

ONE COVER BOARD MEETS A VARIETY OF BUILDING CONDITIONS

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SUMMARY

Component Quantities:

Ford Multi-Use Special Events Center:
209,600 sq. ft. of 1/2" DensDeck® Prime Roof Board

Dallas Cowboys Headquarters:
15,520 sq. ft. of 1/2" DensDeck® Prime Roof Board

Roof System:

Ford Multi-Use Special Events Center:
Carlisle KEE PVC Fleece-Back 115 in Flexible Fast Adhesive over DensDeck® Prime over ISO

Dallas Cowboys Headquarters:
Carlisle 60-mil TPO over DensDeck® Prime over ISO

Key Companies:

General Contractor:
Manhattan Construction Company

Roofing Contractor:
KPost Roofing & Waterproofing

System Manufacturer:
Carlisle SynTec

Architectural Firm:
Gensler

About 13 years ago, the original Dallas Cowboys Stadium in Irving, Texas, needed a new roof coating. KPost Roofing & Waterproofing of Dallas won the job, not too much later a partnership was born, and multiple roofing projects were the result, to include The Star in Frisco.

Founded in 2004 by Keith Post, Steve Little, and Jayne Williams, with a core group of 11 roofing professionals, KPost now employees more than 400 people (including more than 60 specialized crews) focused on doing one thing, and doing it exceptionally well. Primarily a commercial roofing company, a residential division was opened four years ago to increase reach and service area. With a dedicated focus on safety, quality, and value, the company has amassed a portfolio of 1,240+ projects and 60,000 work orders valued at more than \$541 million, to include multiple highly visible projects in the last several years like the headquarter buildings for Liberty Mutual, Toyota, and Charles Schwab; the Irving Music Factory; the Omni Dallas; the Statler Hotel; Texas Rangers Globe Life Field; and many more.

A long-time partnership with the Dallas Cowboys meant that when the team's new indoor practice facility/mixed-use development was going under construction, KPost stepped in, impact on the lifespan of a roofing assembly.¹

The Star

The mixed-use facility known as The Star is located on 91 acres in Frisco, Texas, and includes the Dallas Cowboys World Headquarters and domed practice facility, the Baylor Scott and White Health Sports Performance and Healthcare Center, The Star District shopping area, the Ford Center (a state-of-the-art 510,000 square foot indoor athletic facility shared by the Dallas Cowboys, the City of Frisco, and area high schools), and the beautiful Omni Frisco nestled in the southeast corner of the complex.

"It is clear that DensDeck and GP, along with their trade partners, are committed to testing a large amount of assembly types and material configurations. This commitment by GP has resulted in an ample amount of approved and tested assemblies, which allows us to find the right answer for pretty much any roof area."

– Chris Evans, Chief Estimator with KPost



With a wide variety of building conditions throughout the complex, project architects selected roof assemblies that would meet the individual criteria of a high-rise hotel roof, a mid-level mixed-use space roof, and the domed roof of the Cowboys indoor practice facility. Various manufacturers and system assemblies were considered, and the use of a premium coverboard was always front of mind.

"The Omni Frisco roof levels 16 and 17 included a large amount of rooftop mechanical and lighting systems that require regular maintenance and a durable surface from which to work," explained Chris Evans, Chief Estimator with KPost. "Additional details included the sheathing on the parapet walls and, of course the dome over the indoor practice facility."

Evans's job with KPost is that of leading the team with technical brainstorming and quality control in accomplishing project pricing and proposals.

"The use of a cover board was always part of the design," continued Evans.

"The architect opted for a single-ply roof at all roof areas. Single-ply roof membranes typically perform better when placed over a solid substrate. If not, there is an increased risk for premature wear, tear, and puncture. We needed to choose an option that would help the roof membrane perform to its full potential."

Additionally, Frisco is located in the midst of the hail belt, which upped the ante for additional durability and protection against puncture.



Why Use a Cover Board?

Using a cover board is important for multiple reasons:

- To preserve membrane integrity (cover boards provide a smooth substrate to support the waterproofing membrane with the right balance of strength and flex);
- Insulation protection: Insulation compression causes material degradation, which lowers R-values. The polyiso insulation boards are typically the most expensive component in a commercial roof assembly, and critical in achieving target R-value. Cover boards are well equipped for heavy loads and will protect the insulation and membrane beneath from being smashed by heavy equipment;
- Durability: Puncture and impact resistance ensures product longevity! Impact resistance to foot traffic equals less maintenance, fewer repairs over time, and an extension of the life of the roofing assembly;
- Weather protection: Wind and hail can wreak havoc on roofing assemblies, but a cover board helps maintain structural integrity during both the storm and the post-storm inspection;
- The cover board is a team player: it not only protects the assembly and building from damage, it supports the performance of other assembly materials and the mechanical assets that call the roof home.

The Chosen Roof Board

Carlisle's single-ply roofing membranes were chosen and incorporated DensDeck® Prime roof boards in the submittals, with products provided by CSL Materials of Frisco. Evans and his team chose Georgia-Pacific's DensDeck® Prime Roof Board with EONIC™ Technology as the cover board for The Star – and offered multiple reasons why.

"It is clear that DensDeck® and GP, along with their trade partners, are committed to testing a large amount of assembly types and material configurations. This commitment by GP has resulted in an ample amount of approved and tested assemblies, which allows us to find the right answer for pretty much any roof area," commented Evans.

"Fact is, DensDeck has become one of our key components used on most roof systems," said Aileen Struble, Senior Estimator with KPost. "Between the testing, the ease of use, and the durability, DensDeck consistently offers the best protection."

The most senior estimator on the KPost team, Struble has been with the company since the doors opened. She works on multi-system projects, including both new construction, remedial and large historical renovations. She is KPost's go-to estimator when faced with technically challenging and complicated projects, and has received four ABC National Eagle Awards on her projects.

Georgia-Pacific first hit the market in 1987 with the innovative DensDeck®, a high-performance gypsum roof board, then improved upon it with the addition of EONIC Technology in 2018. This patent-protected enhancement doubled the resistance of DensDeck Prime Roof Board to moisture, making it the only roof board with manufacturing specifications that include 5% total water absorption resistance by weight, and one gram surface water absorption performance on both sides of the board.

But that's not all: in third-party testing, DensDeck Prime Roof Board absorbed 76% less total water, 2.3 times less surface water, tested 52% stronger than gypsum fiber, and demonstrated a higher vertical pull strength. An estimated 3,000 squares (300,000 square feet) of DensDeck Prime Roof Board was used on The Star.

"Our history with DensDeck, the track record of consistency the product brings to any project ... it's the combination of all factors that makes DensDeck the best roofing protection out there," continued Struble.

When it came to the challenging logistics of the domed roof covering the indoor practice facility, the DensDeck Prime Roof Board passed with flying colors ... literally, as the roof board was integral to the overall system, which was flown into place via helicopter.

"It's all about consistency," concluded Evans. "One of the greatest benefits with DensDeck is the fact that we receive the exact same product every single time we order it. This incredible level of consistency affords us the ability to deal with other challenges of construction because we know how DensDeck will behave under multiple conditions, and at the end of the day this consistency minimizes our overall risk. Partnering with consistency is necessary for success."

"We like to call DensDeck the Goldilocks of the roof board industry: some options are too dense, and with some the dimensional stability just isn't there," said Struble. "GP and DensDeck has figured it out, because their roof board is just right."

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– Aileen Struble, Senior Estimator with KPost



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