

ATLANTIC TERMINAL OFFICE BUILDING

Unique Terra-cotta Curtain Wall Blends
a High-rise with its Brooklyn Neighborhood

A few words come immediately to mind when one thinks of Brooklyn. "Brownstone" is probably right up there with "Dodgers." So when Forest City Ratner decided to build a new office building and retail center on the border of four of the borough's brownstone neighborhoods—Fort Greene, Park Slope, Boerum Hill, and Prospect Heights—masonry cladding was practically a necessity.

In spite of its historic neighbors, the ten-story, 350,000-square-foot Atlantic Terminal Office Building, designed by Swanke Hayden Connell Architects, is no throwback in terms of construction. Built above a 450,000-square-foot retail center, designed by Hardy Holzman Pfeiffer, with Target as the principal tenant, the building has a modern structural steel frame and a unique terra-cotta, glass, and aluminum curtain wall, which helps the building harmonize with its neighbors while meeting contemporary office and retail needs. The \$120 million building will house offices for the Bank of New York. "The intent was not to mimic the surroundings, but to use a material that was sympathetic," says Joseph Aliotta, project principal for Swanke Hayden Connell Architects.

The curtain wall's 1 3/8-inch-thick

unglazed terra-cotta tiles rest in galvanized steel pans set in an aluminum frame. The tile/pan units arrived pre-assembled off site and were then installed in the frame system. Silicone spacers and beading and mechanical fasteners hold the tiles in place and also allow for slight movement, to accommodate wind loads and building drifts in severe weather conditions. "The silicone adds a degree of ductility," says Jeremy Mucha, of Benson Industries, the curtain wall designer on the project, "which is important during installation and during the life of the building." Terra-cotta is usually installed over a vapor barrier, but here the tiles act as a rain screen, protecting the curtain wall from weather, while the silicone spacers allow the tiles to breathe.

The steel pans are the impervious surface, the true building skin.

The Atlantic Terminal Building's curtain wall system is believed to be one of the first of its kind in the U.S., though Mucha has since adapted it for two towers on the West Coast—the Washington Mutual Tower in Seattle, and the Coburn School for the Performing Arts in Los Angeles. "Terra-cotta is a fairly common building material in Europe, but it's usually hand set," says Mucha, "This



ABOVE The limestone-clad Williamsburg Bank Building is the only other tall building in the area.



LEFT: ©BENSON INDUSTRIES; RIGHT: ELLIOTT KAUFMAN



LEFT The terra cotta curtain wall hides a sophisticated steel framing system.

RIGHT Brooklyn brownstones are the skyscraper's immediate neighbors.



TOP, OPPOSITE The unitized curtain wall system allows for easy erection and replacement.

The building has a modern structural steel frame and a unique terra-cotta, glass, and aluminum curtain wall, which helps the building harmonize with its neighbors while meeting contemporary office and retail needs.

unitized curtain wall system is the first of its kind.” The system includes roughly 2200 tile/steel pan units, which can be replaced in the event of any damage to the building. The unitized framing system is also flexible enough to allow the curtain wall to cantilever away from the concrete floor plates on the building’s western facade.

Terra-cotta weighs about as much as granite sheathing—between 16 and 18 pounds per square foot—so it didn’t add any additional weight or require unusual bracing. Mucha used an interlocking joinery system that is similar to those used for granite curtain walls, however, because it is a unitized system, it was easier to install and will be easier to maintain. “You can’t make a lot of mistakes with granite,” he says with a laugh. The smaller terra-cotta tiles offer more flexibility and can be cut on site with a common masonry saw. Mucha estimates that 100 tiles were broken throughout shipping and installation, but were easily and affordably replaced.

Located above Brooklyn’s largest transit hub—with access to ten

subway lines, the Long Island Railroad, and four bus lines—the building is nearly 16 stories, including four stories in the retail complex, ten stories of office space, and two stories in the “mechanical penthouse,” which includes HVAC and other building systems. This varied program required a complex structural system.

The retail center, which was built first, straddles the transit lines below. The northeast corner of the building was constructed with additional structural steel columns to accommodate the office tower. This portion of the site is on solid ground, with no transit lines beneath, and thus could support the extra weight. “The northeast side is on virgin ground,” says Aliotta, “it was the only place where we could avoid spanning the subway.”

The Atlantic Terminal Building skillfully blends timeless materials and contemporary technology to create a new mixed-use center that is both an economic boom for the borough and a good neighbor to its immediate surroundings. “In Brooklyn there is a lot of context for a terra-cotta curtain wall system,” says Mucha, “it’s an engineered material that also evokes a neighborhood feel.” ■

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Owner **Forest City Ratner Companies** *New York, NY*
 Architects **Swanke Hayden Connell Architects** *New York, NY*
Hardy Holzman Pfeiffer *New York, NY*
 Engineers **Dewberry Goodkind O’Dea** *New York, NY*
WSP Cantor Seinuk *New York, NY*
 General Contractor **FCR Construction Services, LLC** *New York, NY*
 Structural Steel Fabricator and Erector **Interstate Iron Works** *Whitehouse, NJ*
 Miscellaneous Steel Fabricators and Erectors
Empire City Iron Works *Long Island City, NY*
Structural Systems, Inc *Maspeth, NY*
 Curtain Wall Fabricator **Benson Industries** *New York, NY*
 Curtain Wall Erector **Solera/DCM Erectors, Inc** *New York, NY*
 Metal Deck Erector **A.C. Associates** *Lyndhurst, NJ*