

Technical finesse

Special solutions are routine for Blickle

In addition to its comprehensive standard range, Blickle also manufactures a wide variety of special solutions. Blickle's extensive expertise and development prowess guarantee that customers get products tailored to their specific requirements. Tailored solutions now make up over 40% of Blickle's total sales. Special solutions are part of Blickle's day-to-day business.

Rosenfeld, June 2020. Blickle's experts handled over 1200 development contracts in 2019 alone. "We aim to develop and provide the perfect wheel or castor to meet any requirement. Our customers give us their requirements and we make them a reality at our headquarters. We handle every stage of the process: from the first drawings through to the design stage and the finished product," said Martin Wiest, Head of Product Management at Blickle. The components for Blickle's extensive standard range are manufactured using highly automated processes. "The components used in our special solutions are manufactured using highly streamlined processes; this allows us to adapt and produce tailored solutions in a quick and cost-effective manner," he added.

Blickle operates a large development centre at its Rosenfeld site. Its expert engineers use a variety of materials and products to address the specific requirements of its customers. Blickle works together with its partners as an "extended workbench". The experts analyse problems for customers and draw up detailed design plans. "Our extensive modular system, together with our flexible and cutting edge small-scale production facilities, allows us to respond quickly to our customers requirements," said Martin Wiest.

Focus on safety

Blickle implements the requirements of its customers in a variety of areas, including load capacity, colour, function, geometry and the work environment. The company makes safety a top priority, starting in the development process. Using the finite element method (FEM), the designers simulate the load capacity of the final product, taking into account various influencing factors. This allows them to create a product which is optimised for its intended use from the very earliest stages of the development process.

Blickle special solutions have proven their worth in a variety of different applications and cover all conceivable requirements - from heavy duty transport through to precise and compact designs. Blickle recently provided a special solution for

Grenzebach Maschinenbau GmbH, who are based in Asbach-Bäumenheim. The machine and systems engineering specialist provides a range of innovative automation solutions, which make it a technology leader in a number of different markets. Its automated transport solutions include the Grenzebach L1200S automated guided vehicle (AGV), which uses wheels and castors from Blickle. This vehicle moves beneath units like desks, trolleys, frames or shelving, lifts them up and transports them to a specific destination. The AGV can handle up to 1.2 tons, with the load oriented in either direction. It can also rotate on the spot. The integrated safety sensors mean that the AGV can be used in any internal environment. Free contour navigation removes the need for protected areas. This saves space and improves integration into existing environments like robot cells, transport systems and strapping systems.

Low rolling resistance and abrasion

Grenzebach required the castors to have a high load capacity and a low mounting height. After a thorough analysis, Blickle decided to use the LSD-ALTH, a special support castor. This castor has a solid welded steel swivel head and extremely low mounting height tolerance, which was a perfect match for the limited installation space. The twin wheel castor features low swivel resistance and load capacities of up to 600 kilogrammes in continuous operation. Both of the wheels integrated into the twin wheel castor use the solid Blickle Extrathane polyurethane tread with a hardness of 92 Shore A. This keeps the rolling resistance low, minimises abrasion and provides a particularly high level of resistance to cuts and tear propagation. An antistatic version protects against electrical discharges.

Grenzebach required the drive wheels of the AGV to be particularly abrasion-resistant while also providing a high level of operational performance in a tight predefined space. Blickle's solution: The GBA 178x50/8, a special drive wheel with specialised flange geometry. The high-quality premium 92 Shore A Blickle Besthane tread is cast onto the cast iron wheel centre. The wheel is extremely abrasion-resistant and has a low level of rolling resistance. This provides a number of advantages, among them a high level of energy efficiency. The castor and the drive wheel from Blickle allow the unit to be used around the clock. The smart drive technology and the twin wheel castors work together well to guarantee a space saving turning radius of under 1 m.

Grenzebach is completely satisfied with the special solutions from Rosenfeld. "Blickle provided us with outstanding support as we designed the drive and support wheels for our automated guided vehicles, from the development phase onwards. "Their experts also provided a cost-effective and tailored solution, despite the number of

units being relatively low," explained Erwin Herre, Head of Product Management Business Unit Intralogistics at Grenzebach.

Surface transport for a luxury yacht

Blickle wheels and castors are also used by a leading designer and manufacturer of luxury motor yachts between 12 and 50 m in length. The British company stands for prestige and precision and has customers around the world. However, the prospect of transporting a 40 m long luxury yacht posed a challenge: the 68 tonne ship had to be moved from a hangar to the outside area of the shipyard so that work could be performed on its interior. The company planned to use a crane to lift the yacht onto a specialised transport unit and then tow it outside. The company turned to the experts at Blickle to find a suitable castor for the transport unit. A number of obstacles stood in their way. Due to the size of the hall, the maximum height of the castors was 700 mm. The unit also needed a steering angle of 35° to navigate some bendy passageways. The casters also needed to be capable of handling expansion joints and pot holes.

The experts at Blickle took on the challenge and decided to use a robust polyurethane wheel with a low level of rolling resistance after performing a thorough analysis. They also recommended using a heavy duty four-fold castor to distribute the load on the transport unit and achieve the required load capacity. The experts ultimately decided to use the welded steel heavy duty LSDOA-GB four-fold swivel castor with a heavy duty swivel head incorporating heavy duty wheels with a Blickle Besthane polyurethane tread. Specialised axial grooved ball bearings and tapered roller bearings in the bracket swivel head absorb both axial and radial forces without any issues. A bolted and secured stable central kingpin provides additional safety.

Load capacity: 20 tons per castor

The wheel uses a tread made from the high-quality Blickle Besthane polyurethane-elastomer with a hardness of 92 Shore A. This provides an extremely low level of rolling resistance and is also efficient to operate despite the heavy loads. The tread is abrasion-resistant and capable of handling dynamic loads. It has chemical resistance to many aggressive substances. The special solution from Blickle provides a load capacity of 20 tons per castor. An integrated gimbal compensates for any unevenness in the ground. The swivel radius was reduced by moving the zero point. The four-fold castor arrangement also protects the floor.

Blickle's special solution has already paid off for the customer. The solution made it possible to move the yacht in a single procedure without causing any damage. This reduced costs significantly by cutting out the need for cranes and multiple stops. The shipbuilders can also use the solution provided by Blickle for a number of other

applications in order to handle the challenging surface conditions. The experts at Rosenfeld delivered the special solutions on time for a total of five transport platforms. By rising to this challenging project, the development department once again demonstrated its unique flexibility.

Meta title: Blickle is a specialist in customised solutions

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Blickle

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Picture captions:



Image 1: Blickle always finds the right solution to meet customer requirements.

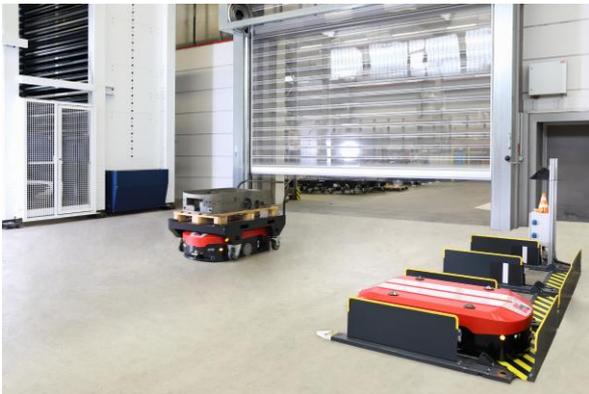


Image 2: The tailored wheels and castors in Blickle's special solution make sure that Grenzebach's automated guided vehicles operate reliably.

Picture credit:

Blickle Räder+Rollen GmbH u. Co. KG / Grenzebach Maschinenbau GmbH

About Blickle:

The family company was established in 1953 and has been committed to uncompromising quality, high levels of availability, innovation and reliability ever since. Today, Blickle is a global leader in the production of wheels and castors. There are more than 30,000 items in its standard product range. Blickle also develops a large number of tailored solutions in partnership with customers. The group has over 1,000 employees, with more than 750 of these based at the headquarters in Rosenfeld, Germany. In addition to the production facilities in Rosenfeld, Blickle has 18 sales subsidiaries in Europe, North America, Asia and Australia and exports to over 120 countries worldwide.

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