

*Mega-makeover delivers...*

## More than a pretty facade

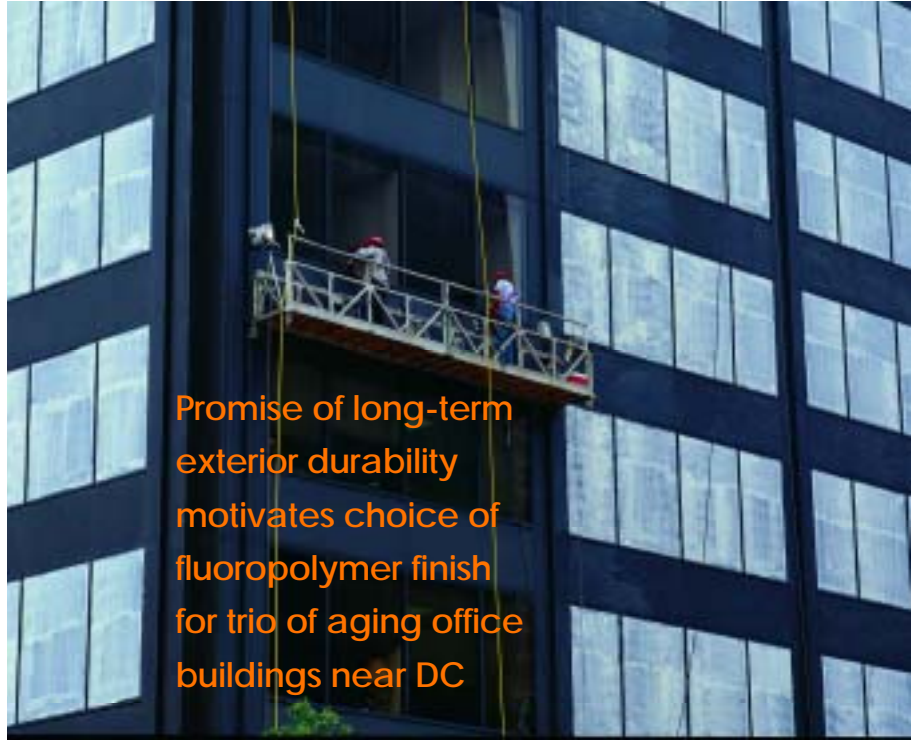
By Joe Maty, JAC Editor

**N**obody said it would be easy, and it sure wasn't. For that matter, nobody said it would be cheap. But then, anyone who ever gave a passing thought to the notion that quality comes easy or cheap probably never rehabbed or repainted the exterior of a large office building with the expectation that the job would hold up for a good long stretch of years.

The Washington, DC-based Charles E. Smith Co. certainly rejected any idea of doing the job on the cheap when it came time to rejuvenate the aluminum-clad exteriors of the company's three "Skyline" office buildings at Bailey's Crossroads, near Arlington, VA.

In sizing up the project, the Smith company's objective was to keep the 1970s-vintage buildings relevant in an increasingly upscale suburban environment. The company realized it would require a hefty investment, said architect William Pegues, FCIC, of the Washington architectural firm Weihe Design Group (WDG), who served as project architect for the Skyline repaint jobs.

"Here were three big obelisks of dark chocolate brown, very dated in the quality of the coating," Pegues said in recalling the situation faced by the architects and the property owner.



Promise of long-term exterior durability motivates choice of fluoropolymer finish for trio of aging office buildings near DC

*Photos courtesy of PPG Industries, Inc.*

Pegues said that at first glance, the turgid brown of the Skyline trio gave the impression that an original black color had chalked and dulled. The custom-tinted "Beaver Creek" shade chosen for the repainting—in the beige or tan color family—has made the buildings less of a misfit alongside their newer, brighter-hued neighbors.

"They wanted something that tended to blend with other colors," Pegues said of Charles E. Smith representatives. "They wanted them to blend in, be a little more contemporary" rather than "standing on end like dominoes."

Coatings supplier PPG Industries Inc., Pittsburgh, PA, and architect Pegues agreed on a coating combination headlined by a fluoropolymer resin-based topcoat—a top-of-the-line architectural-coating material that commands a steep price but comes with a promise of unparalleled long-term durability, gloss, and color retention.

Roger Mabe, PPG national sales and marketing manager, Building Restoration Products, said the company's sales pitch in cases such as Skyline emphasizes the long-term ben-



*The Skyline office buildings at Bailey's Crossroads in northern Virginia. Recoating of Building One, in foreground, is completed, with work under way on Buildings Two and Three.*

each of the three structures, which combined consisted of 450,000 square feet of surface to be coated.

The fluoropolymer coating, since changed to the brand name “Corafon,” sold for around \$275 per gallon at the time of the project.

The repainting of Skyline One was done in 2001, with Skyline Two and Three completed in late 2002.

### A daunting prep and painting task

The restoration of the exteriors of the three buildings, each 15 stories high, began with the oldest of the structures, “Skyline One.” The original coating, a shop-applied fluoropolymer-based material of the Kynar-resin variety, had predictably lost its pizzazz after more than 20 years of exposure, and the aluminum cladding had been repainted every few years during the 1990s with a conventional alkyd resin-based enamel.

Clearly, a longer-term solution was needed to give the building—and eventually its younger siblings—an appearance mirroring changing architectural currents and the area’s subsequent commercial development. Project planning started in 2000 with the writing of the specifications for Skyline One, and preparation and application work spanned a five-month period in 2001.

Considerable discussion went into the development of a warranty agreement, a crucial part of the project for both property owner and coating supplier.

profit when the talk gets around to price. “These kinds of projects aren’t for the faint of heart,” Mabe said in a frank assessment of the cost issue.

Mabe pegged the project cost for each of the buildings in the “seven-figures” range, with labor accounting for perhaps 80% of the total—a typical breakdown for professional coating work. He estimated that approximately 300 gallons of PPG’s “Megaflon” fluoropolymer topcoat was applied to

the development of a warranty agreement, a crucial part of the project for both property owner and coating supplier. In the negotiations, PPG agreed to issue a 10-year “material only” warranty covering adhesion, color retention and chalk resistance, and provided the building owner with a list of contractors that PPG believed possessed the capability to successfully do the job.

Universal Building Service, Germantown, MD, won the contract for Skyline One. John B. Conomos, Bridgeville, PA,

secured the contracts for buildings Two and Three.

Preparation work for Skyline One started with “a hand-wipe,” or stripping, with the solvent acetone to remove the layers of repaint down to the original fluoropolymer coating or, in some places, down to bare aluminum. Use of mechanized sanding was scratched due to noise generation that would aggravate tenants. The stripping included the aluminum curtain-wall panels and the horizontal and vertical window extrusions.

The original fluoropolymer finish was in generally good shape, and the sanding yielded a roughening of the surface to provide “teeth” to facilitate adhesion of new coatings. The initial stripping and sanding was followed by another hand solvent wipe.

Where the stripping and sanding exposed bare metal, a conventional acid-based wash primer was applied by brush and roller. All the surfaces were then painted with a recoatable epoxy primer, followed by the air-dry fluoropolymer topcoat. The application method on Skyline One was air-assisted electrostatic spray. Airless spray was used on Skyline Two and Three.

The restoration project also required removal of old window caulking in stages to prevent water leakage while the work was in progress. For this, a portion of the old caulking was removed, the painting was done, and then new caulking was applied. Painting over caulk would inevitably lead to coating failure due to the expansion and contraction of the caulk.

The caulk supplier—in this case Dow Corning—was sent a sample of the coating to match the topcoat shade. “If you go to these buildings and look at them, you can’t tell where the caulk joints start and where the paint starts, unless you get right up on it,” Mabe said.

Masking of windows also presented a challenge during the project, as plastic sheeting employed on Skyline One caused breakage of nearly 50 windows due to thermal expansion and contraction, the result of daytime-to-night-time temperature swings. A strippable coating of the type used in spray-paint booths for shop-applied coating was used as masking on Buildings Two and Three, and the glass-breakage issue was largely neutralized.

The preparation and application processes for Skyline Two and Three were generally identical to the Skyline One project, with the notable exception that the initial solvent-stripping step was not required due to the relatively good shape of the existing coating surface.

### Fluoropolymer technology: Color for the long haul

Mabe said Skyline marked PPG’s first exterior-restoration project using the Megaflox/Coraflon fluoropolymer coating

technology, with the newer version offering a reformulated solvent mix to provide lower volatile organic compound (VOC) content. The coatings comply with an EPA rule that governs VOCs in architectural and industrial maintenance coatings in most of the country, he said.

PPG is at work on further reformulation that will result in VOC levels that will meet new, tougher restrictions in California and several Mid-Atlantic and northeastern states, Mabe said.

PPG has produced fluoropolymer-resin-based coatings for more than 40 years, but obtained the technology for air-dry systems with the acquisition of Keeler & Long in 1997, opening the door to field-application possibilities and restoration jobs such as Skyline.

The fluoropolymer resin technology employed by PPG was pioneered by Asahi Glass of Japan in the early 1980s, and coatings based on the technology have compiled an impressive track record of 20-years-plus service life in demanding settings such as bridge railings, PPG says.

A notable advance with new fluoropolymers, Mabe said, is the clarity of the resin and the resulting color strength and gloss capability of the coating. These attributes, combined with the well-documented UV resistance of fluoropolymers, deliver a field-applied finish quality on a par with the installation of all-new cladding carrying a shop-applied coating, Mabe asserts.

“That’s the real beauty of this. You’re going to restore the original fluoropolymer durability with a field-applied coating versus pulling the skin off the building and putting a new one up there. That’s probably 10 times more expensive than doing the field application.”

These advanced coatings systems are recommended for high-end architectural applications where UV resistance, color and gloss retention over the long haul are a priority. Use is not advised in highly corrosive or other extreme environments, where heavy-duty industrial maintenance coatings are specified.

“For the uses we’re recommending—primarily architectural metal—you’re not going to find a coating that is more aesthetically pleasing for a greater number of years,” Mabe said.

Skyline architect Pegues said the air-dry fluoropolymer technology answered the Skyline project’s need for an updated look that will last. “This was a great coating and a 10 year warranty,” he said. “I thought we got great results.”

Pegues and others involved in the project agree that while the Skyline trio may not warrant the title of Glitzville, it certainly can no longer be derided as Dullsville.