

Cowboys Stadium Features Fabric Membrane Roofing from Birdair, Inc.

Record-breaking Stadium is Second in the World to Incorporate Titanium-Dioxide Coated Photocatalytic Fabric Membrane

Sept. 21, 2009 - [PRLog](#) -- BUFFALO, NY...Birdair, Inc., the leading specialty contractor of lightweight long-span roofing systems and tensile structures throughout the world, has completed the tensile roofing system for the new 80,000 seat Cowboys Stadium in Arlington, Texas. Specifically, Birdair supplied the fabric membrane roofing and clamping to create the stadium's expansive tensile roof, the world's longest retractable roof.

The stadium's original roofing design called for steel rather than fabric. For a new design, Birdair's knowledge as an experienced specialty contractor for tensile roofing structures proved invaluable. Birdair was able to re-work the design to incorporate Titanium Dioxide coated fabric membrane TiO₂, as a value-added solution for the cutting edge design.

"We worked throughout the project with Birdair and their team, both on-site and off, from engineering to the final installation," explains Mark Penny, Manhattan Construction. "Birdair performed to the expectations of the project, working to make sure the product met all established standards. Everyone is pleased with the final results."

Adding to the Cowboys Stadium's long list of distinctive and unique features, it is also the first athletic facility in the United States (and only the second in the world) to utilize a TiO₂ coated architectural fabric membrane roofing system. The innovative Titanium Dioxide coating, developed by Taiyo Kogyo Corporation of Japan, provides the stadium with reduced cleaning maintenance due to its ability to break down dirt on the surface of the membrane, allowing it to be easily washed away by rain. This unique cleaning process improves the way the material performs by extending its vibrancy. Additionally, the photocatalytic material provides shade and comfort, while actively neutralizing airborne pollutants and odors.

"TiO₂ initiates the process of dirt decomposition on the membrane surface, which is easily washed away by rain," explains Martin Augustyniak, director of engineering and operations for Birdair Inc. "This process will assist in maintaining the roof's pristine condition, helping it retain its brilliance over time."

To ensure maximum energy savings and efficiency, TiO₂ was coated over PTFE SHEERFILL Architectural Membrane, manufactured by Saint-Gobain Performance Plastics. SHEERFILL is the first and only ENERGY STAR® qualified and Cool Roof Rating Council (CRRC) certified architectural fabric membrane, helping to reduce surface roof temperatures and decrease heat absorption. More specifically, as an ENERGY STAR product, SHEERFILL helps to lower air-conditioning requirements, reducing peak cooling demand by 10-15 percent.

Comprised of high-grade PTFE, or Polytetrafluoroethylene, SHEERFILL is a Teflon®-coated woven fiberglass membrane that is extremely durable and weather resistant. The material is waterproof, immune to UV rays and capable of withstanding temperatures from -100°F to +450°F.

The fabric membrane's high degree of translucency provides maximum daylighting, one major determining factor in selecting fabric membrane roofing material for the Cowboys Stadium. When the roof is closed, the membrane's high degree of translucency allows ample natural light to filter through, greatly reducing the need for supplemental electric lighting during the day.

As the largest of its kind, the fabric portion of the Cowboys Stadium's retractable roof measures 148,000 square feet, and is designed to be open or closed in accordance with weather conditions. Each fabric membrane panel can open or close in just 12 minutes. The stadium's two arches, towering 292 feet above the playing field, provide support for the roof. As the longest single span roof structure in the world, each boxed arch is 35 feet deep by 17 feet wide.

Construction on the athletic facility was completed in May 2009, opening to the public in June 2009. In addition to Birdair serving as the membrane roofing system sub-contractor, the project team included architect HKS, Inc., engineer Walter P. Moore and general contractor Manhattan Construction. The facility owner is the Dallas Cowboys Football Club. The Cowboys Stadium is slated to host Super Bowl XLV in 2011.

To date, Birdair has completed work on 70 sports facilities globally, incorporating tensile architecture into a variety of single-sport and multi-purpose stadiums and arenas. Birdair combines breakthrough technologies with unparalleled experience to create structures that meet both facility and patron requirements.

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About Birdair: Birdair, Inc. is the leading specialty contractor of lightweight long-span roofing systems and tensile structures throughout the world, providing design-build solutions for architects and clients in all aspects of project design, engineering, installation and maintenance. Lightweight long-span roofing systems and cable structures can be attached to any building envelope and offer aesthetic and functional options to complement any exterior design. Birdair, based in Buffalo, NY, is a member of the Taiyo Kogyo Group, with operations serving North and South America and other international locations. For more information about Birdair, call 1-800-622-2246 or visit www.birdair.com.

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