



**INTELLIGENT
ROOFING SOLUTION**

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RE-ROOFING FLORIDA STATE CAPITOL DOMES POSES UNQUE PRODUCT, INSTALLATION CHALLENGES

A re-roofing project for two unusual domes on the new Florida state Capitol building in Tallahassee was anything but routine for an army of roofing experts called in to tackle the unique project.

An important landmark as well as home to Florida's executive and legislative branches, the Capitol was completed in 1977 at a cost of over \$43 million. Using an architectural style referred to as "new classicism," the building consists of a 22-story main building flanked by a pair of six-story domed wings.

The new Capitol was constructed behind the original Capitol, built in 1845, which now serves as a museum. Obviously, taxpayers are serious about preserving their valuable structures for a long time in the face of serious climatic challenges – occasional hurricanes, not to mention the intense heat, humidity and constant battering of UV rays.

"Our responsibility, for protecting property owned by taxpayers of the state of Florida, is something we take seriously, and that includes the important duty to protect our buildings and their contents," said Marvin Allen, senior architect for the state's Facilities Management and Building Construction department.

Rudy Rowe of Rowe Roofing, the company selected for the job, was very aware of its importance as well as the challenge. "The existing roof was fabricated with LWIC (lightweight insulating concrete) substrate covered with sprayed-on coating of polyurethane foam," said Rowe.

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A FiberTite Roofing System by Seaman Corporation was specified as the replacement membrane. A bright white surface was selected because of its proven ability to reflect the sun's heat and repel challenges from mold and mildew. A 60 mil membrane with fleece backing was specified to make sure the membrane delivered long-term service and a consistent adhesion to the unusually domed shapes.

The thick 60 mil membrane also would help accommodate the uneven concrete surface, although once the foam layer was removed, it was determined that even more smoothing was necessary. Rowe and Todd Rautkitis of Roofing Technologies, which represents FiberTite in Florida, went to work with the building's architect to devise several solutions that ranged from removing the existing lightweight concrete layer before deciding on another remedy.

"We decided to apply a thin layer of Concrecel's light weight cellular concrete over the existing concrete surface," said Rowe. "To do this, we had to outfit men in mountain climbing gear to apply the concrete skin coat and then hand-sand it to an acceptable tolerance level."

The approach proved successful in properly preparing the surface for the FiberTite installation, but the challenges were far from over.

"We figured that the two domes would take about 16,000 square feet of FiberTite, but the domes are actually bell-shaped, with a flare at the bottom," said Rowe. "That meant we would have to carefully cut membrane sections in the shape of triangles, creating a 50 percent waste factor. And that created an actual need for over 32,000 square feet of FiberTite to get the job done."

To accurately determine the shape of the triangles, each sheet of FiberTite membrane was laid across the domes for measurement, and then removed for cutting. Placed back on the dome again with adhesive, roofers welded the seams to create a tight covering and smooth, lasting protection for the important government structure.

"We believe that specifying FiberTite for the membrane will serve the taxpayers of Florida well for many, many years," said Rautkitis. "FiberTite's original formula – a uniquely woven base fabric and the monolithic coating -- have been proven again and again over more than 30 years. In fact, FiberTite is proven to require little or no maintenance and over 99 percent of the membranes installed over those 30 years are still performing today.

"And that includes an awful lot of FiberTite roofs that have survived an assortment of Florida hurricanes, while other roofing membranes did not," Rautkitis added.

"We called on the best available expertise and the best available products for the Capitol building dome project," reaffirmed Allen, the senior architect. "Our job is to insist on protection of state assets today and for many years to come with the lowest possible maintenance costs. Hats off to Ferren Architects, Rowe Roofing and FiberTite Roofing Systems."



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