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ARCHITECT

The Preston Partnership, LLC
Atlanta, Georgia

GLAZING CONTRACTOR

El Paso Glass - Denver, Inc.
Aurora, Colorado

FEATURED PRODUCTS

1600 Wall System™4 Curtain Wall
1600 Wall System™3 Curtain Wall
2000T Terrace Doors
350 Medium Stile Entrances
Custom Thermal Sliding Doors

Glass House

DENVER, COLORADO

A DOWNTOWN HIGH-RISE WITH STEEP SPECIFICATIONS

One look at the high-profile Denver high-rise Glass House, and the inspiration for the project's name is clear. The structure, a stunning 23-story curtain-walled condominium development in the city's downtown district, wowed the market and presented homebuyers with an enticing offer: "Own the Sky."

In an area with historically weak condo sales, developers knew early on that price point would be critical. Bringing moderately priced urban living to downtown Denver was a big idea and a big risk, so the construction budget and schedule would have to be monitored with incredible scrutiny. Denver's diverse climate was also an important issue to consider. In a city with moderate humidity and temperatures that range from below freezing in the winter to the upper 90s in the summer, the thermal performance of the system would be critical.

Glass House was introduced to the Denver market in 2005, and developers expected to sell out the towers after approximately 18 months. However, just five months after the sales office opened, only four of the 389 units remained unsold, ranking Glass House one of the fastest-selling residential projects in the city's history. Now, Glass House's developers have similar projects under way in Los Angeles, Houston and Dallas, and the project's design has piqued the interest of architects, glaziers and developers across the country.

CHALLENGES

- Glass House's primary challenge lies in the exterior envelope. "To successfully use a commercial envelope (curtain wall) on a residential high-rise condo, the product performance and engineering has to be virtually flawless. Residential interiors can have 10 times the humidity that commercial interiors do, simply from day-to-day activities like laundry, cooking, bathing, etc. The goal is to control the elements in a way that won't affect the inhabitants and that is also cost effective." said Kawneer sales representative, Pat Murray

- Thermal performance was also a critical element. Because each of the units featured a balcony, a thermal sliding door (in addition to the curtain wall) was needed for the project. Kawneer's thermal sliding doors were identified for the job. The doors passed the stringent testing requirements (including an on-site negative air test with water infiltration, as well as informal condensation studies) and was incorporated into the design.

DESIGN HIGHLIGHTS

- To meet city requirements for energy and condensation, the Kawneer team developed a modified version of 1600 Wall System™4 Curtain Wall, which features the IsoStrut™ Thermal Break for superior structural and thermal performance. The product is also known for its fast and economical fabrication, making it the ideal choice for the job. Modifications were made to the product's head receptor and sill pan, and custom floor slab covers were also designed for the project.
- The curtain wall was also unconventional in that it ran between floors from slab to slab. Glazing contractor El Paso Glass directed three crews for the installation: one to install the thermal receptors, a second to set the frames and a third to glaze from the interior. Inside glazing kept the floors separate but also kept costs down. Installation was faster and enabled the project to move along on schedule.

