

Weckenmann Anlagentechnik GmbH & Co. KG, 72358 Dormettingen, Germany

Modern production lines for the production of hollow decks in Mexico

The state-of-the-art production plant for hollow decks at Danstek in Mexico went into operation in December 2013 in the north of Mexico City. Danstek chose the Swabian machine and plant manufacturer Weckenmann as supplier of the machines and production lines for the new precast element production and placed its trust in the many years of experience and high quality of the precast experts from Germany, from the early stage of the project to the commissioning.



Until recently Fapresa was still producing concrete elements exclusively in the open air. This has now changed with the modernisation of the precast production facility by Weckenmann.

office by Rafael Barona. The Mexican company combines concrete and architecture with building culture in a perfect symbiosis and has developed many innovative ideas through the combination of architecture and precast concrete element production as well as implementing numerous important building projects with highly architectural precast elements in Latin America, including 'La Torre Mayor' in Mexico (one of the tallest buildings in Latin America), the 'Edificio BA' and the 'Liverpool Altabrisa' shopping centre, the 'Senado de la República' and further government buildings. The Mexican company has received numerous national and international



■ Alesandra Rico, Area Sales Manager
Central and South America
Weckenmann Anlagentechnik GmbH & Co.
KG, Germany
Alesandra.Rico@weckenmann.de

awards for these architectural masterpieces. Fapresa has co-operated with many internationally renowned architects (Cesar Pelli, Reichmann International, etc.). Following projects throughout Mexico as well as in the Caribbean, the company is now attracting increasing interest outside of Latin America. The architect's office as well as the Danstek engineer's office offer solu-

■ Alesandra Rico, Weckenmann Anlagentechnik GmbH & Co. KG, Germany ■

Fapresa: A traditional, innovative family-owned company

Fachadas Prefabricadas S.A. is a traditional family-owned company, which was established in 1970 as a small precast plant and has manufactured precast elements in the conventional stationary manner since then. Following continuous growth it now has four precast concrete plants and has become one of the market leaders for architectural precast concrete facades in Mexico. The company manufactures a large range of concrete constructions and concrete elements; the products extend from conventional precast concrete elements up to self-supporting parametric facades with a propeller-like design.

A perfect symbiosis: precast element production and an in-house architect's office

The company belongs to the Mexican Barona family. Father and sons manage three companies on one site. The Fapresa precast company is managed by Francisco Barona Mariscal, Danstek by Francisco Barona Coghlan and the Arqme architect's



The Fapresa management team achieved a significant increase in quality and productivity with the successful modernisation. In the picture (from left): Francisco J.Barona Coghlan, Administrative Director of Fapresa, Francisco X. Barona Coghlan, CEO of all companies, Rafael Barona Coghlan, Administrative Director of Arqme, Ariadna Vicencio, Graphic Designer, Alesandra Rico, Weckenmann Area Sales Manager for South and Central America and Rodrigo Romo de Vivar, Production Manager.



The Mexican company mainly uses the new production facility for the manufacture of biaxial carrying hollow decks, which are also known as Bubble Decks due to their round displacement bodies.



A view inside the new Danstek production hall: Weckenmann supplied several hundred metres of production line with state-of-the-art equipment.

tions for the design of precast concrete elements and advice on the technical feasibility and the optimum modulation.

Increasing demand for precast elements in Mexico

The increasing need for precast elements in Mexico as an attractive and fast method of constructing high-quality buildings at competitive prices, whilst at the same time meeting the high requirements for surface quality, earthquake resistance, safety at work and prompt implementation of the final assembly, led the company to the fundamental decision to increase production capacities and to introduce new production methods. The question then arose of which production method would best fulfil the company's objectives of capacity, productivity and market-oriented flexibility. This gave rise to the idea of founding Danstek and giving the product a new orientation in the form of series-produced precast concrete elements.

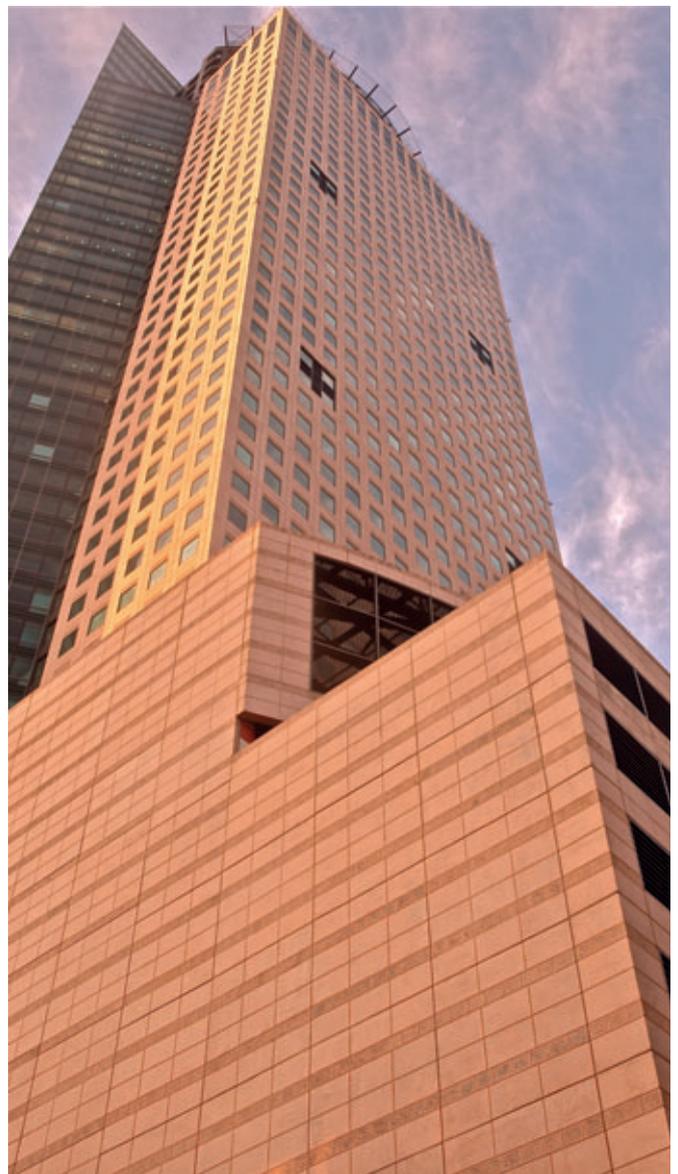
Challenges of the new production facility

The official starting gun for the project was fired in January 2013 – and the conditions were not simple: the available space and the difficult hillside location of the company site represented a big challenge to the extension of the plant. On top of that, the existing production operations were not to be disturbed during the implementation of the project. Together, ARQme and Weckenmann worked out an innovative solution for this in the form of a production extension in the basement of the already existing production hall. The elaborate excavation of over 70,000 m³ of earth and the securing of the slope were necessary for this.

The new Danstek precast element production facility

The new production facility with its capacity of 200,000 m²/year is mainly used for the manufacture of biaxial carrying hollow decks, so-called bubble decks, for which Fapresa established Bubble Deck Mexico. Production manager Rodrigo Lomo explains: "Bubble decks behave like solid flat slabs. We can thus combine material and weight savings with an optimised structural effect." In addition to bubble decks, classic lattice girder slabs are also manufactured in the new hall; only special parts and particularly elaborate parts are still manufactured at the nearby Fapresa production site.

Overall Danstek can now produce 860 m² of floors per shift on its six new, modern production lines. In addition to the production lines with a total length of several hundred metres, Weckenmann also supplied a modern concrete distributor with an integrated hoist, a



Fapresa has made a name for itself both as a precast element manufacturer and as an architect's office with sophisticated buildings, for example the Torre La Mayor, one of the tallest buildings in Mexico.

CPO unit for fast and uncomplicated cleaning, plotting and oiling of the lines and a formwork cleaner together with the associated formwork system of the latest generation. Thanks to integrated cross-drives, all machines can switch production lines automatically and independently of one another on cross-drive rails at the end of the lines, which increases the production efficiency still further. A further challenge, which was successfully mastered, was the low height of the hall.

Danstek and Fapresa look positively to the future

The switch from the traditional and very complex method of manufacturing to an automated production method means that the group can look positively to the future. Company owner Francisco X. Barona Goghlan summarises: "With our new production facility we are now set up even better on the market and can successfully complete larger building projects in even shorter periods in top quality. Our decision to accomplish this project 'Made in Germany' with Weckenmann was right and we have not regretted it at any time."



The modern Liverpool Altabrisa Shopping Mall in Mexico City caused quite a stir with its unusual precast element structure and brought Fapresa a great deal of national and international recognition.

FURTHER INFORMATION



Weckenmann Anlagentechnik GmbH & Co. KG
Birkenstraße 1
72358 Dormettingen, Germany
T +49 7427 94930
F +49 7427 949329
info@weckenmann.de
www.weckenmann.com



The Leader in Liquid Mold Rubber for Cast Concrete



Polytek products have proven they perform BEST!



Make the longest lasting molds, liners and stamps!



Create the most realistic castings and textures!



contact us at
sales@polytek.com
www.polytek.com

