

Pushing the envelope

Expanding seating capacity at FedExField

A special report for Track Seating, USA

The challenges of raising the seating capacity at one of American football's biggest venues required some innovative ideas that led to the design of the space-saving "envelope" seat

The capital of the USA is home to one of the most famous franchises in the National Football League (NFL) – the Washington Redskins. The franchise, founded in 1932, has been playing at FedExField since 1998. The venue enjoys the largest seating capacity in the NFL, with a capacity of more than 92,000. The Redskins have sold out every game since 1972 and have a waiting list for season tickets estimated to be between 15 and 20 years long.

With a history that includes five Super Bowl appearances and three Super Bowl victories, it is no wonder that the Redskins have an avid fanbase in North America. The legacy of victory with the Redskins includes names reminiscent of the glory days in the NFL, such as Vince Lombardi, Joe Gibbs, Sonny Jurgenson, George Allen and Sam Huff.

Dan Snyder, the owner of the Redskins and FedExField, is regarded as a marketing genius. In 1999, at the age of 34, Snyder purchased the team and, ever since has worked hard to bring championship glory to his home town while providing the greatest experience for sports fans in the world.

In the spring of 2004, the Redskins retained the services of Ellerbe Becket architects in Kansas City. Paul Griesemer, the lead architect on the project, was charged with an enormous and technically difficult project – improve the capacity of one of America's largest sports venues to satisfy the insatiable demand for seats. Ellerbe Becket designed a new seating area for approximately 4,500 fans, utilizing existing space that was located between the upper and lower decks of the stadium. The space was housed on top of an existing concession area and was to be built using a steel I-beam construction and diamond-plate steel decking, risers and steps.

The Redskins looked to Turner Construction, one of the largest general contractors in the USA, to build the project in the incredibly short time frame of only 150 days. The team at Turner Construction, led by project manager Bill Bury, worked seven days a week and averaged 15-18 hours a day on the project to satisfy the aggressive schedule and have the stadium open in time for pre-season football.

Fast-track delivery

Several seating manufacturers were challenged to supply seating that would comply with the stringent requirements demanded by the physical environment of the existing stadium. Michigan-based Track Seating was chosen to meet this challenge due to its high level of engineering expertise in the fixed seating industry. Part of a conglomerate of companies that specialize in heavy industrial manufacturing in the automotive, fixed seating and office furniture industries, it was able to engineer a solution for the Redskins and bring it to the site in 100 days. To ensure the project's success, the company used its advanced project management systems and worked closely with the on-site construction management teams.

Track Seating was able to work within the guidelines provided by the architect and owner to tool, test, and validate an entirely new product model in a tight timeframe. The new chair design required the seat and back to fold

into an envelope that could not exceed 10in. Standard stadium chair models have envelopes between 14in and 16in. The guidelines demanded not only a narrow envelope, but also a level of comfort and aesthetics that could not be compromised.

The new seat is designated as model number 4510, the "narrow envelope" chair, because of its revolutionary design and ability to fit into areas where traditionally styled seating could never be used.

The lead architect was charged with a difficult project – improve the capacity of one of America's largest sports venues

Project management

The special needs for this project involved new tooling for the standards, hinges, and some blow-molded parts. The design concept was uncompromising in seat comfort and also incorporated the company's patented blow-molding design, which allows for the seats to take a much greater load than a traditional double-walled blow-molded construction.

Mike Dillow, the Redskins senior vice president of operations, led the team with Scott Goodspeed, the facility manager for all the Redskins properties. During the initial site meeting at FedExField, Goodspeed, together with representatives from Turner Construction and Ellerbe Becket, looked at several stadium chair models and were most impressed with the design, construction and warranty of the Track Seating stadium product. To ensure the project's success, advanced project

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management systems were employed and representatives worked closely with the on-site construction management teams.

Mike Constantini, president of Project Management Resources, Inc, one of Turner Construction's project advisors, says: "I've been involved in large stadium projects. When I learned of the limited timing associated with the project, I was more than a little concerned. However, my fears were put to rest when I personally reviewed the quality of their engineering and manufacturing systems while visiting their factory in Michigan. More importantly, Track Seating did what it promised, by supplying a great quality chair on time."

Maintaining standards

The US-based seating specialist provides a lifetime warranty on all seating standards, hinges and fasteners. This is further enhanced by a five-year warranty on other aspects of the chairs. The only fixed seating manufacturer in the world with both ISO 9001 and QS-9000 certifications, the company uses unique materials, which allows it to provide this warranty. For example, only high-strength ductile iron material is used for standards and hinges. Ductile iron has a tensile strength and yield strength far superior to class 25 gray iron, aluminum or steel. Structural and functional parts made by other manufacturers from class 25 gray iron, aluminum or steel are given warranties as short as one year. Additionally, ductile iron is inherently six times more resistant to corrosion than steel.

Ductile iron uses nodules of graphite that help to distribute the load and actually act as shock absorbers when you sit in the seat. The lower-cost gray iron, used by many other manufacturers, has sharp flakes of graphite. These flakes allow for stress concentrations that promote cracking and telegraph the beginning of any movement in the material throughout the part.

To further enhance the product life, the company uses a Cathodic E-coat (primer) process, similar to that used as the final finish on bumpers and other items traditionally exposed on the underside of motor vehicles. The process meets Toyota's and Honda's stringent outdoor salt spray requirements.

This process provides performance far superior to spray-applied primer coatings or anodic e-coating.

The e-coat process used is a full immersion process, which guarantees uniform coverage of the entire part. Following e-coat, a powder top coat is applied. Powder top coats are typically used to paint material such as farm machinery, mining equipment and outdoor playground equipment that require tough, durable finishes. This top coat is applied in conjunction with a sophisticated color-mastering system to ensure precise color matching of all parts, to the customer's specifications.

Dennis Rupar, engineering manager for Track Seating, says: "We have been called upon time and again to mount our stadium products to concrete in traditional applications as well as steel or aluminum grandstand configurations which call for different solutions



The "narrow envelope" chair fits into areas where traditionally styled seating could never be used

on every occasion." Making adjustments to various applications is standard procedure for the company, which takes pride in being a "problem solver" and puts its ability to overcome obstacles at the forefront of its sales and marketing.

Specific solutions, including custom logos, colors, donor plates and cup holders, offer revenue-enhancing potential

Revenue-generating options

The ISO 9001 and QS-9000 certifications are the driving force behind the delivery of the company's seating systems. The high standards set by these levels of quality management

systems require independent third-party certifications of all business processes. Every stadium project is different and the owners have specific needs and expectations.

When choosing a seating manufacturer, you must be confident in its ability to perform. From executive-level seating and indoor upholstered suite applications, to outdoor stadia including football, soccer, and slat back baseball applications, it is important to select a company which can meet an entire project's fixed seating needs.

But that is not all. Specific solutions, including custom logos, colors, donor plates and cup holders, offer revenue-enhancing potential that sports venue operators need to think about. These options are available on all the company's indoor and outdoor products. Various seating solutions offering easy accessibility needed to accommodate disabled patrons in any venue are also offered.

With the new Redskins season under way and a new era of greatness under former head coach and Hall of Famer Joe Gibbs unfolding, the newly-installed narrow envelope seats at FedExField will bring an entire new generation of fans to one of the greatest sports venues in North America. ■