

Kobra Formen GmbH, 08485 Lengenfeld, Germany

Long service lives of concrete block moulds thanks to quality and innovative technology

Kobra presented its latest mould technology for concrete paving stones and hollow blocks at the sectors leading trade fairs in 2010. The most important feature of a stable concrete block mould is its hardness characteristics. Apart from the new hardness standard »Optimill carbo 68 plus«, it is mainly structural improvements that aid the new generation of moulds in actually achieving a longer service life. Applications for patents have been made in 2010 for all of Kobra's major innovations. At the Big 5 in Dubai in November 2010, Kobra presented two bolted steel moulds, which met with great interest from the professional attendees.

Kobra now uses bolted mould technologies for almost all kinds of concrete blocks. The system is completed by weld-free »Longlife« moulds from the »Moduline2« range of paving stone moulds. Additional cavities around the insert layout enable optimal hardness properties of the mould insert and effectively protect the critical wearing areas of the mould against wear and tear.

The mould bottom from Kobra is practically free from unnecessary weld seams. The bolted wearing plates are manufactured according to drawing and are easily replaceable if necessary. In practise, the bolted flanges can be used several times when purchasing a new mould insert with cover plates and milled tamper shoes and can be installed by trained concrete workers themselves.

With the new »Solidline2« hollow block mould in »carbo« hardness (64 HRC),

Kobra achieves a hardness depth of 1.2 mm - double that of many commercially available Nitro moulds. Exchangeable wearing parts are also standard with this type of mould due to bolted joints which can be undone. Hard-wearing cover plates, core bar assemblies bolted firmly into the mould frame and single-bolted cores made of high-quality steel make a long mould service life possible. Kobra offers the single-bolted core as standard in »carbo« hardness for hollow block moulds and moulds with smaller cores. The hardened cores retain their dimensional accuracy even after 100,000 production cycles. The single-bolted cores are manufactured precisely according to drawing and can be bolted with an exact fit on site in the concrete plant in the case of damage. Assembly takes place without a welding device or elaborate adjustment of the cores in the mould

insert. All tamper shoes and lamellas in Kobra moulds are individually bolted and therefore simple to mount.

The further developed moulds for large sized stone systems or pallet layouts with offset or a mixed layout are a further technical innovation from Kobra. The company is thus reacting to the high worldwide demand by concrete block producers for mixed laying patterns with sophisticated product surfaces. An important quality criterion for the ability of large sized concrete products to be installed is their angularity. In order to meet this requirement, KOBRA has developed a weld-free mould from innovative single walls. Each single wall is milled with dimensional accuracy using the »Optimill« method, hardened according to the highest hardness standard for paving stone moulds - »carbo 68 plus« - and assembled completely free of defor-

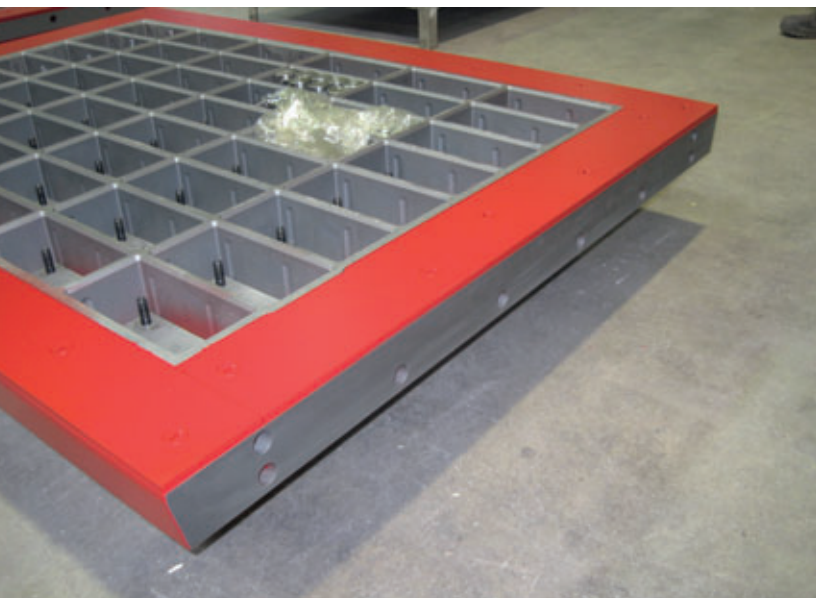


Fig. 1: Delivery condition of the »Moduline2« mould bottom with self-assembly of the bolted flanges by the customer



Fig. 2: »Moduline2« mould bottom with separately delivered tamper shoes and mounting kit for bolted flanges



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KOBRA »Longlife™« MOLDS IN NEW
STANDARD HARDNESS QUALITY 68 HRC.



FEATURE 
Longlife™

Our understanding of durable hardness:

- In KOBRA »Longlife™« molds, the critical wearing areas are protected by additional cavities between the insert layout and weld-on frame parts to achieve optimal hardness properties. In the entire mold bottom, no welding seam is weakening the hardness of the mold insert.
- Compared to conventional concrete block molds, our molds are designed for optimal standard hardness quality »carbo 68 plus™« to significantly extend service life and reduce cavity wear.
- Tempered and bolted high quality wear plates cleanly and exactly match the top edge of the mold insert to improve the reconditioning of bolted and welded frame variants of each KOBRA paver mold.



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Fig. 3: The innovative core bar assembly for standard hollow block moulds with »carbo«-hardened, single-bolted steel cores

mation and welding stresses in the bolted mould frame. The company is currently still awaiting sufficient feedback from the practical use of various test moulds. Moulds for large block steps have already been successfully manufactured for some time in this implementation.

For several years now, Kobra has been moving ever further away from unnecessary weld seams in the mould bottom towards bolted mould technologies in the interests of a practically-orientated product design. The weak points of conventional concrete block moulds have been recognised and eliminated as far as possible. Kobra took the consistent step to the fully milled, hardened concrete block mould as early as 2000 and has shaped the technological term »Longlife« for several years. Only with the »Longlife« moulds from Kobra

were the necessary structural conditions created in the mould bottom in order to be able to turn the advantages of the highest hardness standard (68 HRC) into an effective extension of the mould service life. The »Longlife« principle – durable hardness without weak points – encompasses the following main factors:

- innovative design of the blank cavities and wall thicknesses in the mould insert
- no weld seam in the mould bottom has direct contact to the cavity walls
- covering of the additional cavities by highly tempered, bolted wearing plates that precisely follow the outline of the mould insert.

By the help of bolted concrete block moulds, concrete workers can react much

faster without heavy equipment in the case of damage. The moulds wear very evenly due to the exclusion of welding-related hardness losses in the mould inserts and core units and last for a considerably longer time. Due to the multiple use of bolted frame parts, Kobra customers operate reliably, sustainably and efficiently.

Kobra focuses on innovative products. Work on the 'concrete block mould of the future' revolves around customer benefits, high product quality and manufacturing efficiency. Apart from the further development of the technologies in the mould bottom, the company also concerns itself with quick-change systems. Kobra maintains exclusively reliable relations with well-known suppliers of quality and will be making extensive investments in its machine pool and hardening technology in 2011.

Due to its 20th anniversary, Kobra Formen GmbH will organize an in-house exhibition at its Lengenfeld site, where innovative concrete block molds will be presented to interested attendants. ■

FURTHER INFORMATION



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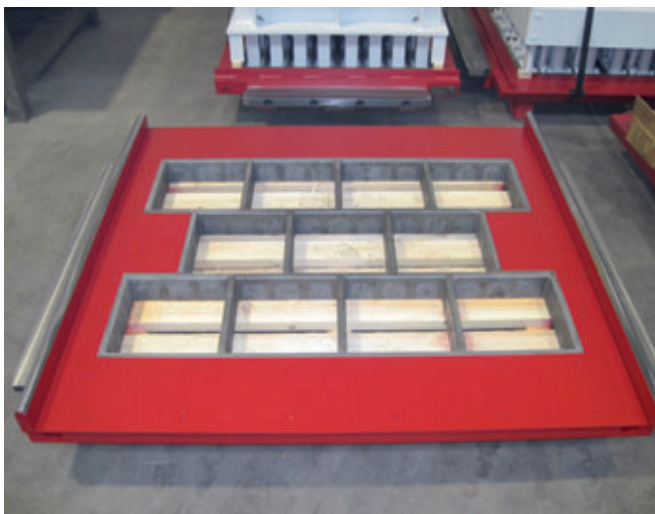


Fig. 4: »Moduline 1« paving stone mould with offset layout



Fig. 5: Mould corner with innovative single walls in standard hardness 68 HRC