Kobra Formen GmbH, 08485 Lengenfeld, Germany

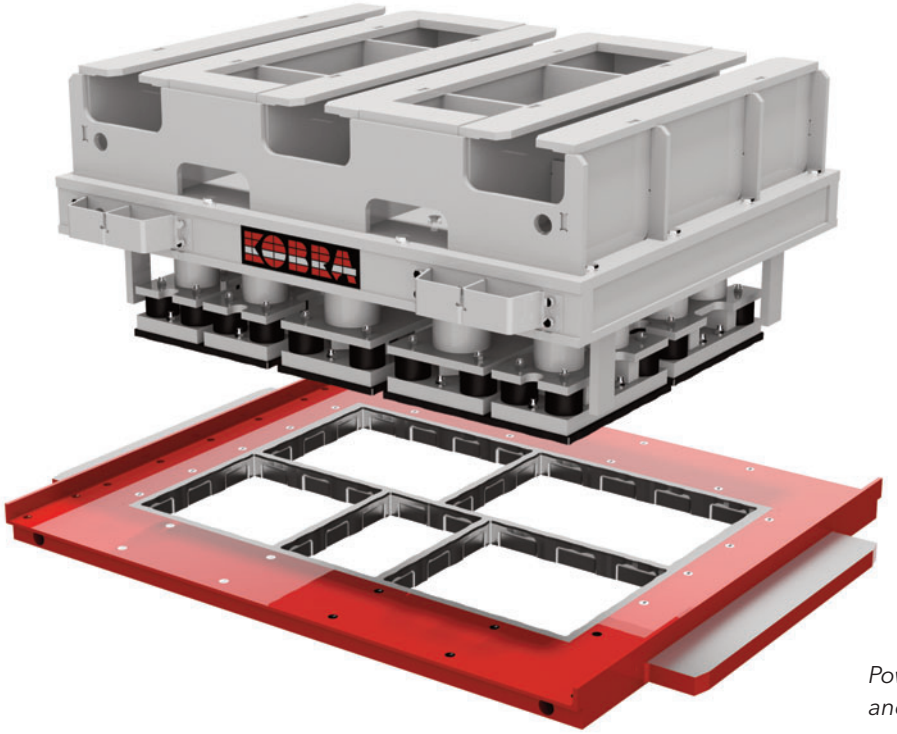
Definition and development of service concepts for steel moulds for the concrete block industry

Holger Stichel und Stefanie Schaarschmidt, Kobra Formen GmbH, Germany

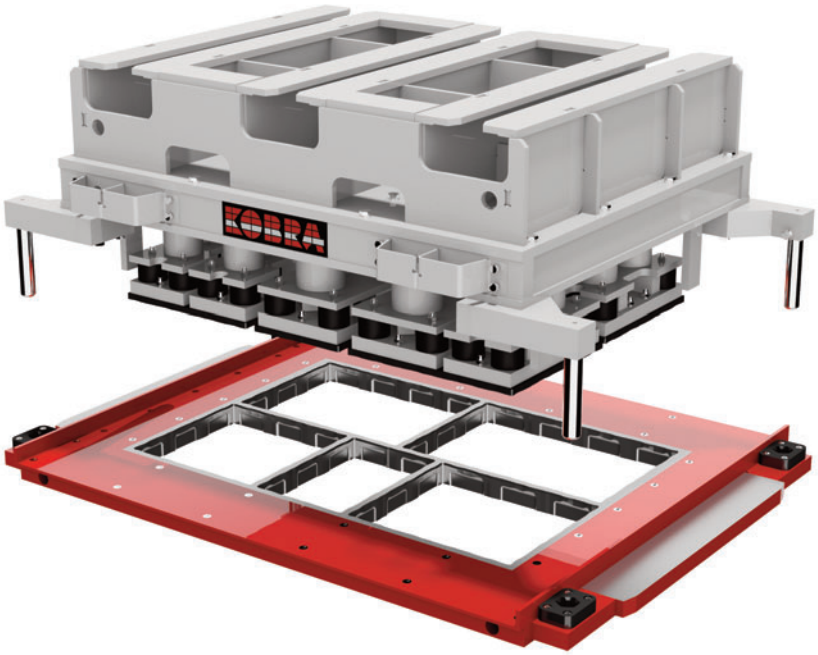
How is the term "service" defined for steel moulds for the concrete block industry? What services does the customer expect? What measures should manufacturers take in order to offer comprehensive service? The design and development of new stone systems as service building blocks have already been defined and explained in the October issue of CPI Concrete Plant International. This article also makes reference to the service concept of Kobra Formen GmbH and illuminates further aspects of a comprehensive, customer-oriented system – this time taking the example of the reconstruction of existing concrete block moulds to improve block quality.

The modular concept of the Kobra concrete block moulds enables further mould equipment features to be added to the basic technology, depending on the product to be manufactured. These include a whole series of possible additional features that can reduce the wear of the tool and support high product quality. The retrofitting of a feature may also be useful for concrete block moulds that are already in use, as the following examples show:

In particular in the production of large and flat products, precise body edges and adherence to the minutest tolerances for angularity and straightness are essential in order to guarantee their exact installation on large areas. The Kobra Power Boltline3™ technology, whose mould liner consists of bound individual walls that are completely milled and provided with a surface hardness of 68 HRC, is very well suited to this. Nevertheless, the load on the tamper shoes and the mould upper part can be very high if the mould upper part plunges without guidance into the mould bottom during the production process and moves during the vibration. The consequences are spalling and high wear of these assemblies, which in turn minimise the block quality. In these cases, it may be useful to retrofit a forced centring system, which ensures



Power Boltline3™ slab mould with Flexshoe™ and Hotshoe™, without Headguide™



Power Boltline3™ slab mould with Flexshoe™ and Hotshoe™, with Headguide™

the controlled plunging of the mould upper part into the stone cavities during the compaction process. In the Headguide™ feature Kobra has developed a system that can be used both inside and outside the dirty area.
During planned maintenance or a repair, the Kobra service engineers check the level of wear of the tamper shoes and the mould upper part. If this is already disproportionately advanced after a low number of cycles for the respective product, the installation of Headguide may be a useful method of prolonging the service life of the mould.

In this case an on-site appointment at the concrete block plant is necessary in order to measure the mould directly in the machine, rule out interfering edges and thus define the ideal placement of Headguide.

The installation situation of the concrete block mould in the machine must be observed at the same time. In principle the installation of the forced centring system outside the dirty area is preferred, as the system is generally less dirty at this point and thus also exposed to less wear. Integration inside the dirty area is also possible and is implemented if there is insufficient space on the outside to install Headguide. Cleaning solutions must be provided on the machine side here, in particular for the transverse cleaning of the mould.

As standard, Headguide is attached diagonally or centrally on the flange side. If, however, this is not possible due to the machine's installation situation and placement outside the dirty area is desired, the parallel placement of two bushings on the flange was even implemented in one case.

Kobra's business is the manufacture of individual concrete block moulds. Each product is unique, for which reason customer-specific solutions are also found for the retrofitting of additional equipment features. This is an important building block of the service concept and offers customers enormous added value for their own production.

Conclusions

In order to minimise premature wear in the mould, the retrofitting of the Headguide forced centring feature can be of high customer benefit and can be installed for all paving stone moulds, depending on the product. The system can be integrated through the reconstruction of an already used mould or integrated into new moulds.
The Kobra service concept covers the continuous improvement of products, taking into account the real manufacturing requirements, and supports the customer with useful measures to optimise stone quality.

Service building block II: continuous product improvement

- Measures: Reconstruction or installation of additional equipment features in concrete block moulds to minimise wear and optimise stone quality
- Kobra team: Design engineers, sales, service engineers

Kobra sponsored the free download possibility of the pdf of this article for all readers of CPI. Please check the website *www.cpi-worldwide.com/channels/kobra* or scan the QR code with your smartphone to get direct access to this website.

FURTHER INFORMATION

Kobra Formen GmbH
Plohnbachstraße 1, 08485 Lengenfeld, Germany
T +49 37606 3020, F +49 37606 30222
info@kobragroup.com, www.kobragroup.com