

Kobra Formen GmbH, 08485 Lengenfeld, Germany

Looking back at the founding and growth on the 10-year anniversary

■ Ruslan Pogrebnyak, St. Petersburg, Russia

2017 will mark the tenth anniversary of OOO Kobra Forma, Kobra Formen GmbH's subsidiary in Russia. The founding was the consequence of the successful years that Kobra achieved in previous years in Eastern Europe's largest market. Ten years is not long for an economy with stable growth. However, ten years of activity in a dynamic country characterised by economic changes is an entire epoch. They say that every year of work can be compared to 1.5 or 2 years on the much calmer and more manageable soil of Western Europe.

Kobra Formen GmbH, founded in 1991, can legitimately be described as an innovative company that was convincing from the outset, with its ideas, science-intensive technologies, creative technical solutions and a fully computerised production organisation.

The company's growth is impressive. In only twenty-five years and before the eyes of a single generation, it grew from a simple metalworking company to a world market leader in the concrete block mould sector.

The company is represented in many regions of the world and employs almost 400 employees worldwide. Exportations account for two thirds of sales. Kobra's history is a story of progress, manifested not least by numerous patents in over 100 countries.

Kobra stands for steady growth and constant investment in modernisation of the production department and products that meet the requirements of customers and the demands of time. The company's most important characteristics are innovative technologies. Future oriented technical ideas are born here and crucial work is performed for further development of long-serving technical solutions.

One of the future oriented technologies are heated tamper shoes labelled Hotshoe™. The result of heating tamper shoes to between 50 °C and 70 °C exceeded expectations. The surface finish of concrete products was radically improved. The engineering solutions are manifold. Heated moulds can replicate a surface of concrete elements that is confusingly similar to the natural "original". Large-format panels with a wood finish look very natural. The similarity with natural stone reproductions is even more remarkable. Production of the unbev-

elled panels that are so popular today was simplified. Thanks to the heating of tamper shoes, a finely dispersed, moist mixture can be used to mould the outside layer of the concrete products, achieving fair-faced concrete quality, while also completely preventing adhesion to the mould. The closed pore structure makes the surface unusually smooth, which is particularly striking with large format products. Russian firms also work with heated moulds: the Vibor-S firm for several years and the Gotika firm for about one year.

Vertical forces are applied directly to the tamper head in the Singlebolt™ technology. All tampers are screwed to the tamper head individually, so an exchange is possible with a few quick steps. This allows easy replacement of more heavily stressed assemblies. The advantages of this technology are high stability, easy mould handling and greater profitability due to longer service life of the tamper head.

Kobra has used the Optimill carbo 68 plus™ hardening technology since 2010. Not only does an evenly hardened layer form on the mould insert, but also on the tamper shoes in the mould upper part and the cover plates in the mould bottom. The result is dimensional accuracy and precise shaped parts (straight walls, smooth surfaces), simplified demoulding of concrete parts, reduced abrasion and greater resistance to wear.

With Flexshoe™ technology, the oscillating plate in the tamper head helps to uniformly distribute the concrete mix in the stone field and avoids micro cracks in the exposed face of the product, which is relevant in the production of large-format plates.

With Headguide™, very precise mechanical centring of the tamper head with reference to the mould bottom takes place during compaction, which results in perfect centring of the entire mould in the machine and protecting the chamfers. This is particularly important with delicate mini-chamfers on large format plates. Since the tamper shoe does not touch the mould during compaction, metal abrasion is prevented.

Thanks to the modular construction of Kobra moulds, all technologies - hardness standards, coatings, Hotshoe, Flexshoe and Headguide - can be combined with one another, depending on the desired product.

The modular mould also enables exact setting of all dimensions and hardening of individual elements. The individual hardening of shaped parts helps in better compliance with specified parameters and, in addition, excludes mechanical stress during assembly. Previously, the elements of multiple-part moulds were welded together. The steel was heated during the welding process, which could lead to a change in dimension during mould production. Deformations of long walls in one-part moulds were especially noticeable.

Today, the company mainly uses bolted joints. Apart from guaranteeing exact dimensions, they permit repair of the mould, which extends the service life even more.

The construction of moulds is a complicated matter. Complicated for a whole host of reasons. A mould is a direct tool for the manufacture of concrete elements and it plays a very important role in the production process, which is why the responsibility of the mould manufacturer cannot be overstated. No moulds can be produced without sophisticated technology. Among mould manufacturers, there are companies where this is the primary activity, and others (the majority are plant manufacturers) where mould manufacturing is a sideline. Kobra Formen GmbH is among the former. In the company's workshops more than one hundred moulds of varying complexity are built every week for numerous machine types: moulds for concrete paving stones, plates (including hollow and masonry blocks) and other concrete elements.

Regardless of the fact that Kobra Formen GmbH's products belong to the premium class, the company supplies a considerable share of the world market. This makes Kobra's premium class accessible to a large number of customers.



Irina Sorina, OOO Kobra Forma

"A conversation about dimensional accuracy inevitably leads to the issue of mould quality. Where does the quality show? It includes the correct geometry, which is retained during all cycles. Customers, who used our moulds for the first time, noticed the advantages immediately."

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The level that Kobra achieved is the result of a host of factors. The people are the most important factor. In many ways, a motivated workforce is responsible for the company's leading position. Kobra is considered one of the best employers in the region. Ninety percent of trainees stay on after the apprenticeship. Many employees have been there since the company was founded 25 years ago. The company has a training centre where future employees acquire the tools needed for successful work in a company.

Kobra Formen GmbH pays great attention to a modern machine pool. Every year, a not insignificant amount is invested in the continuous modernisation of production.

In large measure, the quality and possibilities of a mould are determined by the material (steel) from which it is made. Not only does the resistance to wear of the mould depend on this and the quality of the hardening process, but also the number of cycles they can run, while ensuring stable parameters for the goods they produce. One of Europe's largest hardening furnace is in the company's factory. After the heat treatment, a robot records the dimensions of every mould. The results of all measurements are recorded. This data helps later, when repairing a mould.

As part of after sales service, the company offers an extensive service programme that meets the requirements of concrete product manufacturers and serves as a reliable guarantor for the profitability of the production process. The Kobra service engineers rectify possible defects in moulds at the customer's location or one of the company's service centres, considerably extending the service life of the mould. In this context, a

Steingot company, Alexei Topunow

The decision to use moulds from the Kobra company was the result of numerous tests in our production department and working visits to colleagues in Russia and abroad. The opinions about Kobra moulds were consistently positive.

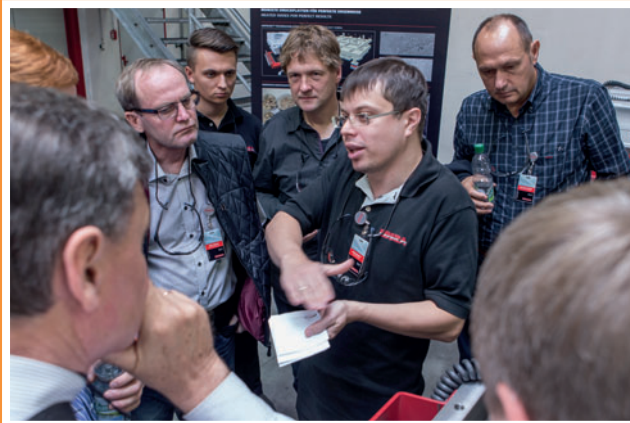
It is important that Kobra has effective representation in Russia capable of operationally clarifying all current issues. Thanks to their work, we were able to build an uncomplicated, cooperative relationships with Kobra. Kobra Formen GmbH is distinguished by a high level of loyalty toward the customer. They are always ready to respond to requests for the solution of large or small questions. So our company was completely relieved of the need to deal with the procurement of moulds (including customs formalities).

system for spare parts delivery was initiated with Operate Premiumpartner™, which makes after-sale service even faster and more efficient. Service from Kobra not only means help in the maintenance of moulds, but also an opportunity to obtain unique engineering services that bring together experience, capabilities and skills at first hand and would require very high expenditures of effort and time to acquire independently.

The design and application of the moulds are dictated by changing market requirements, e.g. the transition from small to large format or doing away with chamfers. The chamfer-free plate has significantly accelerated technical progress and growth of the mould market. Kobra reacts attentively and in a timely manner to these changes and strives to meet conditions in the markets where it is active. Particularly taking the special features of the Russian market for small concrete elements into consideration.

In Europe and the USA, the buyer normally approaches the manufacturer with already formulated wishes that evolved in the dialogue with architects and designers, among others. Optimal solutions are sought jointly with the Kobra Formen GmbH designers.

Today, the Russian market for concrete paving stones, which is the most important market segment for small products, stands on the threshold of important and extensive changes. And although the scope for its possible areal growth through an increase of production volume is not exhausted and it is still a long way from complete market saturation in limitless Russia, the question of an intensification of production is on the agenda. I.e. a radical improvement in quality and development of the product range through more diverse colours, patterns and moulds.



Ivan Zhigaylo, OOO Kobra Forma

"Kobra Formen GmbH is a professional team. How did this come about? It is the dedication of every employee and a result of the capability and incredible potential in ideas and concepts that they relied on at the founding of the new company. High-quality, innovative products and interesting work motivate. A well coordinated and motivated team make the product even better"

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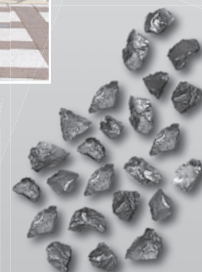
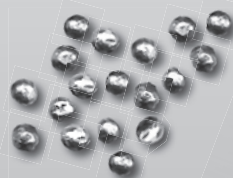
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Concrete block mould for kerb stones



Concrete block mould for hollow blocks

Yevgeni Paschko, Vibor-S

The cooperation between Vibor-S and the Kobra company began in 2004, when they still had no representation in Russia. In our eyes, the Kobra moulds were making an enormous step forward. For example, in terms of reparability. Today, we are independent. We repair moulds in our own factory and use original parts made in Germany. The specialists from Kobra helped us to learn this.

They always give us usable moulds and help us to find out what is new in Europe. We always try to introduce at least two to three new products every year.

High dimensional accuracy is one of the strengths of Kobra moulds, which are further distinguished by very high resistance to wear. Kobra moulds have one very valuable characteristic: with them, there are practically no defects or irregular wear.

In twelve years of cooperation, we have only had one complaint concerning quality. In the case in question, a complicated, small-format mould broke. Kobra responded promptly. The company's technical director came to the workshop with service engineers".

There are several reasons for these changes. In many ways they are a reaction to the technological achievements that occurred some time ago. The quality of plates and issues such as the exterior quality remain important points and a decisive argument in the customers' choice. Kobra Formen GmbH is getting ready for these changes jointly with Russian companies and is well prepared for them.



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