



CCSN Telecommunications Building

Las Vegas, NV

Project Spotlight: September 2005



LOCATION:

Community College of Southern Nevada, Cheyenne Campus
North Las Vegas, NV

OWNER:

State of Nevada

ARCHITECT:

JMA Architecture Studios,
Las Vegas, NV

GENERAL CONTRACTOR:

Martin-Harris Construction

STONE CONTRACTOR:

Champion Tile & Marble
Las Vegas, NV

STONE SUPPLIER:

Arizona Tile
Las Vegas, NV

STONE INSTALLATION SYSTEM:

LATICRETE International, Inc.
Bethany, CT

LATICRETE DISTRIBUTOR:

Daltile
Las Vegas, NV

CCSN: Alternate Installation Method Saves the Day

By Lesley Goddin

When the budget on a \$15.5 million design-build project falls short for mechanically fastening limestone to a building exterior, what's a contractor to do?

In the case of the Community College of Southern Nevada (CCSN) Telecommunications Building in Las Vegas, Nevada, the solution was to call in LATICRETE.

The project. The publicly funded CCSN Telecommunications building was the first design-build project executed by the state of Nevada. The project called for tilt-up construction with 12,433 square feet of polished limestone in mixed sizes to cover the concrete surface, together with honed accents, all patterned to enhance the enduring elegance desired by the architect.

"The goal for the design was to provide a timeless building which would house continually changing technology," said Michael Crowe, senior project manager for JMA Architecture Studios in Las Vegas. "The timeless nature of the stone worked with the palette which was on the original campus."

Limestone, supplied by Arizona Tile, was to be applied in 9" x 18", 12" x 18", and 18" x 18" formats, with intervals of 1" x 2" accent stone to be stripped in later and bonded using the thin-set method. Sections of wall atop the roof were framed in red iron and sheathed with cement backer board. Some sections of the towers were 55 feet high, mandating significant scaffolding, which impacted time and labor cost.

The problem. The state of Nevada originally wanted to mechanically anchor limestone to the exterior. But the budgeted cost of this relatively expensive method was far greater than available remaining funds that could be allocated to the exterior finish.

Yet, state representatives were wary of a direct bond method due to previous direct bond failures on older state buildings. The effect of Las Vegas' punishing heat on adhesives — and the fact that the city is in a moderate seismic zone — contributed to the concern.

Because the project was a design-build partnering arrangement, the general contractor Martin-Harris was able to urge the state to look at other options to mechanical anchoring, said Don LaRue, Martin-Harris project manager for CCSN Telecommunications Building.

Martin-Harris had a longstanding relationship with Champion Tile and Marble of Las Vegas. Patrick O'Connor, vice president of Champion, was called in on the job.

O'Connor turned to LATICRETE, inviting representatives from the global leader in innovative tile and stone installation materials to meet with Martin-Harris and the state to discuss options including full spread and spot bonding methods.

LATICRETE produced copious engineering data in response to state inquiries. The major concern was that "heat would deteriorate any adhesive, and stone would fall off and conk someone on the head," LaRue said.

In addition, the height of the towers posed challenges. They were five stories in some cases — with eight levels of scaffolding. "With traditional mortar, you have to mix it on the ground, and hoist it into the air," said Mike Faso, technical sales representative for LATICRETE.

The staging was a concern to O'Connor, too. "It was a tight work area — an existing campus on an existing street," he said. "We had to get the material up and down and stage for prepping stone. We had to think everything through before we started."

LaRue said that the state requested more and more engineering data from LATICRETE, but they still weren't convinced. A demonstration of LATAPOXY® 310 Stone Adhesive finally persuaded state officials that it was the right material for the project — stronger even than the substrate.

"We went out to the job and stuck a piece of 18" x 18" stone on the back side of the tilt that wasn't broken off the form," O'Connor explained. "We prepped it and left it up for 3-4 days. When we tried to tear it off the wall, we finally did, but took the face of the concrete with it, too."

LaRue noted, "It got sun everyday, and it didn't even go through a full cure period. When we used pry bars, we pulled about an inch of concrete out of the tilt up concrete panel. That pretty much made the case."

"The 10-year warranty was a big selling point," O'Connor added. In the LATICRETE® 10-year System Warranty, the company warrants specific products will be free from manufacturing defects and will not break down or deteriorate under normal usage for a period of 10 years from date of purchase when installed in accordance with LATICRETE written specifications and industry standard guidelines.

For this project, the warranty was effective when LATAPOXY Stone Adhesive 310 was used with LATICRETE Latasil Tile & Stone Sealant, which provided flexible, long-lasting silicone-based joint filler between the stone tiles. In areas where cement backer units were used over red iron framing, LATICRETE 9235 Waterproofing Membrane, together with LATICRETE 4237 Latex Thin-Set Mortar Additive mixed with LATICRETE 317 Floor N'Wall Thin-Set Mortar satisfied the terms of the warranty. "The combination of 4237 and 317 provided extra long time and excellent workability in our hot, desert climate" said O'Connor.

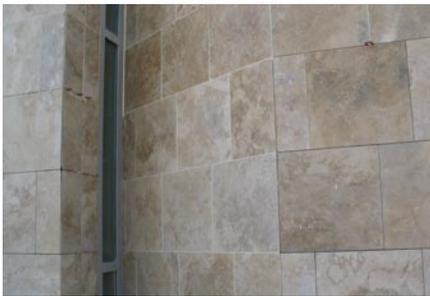
LATICRETE offered another plus. The LATAPOXY 310 Cordless Mixer provided many benefits including an easier application method. The cordless mixer, O'Connor explained, allowed prep work and adhesive application to take place as close as possible to the surface to be covered. This eliminated much wasted labor time and materials, and provided a greater degree of jobsite safety.



Exterior facade shot.



The LATAPOXY® 310 Cordless Mixer allowed for easy maneuvering on scaffolding.



LATAPOXY 310 Stone Adhesive provided an installation with flush smooth joints, even with many angles and courses.



Hundreds of square feet were installed daily with accuracy and ease.

Unlike traditional mixing methods, the battery-operated mixer combines the exact amounts of the LATAPOXY 310 Stone Adhesive components needed within the mixing nozzle, reducing waste and downtime and also making it very easy to handle. "There's no hand mixing," said Faso. "Just pull the trigger. You use what you dispense. It's lighter and faster than traditional mortars, offering a performance advantage with high strength."

"Dispensers similar to this have been used in other construction applications for ages," Faso said, "but it's relatively new to the tile trade". Champion Tile and Marble would become the first contractor in the state of Nevada to use the LATAPOXY 310 Cordless Mixer.

The process. Since it was a new technique, O'Connor had some reservations about the cost of LATAPOXY 310 and factoring it into a job. "How much coverage do we have to have on the back of the stone for LATICRETE to say it's good? How do you control it with the gun to make sure you aren't getting 15 percent over on epoxy? That could be very costly."

LATICRETE Technical Sales Representative Faso was confident. "We told him that he would get about 10 square feet per cartridge pack at ¼-inch thickness. He said, 'What if I only get 6 or 7 square feet?' I assured him that once the gun is set, it will accurately and consistently gauge the adhesive — and provide him the promised coverage. After a late start that day, they installed 321 square feet of limestone — using 32 ½ cartridges of LATAPOXY 310. That put an end to his concern about coverage."

"It worked out fine," O'Connor affirmed. "We came out within what we wanted to as far as the epoxy goes. The adhesion was tremendous."

Local LATICRETE rep Faso did the footwork up front to train the installation crews on prepping the substrate and setting up an efficient assembly line to prep the stone, as well as how to operate the LATAPOXY 310 Cordless Mixer and apply the spot bonding adhesive.

"We bead blasted the entire building to put a good clean surface up to adhere to, and we power washed it," O'Connor said. Power washing added to the cost, but "it was inconsequential compared to the cost of replacing it if anything went wrong," he said.

The next challenge came with application of the sealant. LATICRETE Latacil Tile & Stone Sealant was the recommended joint filler for use with LATAPOXY 310 Stone Adhesive. Champion Tile was hesitant to caulk the job themselves. Faso said "O'Connor had seen tile installers caulk before — sometimes it's not pretty."

"It was a cost issue for me," O'Connor said. "I didn't want to have a lot of waste and I didn't want to go back and fix it."

So O'Connor decided to hire Western Sealants, a professional sealant company. Faso was on site and watched two sealant professionals caulk about 30 square feet of limestone in about five minutes. "They didn't mask the joints or use any solvent to clean up," he said. "One guy skillfully applied Latacil into the

joint with a standard caulking gun. The other guy used a tuck pointer to compress the sealant into the joint, and used a flat razor to clean the edges. There were no smears and virtually no waste," Faso said.

LATAPOXY 310 and LATICRETE Latacil Tile and Stone Sealant were not the end of the story. For the steel framed areas, O'Connor used the full spread method with LATICRETE 9235 Waterproofing Membrane to keep the cavity dry and protect the screws from corrosion. The adhesive mortar used in this part of the project was LATICRETE 4237 Latex Thin-Set Mortar Additive mixed with LATICRETE 317 Floor 'N Wall Thin-Set Mortar. This combination of materials provided a "summer mix" — necessary for the desert heat. "It slows down cure time," O'Connor said. "The biggest thing you run into with this environment is being sure things aren't drying out too fast. If you can slow the cure time, it will make a better bond." In these areas Champion Tile and Marble grouted joints with LATICRETE 1500 SERIES Tri-Poly Fortified Sanded Grout.

O'Connor then turned his attention to the interior, which included recycled-content Terra Green tiles on walls — mainly bathrooms — supplied by ECORep Group. Crest Tile provided porcelain floor tiles for bathroom floors and Dal Tile sourced wall 2" x 2" mosaics, and the LATICRETE materials.

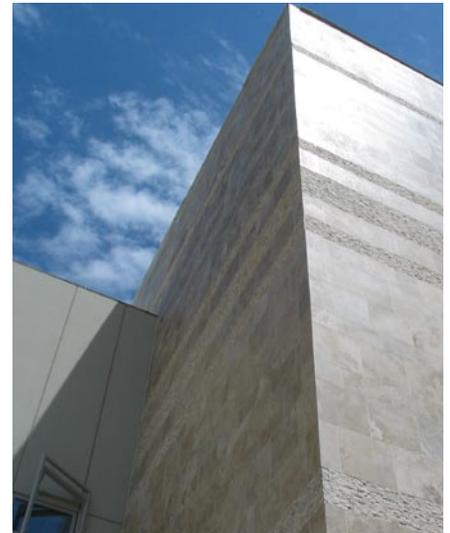
LATICRETE 253 Gold Multipurpose Thin-Set Mortar was used indoors, together with LATICRETE 1500 SERIES Tri-Poly Fortified Sanded Grout on walls and LATICRETE SpectraLOCK™ Grout epoxy grout on floors.

Proof positive! When all was said and done, "We finished a week ahead of schedule, spending about a month on the exterior," said O'Connor. Importantly, they also finished within budget.

"The project was a shining example of green building principles," said Martin-Harris' LaRue. In addition to the stunning exterior, the contractor focused on energy efficiency and recycled materials, including second floor damped skylights to make the most of the desert sun, bicycle racks and shower rooms for employees who want to ride to work and charging stations for electric vehicles.

The end result qualifies the CCSN Telecommunications Building for a LEED silver certificate, as well as multiple awards. Southwest Contractor Magazine named it Best of 2004. The National Association of Industrial and Office Properties (NAIOP) awarded it a range of honors including a Merit Award, The Honor Award — 2005 Spotlight Award for Environmental Excellence, and a special Judges Award — the first one given in the history of NAIOP's Spotlight Award.

LATICRETE helped make this award-winning project possible — and profitable. "The most expensive thing is the labor burden," said LATICRETE's Faso. "The spot bonding method saves time and money. Epoxy is more expensive than mortar, but it more than made up in the vast reduction of labor time."



The limestone veneer provides a beautiful timeless finish.



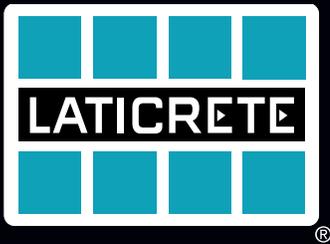
Champion Tile and Marble installer prepares to reload the LATAPOXY 310 Cordless Mixer.



The east wall was finished in far less time compared to traditional installation methods.



Entrance way to the building required detailed cuts and precision placement.



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Corporate Headquarters:
LATICRETE International, Inc.

One LATICRETE Park North,
Bethany, CT 06524-3423 USA
800.243.4788
203.393.0010

www.laticrete.com

Latin America: 1.203.393.0010

Europe: 34.96.649.1908

Middle East: 917.7.244.6396

India: 91.40.2337.8775

China: 86.21.139.1812.3215

Asia Pacific: 852.2526.6660