

Wasa GmbH & Co. KG, 98617 Neubrunn, Germany

Extension of wet-cast mould production

Wasa GmbH & Co. KG from Neubrunn in southern Thuringia has been producing casting resin moulds made of polyurethane and silicone for some seven years now. For Wasa, which is known as a manufacturer of wooden, plastic and wood/plastic composite boards, this was a consistent further development in 2006 of an already extensive range of products for customers in the concrete block industry. "We see ourselves as a comprehensive partner to our customers, starting with the underlay board and wet-cast moulds through to the stack carrying system for precisely these moulds", says Peter Webel, one of the two acting partners of the Thuringian company.



Wasa to create the perfect conditions for the processing of polyurethanes and thus to achieve the optimum properties of a PU mould. This unique machine moves on a rail system through the 40-metre-long production building. This enables it to move flexibly to a large number of mould filling stations in a very short time and to cast there. The machine is supplied with the necessary polyurethanes from large-volume containers, so-called IBCs, which stand in stationary positions. Nitrogen is applied to the PU in the IBC in order to ensure the best quality conditions for the downstream processes. This machine offers the possibility to ensure material throughputs of 1.5-11.5 l per minute and theoretically to cast up to 1.5 t without a change of container. That considerably increases the range of applications of the machine and the manufacture of large-volume moulds is also not a problem.



Fig. 1: New-type, ultra-modern polyurethane processing machine

There has been constant increase in turnover from the start of production of the wet-cast moulds in 2006 through to the present day. Demand has grown considerably once again in the financial year 2012, which was the basis for Wasa's decision to invest in state-of-the-art, maximum performance processing equipment for the manufacture of the wet-cast moulds for the con-

crete block industry. Wasa has thus succeeded not only in rising to become one of the technology leaders in the global market for underlay boards, but also to secure this position in the construction of wet-cast moulds.

The new-type casting machine for the production of the PU moulds was conceived by

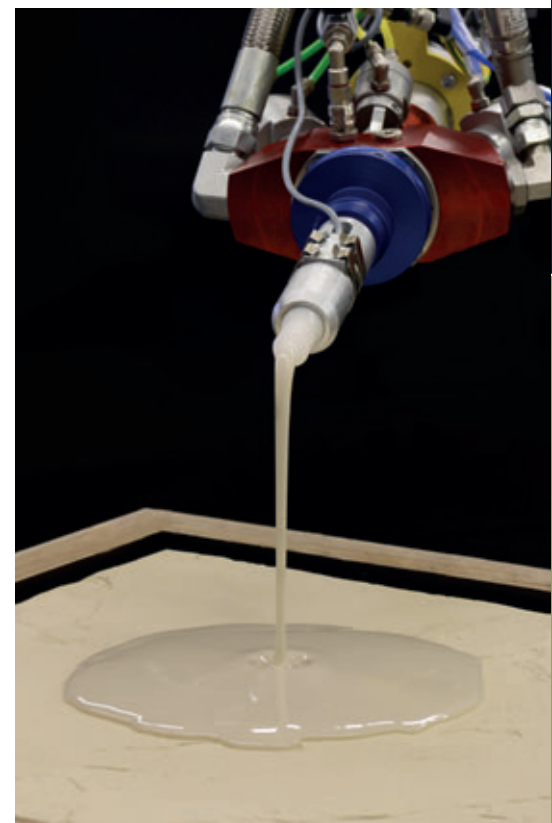


Fig. 2: Mixing head of a flow-rate-controlled PU processing machine



Fig. 3: Universally familiar wet-cast moulds with wooden support frame as "small" stack carrier system



Fig. 4: Complete stack carrier system in symbiosis with well-known and newly developed Wasa products



Fig. 5: Milling processing

From the IBCs the PU is driven through special vacuum tanks that enable optimum deaeration of the material in order to improve the properties of the polyurethane still further. From there the flow-rate-con-

trolled pumps convey the polyurethanes to the ultra-modern mixing head, in order to ensure a constantly even mixing ratio and thus to inject an optimally mixed PU into the respective casting moulds.

The elaborate process in the temperature-controlled production building guarantees the manufacturer and ultimately the end user outstanding procedural characteristics of the wet-cast moulds in the sometimes very harsh subsequent usage in the concrete plant.

Not only are wet-cast moulds with simple, now universally familiar block geometries (travertine, slate, marble etc.) cast with the help of this machine. In fact, Wasa has recognised the clear trend toward multi-functional moulds and has reacted accordingly: in combination with the new stack

carrier system specially manufactured at Wasa, the customer is offered a unique all-in-one solution of wet-cast mould and carrier system that forms a self-contained unit.

Fig. 4 illustrates the combination of the products manufactured by Wasa very well. The board of the type Wasa Woodplast®, a wooden board encapsulated in PU with alternatively a soft wood, hardwood or multiplex core, is fused to a complete unit with all-plastic feet as well as a wooden support frame with an interior 6-fold polyurethane mould. The customer can begin to work immediately with this comprehensive system.

Model construction

From the concept development to the construction of the model, Wasa uses state-of-



Fig. 6: Interior view of the model construction shop

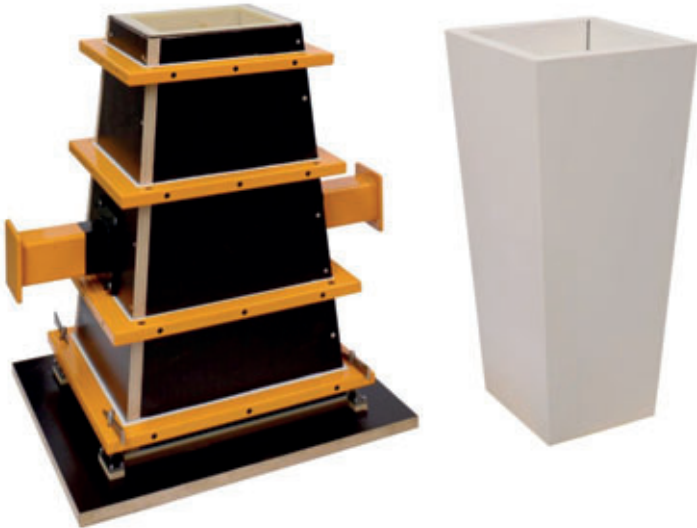


Fig. 7: Application example: Plant pot moulds

the-art means such as CAD/CAM programs, CNC milling technology and machines from wooden model construction. As a result, Wasa is able to realise all possibilities of model construction, from relatively simple moulds to complex, multi-part CNC models. This allows Wasa to meet its customers' requirements and to offer solutions to individual requests.

However, Wasa manufactures not only models and casting resin moulds, but also offers the casting resin moulding of the customers' own models under optimum process conditions in its state-of-the-art production facilities.

The customer has the possibility to deliver its prepared models with casting frames to Wasa, so that Wasa can cast moulds from them. This service is a good possibility for all those customers who would like to manufacture their models and casting frames themselves but are not able to manufacture top quality castings themselves due to the low volume. Casting takes place at Wasa at a fixed price per kilo, so that user has advantages not only in terms of quality but also in terms of price. ■

FURTHER INFORMATION



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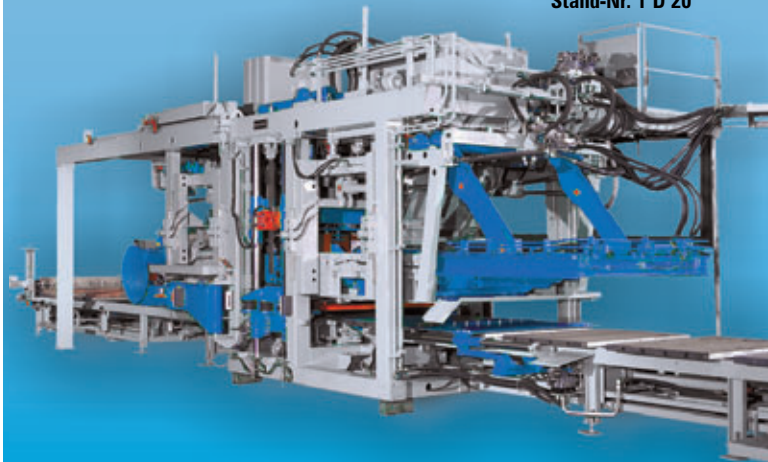
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