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REPRINT | CONCRETE PRODUCTS & CAST STONE

Sustainable and reliable production boards
for the concrete block industry



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ALWAYS 100% READY –
EVEN WHEN EVERYTHING IS UPSIDE DOWN.

The world is in disarray, still.

There have been many changes. Circumstances we take for granted have revealed their enormous significance through the limitations imposed by the COVID-19 pandemic.

One essential fact remains true at WASA however: Our actions have always been guided by the virtues of decisiveness, diligence and prudence. For more than 60 years. Every day. For our customers. For you.

To one hundred per cent.



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Wasa AG, 64293 Darmstadt, Germany

Sustainable and reliable production boards for the concrete block industry

■ Alexander Simos, Wasa AG, Germany

In 1991, Wasa Unterlagsplatten GmbH, now Wasa AG, introduced a new and innovative plastic production board to the market. Even then, sustainability played an important role and a recycling option for the plastic waste collected from private households was being considered. With the invention of a plastic board for the concrete block industry made of recycled material, the Wasa Uniplast solid plastic board, this has been achieved extremely well.

At the end of the eighties, the idea was born to produce a production board from recyclable plastic material. The first

results with individual plastic planks, screwed together to form a production board, were so promising after practical tests that this idea was focused on and pursued further. It quickly became apparent that the plastic board had to be made from one piece, as this was the only way the material could form a homogeneous unit. The idea of a seamless board - apart from steel sheets - was born.

Plastic boards for the concrete block industry have been produced from recycled plastic material in Neubrunn, Thuringia since 1991. As usual with a new product, the production was



Stack of the Wasa Uniplast shortly before machine infeed



Wasa Uniplast Ultra

a big learning process for Wasa. Wasa has managed to create this special product with experience, in cooperation with numerous customers and with technical finesse.

Since the pure plastic composite did not provide the desired board stiffness for the usual board dimensions of 1,400 x 1,100 x 50 mm, the decision was made to reinforce the board with steel inserts and to additionally reinforce the respective board side with galvanised steel profiles in the direction of production. To the delight of many concrete block manufacturers, the surface of Wasa Uniplast was very robust, extremely impact-resistant and even.

The successful market entry worldwide confirmed Wasa's decision to pursue the product with great intensity and to continue to develop it. This was followed by continuous investment in research, new employees, production plant technology and new production buildings at the production site in Neubrunn. Over the years, Wasa, which is still a family-run business today, has developed into a market leader in the production board sector.

Wasa Uniplast Ultra

In 2007, the further development of the successful Wasa Uniplast solid plastic board was presented at the bauma trade fair in Munich. After a long period of research and development, the internal consensus at Wasa was that a board without any steel reinforcement and C-profile reinforcement would offer even better production properties to global customers. The Wasa Uniplast Ultra board was born, a glass fibre-reinforced board made from recycled industrial plastics.

Production boards differ not only in their service life, but also in their vibration transmission capabilities. Due to constantly increasing demands on concrete products, quality has long been the centre of attention. Concrete blocks and patio slabs should not only look pleasing - the „inner values“ must also be right. As a component of the vibratory bond, the production board has a great influence on the compaction result. The vibration transmission determines how much impact

energy is transferred to the concrete to be compacted. High-energy impacts are required for high and efficient compaction. The consistent transmission of vibrations over the entire lifetime of the production board is therefore becoming a decisive quality criterion in today's world. Wasa's fibre-reinforced board offers all these properties.

The board meets Wasa's own high expectations and also those of customers worldwide. The new fibre-reinforced board with its very good and consistent production properties keeps its promise. Increasing demand required a constant expansion of production capacities at the production facility in Neubrunn, Thuringia. Today, Wasa produces fibre-reinforced solid plastic boards for its customers around the clock, 365 days a year.

The constant monitoring and optimisation of production guarantees Wasa an economical production process and consistently high quality. The individual production stations work hand-in-hand and are ideally timed.



Quality control of a manufactured Wasa Uniplast Ultra

All raw materials required for production are delivered to the factory. Tailored to the individual needs of the customers, the plastic mixtures are defined and prepared for each individual order. By adding fibres, the formulations can be precisely adapted to the individual requirements of the customers. The mixture is then fed to one of the injection moulding machines.

The injection mould specially prepared for the respective board docks onto the plasticising unit and is positively connected. The number of steel moulds used depends on the order size. The plasticised plastic mass is injected into the steel mould – depending on the size of the board, this process takes a few minutes. The interior of the moulds can also be adjusted in advance to the customer-specific board size. After the filling process, the mould is disconnected from the injection moulding machine. It then passes through several cooling stations in circulation, where the plastic is cooled down to room temperature. After that, the plastic boards are removed from the mould and handed over to quality control. Here, each board is checked for weight, flatness and dimensional accuracy. After the board has passed the quality test, further customer-specific features such as chamfers and edges are applied.

Finally, the boards are packed on pallets and prepared for transport in sea containers or on the truck

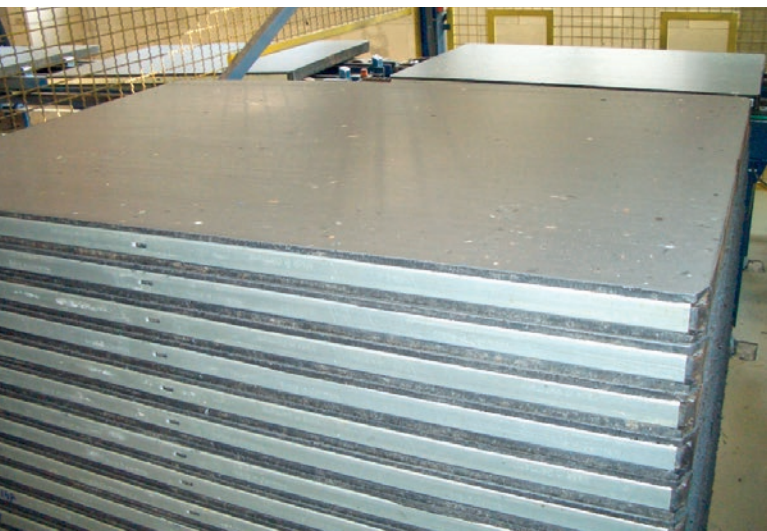
The fibre-reinforced board from Wasa is not just a production board as such, but an individually tailored product for each individual customer, into which Wasa and its employees have put their heart and soul for 31 years now.



Wasa Uniplast Ultra in use at Betonwerk Huber in Altomünster

Possibility of regrinding

Due to the fibre-reinforced solid material, it is possible to re-grind the board after a certain time in use. The economic and also ecological decision to grind the boards, which Wasa can do directly on site using its own grinding containers, offers a great advantage. Approx. 1-2 mm of material thickness is removed from the board during grinding. The result is a smooth and clean board surface that allows production for many more years. Lifetimes of up to 20 years are therefore possible. The very good production performance remains unchanged even after grinding. ■



Surface of a ground Wasa Uniplast board after 14 years of use

FURTHER INFORMATION

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