The Study at University City is a 10-story luxury hotel at the intersection of two world-class universities in the heart of Philadelphia, Pa. “The owner of the project envisioned a high-quality, robust structure that reflected the traditions of the buildings in Philadelphia,” says Jeff Goldstein, principal at DIGSAU, the Philadelphia-based architecture firm. The Precast Concrete Producer on the project was Universal Concrete Products from Stowe, PA.

The challenge: erecting this sophisticated piece of architecture on a tight jobsite, in a busy urban environment, and on a short schedule.

Initially, brick emerged as the most appropriate material to convey the owner’s design aesthetic. However, a fully brick structure would have been time- and cost-intensive to construct, which conflicted with the timeline. “The team was motivated to enclose the structure as quickly as possible to allow for interior finish work to begin,” Goldstein says.

Instead, the designers went with precast concrete, designing panels faced with thin brick to provide the look and feel of brick in a more time- and cost-effective package. “Choosing precast satisfied the design and performance requirements of the project, and minimized...
expensive field labor working on the tight urban site,” he says. The precast concrete panels are also a lighter envelope solution than traditional brick masonry, which was important for managing the vertical and lateral loads imposed on a cast-in-place concrete structural frame.

**Precast Solution**

The final design features a façade composed of solid precast concrete panels containing ironspot thin brick in a three-dimensional garden-wall bond pattern, which is a popular architectural theme in many of Philadelphia’s historic buildings. The precasters used bricks of multiple thicknesses, which required custom formliners to produce a highly textured and stealthily repetitive design. “The ability to generate a unique, three-dimensional brick bond allowed the precast wall assembly to take on a crafted, hand-made quality that greatly contributes to the building’s presence and character,” Goldstein says.

The panels were stacked in an offset pattern at corners, and custom brick shapes were used to wrap the exposed jambs and soffits of the panels. Metal trim was incorporated along select vertical joints to obscure the stacked arrangement of the panels. High-density mineral wool insulation with foil facing was incorporated into the panels to provide a continuous thermal barrier behind the panels and across joints. “We really got excited about the opportunity to work within the tried-and-true methods of fabricating precast panels,” Goldstein says. The use of cast thin-brick precast concrete panels balanced the contextual references and provided a cost-effective façade solution. “It gave us a way to create something that reflected the hands of the skilled craftspeople who contributed to their creation.”

**KEY PROJECT ATTRIBUTES:**

- Thin-brick veneer delivered the look and feel of brick for a lower cost and with speedier erection.
- High-density mineral wool insulation with foil facing ensured a continuous thermal barrier.
- The use of custom formworks maximized the interchangeability and appearance of the complex and dynamic façade.

**PROJECT AND PRECAST SCOPE:**

- Create a façade of solid precast concrete panels with thin-brick veneer for a 10-story 145,000 ft² hotel.
- Six custom oversized forms were used to form over 500 panels.
- The precast concrete exterior wall panels are supported by a cast-in-place concrete frame.
- Project cost: $50 million
- Project size: 149,000 ft²