

Behind the Curved Glass of New York's Residential Towers

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Daniele Petroni, the project manager for the facade of 50 West Street, in one of the building's model apartments. Ruth Fremson/The New York Times

Debriefing

By ROBIN FINN

At the construction site morphing skyward at [50 West Street](#), a curvaceous 64-story glass-and-steel condominium whose distinguishing exterior motif will be its transparent assemblage of rounded corners, Daniele Petroni, protected from a flutter of snowflakes by his fashionably gray hard hat, gave a huge curved glass panel near the base a paternal pat.

If Mr. Petroni, a project manager whose specialty is curtain walls, could have hugged the nascent building, where 151 luxurious residences are scheduled to be completed by the end of next year, he probably would have.

"I love curved glass," he said, his declaration lent a courtly cadence by his Italian accent, "because to me the views it makes possible translate into architecture having an open mind. Looking through this glass, your perspective instantly widens. It's magical. And it's gentle on the eyes."

It's like looking through a fun house mirror that enhances rather than distorts, except that the experience is more expensive: One-bedroom apartments with 20-foot-high living room walls of curved glass start at \$1.83 million, while penthouses with 360-degree views begin at \$18.65 million. And because the virtually seamless vistas this technologically precocious triple-pane glass makes possible are gaining traction with high-end developers and their demanding clientele, Mr. Petroni's area of expertise, and passionate interest, is proving timely. In a 21st-century tweak of that oft-cited prophecy in "The Graduate," the future isn't plastics, it's glass, especially when the product in question is over-the-top urban spires.



The curved corners of 50 West Street. Ruth Fremson/The New York Times

According to Mr. Petroni, 31, curved glass's moment has just begun. The use of curved glass eliminates the need for corner panels and vertical mullions that obstruct views, and it gives the resident a much broader view with less interruption; in a sense, the view is magnified.

After [Permasteelisa North America](#), a division of the global behemoth with a factory in Windsor, Conn., was chosen to source, design and install the highly unusual and complex curtain wall at 50 West, the company appointed Mr. Petroni as the project manager for the facade. Time Equities is the developer of the \$500 million building, which was imagined by the innovative architect [Helmut Jahn](#). Fifty West's glass was made in Northern Europe, sent to [Spain](#) for further refinement if it was to be flat, or to China if it was to be curved, and then to [Connecticut](#) to be inspected.

Mr. Petroni's qualifications? At his previous construction site, Extell Development's [157 West 57th Street](#) a.k.a. One57, he managed to rectify the damage caused by a [Hurricane Sandy](#)-induced crane incident and to assemble a bold architectural envelope designed by [Atelier Christian de Portzamparc](#), an ambitious jigsaw puzzle of some 8,200 panels of bluish glass, in 2,200 different shapes and shades, no more than 300 of which were identical.

Mr. Petroni realizes that One57 elicited mixed reviews, but in his opinion, "It's a future landmark. To me, architecture is about emotion, and I'd rather be part of a project that draws a strong reaction from the community than to be ignored."

Mr. Petroni, an architect's son whose obsession with curved glass towers started early — "I always looked at tall buildings and saw squared-off cubes that could be so much more beautiful if their corners were curved" — has found his niche as a glass whisperer of sorts.

Before 50 West and One57, he worked on the facade of the [One World Trade Center](#) podium for the Port Authority of New York and New Jersey and the facade of [3 World Trade Center](#) for [Silverstein Properties](#). "During this project is when I almost said goodbye to my hair," he said of the difficulties he encountered there.

At 50 West, he is supervising the installation of 3,000 panels of glass — 500 of them curved, some of which weigh 1,900 pounds — framed by aluminum and braced by stainless-steel panels that are made in Italy. Mr. Petroni said that curved glass panels can cost 300 to 500 percent more than flat glass. He knows of no other building that uses curved glass in such volume, from street level to penthouse level, nor has he ever worked with so global a cast of artisans.



Mr. Petroni, left, confers with James McCormick, a senior project manager for Hunter Roberts Construction Group. Ruth Fremson/The New York Times

Coordinating their efforts occupies a significant amount of his time. “Four months ago I was in Italy to look at steel, three months ago I was in Shenzhen, China, for the curved glass, and then after it was shipped over, I spent days and days looking at panels at our corporate headquarters in Windsor,” Mr. Petroni said. He usually spends two days a week at his apartment in West Hartford, Conn., and is apartment-hunting downtown near 50 West and the Permasteelisa office at the Avenue of the Americas and Canal Street.

“Needless to say, this is the most fascinating and challenging project I’ve had the opportunity to manage,” said Mr. Petroni, whose first [New York City](#) project was at 475 Park Avenue South as an assistant site manager. “It’s not only boundary-breaking in terms of curved glass technology, it’s also brought together the world’s best manufacturers.”

Lean, bearded and blue-jeaned, Mr. Petroni grew up in Marina di San Nicola, a village near Rome. His father gave him a two-part lesson when he was 11 that eventually led him to his vocation: “He took me to a bench on the edge of our village and asked me what I saw. I saw two trees and an empty parking garage. He took me back to the same spot two years later and asked the same question, and I saw a big new building and families and kids on a playground. He told me I was looking at the real meaning of architecture.”

When Mr. Petroni moved to New York from Rome at age 24 armed with an architecture degree from [La Sapienza](#) in Rome, he spoke only Italian and had no job lined up. These days he can converse in English, Spanish and Mandarin, and has a master's degree in construction administration from Columbia University. He has been working his way up the ladder at Permasteelisa, a firm with 6,500 employees, since 2009. The company's New York projects include 8 Spruce Street and the Hearst Tower.

"Permasteelisa was awarded our curtain wall contract after a worldwide bidding contest," said Robert Singer, the director of development for Time Equities. "There were firms that decided it was too complicated, and some that thought they could execute what we had in mind, and then there was Permasteelisa. They had an international reputation for engineering prowess and attention to logistics, proved to us that they could execute this job, and Daniele, the project manager for the facade, has been like a gift that came with the purchase. He's as obsessed with the quality of the glass as we are."

Mr. Singer said the decision to curve all four corners of 50 West was dictated by the site. "We felt it would not only create an interesting exterior, but inside it would give the homes the most natural viewing experience of the harbor and river. We're not trying to do fancy or complicated just for the sake of it," he added. "We realize we're pushing the envelope design-wise. This curved glass facade not only defines our project but also defines the legacy of Permasteelisa. It's like a site-specific artwork."

Mr. Petroni conceded that residential developments like One57 and 50 he said. "These special towers are what separate the developers who dream big from the ordinary guys."

About his contribution to the city's horizon, he said, "It's about the challenge. Wherever in the world the next big challenge is, that's where I want to be."

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