

Kobra Formen GmbH, 08485 Lengenfeld, Germany

## Aspects for the definition of an industrial standard in modern mould construction

With its 25 years of company history, Kobra Formen GmbH is not the germ cell of mould construction in Germany. However, it can rightly be called motor of the industry with reference to the development and establishment of the modular, bolted mould construction and the patents in over 100 countries resulting from that. A quarter of a century – a fitting time for a review and a definition of what Kobra stands for and what distinguishes the company. What demands does the Kobra team make of itself and its work and how is this communicated?

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Fundamental to all attributes that distinguish Kobra and are described in the following article is the relationship with the customer. Kobra focuses on long-term partnerships and avoids short-lived supplier relationships. The internal processes are oriented to the customers' needs. Many new products and further developments are based on intensive exchange with manufacturers of concrete products and their individual manufacturing requirements and special features in the individual sales regions. Feedback and constructive criticism help Kobra to optimise the individual processes.

### Kobra stands for quality

Kobra's business is the mass production of individual products. Each mould shapes individual concrete products, is provided with product-dependent additional equipment and built for a certain block plant. Kobra manufactures in accordance with internal standards – the Kobra norm – and industry standards such as the data sheet

"Steel moulds for block-making machines", which was only published for members of the SLG in January 2017. Although the majority of the work steps in the creation of a mould are automated, errors may occur. To avoid them and to optimise the production sequences, Kobra has developed an internal improvement management system that analyses once again every single mould that was the subject of customer complaints. Or to put it another way: Kobra's management and the team leaders from Sales, Design, Manufacturing and Service discuss every specific case on a weekly basis and develop solutions together. Thanks to this consistently executed measure, the error rate has been verifiably reduced and there were only about 5.2% warranty cases for more than 5,900 moulds manufactured in 2016.

### Kobra stands for innovation

One of the slogans with which Kobra has advertised in years gone by was "The best welding is no welding". The basic idea is to design the mould to allow the replacement of the faster-wearing assemblies without having to replace the parts that are still usable. If, on the



Headquarters of Kobra Formen GmbH in Lengenfeld

other hand, components are welded, the replacement of individual components is possible only with great difficulty. Although Kobra initially met with scepticism on the market with this idea and the first moulds delivered with bolted instead of welded connections, the company has been able in the meantime to permanently convince all its customers of this construction for more than 15 years now. Kobra's goal is to guarantee the reparability of the mould and the reusability of individual components and assemblies in order to support the cost-efficient manufacturing of concrete products.

In combination with the modular system on which the construction is based, Kobra additionally creates the necessary conditions for efficient and flexible production planning in the concrete block plant. In the drag mould, Kobra's modular system encompasses various frame variants as well as inserts that are used depending on the respective concrete block product to be manufactured. Installed as standard in the mould upper part are bolted single tampers that can be repaired or replaced individually. This also applies to the tamber shoes and other elements. Additional equipment is also optionally possible. Further information on this subject can also be read in the February 2017 issue of CPI.

#### Kobra stands reliable delivery times

Kobra has been working since 2008 with software that plans and manages all production steps centrally. The delivery reliability of every single mould is additionally recorded and evaluated by Controlling. Whereas in 2014 Kobra delivered 90% of all moulds as confirmed, i.e. with a maximum delay of five days, 94% of all moulds reached the customers on time in 2016. 86% reached their place of use early or on the exact day. Kobra handles customer-relevant information openly and transparently and works with the entire team every day on adherence to deadlines and agreements. The extremely positive delivery reliability attests to Kobra's performance.



Mould technology from Kobra: Boltline3™



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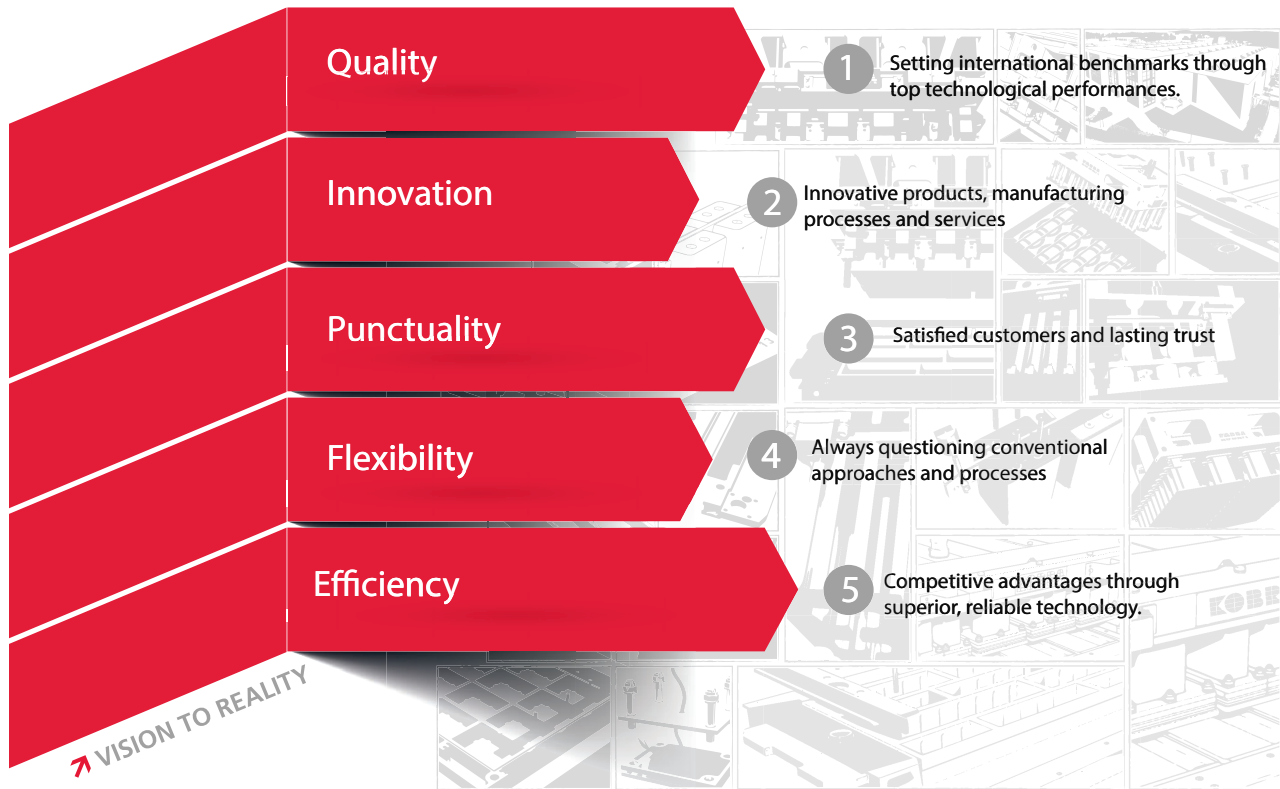
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Fundamental to all attributes is the relationship with the customers.

### Kobra stands for flexibility

Despite the punctual delivery of the moulds, Kobra is aware of the sometimes long delivery times for individual products and is already working on various solutions. One approach is the Premium Partnership for Kobra moulds, which is available since the bauma 2016. In the context of the modular mould constructions already discussed in this article, this enables fast availability of spare parts. Wearing part orders for Premium moulds are bound to short delivery times in order to guarantee a prompt reaction to cases of repair. The new concept, "Operate Premiumpartner™", has been launched successfully for Kobra's Boltline series and will now be expanded step by step to all Kobra technologies. Thus, not only can disasters be covered, but also the planned replacement of wearing parts for extending the life of a mould can be integrated into the overall production process. To further increase the aspect of flexibility, customer-specific solutions for individual moulds and mould assemblies are available.

### Kobra stands for efficiency

So that the case of wear doesn't occur too early, however, Kobra moulds are CNC-milled and case hardened or nitrided in Kobra's in-house hardening furnaces as standard. On the one hand, the milling and hardening of the mould parts achieves a dimensional accuracy that in some cases even underrun the tolerance ranges

specified in German and European standards. At the same time a considerably higher wear resistance is achieved. Through the use of various hardening technologies Kobra is also reacting to the special features of the respective product to be manufactured. Common to all the processes are a homogeneous surface hardness and overall hardening depth, which are decisive for the permanently consistent production of high-quality concrete products. Thanks to the modular mould system, Kobra is able to provide the majority of all of its moulds with its highest hardening standard – carbo 68 plus™. This also applies to constructions that were limited to nitride hardening a few years ago. A hardness quality of 68 HRC and a depth of hardening of 1.2 mm are achieved with the case hardening.

Accuracy and wear resistance are factors that make a decisive contribution to the profitable use of concrete block moulds and, in combination with the properties mentioned above, make a Kobra mould a precision tool. ■



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Quality, innovation, punctuality, flexibility and efficiency make up the core of the Kobra brand and are decisive aspects that define an industrial standard in modern mould construction. Interested parties can witness Kobra's work personally at the Technology Symposium on 13 and 14 September 2017 in Lengenfeld. With a mixture of technical presentations and practical workshops, Kobra will provide information about current tendencies and trends in mould construction and block design. In addition to the presentation of international architectural projects in which blocks made with Kobra moulds were used, the participants can also expect to see presentations on concrete as an ecological building material or on standard-compliant installation. The workshops, which will take place directly in Kobra's production halls, will provide insights into the details of mould technology.



*Kobra's 1st Technology Symposium in September 2014 was very popular with the customers. Around 150 customers and industry representatives from Germany and other European countries, the Middle East and India as well as North and Latin America met at this international event.*

#### FURTHER INFORMATION



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