sign of slowing down, Birdair Inc. maintains a leading position in membrane construction throughout the world. •

