



ORION

New System Lowers the Price of Residential Curtain Wall

The current residential boom in New York City is introducing a growing number of high-rise condominiums to the market that feature metal and glass curtain wall cladding systems as opposed to traditional masonry window walls. In part this is due to the advancements made over the past several years in glass technology and fabrication—most notable of which is the increased availability of low-emittance glass—but it is also indicative of a shift in the way the public feels about design. As Nancy Ruddy of New York City-based Cetra Ruddy Architecture + Interior Design points out, “Curtain walls provide a marketing advantage in today’s real estate environment. A glass wall has the sophistication of high quality architecture and it allows a maximum amount of light to enter a space.” One obstacle that has stood in the way of residential curtain wall is the relative high cost of the system, but that, too, is changing. When designing the Orion, a new 60-story, 650,000-square-foot condominium at 350 West 42nd Street in Manhattan, Cetra Ruddy discovered HYBRID-WALL®, a new cladding system from Canadian curtain wall manufacturer Sota Glazing that allowed the architects to achieve their design goals while beating the price of a traditional window wall system.

“We designed this building back in 2003 and 2004,” explains Keith Goich, Cetra Ruddy’s project executive on the Orion. “The client was thinking of a traditional brick face over concrete masonry unit. We also looked into precast panels. Then we saw this hybrid system while the building’s foundations were being dug. Once we ran all the numbers it turned out to be more cost effective than a traditional system.” The savings didn’t arise from the materials—this system, like normal curtain wall, can incorporate a wide variety of materials, including glass, granite, metal, etc.—but from the ease of the system’s installation. Not only do traditional brick systems take up space during erection, littering floor plates with construction materials, they also require several

time-consuming steps to erect. You have to lay the masonry, insert the windows, and then seal the floor. Whereas Sota’s system is unitized into pre-glazed panels and goes together with a system of notched mullions and silicone gaskets. “Once the panels go up the floor is sealed,” continues Goich, “So it offers obvious benefits in terms of scheduling, because it goes up faster and you can start filling out the interiors sooner.”

The unique features of HYBRID-WALL® also make it more economical to install than normal curtain wall systems. Like a traditional window wall, the hybrid system installs between floor plates, rather than hanging off the edge of the slabs, and requires no imbedded anchors. “This means that there’s a lot less coordination that needs to get done up front with the concrete contractors,” says Michael Haber of W&W Glass, New York City’s supplier and installer of HYBRID-WALL®. “You save money on the concrete side, and you save money on our side because I don’t have to have men out there early on making sure the anchors get imbedded properly. With this system the anchors get installed as you put the panels up.”

Once installed, this innovative system offers the benefits of a normal curtain wall, including superior performance, low maintenance, and a clean, unified appearance. “You don’t get sued because of falling bricks, and the glass hides flaws in construction,” notes Goich. “With concrete you don’t always get straight slabs.” The system’s sliding and fixed anchors account for construction and slab tolerances. Also like normal curtain wall, it is able to provide more usable square footage than traditional window walls. The Orion’s exterior walls are 8 1/4-inches thick, as opposed to the 18 inches required for a traditional system. “This is phenomenal in terms of layout and selling points,” remarks Goich.

But perhaps the greatest asset of this system for architects is the design freedom it allows. When they were still thinking of using a tradi-

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OPPOSITE The all-glass wall system allowed the architects to give the building a monolithic appearance.



ABOVE As with normal curtain wall, the hybrid system comes in prefabricated panels.



BELOW This system is erected clockwise or counterclockwise around each floor, rather than by elevation.



ABOVE The system's sliding and fixed anchors allow for construction tolerances, resulting in an unblemished finish.



tional masonry system on the Orion, Cetra Ruddy had designed a punch window system with even-sized windows. "Usually in a residential building you see different sized windows," says Goich, "but I didn't want an odd pattern. I wanted the building to look monolithic." Working with the greater design possibilities of a curtain wall allowed the architects to fully develop a monolithic appearance. They specified Viracon low-e vision panels and spandrels that are also low-e with a grey frit on the #4 surface to maintain the seamless aspect and hide the floor plate.

Construction manager Bovis Lend Lease teamed up with W&W Glass to install the 3-foot-1-inch-wide panels that arrived from Canada, finishing the installation on the 60-story building in roughly nine months. "The job was done extremely fast paced," says Haber. "We had 30 men, two

setting crews working each day with a separate loading crew." Erection of HYBRID-WALL® happens clockwise, or counterclockwise, floor by floor, rather than by elevation. Once one crew gets halfway around the floor, the next crew begins on the floor above, allowing installers to work two floors at a time.

The Orion is the first building completed in New York City to use the new wall system, though more are in planning. And it doesn't seem as though the residential curtain wall trend will come to an end any time soon, as long as condo buyers continue to appreciate plenty of sunlight and breathtaking panoramas. Why else make a house in the sky? As Goich puts it, "If you're going to build a tall building it might as well be about the views." ■

ORION

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 Developer **Extell Development Company** New York, NY
 Architect **Cetra/Ruddy** New York, NY
 Structural Engineer: WSP Cantor Seinuk, New York, NY
 Curtain Wall Consultant **Sota Glazing, Inc.** Brampton, Ontario, Canada
 Curtain Wall Fabricator **Sota Glazing, Inc.** Brampton, Ontario, Canada
 Curtain Wall Erector **W&W Glass Systems, Inc.** Nanuet, NY

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