

**At the fluid management company's new campus, expansive curtain walls enhance wayfinding and energy efficiency.**

**YOU NAME IT, THE PALL** Corporation purifies it. A 66-year-old fluid management company based in Port Washington, Long Island, it realizes \$2.4 billion annually selling filters used in installations ranging from municipal water plants to micro devices that separate blood and trap pathogens. This circus-tent approach to the filtration business was an apt metaphor for Pall's existing 221,000-square-foot-facility on its 18.5-acre Port Washington, New York, campus. "People used to get lost in the building, because they couldn't orient themselves in the hodgepodge of space," says Joseph Randazzo, of Spector Group, the architecture and planning firm engaged to address the problem.

In October 2009 Spector Group completed a consolidation of Pall's Port Washington and East Hills, New York, offices into one world headquarters. In doing so the design team, led by Randazzo, expanded the existing facility; the new facility now totals 276,000 square feet. More important, it makes sense of old and new wet labs, research rooms, and administrative spaces, by effectively inserting a main street into the facility's major east-west axis. (The original east-facing entrance was also recast as the executive entrance, and Pall's 500 employees arrive at work via a new portal on the west elevation.) A two-story visitor entrance intersects the new corridor near its center,

## Pall Corporation Headquarters





**This page** The main entrance and the rectilinear cafeteria curtain walls are secured by connections to the addition's 20-inch-diameter structural-steel columns. Horizontal 6-inch-diameter schedule 80 steel pipes are welded to the columns with a steel connection plate between the pipe and the column.

**Previous spread** The new 55,000-square-foot addition creates a new entrance for Pall Corporation's Port Washington headquarters.



the corridor terminating at one end in an equally soaring employee cafeteria.

Curtain walls distinguish the two volumes, covering approximately 17,500 square feet of surface. Each wall provides abundant diffuse daylight that enhances the main street's job of orienting building users while capitalizing on reduced lighting costs, boosting the facility's sustainability profile. Both are constructed as stick systems that are thermally broken and glazed with float glass sputter-coated in vacuum-deposited metallic oxide nitrate. The low-E coating blocks approximately 60 percent of solar energy and results in a total U-value of 0.29. YKK AP America's YHC 300 SSG structural silicone system was specified for both stick systems.



One of the most important features of the systems is their design for rigorous wind and impact loading. "We're within a certain distance from the water and in a high wind zone, so new portions of the building have to be prepared for hurricanes or similar impacts," says Randazzo.

Appropriately, the YKK product is ASTM E 1886/1996, TAS 201, 202, 203 +70/-90 PSF (Large & Small Missile), and approved by Miami-Dade NOA and the State of Florida. ASTM B 221 (ASTM B 221M), 6063-T5 aluminum alloy mullions engage 3-by-5-foot insulated glass and, on the other side of a ½-inch air space, a pair of ¾-inch glass panels sandwiched by .070-inch SAF-Glas clear polycarbonate laminate.

Previous spread: Pall Corporation; This page: Spector Group Architects

This page: Pall Corporation

**This page** The building lies in a high wind zone close to the water, so curtain walls meet rigorous wind and impact loading requirements.

The segmented main entrance and the rectilinear cafeteria walls are all held in place via connections to the addition's 20-inch-diameter structural-steel columns. Horizontal 6-inch-diameter schedule 80 steel pipes are welded to the columns with a steel connection plate between the pipe and the column that was designed and fabricated to allow for easy attachment. Quarter-inch-thick custom steel brackets project outward from the pipes and attach to the 3-inch-wide mullions by through-bolting. Brackets are either fixed to the mullion or, where wind load demands it, include a slotted connection that allows the mullion to move. In either case, a nylon washer separates the aluminum mullion from the steel bracket, thereby preventing the electrolysis and corrosion that would come from direct contact.

In another example of customization, Spector Group worked with YKK to design an elliptical extruded-aluminum cover that snaps onto the horizontal mullions, and which connects in series by silicone butt joint. The exterior finish on the snap-on covers is a factory-applied three-coat PPG Duranar XL, while interior aluminum elements are double coated in the high-performance fluoropolymer. The cold-rolled steel members were sandblasted in the YKK factory and electrostatically painted to match the aluminum.

The entry includes a canopy of custom tapered structural steel with 2½-inch-diameter steel pipe running perpendicularly







**Above** The entry canopy is supported by custom tapered structural steel; 2½-inch steel pipe runs perpendicularly through the members. The frame is suspended by ¾-inch-diameter stainless steel rod with turnbuckles.

**Facing** The completed addition enhances wayfinding on the campus and puts a sleek face on the company's state-of-the-art facilities.



through the members. The frame is suspended by ¾-inch-diameter stainless steel rod with turnbuckles, and it cantilevers from the building via a 14-inch-tall bracket. Pin connections at the junctions put less stress on the structural system, especially when wind pushes the canopy upward. Half-inch-thick laminated sheets of glass attach to the frame by #4 stainless steel spider fittings.

While the canopy adds a flourish to the curtain walls, the south elevation also includes a more straightforward counterpoint. The addition features approximately 2,200 square feet of punched and strip windows. In addition,

there is a separate system comprising 21,000 square feet of 0.236-inch-thick Alcan Composites Alucobond. This rout and return, integral-gutter system includes panels triple-coated in PPG Duranar XL finish ranging from 3 feet wide to 9 feet wide—to achieve consistency with the 3-by-5-foot glass panels, but also to create diversity on the facade. The combination of crisp opaque and transparent expanses, Randazzo says, “emphasizes Pall’s state-of-the-art technology” and breathes new life onto a once-nondescript suburban headquarters.

This spread: Pall Corporation

#### **PALL CORPORATION HEADQUARTERS**

Location: 25 Harbor Park Drive, Port Washington, NY  
 Owner: **Pall Corporation**, Port Washington, NY  
 Architect: **Spector Group Architects**, New York, NY  
 Structural Engineer: **Office of James Ruderman**, New York, NY  
 Mechanical Engineer: **Lizardos Engineering Associates, PC**, Mineola, NY  
 Construction Manager: **JT Magen & Company Inc.**, New York, NY  
 Structural Steel Erector: **Piermount Iron Works**, Wayne, NJ  
 Miscellaneous Iron Erector: **Piermount Iron Works**, Wayne, NJ  
 Architectural Metal Erector: **Egan Architectural Metal & Glass**, Yonkers, NY  
 Curtain Wall Erector: **Egan Architectural Metal & Glass**, Yonkers, NY