

HOW PRECAST CONCRETE IS MADE

Precast concrete is cast into a specific shape in a controlled environment at a PCI-Certified precast concrete plant. These prefabricated concrete products are then transported to the job site and erected by a PCI-Certified Erector. This entire manufacturing process can be divided into three main categories: Pre-Production, Production, and Post-Production.



PRE-PRODUCTION

Administration: human resources, training and safety, quality control, purchasing, finance and accounting, and project management

Equipment: batch plant, forms, curing covers, gantry cranes, concrete transport vehicles

Materials: cement, aggregates, chemical admixtures, reinforcing steel, prestressing strand, form liners, weld plates and insert hardware, thin brick and stone veneers

Sales/Estimating: preliminary product designs, cost estimates, proposals, customer interface, explain precast concrete solution

Engineering/Drafting: prepare final product designs, erection and production drawings, material lists, coordination with production and quality control



PRODUCTION

Concrete: mix-designs for strength, durability, slump, workability, water/cement ratios

Forms: steel or epoxy-coated wood, thoroughly cleaned prior to casting, form release agent uniformly applied to all casting surfaces prior to placement of steel reinforcement

Casting: concrete is transported from the mixer and uniformly placed and consolidated into the forms by using internal or external vibration

Quality Control: inspectors ensure that proper methods for all phases of production are being followed and that finished products comply with project specifications

Finishing and Curing: concrete will be finished, covered and cured to ensure proper moisture and heat retention and to obtain required release strengths for stripping



POST-PRODUCTION

Stripping: concrete test specimens will determine once release strength is achieved and curing covers will be removed and the products will be stripped from the forms

Yarding: products will be cleaned, inspected, and then taken to the storage yard with gantry cranes and stored in a required erection sequence

Field Services: jobsite access, erection direction and safety plan, and sequencing will be determined prior to delivery to the jobsite

Delivery: products will be inspected for any yard damage and loaded for delivery to the jobsite in an erection sequence for just-in-time delivery and installation

Installation: a PCI-Certified Erector will install all precast products and complete all required connections in accordance with erection drawings while providing temporary shoring, guying, and bracing as required for building stability