PARKING STRUCTURE CREW BEATS THE HEAT

BY JENNIFER FRAKES

Nash Deck Coatings was under pressure to complete the rooftop parking structure at Saddleback Memorial Medical Center during one of Southern California's hottest and longest-lasting heat waves. Did they beat the heat and get the job done?

ABOVE When Saddleback Memorial Medical Center's parking structure coating system failed prematurely, a prolonged heat wave threatened the ability of Nash Deck Coatings to install a new Poly-I-Gard roof deck and access ramp coating system on time. This project would be a trial by fire.

Saddleback Memorial Medical Center is a world-class medical center located in southern Orange County, California. Saddleback was recently named one of the top 100 hospitals in the United States by Thomas Reuters, an independent health research organization, and is ranked Best Hospital in several medical specialties by *U.S. News & World Report*. The medical center serves a large community and, as with most such facilities, offers convenient and reliable parking as an important part of the patient experience. But according to John

The heat wave brought unseasonably high temperatures for weeks on end.

PHOTOS COURTESY OF POLYCOAT

Nash of Nash Deck Coatings, the three-level parking structure at the medical center was not living up to expectations.

"There was severe peeling and flaking of the existing top coat on the access ramps and roof deck of the parking structure," explains Nash. "It seems like an inferior product was put down very thin on the deck, and it was peeling pretty badly."

Something needed to be done to the 15,000-square-foot (1393.5 m^2) access ramp and roof deck area to restore safe and functional parking. This is where Nash Deck Coatings and Polycoat Products' Polyprime U and Poly-I-Gard 246SC came into the picture.

HOT TIRES, GOOEY MESS

A peeling top coat was not the only issue with the roof deck. Sand had not been broadcast into the existing coating system, making the deck extremely slippery when wet.

"When it rained, cars and people would go skidding and sliding around," Nash says. "In addition, the hot tires of the cars that drove up the access ramps and onto the roof deck took the material with them, leaving a peeling and slippery mess. To make sure everyone remained safe, the top level of the parking structure had to be closed whenever it rained."

While Saddleback Memorial Medical Center staff felt it necessary during inclement weather to close the roof of the parking structure to ensure patient and visitor safety, they realized doing so was not an acceptable solution.

Nash performed a number of adhesion tests to make sure that the Polyprime U and the Poly-I-Gard 246 SC would properly adhere to the existing urethane base coat. If the adhesion tests were successful, the crew would not have to strip the deck down to the concrete substrate.

"If we had adhesion tested it and the primer lifted, we would have had a problem," says Nash. "But that was definitely not the case with the Saddleback project."

Since the Polycoat Products coatings passed the adhesion tests by adhering to the existing urethane base coat, it was determined that only the top coat needed to be completely removed — the base coat could remain on the concrete substrate — thus saving the client a great deal of money and time.

"At that point in time, we were ready to apply Polyprime U directly to the existing base coat," says Nash.

Adriaan van der Capellen, Southern California sales manager for Polycoat, agrees that Polyprime U was the right choice for the job.

"Polyprime U is an intercoat adhesion primer for existing urethane systems," explains van der Capellen. "It really takes a hold of and bites into the existing urethane."

In other words, recoating the roof deck of the medical center was a pretty straight-forward job, as long as the appropriate materials were used. However, just when the Nash Deck crew was ready to proceed with this seemingly easy job, Mother Nature decided to heat things up.

RIGHT ▶ Nash Deck Coatings waited two weeks for the mercury to drop but the heat wave persisted. With time running out, the crew had no option but to jump out of the frying pan and into the fire. The Nash crew power washed, ground off the old topcoat, and caulked the cracks and gaps.

STIFLING HOT

According to Nash, during the late summer and early fall of 2012 there were many days where temperatures soared to above 100°F (37.78°C) in southern Orange County, California, which is quite an unusual occurrence. The heat wave brought unseasonably high temperatures for weeks on end. For a number of reasons, including the working conditions for his crew and the effect that high temperatures may have on the coatings to be applied, Nash spoke with the client about the possibility of postponing the project until the end of the heat wave.

"It was 109°F (42.78°C) outside, and the temperature would be even higher on the roof deck," says Nash. "It was ridiculously hot."

It was decided that postponing the job might be the best option. One week went by and then two, with no break in the abnormally high temperatures. By the end of the two-week period, Nash and his crew were eager to get started on the job, not to mention eager for the weather in Southern California to return to normal. With no end to the heat wave in sight, Nash had to pull the trigger.

"We had to go in on the third week regardless of the heat wave," Nash says. "The job had to get done!"

After making the decision to go ahead with the job, Nash and his five-man crew began the surface preparation. The entire roof deck area and all access ramps were power-washed using a 3,500 psi (24.1MPa) Landa-brand power washer.

"We power-washed the deck on the Sunday before we started surface prep and coating," says Nash. He and his crew needed to be finished with the job within five working days, so they took advantage of the slower vehicular and pedestrian traffic on the weekend to get a jump on the first step of the process.

"Since the hospital never closes, the parking structure needed to remain open," Nash says. "The two lower levels were open even while we were doing work on the roof. We made sure that before anyone got to the roof access ramps that they were alerted to the third level closure."

Once the deck was power-washed, the crew got down to the business of removing the existing top coat using a Clarke floor grinder. The deck was divided into three sections and each section was prepped, repaired (if necessary), primed, and coated before moving on to the next section.

"The very last section was in the worst condition," says Nash. "It was the largest section and had the most traffic come across it, so it makes sense that it was the most damaged."

In all the sections, the crew made concrete repairs as necessary before moving on to priming and coating. Depending on the severity of the cracks, the crew used gun-grade urethane, embedded carbon fiber tape, and/or caulking to bridge the gaps.

THREE-HOUR CURE

With surface prep and repairs made, the crew was ready to apply the Polyprime U. Using squeegees and rollers, the Nash Deck crew applied the high-solids primer to the roof deck at 3 mils (76.2 microns), DFT. Under typical circumstances, Polyprime U should be coated within 12 hours after it has become tack-free; however, because of the extreme heat, the primer cured much faster.

"We were able to apply the Poly-I-Gard 246SC within three hours after we laid down the primer," Nash explains.

Poly-I-Gard 246SC is a single component, moisture-cured, aromatic polyurethane waterproof membrane. Poly-I-Gard 246SC

ABOVE ▲ Since the urethane base coat from the existing coating system was usable, the Nash crew was able to save their client the time and expense of having the affected areas stripped down to bare concrete.

JOB AT A GLANCE

PROJECT:

Recoat top level and access ramps of Saddleback Memorial Medical Center parking structure using Polyprime U and Poly-I-Gard 246SC from Polycoat Products

COATINGS CONTRACTOR:

Nash Deck Coatings
33381 Stern Wave
Dana Point, CA 92629
(714) 404-8681

SIZE OF CONTRACTOR:

Two to ten employees, depending on the job

PRIME CLIENT:

Saddleback Memorial Medical Center

SUBSTRATE:

Concrete with an existing urethane base coat

SIZE OF JOB:

15,000 square feet (139.35 m^2)

DURATION:

Six days

SIZE OF CREW:

A crew of six worked this project

UNUSUAL FACTORS/CHALLENGES:

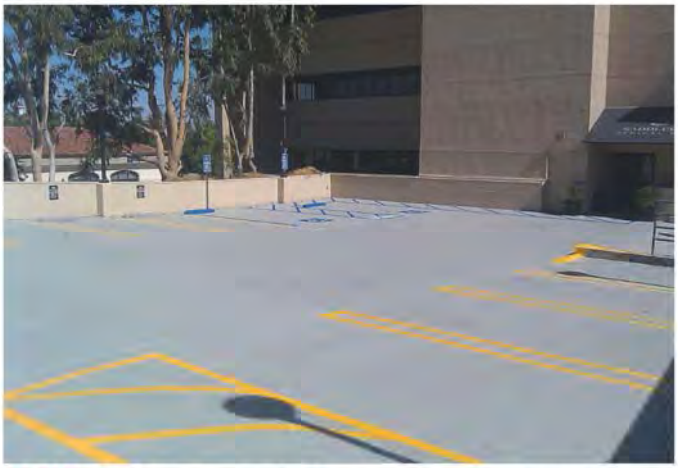
- Southern California experienced an unusually hot and long-lasting heat wave during the job. Nash and his crew had to make adjustments to ensure that the project went smoothly even with the extreme heat
- Existing urethane top coat, applied very thinly, was peeling and flaking after only one-and-a-half years
- Sand had not been broadcast into existing coating system, making roof deck extremely slippery in wet conditions
- Although existing topcoat was damaged, the urethane base coat was usable, saving client time and the expense of having parking structure stripped down to bare concrete

PROCESS:

- Power-wash roof deck area
- Remove existing top coat with floor grinder
- Repair concrete where necessary and caulk deck
- Squeegee and roll Polyprime U primer to achieve 3 mils (76.2 microns) DFT
- Pour and roll Poly-I-Gard 246SC at a thickness of approximately 10 mils (254 microns) DFT
- Broadcast Lapis Lustre 2/16 sand into wet coating
- In highest traffic areas, double broadcast sand to ensure excellent non-skid properties
- Pour and roll two final coats (10 mils/254 microns) of Poly-I-Gard 246SC

SAFETY CONSIDERATIONS:

- Follow all standard safety procedures and wear gloves, safety glasses, and dust masks when necessary



ABOVE ▲ To compensate for faster cure times brought on by higher ambient temperatures, the crew mixed smaller batch sizes. But the coatings' quicker sets also helped the crew make up for lost time. The Nash crew installed the topcoat on a Friday, brought the striping crew in on Monday, and had the parking structure open to traffic on Tuesday.

is designed for use in Southern California to meet the region's low volatile organic compound (VOC) requirements. These requirements are set forth and regulated by the South Coast Air Quality Management District (SCAQMD), which encompasses most of Los Angeles, San Bernardino, Riverside, and all of Orange counties. The SCAQMD regulates all sources of stationary air pollution for the aforementioned regions.

The crew poured and rolled the Poly-I-Gard 246SC at a thickness of approximately 10 mils (254 microns), DFT.

Nash credits the Polycoat materials for performing incredibly well under such unusual circumstances.

"I was a little worried about gassing because of the high temperatures," Nash says. "It wasn't a problem with the Polycoat Products coatings. There were no bubbles and no gassing."

Nash did, however, make some adjustments. Both the Polyprime U and the Poly-I-Gard 246SC are sensitive to heat, so Nash was very careful with batch sizes, especially the primer.

"I mixed the two-part Polyprime U primer in half batches—we mixed two-and-a-half gallons, sometimes less, at a time instead of the usual five gallons," Nash says.

NO DAY AT THE BEACH!

Working feverishly, the Nash Deck crew broadcast Cemex-brand Lapis Lustre 2/16 sand onto the wet coating.

"We needed to have a fairly aggressive non-skid component added to the coating system," says Nash. In the highest traffic areas, there was a double broadcast, ensuring excellent non-skid properties. Two final coats of 10 mils (254 microns), DFT, of Poly-I-Gard 246SC were then laid down on the entire deck area. In the areas of highest vehicular traffic, the coating system has a thickness of over 40 mils (1,016 microns) that protects the existing urethane base coat and underlying concrete substrate. The non-skid component of the system ensures that cars and pedestrians do not slip and slide in wet conditions.

According to Nash, the job went off without a hitch, even with the unseasonably hot temperatures, allowing him and his crew to complete the project right on schedule.

"We finished on Friday and the stripers came in on Monday," Nash says. "The roof deck of the parking structure was open to pedestrians and vehicles on Tuesday."

Throughout the project, Nash and his crew followed all standard safety procedures.

"We wore gloves and safety glasses, and during the prep work, wore dust masks," says Nash. There was no need for fall protection at any time during the job since all railings were up to code. There were no other trades doing work and no heavy equipment on the roof deck, Nash says. Another factor that made the job run smoothly for the crew was the absence of ducts on the roof deck.

"If there are ducts and intakes that can suck fumes into the building, it is always a big concern and something that needs to be considered before any work can be done," Nash says. Fortunately, since there were no ventilation intakes on the roof of the parking structure, there was one less step in the process.

THEY BEAT THE HEAT

Nash Deck Coating and Polycoat Products made a great team on this parking structure roof. Polycoat's van der Capellen is extremely happy with the outcome of the job.

"When we were contacted about peeling and flaking coating on the old roof deck, we knew our products could take care of the problem," says van der Capellen. "It had only been a year and a half since the old deck had been recoated, and it was already failing. Now, the client has a coating system that will last."

Nash is quick to point out that he is impressed with the coatings and his crew.

"I've been doing this a long time – 25 years – and I am really happy with the way the Poly-I-Gard 246SC performs," says Nash.

Although this was Nash Deck Coatings' first job for Saddleback Memorial Medical Center, with the way his crew beat the heat to recoat and reopen the parking structure, Nash bets it will not be the last! CP

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