

# ASCENT

DESIGNING WITH PRECAST CONCRETE

DIGITAL EDITION

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## HOW PRECAST BUILDS

Did you know  
precast concrete  
is the ideal  
solution for  
many projects?





## THE PRINTING HOUSE HOTEL

NASHVILLE, TENN. /// BY DEBORAH R. HUSO

Before Hilton even had an idea or a name for the newly constructed Printing House Hotel in Nashville, Tenn., precast concrete was already at play as the likely material for the structure's façade. The name "Printing House" for the latest addition to the Tapestry Collection by Hilton evolved out of the design possibilities of precast concrete.

"Precast concrete is formed in the same way printing is," says Dustin Eggink, principal at Indianapolis-based RATIO Architects LLC. "It's all about the relief and texture." So the firm decided to look into how they could incorporate the concepts of printing into the hotel's façade design using precast concrete.

The hotel is also near Nashville's Printing Row. "We took that branding and narrative and started to incorporate it into the architecture," Eggink adds. "It's not obvious, but more subtle."

The Printing House Hotel houses almost 200 guest rooms in its 11 stories as well as ground-level retail, three levels of parking structure, a restaurant and lounge, and rooftop pool. Situated in the heart of Music City only blocks away from the famous Ryman Auditorium, the hotel's façade of architectural precast concrete panels not only provides an architecturally unique appearance in the entertainment district but also a level of soundproofing to insulate guests from the noise and bustle of the busy streets outside.

### PROJECT SPOTLIGHT THE PRINTING HOUSE HOTEL

Location: Nashville, Tenn.

Owner: Sun Development and Management Corporation, Indianapolis, Ind.

Architect: RATIO Architects LLC, Indianapolis, Ind.

Structural Engineers: Fink Roberts & Petrie Inc. Indianapolis, Ind.

PCI-Certified Precast Concrete Producer: GATE Precast, Ashland City, Tenn.

Precast Concrete Components: 44,966 ft<sup>2</sup> of architectural precast concrete

*The Printing House Hotel (above) houses almost 200 guest rooms in its 11 stories as well as ground-level retail, three levels of parking, a restaurant and lounge, and rooftop pool. Rendering: GATE Precast.*

### Precast Concrete Offers Affordable Architectural Differentiation

"We saw [precast concrete] as a material to differentiate the hotel from other buildings around it," Eggink explains. "Precast allowed for modularity and pretty easy construction for the detailing to work."

Ashland, Tenn.-based GATE Precast crafted the Printing House's signature architectural precast concrete panels using a custom formliner, which resulted in three-dimensional ribbed elements in vertical and horizontal patterns to create visual contrast and interest on the exterior façade. Some of the preglazed panels also angle

away from the flat surface of the façade to create additional depth and dimension as sunlight and shadow hit the building's surface.

As is often the case with the manufacture of precast concrete components, repetition played a role, which, as Eggink points out, also goes back to printing. "You're not just using the stamp one time; you're using it multiple times, similar to precast concrete where you can use patterns and formliners repetitively but vary things slightly to get interesting textures."

One of the things the design team considered was how to differentiate between the base of the hotel, where the parking structure is, and the guest room tower. "At first, we looked at different concrete mixes, but then we decided to turn the forms 90 degrees so the ribbed- or grooved-type of panel goes in and the other goes out to get the distinctive fins that distinguish the hotel tower.

"Having a mix of panels with a return at the top and those with a return at the bottom gave the project a unique appearance," says Mo Wright, director of architectural systems for GATE Precast. "It provides depth and character, especially when sunlight hits it."

To accommodate the two different shapes of panels—those with concave and convex patterns—GATE Precast set up two different tables adjacent to one another for each panel type. "We created rails we could move around on the master mold to provide more variation in shape across the façade without creating custom molds for each panel," Wright explains.

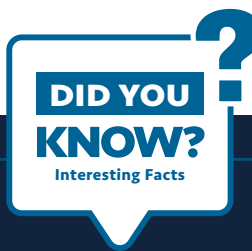
GATE Precast manufactured 325 precast components for the Printing House Hotel's façade.

## Unitized Panel System Offers Speed and Efficiency

Eggink says he was inspired to try preglazed precast concrete panels for the Printing House Hotel project by an architect friend who showed him a beautiful precast concrete apartment building made of preglazed panels in Brooklyn, N.Y. "A week later, I was in a meeting with GATE and Skyline and they were describing the same project in Brooklyn!" Eggink remarks. "It's a very slick process to glaze in place on the ground at the factory: you ship, attach, and you're done."

As with the Hilton BNA Nashville Airport Terminal Hotel, GATE Precast used a preglazed panel system with windows provided by New York-based Skyline Windows for the Printing House Hotel. In fact, the windows for both Hilton hotel projects were in production simultaneously.

According to Wright, GATE Precast and Skyline Windows introduced the RATIO design team to the idea of using muntins instead of separate insulated glass units for the multipane look of the hotel's guest room windows. "That way there were fewer joints in the window openings and less opportunity for water intrusion," Wright explains. "It's just a single IGU [insulated glass unit]—one big pane of glass that's broken up using muntins on the outside instead of true mullions penetrating the glass," he explains. "This also drives down the cost of the windows with fewer IGUs to produce and integrate into the window."



### ***Did you know precast concrete is the ideal building material for hotels?***

The Printing House Hotel in downtown Nashville had a tight building site in a busy entertainment district. That made traditional construction practices a challenge, so precast concrete came to the rescue, not only reducing the amount of tradespeople needed on the jobsite but also speeding the construction timeline and allowing for affordable and unique architectural features as well as a host of other benefits, including:

- ✓ Fast construction timeline
- ✓ Soundproofing in a busy entertainment district
- ✓ Limitless design capabilities
- ✓ Perfect for jobsites with no laydown areas
- ✓ Reduced need for trades on-site

The preglazed precast concrete panels were installed at the building site using a tower crane. "It's a very tight site in a downtown market," Wright says. "The jobsite couldn't have been tighter or had less access." The site could not accommodate more than two trailers, so it required a lot of coordination for panel deliveries to keep up with the crane operation.

"We worked with a just-in-time delivery method because there was no laydown available," Wright notes. "That's one of the reasons the design team thought about precast to begin with."

## Efficient Design Brings Architectural Flexibility

"The best use of architectural precast is when you're taking advantage of the repetition," Eggink says. "It's a process of discovery to understand the strengths, limitations, and opportunities of precast. When we started this project, we were just going to have standard ribs, but then saw the opportunity to move into a textural finish, and the new solution didn't add much to the overall budget."

Wright says precast concrete accommodated the jobsite's limited access, the need for speed of construction, and flexibility of design. "Integrating the windows on this job was a huge bonus for the owner too," he adds. "It reduces trades on-site and limits the exposure to risks."

The hotel is scheduled for completion in late 2024 or early 2025.

*In July, 2024, GATE Precast joined Wells, expanding the national footprint.*