



CORNELL UNIVERSITY,
JOAN AND SANFORD I. WEILL
**MEDICAL
COLLEGE**

AMBULATORY CARE AND EDUCATION FACILITY

Glass Curtain Wall Takes a Reflective Look at Healthcare

When Polshek Partnership Architects of New York City began to design the new Ambulatory Care and Education Facility for the Joan and Sanford I. Weill Medical College, one of their main objectives was to create a healthcare center that would easily integrate into the surrounding neighborhood. It was also important to avoid designing a building with the typical institutional identity associated with hospitals. Their solution: to wrap the 15-story building in a reflective glass skin whose shifting, angled, vertical facets both echo the design of the gothic New York Weill Cornell Medical Center across the street and inspire a sense of comfort and beauty.

Speaking about the curtain wall for the 300,000-square-foot facility, Polshek design principal Todd Schliemann remarks, "We weren't interested in transparency: We didn't want people looking in, and, once they were inside, we wanted to create for them a kind of distance from the city." To achieve this, the architects first chose to use custom made insulated glass units that incorporated Guardian UltraWhite Glass, whose low iron content reduces the greenish tint analogous with many glass buildings. A white ceramic frit pattern was fused to the glass on the number 2 surface (the inner face of the outer piece of glass), giving the building a gossamer like face. Appearing on the surface as fine,

faceted marks, the frit allows clear views looking out from the inside, while those looking in from the exterior see only a diaphanous veil across the glass.

Although the designers were interested in creating a beautiful curtain wall, light and elegant in appearance, in order to become part of the neighborhood the building would have to be compatible with the mid-rise scale of the Upper East Side surroundings. To this end, the architects spent a great deal of time adding faceting to break up the volume of the building. Cut on the diagonal, the faceting creates long vertical planes on the facade, which appear to move, softly reflecting the surrounding buildings.

The curtain wall is made up of rectangular and trapezoidal shaped insulated glass panels, measuring 5 feet by 14 feet—the height of one building story. Each panel incorporates a five-foot-by-seven-foot spandrel lite and a vision lite of the same dimensions. The spandrel lite covers the edge of the floor slab, while the vision lite constitutes the window portion of the panel. The designers designated thicker glass than is normally used for similar curtain walls. The outer lite is 3/8 inch thick, with a 1/2 inch of inner airspace, and the inner lite measures 1/4 inch thick. This thicker glass was needed for wind resistance on the

OPPOSITE: © ANDY RYAN FOR POLSHEK PARTNERSHIP; THIS PAGE: © POLSHEK PARTNERSHIP ARCHITECTS

OPPOSITE AND RIGHT The curtain wall's thick glass prevents pillowing and produces undistorted reflections.





ALL THIS PAGE The panelized wall system combines vision and spandrel lites in one piece for a more efficient erection. Steel at the floor slab edge was carefully calibrated to match the curtain wall's folds.

upper floors, but also eliminated the pillowing effect that mars many glass walls. It also helped to achieve a flat face, creating strikingly undistorted reflections.

Due to the faceted geometry of the skin, a unitized curtain wall system proved the best solution for the efficient fabrication and erection of the facade. Roberto Bicchiarelli, Executive Vice President of Permasteelisa Cladding Technologies, the curtain wall fabricator for the project, comments, "The face of the new ambulatory care facility was almost like an accordion. It made the engineering a little more complicated than a standard vertical flat facade." Bicchiarelli and his team approached the project using a 3D modeling system to develop the curtain wall design and 3D software for the drawings. As Bicchiarelli goes on to say, "We invested time and money upfront to produce more sophisticated tools, layouts, and anchors so that by the time of onsite installation, things went very quickly."

In order to expedite the erection of the curtain wall, all steel connections were thought out well in advance. As Polshek project manager Craig McIlhenny describes, "We designed the building's steel structure to follow the same shape of the facade. Careful review of steel shop drawings saved a lot of onsite headache." To accommodate the profile of each floor, which was different due to the sloping diagonal planes in the curtain wall, the perimeter beams were faceted as well. "It was all

worked out beforehand," says McIlhenny, "so that when the curtain wall was delivered to the site, up it went."

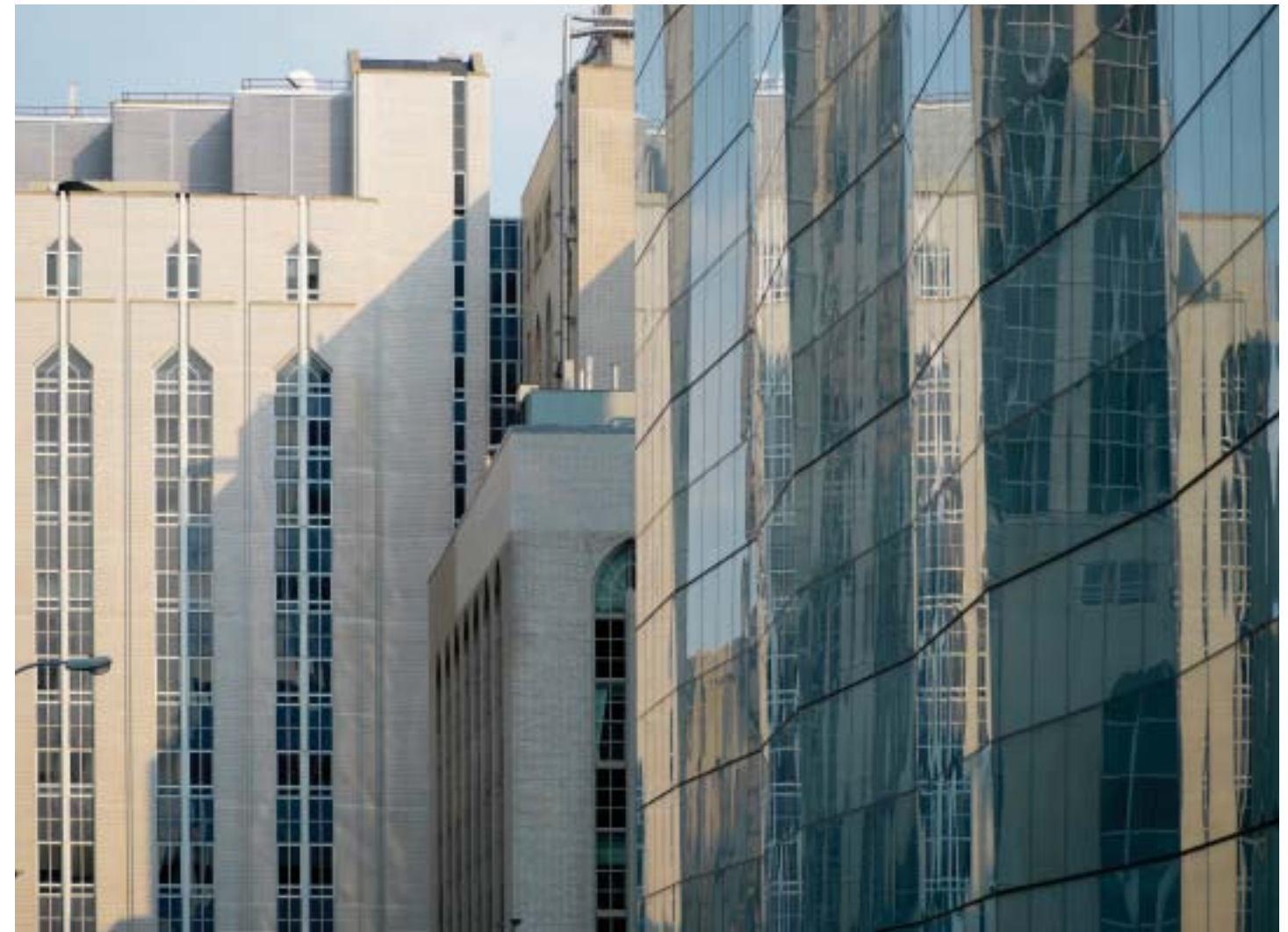
The unitized curtain wall uses a four-side structural silicone glazing system, which bonds the glass to the aluminum frame of the unit. In this way, the glass comes together for a completely smooth surface with no metal framing visible on the outside wall. In order to keep the facing costs down, designers worked with the fabricator to achieve as few framing shapes as possible, combining them to create the final look of the building face. "We were less concerned about how it came together on the interior frame," says McIlhenny. "If a mullion had to be slightly wider that was okay, as long as the exterior appeared as a prismatic volume." To fully realize the idea of an uninterrupted prism, the curtain wall extends 22 feet beyond the roof so that the mechanical room and rooftop equipment is hidden from view for a wholly pure and unified structure.

The success of the Ambulatory Care and Education Facility is visible in its dramatically elegant glass curtain wall system. Combining innovative design and engineering, the faceted facade marks a new direction for healthcare design. The prismatic volume sidesteps any institutional connotation, providing a comfortable and inspiring atmosphere for those who use the facility and for those who experience it from the street as an everyday part of their neighborhood.

RIGHT Permasteelisa fabricated the wall system at their Windsor, CT plant.



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OPPOSITE Cornell Weill fits comfortably within its neighborhood.

ABOVE The folds of the curtain wall reference the gothic design of Cornell Weill Medical Center across the street.

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