



CASE STUDY

FONTAINEBLEAU LAS VEGAS RESORT & CASINO, LAS VEGAS, NV

When the Fontainebleau Las Vegas Resort & Casino opened in mid-December 2023, it capped off a long journey of ownership and construction. The hotel opening marked the newest chapter in the 70-year history of the iconic Fontainebleau brand and ushers in a new era of luxury hospitality on the Las Vegas Strip. A stunning 150,000-square-foot casino, world-class dining, a vibrant entertainment and nightlife scene, plus upwards of 3,600 gorgeously appointed hotel rooms and suites make it worth the highly anticipated wait.

As the tallest occupiable building in Nevada, the Fontainebleau Las Vegas is 67 stories and stands at 735 feet tall. Constructing a proper roof assembly for a structure such as this brought inherent challenges with it: the height of the building exposed the roof to a greater chance of wind uplift, a constant problem in Las Vegas with desert winds. The desert sun would add a heat element during the summer months, and the massive size of the project meant products selected in the assembly would need to withstand all the elements Mother Nature and one of the rainiest seasons Las Vegas has ever seen could throw at it.

KHS&S Contractors West, based in Las Vegas, works to transform construction from a field-based industry to an industry of digital modeling, virtual project delivery, and lean manufacturing. Driven by a set of core purpose values—direction, results, opportunity, and pride—the company believes in forging their own path to the future. As an international design-assist specialty building company, they are known for creating spectacular interiors, exteriors, prefabricated building components, themed environments, rockwork, and specialty finishes for the most recognized projects in the world.

Bran Harris is a 17-year employee of and general superintendent at KHS&S overseeing Vegas, Arizona, and Utah; he was also the project superintendent for the construction of the Fontainebleau Las Vegas, the second-largest project his company has ever taken on and completed. His number-one challenge



Quick Facts

- **System Manufacturer**
Flex Membrane
- **Roofing Contractor**
Commercial Roofers, Inc.
- **Design Team**
KHS&S Contractors West
- **Coverboard**
600K square feet of
DensDeck® Prime Roof Board
- **150,000 SF Casino**

“We put a 20-year warranty on our roofing systems, and we need to have product reliance on the systems we choose,” continued Doyle. “DensDeck roof boards are strong, durable, and met the needs for this project.”

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during construction: getting the materials he needed to build a stunning hotel that would withstand the elements.

With a 16+ year relationship with Georgia-Pacific Building Products under his belt, Harris turned to his contact there for help. A plethora of Georgia-Pacific products were specified for the Fontainebleu Las Vegas, to include DensGlass® Sheathing (about 500K square feet on the exterior of the hotel), ToughRock® Gypsum Wallboard (building offices and interior walls), DensShield® Tile Backer (all bathrooms), DensGlass® Shaftliner (around elevators), and for the massive hotel roof: DensDeck® Prime Roof Board.

“The people at GP know our needs, they cater to our needs, and they got us the products we needed, when we needed them,” said Harris. “No one seemed to be stocking shelves for a while when construction picked up again, but we avoided the stress the rest of the industry was feeling because we chose Georgia-Pacific products. The open communication and ready availability of GP products meant we had what we needed – and we needed huge amounts of some products to complete what is now the best-looking building on the Strip – and construction could move forward as planned, even in a down time. For us, it’s all about accessibility to the quality products we need.”

As part of the roof assembly for the Fontainebleu Las Vegas, DensDeck Prime Roof Board was specified, via Flex Membrane, because it would stand up to weather and it would more than meet the roofing durability needs of such a complex project. The order was huge: enough product would be needed to cover the surface, which measures in excess of 600K square feet (almost 11 football fields!), to include an 18’ – 20’ parapet wall, meaning the coverboard chosen would require rigid strength and durability.

“DensDeck Prime is a great coverboard with a long history of performance,” said Doyle. “We’ve used it for many years and knew it would be perfect as needed for this massive hotel.”

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A project of this size—or any size, really—is an opportunity to put the best products in the building industry into the project in front of us,” said Murray. “The premium Georgia-Pacific products used throughout this hotel will make it a beautiful building for years to come.

WAYNE MURRAY

The sheer size of the roof surface of the Fontainebleau Las Vegas is monumental, with the scope of the roof itself being defined by multiple areas and levels with the convention center, hotel, and entertainment area.

Flex Membrane is a 30+-year-old manufacturer of PVC-based membranes and an early pioneer in the manufacturing of modified PVC roof membranes incorporating a unique flexibilizer that keeps the material indefinitely flexible, while making it highly resistant to environmental and temperature extremes and exposure to a wide range of chemicals and pollutants.

John Doyle, president of Flex Membrane, became involved in building the roof assembly of the Fontainebleau Las Vegas through Commercial Roofers, Inc., a subcontractor. Due to the variety of roofing on the hotel, a fleece back 60 Mil PVC membrane from Flex was used, as it is designed to be installed in either a mechanically attached or adhered roof membrane assembly. This Flex FB 60 PVC Roofing Membrane is manufactured in a thickness of 60 Mils of polyester reinforced membrane with a 5.50 oz polyester fleece backing. The fleece backing acts as a cushioning layer which prevents abrasion problems and keeps small imperfections or ridges from coming in contact with the membrane, eliminating the need for slipsheets. For the steel roofing deck present in some places, a smooth-backed 60 Mil membrane from Flex was used.

“DensDeck Prime is a great coverboard with a long history of performance,” said Doyle. “We’ve used it for many years and knew it would perfect as needed for this massive hotel. A great product combined with great customer service—this is what you’re looking for in a product, and we found it here.”

Offering four dimensions of superior resistance and protection against fire, hail, wind uplift, and puncture, DensDeck Prime Roof Board offers greater durability, increased membrane bond strength, and enhanced moisture resistance for fully adhered, partially adhered, and mechanically fastened roof assemblies—everything you want and need in a quality coverboard.

Wayne Murray, building envelope manager for Georgia-Pacific, and his team are responsible for selling wallboard and roof board for the company. Their long-time relationship with Harris at KHS&S—something they refer to as “a perfect fit” as both companies have strong commercial outreach and successes –plus the solution presented by the Georgia-Pacific products led to the Fontainebleau partnership, which Murray refers to as the largest project the companies have completed together.

According to Murray, in order to meet the needs of the Fontainebleau, many of the GP gypsum plants nationwide hopped on board to ensure the product was delivered on time and/or ahead of schedule.

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