In the Field

Breaking the Weather Barrier

A construction team says 'no' to limits of cold and wet during air barrier installation.

On a swing stage 10 stories above Silver Spring, Md., Project Manager Rich Sparaco and his crew from Prospect Waterproofing Co., Sterling, Va., installed a fluid-applied air barrier on an under-construction apartment building.

The raw winds of early March 2013 reddened exposed skin as they worked, but they didn't mind.

"We wore our cold weather gear, coats, gloves and hoodies," Sparaco said. "We wore safety gear on top of that. We're used to it. We work in all weathers."

But the fluid-applied air barrier struggled.

The apartment building, Eleven55 Ripley, was designed by Shalom Baranes Associates, Washington, D.C., and built by James G. Davis Construction, Rockville, Md. The 21-story masonry-clad building is said to be Silver Spring's tallest residential tower.

Construction began in January 2012. By March 2013, much of the light-gauge steel-framed building was up, including the exterior sheathing, fluid-applied air barrier and rigid insulation.

As these layers of the building envelope went up, masons from Manganaro Midatlantic, Beltsville, Md., followed, laying light and dark tan brick in remarkable, shifting patterns of courses.

"The building should win an award just for that masonry design," said Tom Meile, the project's construction superintendent and a former mason. "I've never seen anything like it."

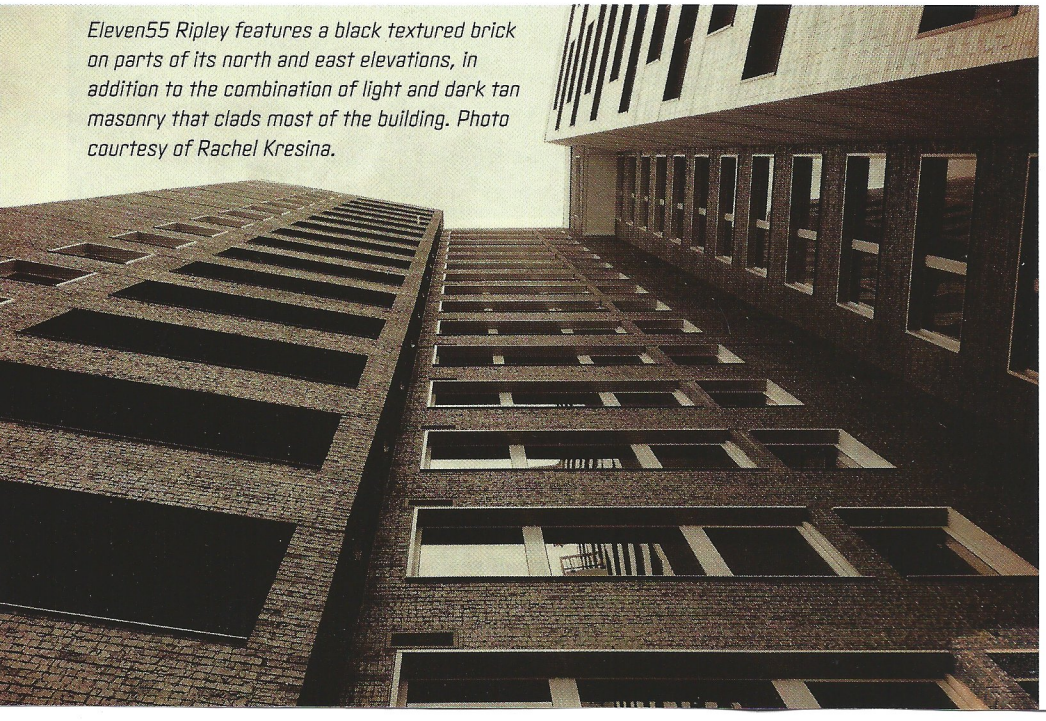
The west (right) and south elevations of Eleven55 Ripley luxury apartments shine in February afternoon sunlight. Beneath the clay masonry exterior, the building relies on two separate air barrier systems. Photo courtesy of Jim Glaze, Thomco Inc.

They laid a textured black brick on the building's lower floors, including the above-grade portion of the parking garage, and on parts of the tower's north and east elevations, he added.

But when cold weather, wet weather or the threat of wet weather delayed the building's air barrier installation, it also stopped the masons.

"We started out with a fluid-applied air barrier product," Meile said. "It's a good product. It performs well on the building when installed right, but it has a lot of weather restrictions."

Those restrictions include manufacturer recommendations to not apply the air barrier in weather colder than 40°F (4°C), predicted to fall below 32°F (0°C) within 48 hours, on wet substrates or when rain is likely within 16 hours.



Eleven55 Ripley features a black textured brick on parts of its north and east elevations, in addition to the combination of light and dark tan masonry that clads most of the building. Photo courtesy of Rachel Kresina.

Those are fairly typical restrictions in the industry, Meile said. Unfortunately, those weather conditions are fairly typical at the job site too.

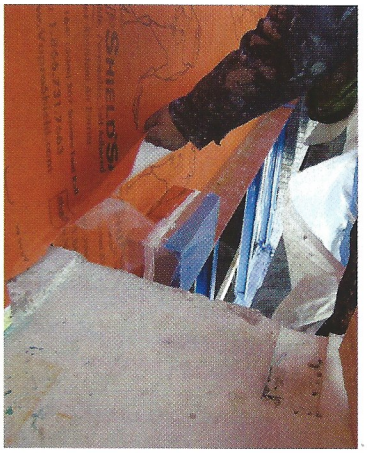
The tipping point occurred in early March 2013, after a storm with 30- to 40-mph winds blew through overnight.

"It wasn't pretty," Sparaco said. "The wind and rain had blown the air barrier flashing off a lot of the rough openings, and it dangled down in strips all over the building."

The storm peeled off some of the primary air barrier as well, Meile said. The manufacturer provided the required repairs, but because of the delays, the construction team was already considering alternatives for the top half of the building.

A possible solution came to their attention from VaproShield, a Gig Harbor, Wash.-based air barrier manufacturer, in the form of its WrapShield SA self-adhered membrane air barrier. The product can be installed in temperatures as low as 20°F (-6°C), according to the company's technical literature.

The product had no restrictions on application with rain imminent, Meile added.



An installer from Prospect Waterproofing Co. removes the release paper from the self-adhered membrane, lapping over a penetration in shingle fashion, to maintain continuity of the air barrier system. Photo courtesy of Jim Glaze, Thomco Inc.

After meetings, mock-ups and chamber-testing, the new air barrier made it to the job site. Sparaco and crew started installing it on the 10th floor.

From the swing stage tethered to the roof, Sparaco and his crew hand-placed and patted down the self-adhered sheets to the DensGlass Sheathing, working up the building from the east elevation to south, west and north.

They flashed rough openings with strips of the membrane air barrier, covered by a black waterproof, but vapor-permeable, caulk gun-applied paste called LiquiFlash.

With many of the weather-related restrictions removed, the work proceeded on pace, with building envelope work wrapping up in August, Meile said.

Both Meile and Sparaco emphasized that the fluid-applied air barrier that coats the sheathing of Eleven55 Ripley's first nine stories is a good product.

"It'll perform as claimed, backed up by warranty," Meile said. "But we were losing days because of the weather limitations.

"We're starting to see more products that address those limitations," he added. "Now I hope to see owners and architects addressing them in their specifications." — *Gary Henry*

SUPPLIES

continued from page 57

Painter's Tool Is Multi-functional

The HYDE Painter's Assistant is a multi-use painter's tool that works as a carry¬ing handle for 1- and 2-quart containers and clips to your roller tray, providing a magnetic brush holder right where it's needed. Other uses for the tool include paint can opener, brush and roller cleaner, belt hook, putty knife/scraper, paint can hook when climbing ladders and garage tool hanger, says HYDE.

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