Multi-Family Building

1550 MISSION

SAN FRANCISCO, CALIFORNIA

KEY PROJECT ATTRIBUTES

- Precast concrete panels are exposed on both sides, so strict vibration control was required during pouring.
- Two-color design features sharp lines between contrasting design elements.
- Reinforcing steel inserts add structural strength for panels with large windows.

PROJECT AND PRECAST CONCRETE SCOPE

- Create a precast concrete façade for a 40-story residential tower.
- The project included 845 precast concrete panels.
- Precast concrete erection was completed in one year.

Photo: © SOM/Mark Schwettmann.

The new high-rise residential tower on Mission Street in San Francisco, Calif., is bringing affordable living and retail space to an increasingly expensive city. The 40-story residential tower provides 550 homes, including 110 that are affordable to low-income residents. It also offers a wide range of retail, community, and outdoor residential spaces on multiple levels.

The initial decision to use precast concrete for this project came from the team's desire to construct a cost-effective building that stood as the gateway to San Francisco's Civic Center, in a neighborhood full of limestone, plaster, and concrete buildings. Precast concrete also supported the team's desire to include large windows and areas of uninterrupted glass on the building, and to minimize the amount of site labor and crane time in the busy neighborhood.

BEYOND THE VEILS

The final design was inspired by the prominence, geometry, and adjacency to the Civic Center. On the façade, two primary precast concrete surfaces wrap opposing corners of the building with a gently curved, variegated skin, which dramatically parts at the acute corner of the site. This gradually widening seam supports a series of residential balconies and is framed by two luminously white precast concrete veils.

A variegated grid of narrow white precast concrete has been used to form three sides of each window, with the fourth side created from a darker, polished material that blends into the look and proportion of the windows. In this way, both lightness and mass are achieved at once.

To achieve the design, cast panels had be exposed from both sides, and the precast concrete producer had to incorporate two colors into one panel with a polished concrete finish for one of the colors. Additionally, the precast concrete producer had to minimize vibration during the pour process or hand-seed the exposed poured side with additional aggregate to achieve a consistent sandblasted finish on both sides of the panels. The timing to pour the two colors was also crucial to ensure both parts of the design would cure together as one bonded piece without bleeding. This required extra quality control for the duration of casting. Once cast, hand-held polishing equipment was used to achieve the polished black look.

To accommodate the large windows with minimal concrete around them, each panel had to work as one solid, cured concrete beam. Therefore, the precast concrete producer developed a specific pour procedure for careful placement of concrete and inserted reinforcing steel to add structural strength. The new building provides a beautiful, energy-efficient haven for residents, proving once again that precast concrete can be an ideal, cost-efficient solution for projects with high envelope performance and aesthetic value. ●

PROJECT TEAM:

OWNER: Related California, San Francisco, Calif.
PCI-CERTIFIED PRECAST CONCRETE PRODUCER: Willis Construction Co. Inc., San Juan Batista, Calif.
ARCHITECT: Skidmore, Owings & Merrill, San Francisco, Calif.
ENGINEER OF RECORD: DCI Engineers, Seattle, Wash.
GENERAL CONTRACTOR: Build Group, San Francisco, Calif.
PROJECT SIZE: 760,000 ft^2