

Echo Precast Engineering NV, 3530 Houthalen, Belgium



Pruksa modernizes building solutions with automated hollow core production plant

A well-known real estate development market leader in Thailand, Pruksa Real Estate Public Company Limited or simply Pruksa has modernized two of its existing precast plants to include the production of hollow core slabs with a high level of automation with machinery from Echo Precast Engineering, a company of the Progress Group. Pruksa has introduced precast technology as the first one in Thailand and continues to develop this advanced and innovative technology there. With the newest investment in the hollow core production Pruksa continues to choose automatic processes to improve the productivity and efficiency with a significant reduction of man-made mistakes.



Pruksa was the first and is still the leading company investing in the production of precast concrete element production in Thailand.

Green Factory

Pruksa has developed the first Green Factory in Thailand, which works with strict sustainability development policies for waste as well as noise pollution in the factory. It has been distinguished in three aspects of operation. The Heart to Home, the Heart to Earth and the Heart to Society.

Especially with the current situation the focus is even more on creating a new standard of living. Pruksa states: "We see mega trends that affect the housing of people all over the

world: health and wellness is being redefined and real estate developers need to create a new definition of comprehensive healthcare offerings for the residents. Lifestyle disruption was immense, so we need to create a new way of life which is adaptable to changes by leveraging new innovations to enhance the living conditions. Also, to ensure sustainability of the environmental, social and living perspectives for future generations needs to be a key focus."



Two production facilities have been equipped with new machinery for the production of hollow core slabs



The Slipformer S-Liner® is a flexible machine. It is capable of producing 1 slab of 1.2m in width and 2 slabs of 0.6m or two slabs of 1.2m at the same time.

Sustainable production for sustainable living conditions

Pruksa is innovating the real estate market in Thailand – since almost 30 years. Pruksa Real Estate was founded by Mr. Thongma Vijitpongpun and focuses on developing projects for townhouses, single-detached houses and condominiums with the mission of developing high quality houses at reasonable prices and thus ensuring better living conditions. 1600 people are working for the company and help with the construction innovation that offers a wide range of modern patterns, combining the environmentally friendly concept with appropriate resource allocation in every process.

Precast concrete factories – a main factor for sustainable building

Already in 2005, Pruksa invested in the first precast concrete plant. Since it was founded, the company believed that innovation needs to be focused on and has lived this vision also through the system of building with prefabricated concrete elements. In the beginning Pruksa focused on delivering town houses with the usage of tunnel form construction. As the company grew and wanted to meet the requirements and demands as well as gaining more market share on single detached houses, it applied new methods by using innovative precast systems. The equipment for the automated carousel



The automatic plotter SmartJet is working with the CAD data which is imported in the Ebos HC software. This machine ensures a fast marking on the slabs and no mistakes are made. The markings for the line detection are made simultaneously.



The automatic MAS - Multi-Angle Sawing Machine is foreseen with safety sensors for a safe environment. It is equipped to recognize cut lines and automatically make cuts using the patented "Line Detection" technology.

plants was provided by Ebawe Anlagentechnik and Progress Maschinen & Automation, the software solutions from Progress Software Development and the new hollow core production plants by Echo Precast Engineering, all companies of the Progress Group. The main products made in the plants are walls and slabs for the fast and secure building of residential housing.

Hollow core slabs as completion of automated production

The decision to renew the two factories has been made in the last years to develop the hollow core production. Pruksa has 7 Precast concrete factories (PCF). PCF3 and PCF7 were the factories that supplied solid slabs. The company did a lot of research on hollow core slabs and with that has been convinced of the benefits of these elements. Hollow core slabs are efficient in design, production, and construction. They contribute to the sustainability concept as well, as they re-

duce the amount of concrete needed and thus the weight of the slabs. With this knowledge Pruksa decided to change the slabs for their house concepts and modified PCF3 and PCF7 into two highly automated hollow core production plants with machinery from Echo Precast Engineering to supply all their building projects.

The new hollow core production plants have been equipped with a Universal Slipformer S-Liner® 2.4 m to produce two rows with 1.2 m wide slabs but can be flexibly adjusted to produce one 1.2 m as well as two 0.6 m lines at the same time. Additionally, a Multi-functional Trolley, also 2,4 m wide is supporting the production while being battery driven. The installed Concrete Aspirator makes accurate cut-outs, openings, and protruding reinforcement in hollow core slabs without effort. Also, an automatic SmartJet Plotter with the advanced line detection technology of Echo Precast Engineering was supplied together with the Multi Angle Sawing Machine MAS in 2.4m wide variant. Additional equipment included was the lifting equipment for the lifting of 1.2m wide slabs and 0.6m wide slabs. This machinery is helping not only with the faster and safer production of hollow core slabs but is contributing enormously to the Green Factory concept as the concrete usage is 40% less compared to solid slabs contributing to a green and sustainable production.

"The decision for Echo Precast Engineering has not only been due to the good machine quality and technology but also due to the good coordination and machine design which followed our requirements", stated Mr. Pornเทพ Suppatartarn, Group Chief Procurement and Supply Chain Officer and added: "We did not only want to implement the hollow core system but also increase the automation in the storage location system and needed the systems to synchronize. So, with Echo we could have a supplier from the same group as the supplier of the existing factory and storage location systems." He was also happy to say that the project worked well - even in these challenging times and situation, due to the mentioned good coordination: "The collaboration was very impressive.", he concluded. ■



Hollow core slabs are used for sustainable residential and commercial buildings.



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