

TROWEL TALK

FLOOR PREP & CONCRETE RESTORATION PRODUCTS

Making the Grade at Boston's World Trade Center

When Boston's World Trade Center first opened in the early 1970s, it was with great fanfare and high expectations. But by the new millennium, the Center was plagued with a crumbling roadway and leaky roofs.

Enter **D&M Concrete Floor** of Fall River, Massachusetts, specialists in flatwork and pumping concrete.

Hired by the general contractor, Payton Construction, it was D&M Concrete Floor that repaired the World Trade Center roadway. "The roadway was deteriorating," remembers Kevin DeMello, Project Manager and Estimator at D&M. "As a result, water was leaking down on the convention exhibitors below. This wasn't exactly attracting new conventions to the Trade Center."

Keeping exhibitors and other convention attendees comfortable throughout construction was paramount. Boston World Trade Center officials wanted the roadway to remain open during the renovation. "That wasn't much of a problem for us," says Mr. DeMello, whose father and uncles founded D&M Concrete Floor 30 years ago. "We're used to working under challenging conditions."

Trade Center officials were also concerned that the conventioners below the job site would be able to hear the construction going on above them. The noise had to be kept to a minimum. "That was more difficult," laughs Mr. DeMello. In fact, World Trade Center officials often insisted that construction work be suspended until an exhibit concluded.

The first phase of the World Trade Center Boulevard Enhancement, as the project was officially called, was to tear up the existing roadway down to the structural slab. The exposed slab was then covered with a thick waterproofing membrane before the new concrete layer could be laid down.

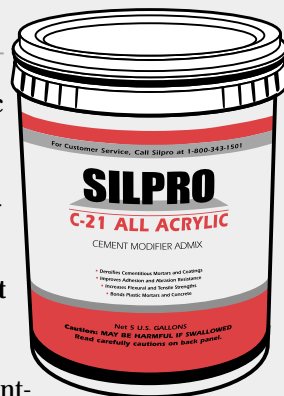
Adding a new concrete topping slab that wouldn't result in continued leaking problems presented somewhat of an engineering challenge. Most of the topping slab was to be four inches thick. However, the roadway had to be graded so that water would run off toward 25 pre-established drains.

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How to Dramatically Improve Mortars and Coatings — With C-21

by Ed Ferguson, Technical Director
Product — **Silpro C-21 All Acrylic** is a 100% acrylic latex additive that can be used to dramatically improve the properties of cement-based mortars and coatings.



Benefits — **Creates a Final Product that is Tougher, Less Brittle, and More Durable** — Replacing some or all of the mixing water in cement-based mortars and coatings with C-21 All Acrylic promotes adhesion to a variety of surfaces and improves water resistance by reducing porosity. The resultant cement-plastic composite also exhibits improved flexural strength, tensile strength, and impact resistance. You can even nail into some C-21 All Acrylic modified patches and underlayments.

Saves You Time and Money — Unmodified cement-based mortars and coatings are generally hard, brittle, and porous, with poor adhesion properties. When you add C-21 All Acrylic, it forms a plastic matrix or film throughout the mix. This matrix helps retain water and promotes cement hydration, resulting in improved compression (crushing) strength without wet curing. So when you mix your mortar or coating using C-21 All Acrylic, it's self-curing under most conditions.

Makes Application Easier — C-21 All Acrylic is low-odor and creates a creamy, easy-to-work-with consistency.

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Welcome to the new Silpro newsletter!

We've designed this publication for contractors, to help keep you informed about products and techniques that help you to do the highest quality work, on time and on budget.

This edition includes tips on patching and repairing concrete floors, suggestions from an expert on how to win more of the jobs you want, and important product information that could save you time and money.

I hope you'll find this newsletter to be a valuable resource. All of us at Silpro are committed to your success.

Ray



Ray Andrews
President

Project Report Card

Job: Resurfacing the Boston World Trade Center roadway.

Contractor: D&M Concrete Floor, Fall River, MA

Problem: Existing surface was deteriorating and causing water leaks on the exhibit space below the roadway.

Solution: Creating a sloped topping slab of concrete & Silpro's Mascrete, a polymer-modified repair mortar.

Silpro Materials: Used almost 42 tons of Mascrete and 468 five-gallon pails of C-21 Acrylic Admix.

A+

Making the Grade continued from page 1.

After consulting with engineers, D&M Concrete Floor determined that to properly grade the roadway, the thickness of the topping slab would vary from four inches thick to only 1/8 of an inch.

"This, of course, made it impractical to cover the entire surface

with concrete," explains Mr. DeMello.

"At 1/8 of an inch thickness, even the best concrete will start cracking." Instead, D&M used concrete only where the topping slab's thickness was specified at four inches. A polymer-modified repair mortar would have to be used for the thinner parts of the layer, determined by the engineers to be as much as 15 feet from the drains in some areas.

For these thinner parts of the topping, D&M Concrete Floor chose to use Silpro Mascrete™. Mascrete is a two-component, polymer-modified, Portland cement-based, structural repair mortar that can easily be laid as thin as 1/8 of an inch without cracking. After curing, Mascrete is unaffected by water, which made it the ideal choice for the World Trade Center roadway that doubles as a roof over the convention space.



Before

For added strength, D&M Concrete Floor also used C-21 Acrylic Admix, another Silpro product, as a bonding agent. Silpro C-21 Acrylic Admix improves the flexural and tensile strengths that had become issues with the original roadway surface.

The World Trade Center job would require 1,040 80-pound bags of Mascrete and 468 five-gallon pails of C-21 Acrylic Admix. Mr. DeMello was never concerned that such a large order would be a problem. "Silpro is readily available. I knew we wouldn't have to wait for our order."

D&M Concrete Floor completed the job with a daily crew of two finishers and two laborers. The Mascrete layer has now been supporting foot and automobile traffic for a year.

"We can count on Silpro to do the job the way it's supposed to do it. We've always used Silpro," adds Mr. Mello. "As a matter of fact, the original specs weren't for Silpro, we insisted on it."

For more information about D&M Concrete Floor call them in Fall River at: **508-675-2423**.



After

C-21 All Acrylic continued from page 1.

Offers Many of the Advantages of Plexiglass — C-21 All Acrylic is a dispersion of tiny acrylic polymer particles in water. The acrylic is similar to the hard, tough, durable clear sheet, commonly called Plexiglass, available at hardware and building material retailers for window and door applications.

Applications

Specified for Use With Silpro Masco, Mascrete, California Stucco, Concrete Finish, and Seal Cote — Users of these products will attest to their exceptional workability and cured properties.

Offers Superior Properties for Aesthetic Exterior Applications — Unlike some other latex modifiers, C-21 All Acrylic was developed specifically for use as a cement modifier. It exhibits excellent stability, shelf life, working

properties, pot-life, and UV resistance, making it ideal for aesthetic exterior applications such as stucco.

Improves Performance of Field Mixes — Just add one gallon of C-21 All Acrylic for each 20 pounds of cement contained in cement-based stuccos, mortars, overlays, patching mixes, linings, coatings, and any other application where improved performance is required.

Works as a Primer to Strengthen the Bond of Cement-Based Coatings and Mortars to a Variety of Surfaces — As a primer, C-21 All Acrylic optimizes the bond of cement-based coatings and mortars to poured concrete, brick, concrete block, stone, wood, tile, and clean steel.



TROWEL TIPS

by Jim Condon,
Application Specialist

FOCUS ON FLOORS – OVER AND UNDER APPLICATIONS

Q: *Can a particular finished-goods product, such as sheet vinyl or carpeting, be installed over Silpro's polymer-modified cement products?*

A: Yes, whatever you can apply to a clean, sound concrete surface can be applied over Silpro products. Even epoxy coatings and rubber flooring — which could pull up a lesser product — won't pull Silpro products from the substrate. When we do pull tests in the Silpro lab, the face of the concrete pulls apart, not the bond to the concrete.

Q: *Can Silpro thin layer repair products be applied over epoxy coatings, quarry and ceramic tile, wood, paint, steel, carpet adhesive, and asphalt cut-back adhesive?*

A: Yes, but as with all well-done jobs, proper surface preparation is key. Bead blast to remove paint and epoxy coatings, and to profile tile. For concrete, scrape off all of the adhesive and cut-back until there is just a residue remaining down in the pores. Wood must be cleaned by sanding. Steel must be scratched or sand blasted. Although shortcuts are tempting, you don't want to take the gamble. If you don't get a good bond with cement patching materials, they will shrink and crack. It's worth taking the time to do the right prep work and ensure the successful application of a thin-layer patch or a tight, skim coat of material to the surface.

Q: *But I've applied a deep repair over a surface without that kind of prep work and didn't have any problems. How come?*

A: You got lucky. I can't stress enough, if you're not doing the prep work, you're gambling with the success of the bond. **Never, never, never** apply a deep repair over anything but clean, sound concrete. This is especially true over asphalt cut-back adhesive. Even if you do get a good bond to *whatever is under* the repair, it is likely that that surface will come apart when subjected to stress from the repair mortar trying to shrink. Even asphalt that is scraped down to a residue can actually pull up and out of the floor. And if it gets loose, you lose. We call that a very expensive asphalt removal system — better to bead-blast to get it totally clean.

When doing thick repairs, remove everything down to clean, sound concrete. When this can't be done, mechanically fasten diamond lath (the type used for stucco) to the floor and then place Silpro materials into and over the lath. If you work over clean concrete or you fasten lath to the substrate, you win. **Don't gamble, do it right.**

Jim Condon has 34 years of experience in the construction industry, including 14 years as a brick layer and cement finisher, and 18 years as a specialist in applications at Silpro.

Marketing for Contractors — Winning Jobs

by Michael Uhre, Guest Contributor & Beverly Kerins, Accounting Manager and Marketing

HOW TO WIN MORE OF THE JOBS YOU WANT

Michael Uhre, a 28-year construction veteran who is currently Director of Operations at The Tower Group, Inc., a \$108,000,000 construction management GC out of Davie (Ft. Lauderdale), Florida, had these suggestions for getting noticed by your favorite GC or Architect...

- **PAY YOUR BILLS** Do you pay your bills on time? Prompt payment is a good indicator of your integrity, as well as how responsible you are, two qualities which will make the GC look more favorably towards choosing your company for his project.

If you can't pay your bills when due, usually in 30 days, do you consistently pay them in 45 days, for example? Communication is important here. If you let your supplier know that you need more time to pay, and keep him informed as to "why" and "for how long", he will be much more inclined to give you a reference a GC can deal with when that next job comes along.

- **FIND A GOOD SUPPLIER AND WORK TO MAINTAIN THAT RELATIONSHIP** If you pay your bills within terms, but have been with a supplier only a short time, that could be a red flag during a reference check. (Did you have to change suppliers because you stopped paying your bills? Or reached your credit limit?) Do some research and find a supplier that you will be able to establish a long-lasting relationship with. A supplier who will have the

products you need when you need them, at a price that works for you, and will be able to provide, or put you in contact with a manufacturer who can provide, any technical help you may need for the successful completion of your job.

- **BE CAPABLE OF DOING THE WORK (THE GC'S CONCERN):** The GC will be checking your prior jobs listing to see: if you were able to keep up with the construction schedule, that you did not turn in a lot of change orders, that you were co-operative, and that there was not a long punch list for the section of the job that was yours.

- **DO QUALITY WORK (THE ARCHITECT'S CONCERN):** The architect is primarily concerned with the quality of your work. He will be able to say he would recommend you for another job if your work was of an acceptable level (again looking at the length of the punch list your work generated), if you were co-operative, meaning your response to his request to "fix" something was, "I'll take care of that right away." as opposed to, "It's good enough the way it is."

- **BE RESPONSIVE** Do you return phone calls in a timely manner? Or not at all?

Marketing for contractors is what you do to get people to notice you. Every aspect of how you do business, including how you conduct yourself on the jobsite, is a big part of the story you are telling the world about who and what you are.

Helpful Hint

- **KEEP A DETAILED LISTING OF YOUR JOBS** This should include a list of the jobs you've done by type, size, GC's name with contact name and phone number, Architect's name with contact name and phone number, products used, method of application, etc. If you have to fill out a pre-qualification form for a new GC or Architect, all of the necessary information will be readily available to you.

SILPRO

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