

## THE BENEFITS OF USING PRECAST CONCRETE FOR OFFSITE CONSTRUCTION

Offsite construction refers to the planning, design, fabrication, manufacturing, and assembly of building elements at a location other than their final permanent location to support the rapid speed of, and efficient construction of an installed structure. The move toward offsite construction is driven by the desire to reduce project timelines and increase cost effectiveness. Schedules are compressed and budgets are tightened - which makes maintaining margins increasingly difficult.



*Precast concrete is designed and manufactured by experts in the controlled environment of a precast concrete plant. (Image courtesy of Molin Concrete Products)*

One of the best construction materials that can be utilized for offsite construction is precast concrete. Precast concrete is designed and manufactured in precast concrete plants where the components are overseen by experts who adhere to strict quality review

processes to ensure quality components are produced. This innovative process compresses project schedules, reduces safety concerns, decreases site disruption, and trims overall project costs by requiring fewer trades for construction and fewer people on site.

The advantages to selecting precast concrete begin early in the construction cycle. While site-cast crews must wait for jobsite preparation to be completed, a precast concrete producer can begin manufacturing components and preparing them for delivery as soon as they have a signed contract in hand. The precast concrete components can be manufactured off-site months before they are needed to be delivered and installed.



*A precast concrete producer can manufacture the precast concrete components needed for construction long before the jobsite preparation is complete. (Image courtesy of Wells Concrete)*





*Precast concrete components are delivered when they are needed which allows the jobsite to remain free of extra stored materials, equipment and clutter. (Image courtesy of Gage Brothers)*

Precast concrete offers off-site manufacturing and the ability to deliver ready-to-install components based on optimal scheduling. Because precast concrete components are not delivered to the site until needed, the jobsite remains free of extra clutter. The need for on-site material and equipment storage is nearly eliminated. Scaffolding (and its cost) can be avoided. The lack of clutter and fewer people on the jobsite reduces the risk of accident and injury as well as the associated insurance expenses.

Utilizing precast concrete helps companies who are struggling to fill positions because it enables them to employ smaller crews. While a precast concrete crew of six workers can enclose 100,000 square feet in less than two weeks, a cast-in-place concrete crew of 20 (or more) can only erect as fast as they can cast and cure the panels – increasing labor costs, monopolizing site access, preventing other trades from doing their jobs, and ultimately extending the construction schedule.

The off-site production of precast concrete components also allows for the pre-installation and review of utility access, fixtures and other elements by electricians, plumbers and other specialized trades before the components ever leave the production facility. Utility panels that are added and installed prior to delivery to the jobsite allows construction crews almost immediate access to utilities and other elements upon arrival at the jobsite. Crews need only connect each component when it arrives and perform a final test before each piece is operational. The ability to pre-install elements conserves time and saves money which helps to maintain margins.

Precast concrete products increase speed-to-market construction performance by providing minimal site disruption and the just-in-time optimized delivery of ready-to-install components by a small crew. At the same time, precast concrete components provide stability, strength and durability and offer a wide spectrum of colors, textures, and finishes.



*Using precast concrete enables companies to employ smaller crews. (Image courtesy of Concrete Industries)*