

Corestruc toasts their success at a state of the art brewery

Corestruc, a leading South African precast concrete specialist, has successfully completed another reservoir roof structure in record time.

While the company is known for the important part it continues to play in helping municipalities significantly accelerate delivery of critical water-distribution infrastructure, this latest project was completed for a world-class brewery in Gauteng.

The hollow-core slabs that make up the roof structure are directly supported by the reservoir's cast in-situ concrete walls, as opposed to precast concrete columns and beams that form part of the company's conventional tried-and-tested system.

This is considering that the 5Ml structure is divided by an internal in-situ wall to create two separate fluid-retaining compartments inside the reservoir, and it also assists in supporting the more than 50 prestressed hollow-core slabs of between 70 MPa and 80 MPa that span the top of the structure.

The two centre concrete 'planks' are more than 16 m long, and are among some of the largest precast concrete hollow-core slabs that have been manufactured, as well as safely and efficiently handled by the company for its many projects.

Corestruc's Cobus Augustyn says that nothing was left to chance, despite the extensive experience he and his team have working with heavy precast concrete elements, especially in extremely constrained and operational sites, such as this one.

"The largest slabs weigh as much as eight tonnes, and we lifted them directly from our trailers using a 130-t all-terrain mobile crane with 10-t slings. We strategically positioned the machine as close as possible to the structure ahead of the arrival of the

elements to facilitate safe and swift production rates, while also allowing just enough space for our horse and trailers to access the site," Augustyn says.

Despite the onerous site conditions, the seasoned Corestruc site manager and his team of five people safely and accurately placed the hollow-core slabs in only four days. This allowed an additional two days in which to install the tie steel and to complete the concrete stitching using a 35-MPa concrete to timeously complete another high-quality roof structure.

Augustyn says sound upfront planning also played a large part in ensuring that about 14 hollow-core slabs were lifted and placed daily as they arrived from the company's state-of-the-art factory.

"This required close and careful co-ordination between the factory and my team on site to ensure that we were able to meet the onerous deadline. The slabs were manufactured and cut at the factory. We then had to coordinate the timely delivery of more than 14 loads to site over the four-day period in an extensive logistical operation," Augustyn explains.

He and his team are also now working on another reservoir construction project, but this one is being built using Corestruc's unique precast concrete wall and roof system to further significantly accelerate construction times, and he looks forward to sharing more details with the *Concrete Trends* editorial team very shortly! ■

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The hollow-core slabs are supported directly by the load-bearing walls. This includes a wall inside the structure that divides it into two separate water retaining compartments.