HEAVENLY RESULTS
LDS TEMPLE CALLS UPON SPF TO RISE TO OCCasion

SPFA 2013 NATIONAL CONTRACTOR EXCELLENCE AWARD WINNING PROJECT (COMMERCIAL WALL FOAM)

Congratulations to Arizona Foam & Spray, winner of the 2013 Annual SPFA National Contractor Excellence Award for Commercial Wall Foam. These projects are examples of SPF’s unique performance, applicability and appeal, in this case to a temple of worship in the southwest valley of Phoenix, Ariz. Winners of the SPFA Award must submit their project and have it judged best-in-class by a panel of construction industry leaders.

THE BACKSTORY
Gilbert, Ariz., has grown at an extremely high rate in the last decade, making a rapid transformation from an agricultural based area to a diverse suburban center. The town has long been known for its high percentage of Mormon population, since many Mormons relocated from Mexico in 1912. To support this large and growing concentration and to ease the load on nearby Mesa Arizona Temple, an equally large project building a new Temple for the Church of Jesus Christ of Latter-day Saints (LDS) was initiated.

Before construction could begin, LDS had to get an exemption from the Gilbert Town Council to allow for the 85-foot structure (not counting the steeple). The previous limitation was 45 feet. With the zoning changes approved and construction begun, it was time for Arizona Foam & Spray to get to work insulating and air-sealing the building.

The highly detailed exterior features pre-cast concrete, stone and beautifully crafted art glass windows. The stacked pre-cast panels were supported with...
vertical I-beams to prevent bowing. The 83,000-square-foot floor plan includes a sub-basement for mechanical equipment; a basement for the baptistry; a first floor for the entry, dressing rooms and administrative offices; a second floor for the chapel and instruction rooms; and a third floor for marriage rooms and waiting rooms. “That’s a lot of space, with many very difficult-to-reach areas and challenging architecture,” said Tony (Mack) Mackelprang, Senior Project Manager.

For Arizona Foam & Spray’s (AF&S) crews, the pressure was high. LDS temples are aesthetically beautiful buildings with meticulous attention to detail. Everything about the architecture is designed to honor God and complement the local community. This meant that the crew members would be working within tight parameters, and at times, tight confines. “This entire project was unique – nothing run-of-the-mill,” said Mack. Crews needed to maintain a fastidiously clean environment during every shift while moving expediently through the building.

THE DETAILS

AF&S ran three-man prep crews during the day taping and masking, to protect structural components and adjoining areas from sprayfoam overspray. At 3 p.m. the crews would overlap for 30 minutes and the spray crews would work until midnight. The project took 20 days and the crews were given exclusive access to the building during installation hours.

SWD Urethane’s low-density Quik-Shield 106 was applied to the underside of a metal staircase from the third to fourth floor for the purposes of sound attenuation, deadening the tinny sound of footsteps in the building. The walls were the recipients of 84,000 board-feet (42,000 square feet at 2”) of SWD Quik-Shield 112 closed cell SPF serving as a vapor/moisture barrier and R-13 insulation, which was a challenge due to the presence of the vertical support I-beams and other obstacles that could not have any SPF on them. The high R-Value was estimated to increase the building’s energy efficiency by 40 percent.

THE SAFETY

A custom hydraulic dual-head spray rig, two high-volume Graco Viscount II plural component foam pumps with 15,000 watts of heating, a custom dual-head power supply and custom control panel were needed to get the job done. The skilled installation crews had to perform the install in a uniquely challenging environment. Some of the interior areas required being suspended off the ground 40 or more feet when spraying, occasionally above winding staircases and around window openings stretching more than 50 feet tall. The crews had to utilize stationary and mobile lifts to access many of these areas, incorporating all proper fall protection and PPE, and the foam had to terminate at exactly a 5-inch masking line. Working at these heights and tight tolerances, both for the taping/masking crews as well as the installers, created very demanding working conditions.

THE ORCHESTRA

With the size and scope of this project, the orchestra of various trades required weekly meetings to maintain scheduling for exclusive access for the SPF installers and review health and safety practices. “In many cases we had trades
coming in to install steel-stud wall systems and we had to coordinate to make sure they literally didn’t frame us out away from the wall surfaces where we had to do finish work,” said Mack. “We also were competing with other trades that used the scaffolding, and in many cases they’d finish their work and tell us the scaffolding was coming down in a day and we’d need to get our work done ASAP.”

But working with the other trades and professionals allowed AF&S to share insight about SPF and its use as a moisture/vapor barrier. “In some cases individuals thought we would be able to attach a wand to our guns to reach high, tight spaces,” said Mack. “But as we in the business all know, that just wouldn’t work past the first few seconds.”

THE FINAL THOUGHT

“It was a pleasure working with Okland Construction as the GC, and SWD on such a grand project,” Mack stated. “We have worked with them for quite some time and the relationship we have built means we want to maintain the highest standards so we get repeat, ongoing work.”

It must be working because Arizona Foam & Spray is already onto their next job with Okland, a charter school in Arizona. “We’re also honored to have won the SPF award and look forward to winning again next year.”

Located in the southwest desert, Arizona Foam & Spray (www.arizonafoam.com) has been providing outstanding service to its clients since 1969. They have spray-applied over 100 million square feet of spray foam roofing and, in the process, have established a reputation of integrity and reliability.

SWD Urethane was founded in 1972 by roofing contractors who saw the emerging market for spray foam roofing. They realized that spray polyurethane foam offered solutions that no other roofing material provided, and committed themselves to develop the best spray foam roofing system in the market. This commitment has led to the Quik-Shield 125 roof system being one of the longest code approved foam roofing systems in the market. It has also led to the development of high quality spray foam insulation, innovative geo-technical products and a wide range of elastomers and high performance coatings.

For more information on the Gilbert Temple and its continuing construction, visit http://mormontemples.org/eng/gilbert.