



High-Rise Concrete Forming on Peru's Largest Residential Project

San Miguel, Peru

A New Way to Live in San Miguel

The San Miguel district of Lima, Peru will soon have a destination unlike anything else in the country. Marina City Center brings homes, offices, retail space, a hotel, a cinema, a gym, and an elevated garden together so residents can live, work, shop, and unwind without leaving the neighborhood. It is the first development of its kind in Peru and the largest residential project now under construction there. Five towers will hold more than 1.6 million square feet (150,000 m²) of covered area. When it is finished, the complex will give San Miguel a new center of daily life.

A Partnership Proven Across Lima

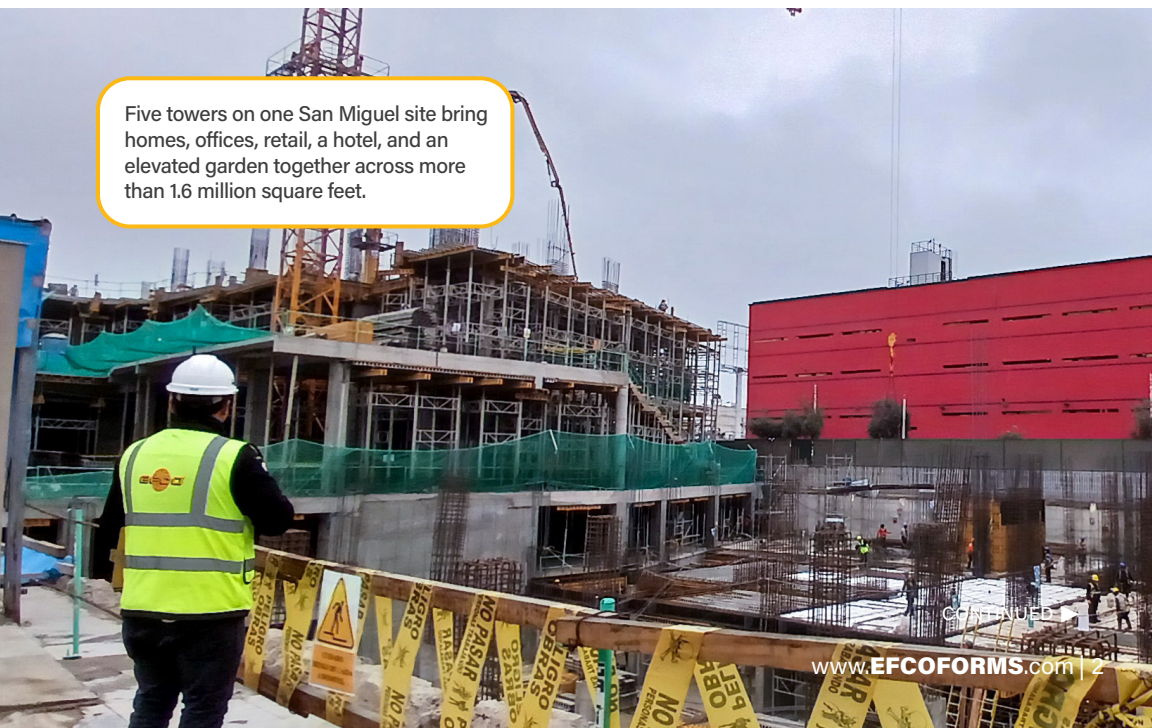
Since 2017, the ARCHENGINE CONSULTORA project teams have built with EFCO forming systems through affiliated companies including PLM, Inmobiliaria Quadrato, Designa, and Inversiones Parque Castilla. Those projects span at least nine buildings across Lima, from the 5-story Edificio Astete to the twin 26-story towers of Residencial San Felipe, a run of high-rise concrete forming projects in which every job delivered what EFCO promised.

That record earned the trust that brought EFCO onto Peru's biggest residential project, where ARCHENGINE CONSULTORA is running a full lineup: HAND-E-FORM®, EFCO LITE®, PLATE GIRDER®, and SUPER STUD® formwork, backed by PRO-4 and E-Z DECK® shoring.

How Do You Form Five Towers at Once?

Forming five towers at once comes down to matching the forming method to the element. High-rise concrete forming at this scale means thousands of walls, columns, and beams, and no single method sets them all efficiently. EFCO engineered a hand-set solution for three scopes: wall formwork, column formwork, and the bottoms and sides of beams. Crews assemble and move these forms by hand, and that crane-independent forming keeps work moving in tight interior spaces while the tower cranes stay on other picks.

For walls and columns with larger sections, crews fly in pre-assembled gang forms instead. A gang moves as one piece, so a large section sets in a fraction of the time hand-setting would take. Splitting the work this way is how concrete forming labor productivity holds up across all five towers: light elements move fast by hand, heavy elements move fast by crane, and neither method waits on the other.



Five towers on one San Miguel site bring homes, offices, retail, a hotel, and an elevated garden together across more than 1.6 million square feet.

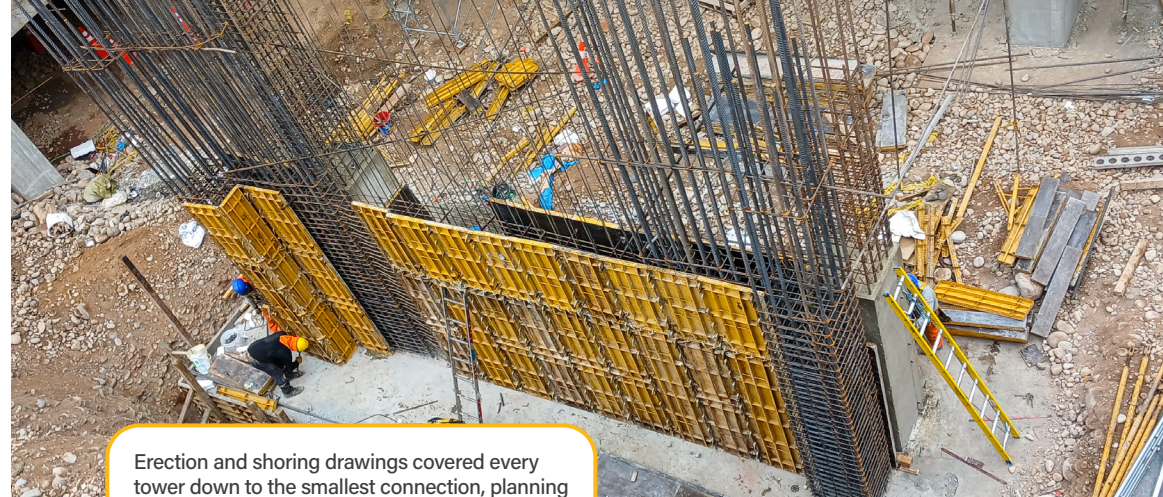


Some columns at Marina City Center stand 36 feet (11.0 m) tall, and forming at that height tests any system's stability and any crew's confidence. ARCHENGINE CONSULTORA formed these columns with crane-handled EFCO LITE® and PLATE GIRDER® gang forms, and Production Engineer Elmer Muller reports the systems delivered greater safety, stability, and precision at full height, along with strong production rates. The crews poured plumb, accurate columns and kept the tower schedules moving.

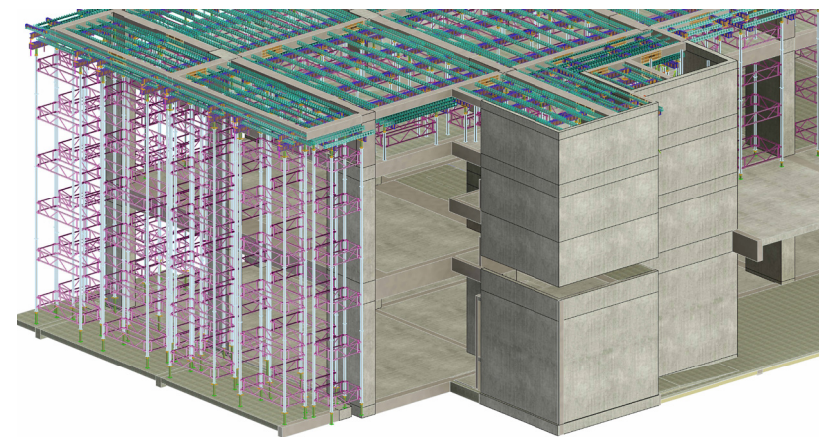
How Much Shoring Does a Triple-Height Cinema Need?

Tower 5 holds the complex's cinema, and a cinema needs a big open room. The design answered with post-tensioned beams 98 feet (30 m) long, placed at triple-story height with no intermediate supports. A post-tensioned beam carries nothing until it is stressed, so each beam started as pure dead load, and every square foot beneath it had to stay fully shored.

EFCO supplied the total quantity of E-Z DECK® shoring towers the job required, approximately 53,800 square feet (5,000 m²) of fully shored area. That supply capacity mattered as much as the equipment itself, because a partial delivery would have stalled the pour sequence for the whole tower. E-Z DECK® also earned the crew's confidence through daily use. The system handles slab formwork and beam formwork at height with easy setting and stripping, adapts to different structural configurations, and keeps the deck organized, with clear travel paths through the shored area planned into the shoring drawings from the start. Safe, orderly decks are productive decks.



Erection and shoring drawings covered every tower down to the smallest connection, planning double and triple heights, cantilevered slabs, and long clear spans before they reached the field.



Service That Shows Up in the Cost

EFCO backed the equipment with engineering depth and a frequent on-site presence. Detailed formwork erection drawings covered every tower down to the smallest connection. When the project threw special conditions at the team - double and triple heights, cantilevered slabs, and long clear spans - EFCO engineered a solution for each one, which is what separates engineered formwork from a pile of panels. EFCO's commercial team and Field Supervisor stayed with the job continuously, so the ARCHENGINE CONSULTORA team never worked through a problem alone.

EFCO also walked the client through the real math of formwork cost. The true cost of forming concrete is the cost of the equipment plus the cost of using it, and a cheap form that eats labor hours is expensive. Usage tracking sheets built for the project documented that math pour by pour, showing where the shoring systems and forming methods reduce concrete labor costs, and backed EFCO's claim to Lowest In-Place Concrete Cost (LIPCC).

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Roughly 53,800 square feet of E-Z DECK® shored the entire area below until the beams gained strength, and a partial delivery would have stalled the whole tower.





Why ARCHENGINE CONSULTORA Chose EFCO

Trust opened the door for EFCO at Marina City Center. Nine years of EFCO performance across Lima, on buildings from 5 to 26 stories, gave ARCHENGINE CONSULTORA proof before this project broke ground. But repeat business lasts only as long as the promises hold up, and on this project EFCO delivered everything it offered: precise drawings for all five towers, an engineered answer to every special condition, the full E-Z DECK® quantity for the Tower 5 cinema, and support that stayed until the work was done.

The lowest equipment price is not the same as the lowest cost of concrete in place, and the difference between the two is where concrete construction cost savings actually live. ARCHENGINE CONSULTORA has seen that difference on ten buildings now. Marina City Center is simply the biggest proof yet.



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The use of EFCO steel forming systems on the Marina City Center project has been an efficient solution for the demanding structural elements of this mega-project. In particular, the EFCO LITE and PLATE GIRDER® systems let us form columns 36 feet (11.0 m) tall with greater safety, stability, precision, and good production rates. I also want to highlight the E-Z DECK system for its safety and versatility. It makes forming and stripping slabs and beams easier, adapts to different structural configurations, and helps keep work areas organized and safe for our people, including clear evacuation routes considered in the drawing design. I would also note the support provided by the EFCO team and the good coordination maintained throughout the process, which helped resolve the technical and operational challenges of a project this size. EFCO's guidance, experience, and solutions have helped us take on new challenges and reinvent ourselves, optimizing our processes and continually improving the way we build.

*- Ing. Elmer Muller, Production Engineer,
ARCHENGINE CONSULTORA*

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Nine Lima buildings since 2017 built the trust that brought EFCO onto Peru's largest residential project.

EFCO EQUIPMENT

HAND-E-FORM®, EFCO LITE, PLATE GIRDER®, PRO-4, E-Z DECK®

EFCO FORMWORK SPECIALISTS - PERU

Toribio Mora.....	District Manager
Carlos Vicente.....	District Engineer
Juan Chafloque.....	District Engineer
Henry Gonzales Marruffo.....	Territory Manager
Christian Arteaga.....	Field Supervisor
Ronald Ruiz.....	Field Supervisor

ARCHENGINE CONSULTORA

Humberto Orbegoso.....	Project Manager
John Nervi.....	Site Superintendent
Elmer Müller.....	Production Engineer, Towers 1, 2A, 2B and 5
Arturo Velasco.....	Production Engineer, Towers 2B, 3 and 4
Jesus Malpica.....	Technical Office Manager