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CoreSlab behind cost-effective and efficient projects

CoreSlab, a leading precast concrete specialist, has participated in many successful private- and public-sector building projects.

Importantly, the company's precast concrete systems have allowed professional teams to accelerate construction times and provided cost-savings for property developers.

"Combining the speed that precast concrete brings to building projects with the inherent cost-efficiencies of *in-situ* construction can lead to significant savings on most building projects," CoreSlab's managing director, Jaco de Bruin, says.

"In some instances, a building's structure can comprise as much as 10% of the overall cost of the project. For example, the correct selection of construction materials has a significant bearing on the cladding and services of the structure. This is in addition to the substantial influence they have on the internal planning of the facility and available floor space for specific applications. Cost-savings of up to 29% have been achieved by replacing a steel frame on a shell-and-core development with a hybrid-concrete frame, while increasing net useable floor area by more than 10%."

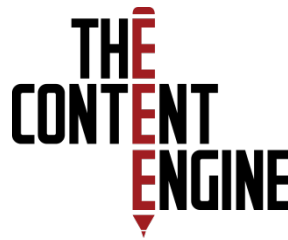
Moreover, precast concrete's ability to accelerate construction times has also had other further positive impacts on the overall cost of projects for property developers. They are able to realise an earlier return on their investment, while benefiting from lower interest charges and construction preliminaries – all while optimising overall development costs.

Enhancing the "buildability" of any project by incorporating precast concrete technologies into a project relies heavily upon meticulous planning in the design phases, as well as contractual flexibility. However, De Bruin says this extra effort has led to many satisfied clients, designers, contractors and end-users of the building.

The efficiencies achieved on these projects are due to moving the manufacture of significant components of the frame of the structure to a controlled and secure factory setting.

Work can, therefore, proceed unhindered without any external interference that is encountered on a traditional construction site, while high levels of accuracy and quality are also attainable in this setting.

CoreSlab's state-of-the-art factory is based in Polokwane, Limpopo, and has been the source of quality precast concrete items for many projects in 2017. Some milestones recorded by the company this year include its involvement in the construction of a hotel, university residences, a mall and municipal commercial space. The company has also supplied hollow-



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core slabs and other precast-concrete items to private residential property developments in the larger Limpopo area.

These structures also serve as examples of the high quality of build that is achievable using precast concrete. They are stable, durable and vibration-free and have, therefore, met clients' specification for a structure that will continue to add value for many years to come.

Meanwhile, designers have also harnessed the thermal properties of concrete in many naturally-ventilated low-energy structures – in line with the growing “green” building movement.

The precast concrete items are transported to site where they are installed by small skilled teams. Timely delivery of the precast concrete items is key to the success of these projects and deliveries from the factory are undertaken on a just-in-time basis using truck and trailer configurations.

On most of CoreSlab's projects, the installation team comprises only seven people, including the operator of the crane. They work alongside the main contracting team according to a strict work sequence.

Efficiencies are again realised during this phase of the value chain by eliminating the need to erect and dismantle scaffolding, as well as formwork. These operations also become more complex and time-consuming at heights.

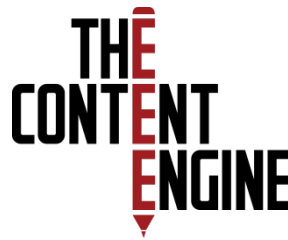
This approach to construction also mitigates the need for complex planning and co-ordination of raw material deliveries – a significant benefit in built-up areas and congested site conditions.

On most of CoreSlab's projects, the installation team comprises only seven people, including the operator of the crane that is used to lift and place the precast concrete items as they arrive on site.

De Bruin says that further efficiencies can be achieved on building projects when the precast items are designed to significantly reduce follow-on trades, such as the installation of ceilings and finishes.

Importantly, the use of precast concrete technologies can also play a prominent role in improving safety levels on construction sites.

This is especially the case when the installation is undertaken by experts, and one of CoreSlabs' strengths is the extent of its skills and expertise in the field. These span the design and manufacture, as well as the exacting transportation and installation requirements.



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The company's own project management capabilities add immense value to HCC projects by leading the precast concrete component of the build.

In concluding, De Bruin points to the many countries that have successfully harnessed precast concrete technologies. They include Canada, Italy, Japan, the United States and the United Kingdom, and he believes that precast concrete technology has a similar important role to fulfil in the South African construction sector!

Image and Caption:

[Image Rob_2827]:

[Caption]: The choice of the frame has a significant impact on the overall cost of the building project. Pre-cast concrete technologies have reduced the cost of projects while optimising floor space for the property developer.