Masa GmbH, 56626 Andernach, Germany

# New state-of-the-art concrete block making plant put into operation in Saudi Arabia

As one of the leading companies in Saudi Arabia, Al-Henaki Company produces and distributes ready-mixed concrete, as well as all kinds of tiles. It also specializes in the production of concrete blocks and curbstones. With a new state-of-the-art Masa concrete block making plant in Taif, a city in the western part of Saudi Arabia and 70 km south-east of Mecca, the company with years of experience intends to expand and would like to continue its success story in the Arabian Peninsula. Here, the company relies on the leading manufacturer of concrete block making machines and plants, Masa GmbH in Andernach, Germany. The Masa GmbH is thus expanding its market position in the Arabian Peninsula and remains the market leader in the Middle East.

The origins of the company from Saudi Arabia date back to the early 1960s. At that time, the company's founder and eponym Abdullah Mohamad Al-Henaki laid the foundation for the success of the present Al-Henaki Company. The successful planning and implementation of major projects for the government and for the private sector demonstrate the decades of experience and know-how of the Al-Henaki Company. The Al-Faisalya Bridge in Taif or the construction of the Roman Theater in Al-Qassim are just some significant examples. With its many production facilities spread throughout the whole Kingdom of Saudi Arabia, Al-Henaki Company operates amongst other concrete block making factories in Taif, Al-Kharj and Qassim. The headquarters of the Al-Henaki Company is in Saudi Arabia's capital Riyadh.

The company's mission statement, to produce premium products for the region around Taif and especially Mecca should be achieved with the right amount of German expertise. Therefore, Al-Henaki planned the entire concrete block production plant with foresight. An extension of another concrete block making plant within the new plant in Taif could be possible. However, top priority during the planning was always "quality from the beginning!" As a consequence, Al-Henaki decided to integrate a Masa dosing and mixing plant, for the efficient and reliable manufacture of high-quality main mix concrete as well as also colored face mix concrete. The best arrangement of the Masa dosing and mixing plant with dosing flaps, charging scale, color dosing, two mixers and a double bucket conveyor complements by the newly patented Masa multicolor system.

Multicolor systems allow amongst other benefits, the production of concrete blocks



The installation work is progressing: elevator, lowerator as well as the Masa finger car are assembled.





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Masa - made in Germany.



Masa concrete block making machine XL 9.2 - state-of-the-art technology from Germany



View of the Masa mixing tower: The cement screws feed cement into the cement scales of the Masa mixers S 350/500 and PH 2000/3000



Masa Cuboter: A sensitive handling of quality products is guaranteed

with color gradients on the visible surface. Three different colors provide a natural appearance. The difficulty lies in the exact and especially repeatedly reproducing gradients.

The newly patented Masa multicolor system counteracts these problems with the improvements on the previous model. Instead of a parallel arrangement of silos and conveyor belts to the collecting conveyor, they are now mounted in a line above the collecting conveyor. The conveyor belts can be swiveled by approximately 30 degrees to the left or right from the center position during dosing of colored concrete, while the entire width of the collecting conveyor is covered. Thus, the conventional forward and backward movement of the conveyor belt is unnecessary. As a result, the new Masa multicolor system is a significant improvement in the dosing accuracy and reproducibility of the colored concrete block surfaces. In addition, the new design facilitates the maintenance of the multicolor system.

The optimal (colored) face mix concrete for the Masa multicolor system is produced by the specialized Masa face mix concrete mixer S 350/500. The rotating, 20 degree inclined mixing trough in combination with a stationary twister distinguish this mixer. The mixing result can be quite impressive: It is homogenously and agglomerate free. The Masa face mix concrete mixer with a maximum dry filling quantity of 500 liters and an output quantity of 350 liters is dimensioned in such a way that with fast, small mixes, a multicolor face mix concrete can be generated very efficiently.

Al-Henaki also chose for the realization of the actual concrete block making plant the traditional company Masa as a reliable partner. The German machine manufacturer, celebrating its 110th anniversary this year, provided a modern ring system, which is designed for the production of high-end products.

The Masa concrete block making machine XL 9.2 with amplitude control and automatic quick mold change system can produce a wide range of concrete products for the garden and landscaping, curbstones, large plates ( $1m \times 1m$ ) and wall building materials up to insulating blocks. The high-performance machine is impressive not only with the fully automatic production of high-quality concrete products, but scores among other things, with its massive frame construction, the use of energy efficient drives and the cost-optimized wearing part management. **Competence** Leadership.



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Always everything in focus: Due to the modular plant control software Masa FAST



3-D rendering of the new Masa multicolor system



The conveyor belts can be swiveled by approximately 30 degrees to the left or right from the center position during dosing of the colored concrete

#### CONCRETE PRODUCTS & CAST STONE

The proven Masa large capacity concept has been integrated in the plant configuration, so that the fresh premium products run through an optimized curing process: The complete curing rack plant as well as elevator, finger car and lowerator are installed in a contiguous climate area. Uniform climate conditions are produced in the curing chamber by means of circulating air and exhaust air fans. The monitoring of the circulated air takes place via humidity and temperature sensors. The goal is, in addition to the realization of a faster curing mainly the avoidance of color variations within the same products.

In the regular structure of the Masa ring system (concrete block making machine, wet side, curing, dry side/return transport, production pallet cross transport, cubing and cube conveyor) another component ensures a sensitive handling of the quality products. The complete servo-controlled cubing system, the Masa Cuboter, takes the cured products from the return transport and creates cubes on the following cube conveyor (ready for dispatch). The principle sounds simple, but behind it is a "stateof-the-art" cubing device with sophisticated technology. Optimized controls enable dynamic-harmonious movements of the Cuboter. Due to a robust design, a high carrying capacity can be realized over long distances. Different turning gear positioning or for example, centering or offset programs can be tabulated in the recipe. Of course, also in the field of cubing, Masa places great importance on energy efficiency, operating cost optimization and the lowest possible amount of maintenance.

Masa completed the production plant in Taif with the supply of a modular software for uniform operation and visualization of the components. The application software FAST (Factory Automation Service Tools) is characterized by a high recognition value of the entire plant due to a clear structure. Besides using 3-D plant images and the connection of an interference tool for precise fault localization, amongst others a customized user and parameter administration is possible. The customer-oriented operating concept is expected to be another essential factor of success for Al-Henaki.

The aim of Al-Henaki is clearly defined: the currently high demand in the region around Taif and Mecca shall be covered by these premium products. With the new concrete block making plant from Masa, Al-Henaki made a decisive step in order to achieve this goal.

#### CONCRETE PRODUCTS & CAST STONE



Masa finger car in the curing chamber



3-D rendering of the Masa concrete block making plant in Taif

FURTHER INFORMATION



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