Case Study

Special Clinker Silo

Philippines

DATA AT A GLANCE

Silo Wall Height	35.3m
Silo Outer Diameter	7.6m
Silo Wall Thickness	550mm – 300mm
Reinforcement Steel	90.99 Tons
Volume of Concrete	298.98m^3

Efficient Execution

Completed on schedule and within budget despite logistical challenges.

Safety Excellence

Achieved zero lost-time incidents with a highly-trained and managed workforce.

Engineering Innovation

Applied advanced slipform technique and concrete additives for superior quality.

Project Overview

The CEMEX Solid Cement Plant in Antipolo, Philippines, embarked on a major expansion project to increase its cement production capacity by 1.5 million tons annually. This ambitious project aimed to contribute significantly to the Philippines' growing infrastructure needs. As part of this expansion, BEC was selected to construct a crucial component: the Special Clinker Silo.

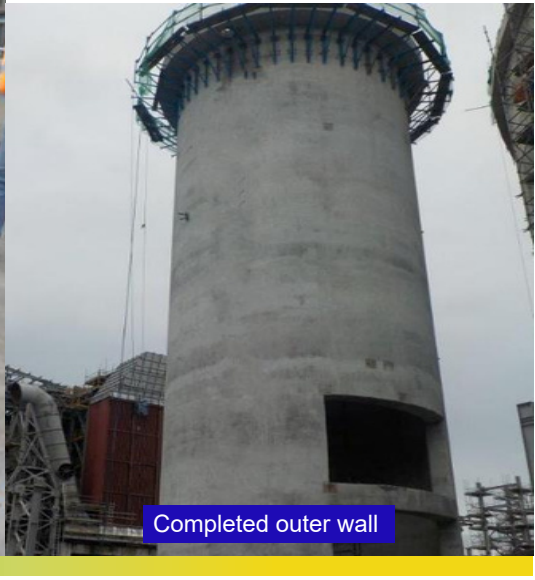
The silo, with an outer diameter of 7.6 meters and a height of 35.3 meters, plays a pivotal role in storing high-quality clinker, a vital ingredient in cement production.

Challenges

- The limited working area on-site posed significant logistical challenges for accessing equipment and materials.
- A tight timeline required precise coordination and quick decision-making.
- The distance from the concrete batching plant to the site was substantial, raising concerns about the premature setting of the concrete, especially during hot weather.

Silo slipform rig assembly

Roof slab completed



Completed outer wall

Owner

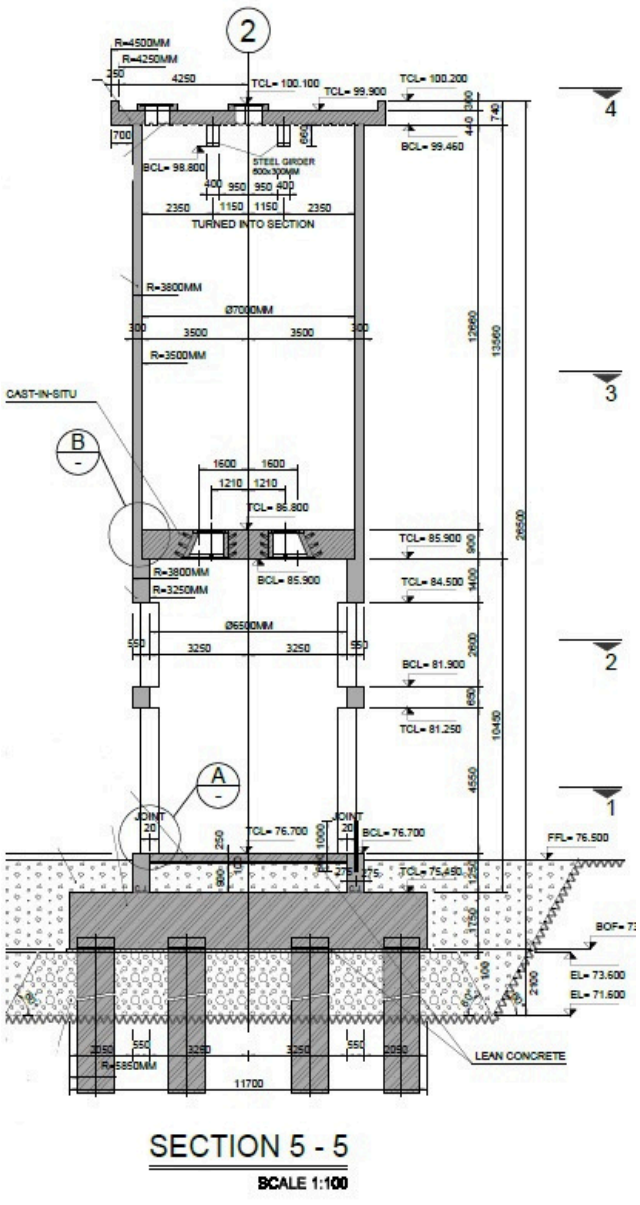
CEMEX Phil. / Solid Cement Corporation

Client

Betonbau Phil., Inc.

Completion Date

October, 2022



SECTION 5 - 5

SCALE 1:100

Balanced Engineering & Construction Pte Ltd

Detail of work by BEC

BEC was awarded the construction of one (1) 7.6m OD x 35.3m high silo including slipform of the wall, construction of the internal slab, installation of roof beams and concrete roof slab construction. To tackle the challenges, BEC implemented the following:

- A phased approach to ensure clear and organised operations at every construction stage.
- Strategic planning improved workflow efficiency and reduced site congestion.
- The addition of a special retarder additive to slow the setting time of the concrete, ensuring optimal workability during transport and placement.

The BEC Advantage

Through strategic planning and innovative techniques, BEC successfully completed the special clinker silo on time. The project met the client's stringent quality requirements and provided a durable and efficient storage solution, supporting CEMEX's expanded production capacity and contributing to the Philippines' growing infrastructure needs. Additionally, the project was completed with an exemplary safety record, achieving zero lost-time incidents, reflecting BEC's strong commitment to workplace safety and operational excellence.

Contact us to learn more about BEC's engineering solutions!

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