

## Press release

The use of large-format, massive construction systems and the collaboration of Alfred Döpker construction company with the Xella Technical Service Unit in the planning of the major Marissa holiday park project ensured cost, planning and schedule reliability

# Digitally first and then in reality: New accents in the planning and execution of major properties

**Duisburg September 20, 2018 Start of an ambitious project: the Marissa holiday park, a modern, year-round recreation area with high-quality vacation properties, will be built at the Dümmer lake in Lower Saxony in only two and a half years. 253 freestanding vacation homes between 90 m<sup>2</sup> and 195 m<sup>2</sup> in size, 36 apartment buildings with a total of 216 residential units and two terraced houses with three and four apartments are planned on the 18-hectare site. The collaboration between general contractor Alfred Döpker GmbH and the Xella Technical Service Unit in the planning and execution of the project's large-format, massive Ytong construction systems ensures well-planned, on-schedule and predictably-priced implementation of the project.**

Construction began in summer 2018 and the first buildings will be ready for occupancy in early 2019. Completion of the entire complex is planned for the end of 2020. In view of the size of the overall project and the very tightly-knit schedule, the Alfred Döpker construction company planned very precisely beforehand. Their focus was on how to implement the project cost-effectively at the required speed without compromising the very high standards for execution. A key factor in the company's cost and time calculation is the use of large-format, massive system wall elements made from Ytong aerated concrete. Their fine-pored structure offers excellent thermal resistance properties accompanied by short building times. All of the vacation homes will be built with Ytong system wall elements for the exterior walls and Ytong partition wall panels for the interior walls. The apartment buildings will use Ytong Jumbo Planblock for the exterior walls and Silka sand-lime brick for the interior walls.

The large-format construction method clearly shows its full strengths in serial construction. It offers enormous saving opportunities and enables fast handling. According to the

manufacturer, the story-high format and consequent fast handling of Ytong system wall elements reduces the building time to 10 minutes per square meter. And since, beside the material costs, the work time is a very significant cost factor in the overall calculation, rapid construction progress means fewer working hours and, thus, lower construction costs. An effect that comes into full fruition at the Marissa holiday park: Alfred Döpker construction company calculates one week per building for shell construction.

### **Digitalization of the planning process**

For the planning of large-scale projects such as Marissa holiday park, which often have to be completed under great time pressure, Xella offers support through its digital wallXpert service. This opens up additional perspectives with respect to cost, planning and schedule reliability. The basis is a 3D building model that can have geometric, material-specific and non-geometric information added by all project participants throughout the entire planning process, thus supporting optimal planning. Thanks to its great clarity, whether the overall planning is realistic and can be implemented efficiently or at which points optimization is required can be determined at an early stage.

In the present case, planning of the Marissa holiday park was carried out by the BIM team at the Alfred Döpker construction company. After it was determined that the property should be built with large format system wall elements, the Xella Technical Service Unit made its digital models available. The wall planning was then optimally adjusted for implementation using system wall elements with the aid of wallXpert. In the process, additional optimization opportunities were identified and implemented. In practical terms, this resulted in partition walls that were originally planned with a thickness of 24 cm being reduced to a thickness of 17.5 cm. Given the size of the property, this resulted in an appreciable increase in rentable area for the investor. Analysis of the model with special structural software also showed that the columns in the buildings could be eliminated. This allows the contractor to save material and labor costs in the production of columns. Later tenants will benefit from continuous, generous spaces. According to the findings of the structural analysis, the Ytong Jumbo used for the exterior walls of apartment buildings could be processed with a significantly lower compressive strength than originally planned. The building contractor was able to calculate more economically. Construction of

The logo for YTONG, featuring the word "YTONG" in a bold, black, sans-serif font, underlined, and centered within a solid yellow square.

**YTONG**

The logo for silka, featuring the word "silka" in a white, lowercase, sans-serif font, underlined, and centered within a solid blue square.

**silka**

apartment separation walls with Silka sand-lime brick instead of Ytong aerated concrete to improve sound insulation is also due to a recommendation from the Xella Technical Service Unit. Slightly higher planning expenditures using the digitalized planning process achieved higher overall efficiency in execution, the building period and building costs.

Press contact:

The logo for Xella, featuring the word "Xella" in a blue, sans-serif font, with a stylized 'X' that has a diagonal slash through it.

**Xella**

Xella International GmbH  
Düsseldorfer Landstraße 395  
47259 Duisburg  
Phone: +49 203 60880-5501  
[kommunikation@xella.com](mailto:kommunikation@xella.com)