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New production plant for polyurethanecoated production boards







Wasa AG, 64293 Darmstadt, Germany

New production plant for polyurethane-coated production boards

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You really can't deny that Wasa AG knows its trade. For over 60 years now, the market leader in production boards has been successfully developing, researching and producing. Production boards made of classic solid pine, the development and manufacture of the still innovative Wasa Uniplast Ultra glass-fibre reinforced solid plastic board, which has been on the market since 1990, and a meticulously developed polyurethane-coated production board, which has taken over the legacy of the hardwood board that was once so popular on the market. Wasa manufactures all these products every day with around 120 employees at its site in Neubrunn in Thuringia and delivers to almost the entire globe.

Wasa has been offering Wasa Woodplast to customers since 2010. Wasa Wooplast is a polyurethane-coated board that has become very popular on the market. Wasa is not simply encasing a wooden core here, but is constantly thinking about how the production board can perform successfully and trouble-free in concrete plants for years to come when developing and continuously improving the product. Standstill is just as undesirable in concrete plants as it is in product development at Wasa. Wasa is in close and constant dialogue with users in the concrete block industry to ensure that the development of its own products is practice-oriented and tailored to the needs of processors.

In 2019, Wasa decided to invest in a new, almost fully automated system for the production of Wasa Woodplast in response to constantly high demand and ever-growing customer requirements as part of its development and endeavours to continuously improve its products. The entire added value of the panel is created in-house. Even the wooden core of the production board is manufactured in the company's own production facility in Neubrunn.

This means that Wasa not only has plenty of flexibility in the choice of the wood it uses, but also has everything under its own control in terms of quality assurance.

With this high vertical range of manufacture, the added product value lies entirely with Wasa - and the company is rightly proud of this.



Wasa Woodplast - The panel with profile

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Solid wood cores before the polyurethane coating process at Wasa in Neubrunn, Thuringia

The new Wasa Woodplast production plant was commissioned at the end of 2022.

The question of why Wasa chooses a solid wood core for the polyurethane-coated Wasa Woodplast core board and not a glued wood core is one that Wasa encounters from time to time. Based on many years of experience in the production of solid pine core production boards, the good basic technical properties of solid wood as a production board and, last but not least, the need to avoid becoming dependent on suppliers of plywood, they made the decision to use a solid wood core as the base for this type of production board.

Also, a solid wood core has a higher modulus of elasticity than a multi-layer core of comparable thickness, because in solid wood all the load-bearing fibres lie in the same direction, whereas in cross-laminated plywood the fibres usually must lie 30 percent in one direction and 70 percent in the other due to the process. The characteristics of the hardwood board, which has been popular and successful for many decades, are best reflected with a solid pine core. As a hardwood board also consists of individual planks and not laminated timber, they decided in favour of a solid wood grain. Furthermore, the use of a solid wood core offers extensive advantages to protect the board core.

The polyurethane used by Wasa is particularly impact- and wear-resistant. Wasa uses a slow-drying material so that both components - wood and polyurethane - can form a deep and lasting bond.

As the wood core is produced by Wasa itself, the entire production process, from the delivery of the individual planks and the drying of the timber to the finished polyurethane-coated final product, can be meticulously monitored and subjected to constant quality control.

Wasa only uses slow-growing pine wood from sustainable German and European forestry. The solid pine wood has an average modulus of elasticity of approx. 10,000N/mm²,like a multi-layer laminated composite made from a softwood. The production board is therefore very stable.

The individual planks of the Wasa Woodplast core are positioned at right angles to the direction of production. Unlike glued laminated timber, the wood fibres therefore bear the full load in this orientation, which is so important for production.

Wasa uses a 2 mm thick galvanised steel profile to fix the individual planks together. This gives the production board the necessary stability in the longitudinal direction and also has the great advantage that the polyurethane-coated board in this area is optimally protected against any damage during daily use in the concrete block plant.



High requirements on quality management: Every single Wasa Woodplast is measured for compliance with its dimensional tolerances before despatch



View into the interior of Wasa Woodplast. Plank alignment transverse to the production direction Individual planks are separated from each other by polyurethane strips.

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The panel corners are particularly heavily coated with polyurethane

Despite careful brushing and cleaning of the production board, it can happen from time to time in the daily operation of a concrete block plant that residues are left on the boards. If, in the following production cycle, the steel mould rests on the board again, it is possible that such residues will be pressed into the PU surface and possibly damage the coating. If such damage to the polyurethane coating occurs, it is advisable to localise and repair it quickly so that penetrating moisture does not permanently damage the interior of the board and the bond between the two materials wood and polyurethane.

As minor damage can often not be recognised and repaired promptly in practice, Wasa has separated each individual wooden plank on the inside of the board with an approx. 2 mm thick and durable polyurethane layer.

This ingenious solution has the great advantage that penetrating moisture does not have the opportunity to spread over a large area in the board because each individual plank is separated from the others. The PU layer in between acts as a barrier and the penetrating moisture remains centralised in just one single plank chamber.

This minimises the risk of extensive damage to the panel and medium-term failure of the production board for production. Damage to the polyurethane coating should be repaired immediately as soon as it is detected.

Wasa also knows that in production it can happen that panels jam from time to time. To provide the best possible protection for the board in such a case, the four board corners and the front side of the Wasa Woodplast are particularly heavily coated with polyurethane.

Wasa offers a special repair kit, Wasa Smart Repair, for any damage to the polyurethane coating. Damage to the surface of the panel can be easily repaired by the customer himself with little effort and the use of minimal materials.



Repaired surface damage

FURTHER INFORMATION



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WASA WOODPLAST[®] is a true all-rounder – combining the many advantages of an all-plastic board with those of a lighter wooden board. From its outstanding bending stiffness and sealed, joint-free polyurethane surface to the fully galvanised C profiles that provide effective protection in the tough conditions of the production line: only WASA WOODPLAST[®] offers you all these strengths in a single package.

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