

What a reliable partner in fastener technology should be able to deliver

Screw manufacturer baier & michels (b&m) supports industrial companies in manufacturing high-quality products. Here are the impressions from two sectors: With a focus on direct screwing systems and customer-specific developments as well as application engineering and expertise in the standardization of C-parts.

Roland Deneffleh expects a screw to function dependably and offer process reliability, but that's not all. It also needs to be available to his colleagues around the world, at the right time and in the right place. Deneffleh manages the product development for standard gear units at SEW-Eurodrive in Bruchsal. His team's developments make sure that, for example, automated beverage bottling systems and conveyor belts – whether for luggage at the airport or for wood in the sawmill – keep on moving.

„When it comes to fastener technology, we need a reliable partner who is able to supply our approximately 90 assembly plants around the world locally,“ said Roland Deneffleh, adding: „This invariably also involves fast, solution-oriented responsiveness in critical situations, both logistically and in terms of application technology. One partner who brings these qualities to the table is screw manufacturer baier & michels.“ The Würth subsidiary, with headquarters in Ober-Ramstadt, produces a special direct screwing system for the mechatronic drive units of SEW-Eurodrive GmbH & Co KG: In contrast to conventional screws, which have a trilobular design, the solution from baier & michels (b&m) has a circular thread cross-section.

The thread-forming screw called b&m-FORM® is particularly suitable for ductile metal materials. At SEW-Eurodrive, it is used in the Movigear series, among others; this is a drive unit comprising motor, gear unit and electronics, encased in an aluminum housing. The b&m-FORM® seals the housing cover against the ingress of moisture and oil leakage, while at the same time withstanding the dynamic loads acting on it.

With regard to the performance of the screw, Roland Deneffleh said: „Its special thread geometry, which offers fully pronounced thread flanks, ensures maximum flank coverage.“ This enables a large process window between forming torque and overtorque. Another plus, according to Deneffleh, is the ease of assembly with little need for axial force during the screw-in process. „This



“When it comes to fastener technology, we need a partner who is also able to supply our approximately 90 assembly plants around the world locally.”

Roland Deneffleh,
Product Development Manager
Standard Gears SEW-Eurodrive



“With the universally applicable b&m screws, we are able to eliminate redundancies in the inventory.”

Markus Gross,
Senior Engineer Webasto Group

is true for our Movigear and Spiroplan spur gear product lines, but also for low-voltage gearboxes, where we rely on zinc die casting.”

And because the b&m-FORM® generates a metric thread, repairs are also possible using conventional equivalents. In the past, if a screw on a gearbox, for example, was overtightened, the workers had to drill out the connection, spin on and fit an insert. “We have succeeded in noticeably reducing this cost-intensive process,” reports Volker Stork, Application Engineering Manager at b&m. “As a result of adapting its characteristics specifically for the customer, the b&m-FORM® now usually tears at a jointly defined, predetermined breaking point – and can be replaced quickly during the assembly process.”

Markus Gross also focuses on providing technical solutions that offer economic advantages. As



The b&m-FORM® direct screwing system, shown here being used in a gearbox from SEW-Eurodrive, also ensures robust and secure connections in Webasto's sunroofs, among other things.



“We have succeeded in noticeably reducing the cost-intensive effort“

Volker Stork,
Head of Application Technology b&m

a senior engineer, Gross is responsible for the standardization of C-parts at the Webasto Group in Stockdorf. “When it comes to fastener technology, for example in our sunroof division, I regard b&m as a system supplier that provides everything we need as an international automotive supplier, from development support through to logistics services.”

Webasto – like SEW-Eurodrive – uses b&m-FORM®, along with an adapted version that has a shortened forming zone: The b&m-FORM S®, developed jointly by baier & michels and Webasto, is particularly suitable for metal applications in tight spaces, “which you could say is quite normal when it comes to sunroofs,” said Markus Gross. In addition, there is the b&m-PLAST R® direct screwing system for sunroofs based on high-performance plastics. Gross adds: “Thanks to the optimized design of the thread geometry, the b&m-PLAST R® achieves high overtorques and pull-out forces, regardless of which plastic we use it in.”

The baier & michels direct screwing systems support Webasto in significantly minimizing the diversity of the thread types used within the company. “In order to achieve economical quantities, it makes sense to limit yourself to very few thread variants which, in the best-case scenario, only require one design guideline for the optimal screw boss geometry for each connection type,” said Markus Gross. “With the universally applicable b&m screws, we are able to eliminate redundancies in the inventory.” Webasto also uses the VA/VE (Value Analysis / Value Engineering) service

from baier & michels when it comes to fastener technology. Gross concludes: „As a partner for fastener technology, b&m actively helps us to improve our competitiveness.“

The article first appeared in bauMAGAZIN (issue 10/2022, pp.325-326, GERMAN language).