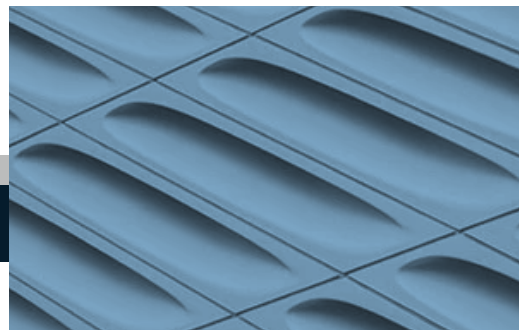


# TOTAL PRECAST CONCRETE STRUCTURES CONSIDERATIONS

Total precast concrete structures make use of precast, prestressed concrete for the structural framing and exterior cladding of a building. This leads to a total dual-use structure that benefits from complete off-site manufacturing. Use the items in this checklist to learn more about the advantages of building total precast structures and review important project considerations.

## 1 TOTAL PRECAST CONCRETE BUILDING BENEFITS

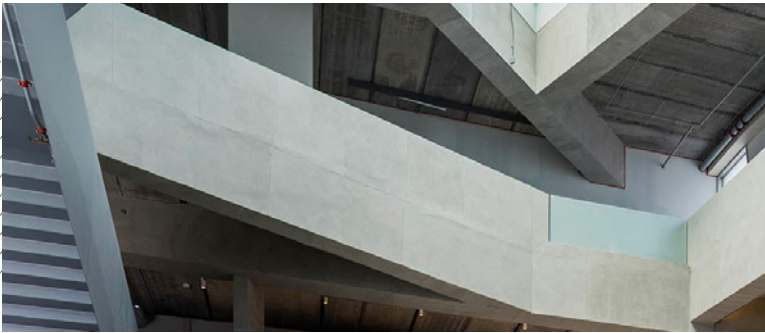
- Precast concrete is a high-quality, high-strength material with a typical service life of seventy-five years or more
- Precast can be used to create buildings with long interior spans for cost-effective daylighting (precast structural components can easily span 60', even 100' or more and a high load capacity)
- Precast can improve acoustical performance through hollowcore floor systems, which is critical in hotels and multi-residential housing
- Precast concrete provides high fire, vibration, and inclement weather resistance and supports year-round construction
- Precast concrete's thermal storage capacity tempers heating and cooling load swings, which ultimately reduces owner operational costs and improves occupant comfort
- Precast speeds up construction as prefabricated components are made in off-site quality-controlled environments
- Precast products are shipped and erected at sites just in time to reduce the need for disruptive laydown areas



## 2 PRECAST PRODUCERS

When engaging a precast producer early in the consideration of a total precast opportunity, work with them to review these important design considerations.

- Building footprint
- Spans for precast structural members
- First floor open spaces to be accommodated
  - Reception area, lobby, atrium, and other important features
- Building tiered setbacks
- Floor-to-ceiling height requirements



### PROJECT TIP

Contact a precast producer as early as possible in the design process, preferably during schematic design. Precasters can provide design assistance and valuable information regarding efficient panel design to ensure the best possible project outcomes.

## 3 AESTHETICS & PANEL DESIGN

- Color, texture, and design drivers
- Finish, form liner, and mix preferences
- Brick, tile, granite, terra cotta, or other embedded material type
- Size of panels for repeatability and optimization
- Glazing integration
- Panel or wall shape
- Panel finish on the interior (finished vs. exposed)
- Surrounding architecture and other influences
- Joints between panels and materials (visual interest and design)
- Special features (cornices, logos, etc.)

## 4 PERFORMANCE

- Panel type (solid, sandwich wall panels, or thin-shell)
- Overall panel thickness
- Insulation type
- Load or non-load bearing
- Desired minimum R-value (sandwich and insulated wall panels)
- Joint connections
- Producer preferences

## 5 LOGISTICS

- Sequence, scheduling, and construction coordination
- Site access
- Site grade
- Site location
- Site storage
  - Onsite storage or laydown areas
- Crane type
- Crane placement

## LEARN MORE

Discover how other innovative industry professionals rely on the versatility, efficiency, and resiliency of precast concrete to support projects. [See how precast builds in a variety of markets and applications.](#)

## HAVE QUESTIONS?

Take advantage of everything the PCI Mid-Atlantic Chapter has to offer its members. Get in touch with the PCI Mid-Atlantic Chapter coordinators and tap into the knowledge of fellow precasters for answers to your transportation, architectural cladding, and total precast concrete project questions.

### MID-ATLANTIC CHAPTER

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