

Two in one: the combination of two different production lines under one roof

A completely new plant concept was developed by the experts of WKB Systems to supply one of the largest autoclaved aerated concrete manufacturers of Turkey. Two different production processes were combined in one plant to ensure fully automated production of AAC blocks and Multipor insulation panels in an efficient way.

The successful negotiations with one of the largest autoclaved aerated concrete (AAC) manufacturers in Turkey, Türk Ytong Sanayi A.S., resulted in the delivery, supervised assembling and commissioning of a completely new plant with equipment of WKB Systems GmbH in Catalca, Turkey. The plant with its capacity of 1,400 m³ of AAC per day should satisfy an increasing demand for AAC blocks and Multipor insulation panels in the home country and neighbour regions.

One of the challenges of this project for the experts of WKB Systems was to combine two – usually inde-

pendent – production processes of AAC blocks and Multipor insulation panels with each other.

Here the attention must have been previously paid to the different product characteristics and dimensions. The sensitivity during handling of the insulating panels (density 100 kg/m³) was in no way to be affected by combining the processes. Additional technical and plant control requirements included a production of AAC blocks with thicknesses of 50 to 400 mm with variable lengths of 500 to 625 mm at the same time. Furthermore, the individual shipping package dimensions also had to be kept in mind.

Green cake separating section



Brand-new plant concept from the experts of WKB Systems

After the precise analyses of all the project specifications the AAC specialists of WKB Systems developed a completely new plant concept – autoclaved aerated concrete plant with a Multipor insulating panel production facility based on the proven and tested solutions. In such a way an ordinary AAC plant was expanded with an innovative production line for a product enjoying a steadily growing market share, Multipor insulating panels.

Paying attention to the variety of product dimensions and variations in their density the experts of WKB Systems opted for a fully automated production line.

This tailor-made concept included an integrated, modular design of the plant. This allows the manufacturer to produce AAC blocks and Multipor insulation panels in a very flexible way and according to the current needs of the market.

Through the combined plant concept, it was possible to significantly reduce the space requirements, the size of production premises and the time required for construction.

Innovative solution to increase AAC output

One of the innovative machinery integrated by WKB Systems in this project was a Green Cake Separating Machine (GSM). This smart facility counteracts the sticking of AAC blocks during autoclaving process. During one operating cycle the autoclave grate with a green cake is put with a gripper onto the GSM. The grate is centred when lowering onto the GSM, so that the cake is placed precisely on the separation trusses. The separation trusses are arranged beforehand depending on the block format. Now, the individual trusses are sequentially moved by a few millimetres, so that gaps arise between the rows of AAC blocks. After the separation process and before transport by the portal system, the autoclave grate lying below the separation trusses is cleaned of fallen debris using an air blaster. After the discharge of the autoclave grate with the separated aerated concrete cake, the separation trusses are cleaned with a steerable, rotating brush.

WKB technology ensures efficient production process

Thanks to the usage of the GSM as well as the fully automated production lines a significant increase in plant output and energy efficiency were achieved. The plant operating costs were demonstrably reduced and set-up times were optimised.

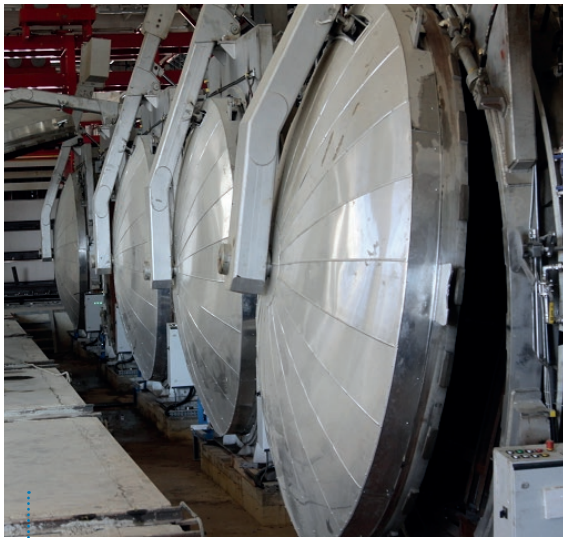
According to the AAC experts of WKB Systems the comprehensive resource management is of great importance for an efficient production process. That



Green Cake Separating Machine (GSM)



The manipulator is used to put an autoclave grate with the AAC cake onto the GSM



Autoclaving section



Packing line for Multipor insulation panels

is why all the plants of WKB Systems are designed to guarantee an efficient, ecological and waste-free production.

Fit for the future

Thanks to the fruitful cooperation with WKB Systems, Türk Ytong Sanayi A.S. was supplied with an AAC plant engineered according to the flexible manufacturing system. Furthermore, a high level of automation, low energy consumption, waste-free production and a high cost-effectiveness are the outstanding characteristics of these production lines. As a result,

the manufacturer significantly increased its competitiveness as well as his market share. ●



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Separated Multipor insulation panels

