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Phoenix Roofing Contractor on Center Stage

By Claire Trageser on 1/27/2015 5:34 PM

Photos courtesy of WRECORP

Every year, more than 250,000 people come to see more than 1,000 performances at the Scottsdale Performing Arts Center in Scottsdale, Ariz. Headliners from Terry Bradshaw to Vanessa Williams to Jo Dee Messina have graced that stage.

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And while all of that talent might fit under one roof, the roof itself was pretty old — 25 years old, to be precise.

According to Bill Kirn, president of Roof Technology Management, Inc., the old roof had a lightweight concrete deck covered by a base ply, intermediate ply, and granule surface cap sheet. It had a lot of wrinkles and splits in the side laps from years of wear and tear, and it sported several spots where small repairs had been made.

Jerry Brown, principal at Western Roof Evaluation Corporation (WRECORP), made these assessments during a roof condition survey of the performing arts center. He did a non-destructive capacitance moisture scan of the roof to search out wet areas and he mapped the entire roof — below and on the roof surface — to find the particularly troubled spots. He also took more than 20 core samples from the roof to be sure he got a picture of the roof system's composition.

After his assessments, Brown concluded a fluid-applied roofing system was the way to go. This was despite the fact that other contractors had said the job would require a complete tear-off, according to Kirn.

Coatings Ensemble

The majority of roofing professionals know conventional roofing systems, including asphalt; modified bitumen; thermoplastic single ply membranes, such as polyvinyl chloride (PVC), thermoplastic polyolefin (TPO), and chlorinated polyethylene (CPE); and thermoset membranes, such as ethylene propylene diene monomer (EPDM), spray polyurethane foam (SPF), and metal.

But the fluid-applied roofing system is making a big splash on the roofing scene. These systems can be applied on the existing roof with a reinforcing scrim added between layers of coating. The systems are also fully adhered, adding a lot of wind uplift resistance over mechanically fastened and ballasted systems, according to Kirn.

And while flashing installation with conventional roofing systems can be a complicated process because of the many accessories, such as pitch pockets, flashing grade membranes, and counter flashing, fluid-applied roofing system flashing can be done using only the coating and reinforcing scrim, Kirn said.

Brown and Bill Close of Architectural Resource Team decided to use the KM Shield Coat fluid-applied system, in part because it had shown a lot of success on many projects across the Southwest. The KM coating is based on a BASF polymer that has great adhesion, dirt-pickup resistance, and low-temperature flexibility, according to Kirn. It performs well over the long term, even in areas with intense ultraviolet (UV) solar radiation.

The team hired Phoenix-based Progressive Roofing to install the KM "Shield Coat System," a fluid-applied, fully-adhered roofing system. Mark Farrell, the president of Progressive Roofing, said the project was a challenge but they were proud to get the job.

One of the biggest challenges was that the show had to go on at the Scottsdale Performing Arts Center throughout the duration of the job. The center's theater and museum could not be closed for any reason, which meant the installed system had to stay odor-free and installation had to involve as little debris and noise as possible.

Luckily, the KM Shield Coat System was up to the job.

Performance Reviews

Farrell's six-person crew began the job in December 2011 and worked until April 2012. The crew first set up one-way vents to completely dry out the roof, then they cleaned the roof's surface.

The crew then covered the 56,000-square-foot (5,203 m^2) roof with KM Shieldcoat System. Using an 833 Graco airless sprayer, they put down the first layer of Primebase to act as a primer. After the basecoat was applied, and while the coating was still wet, the team cut a mesh polyester scrim, rolled it into the wet coating, and dry-brushed the scrim in place. This process encased the penetration. Then they applied two layers of the topcoat called Finalcoat.

In total, the team put down five passes, for a total thickness of 7 gallons (27 L) per 100 square feet (9 m^2). Once the system was all dry, the flashings and the entire system became a monolithic, single-ply, fully-adhered membrane.

The team used a ladder to access the roof, and they set up cones and flagpoles on the ground to protect the ladder from any type of interference. They also used cones and flagpoles on the upper deck to protect and remind themselves about the edge of the roof. When they were doing window and edge work, they set up a cable tie-off system. And they finished by having Brown of Western Roof Evaluation Corporation provide on-site quality assurance.

Take a Bow

When the job was done, the Scottsdale Performing Arts Center was left with a sustainable fluid-applied system on its roof, according to Kirn. In conventional roofing systems, aging over time means a second "recover roof" has to be installed. That, or the roof requires maintenance coating that will not match the existing membrane, which could create compatibility problems.

The fluid-applied system has none of these problems. It can be applied on the existing roof. Of course, the fluid-applied system will still need some upkeep. The top layer of the coating will slowly wear away from particulates in the wind scouring its surface, but Kirn said a crew can just add more coating using the same product that was used to create the membrane. It can be spray- or roller-applied, and very quickly the membrane will be brought back to its original thickness.

When the job was done, Farrell was thrilled to have been a part of it. "Progressive Roofing is proud to be a part of this project," he said. "It was a joint effort between the fluid-applied roofing system manufacturer, owner, and our team that made the coating of the Scottsdale Performing Arts a success — with the ability to be completed on time, with no budget changes required, and to the client's satisfaction." Now that is quite the performance!