

Kobra Formen GmbH, 08485 Lengsfeld, 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. Special blank fields around the stone field enable optimal hardness input in the mould insert and effectively protect the mould compartments against isolated wear.

The mould lower part from Kobra is practically free from unnecessary welded joints. 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 pressure plates 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 units bolted firmly into the mould frame and single cores made of high-quality steel make a long mould service life possible. Kobra offers the bolted single 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 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 stone field. All pressure plates and lamellas in Kobra moulds are individually bolted and therefore simple to mount.

The further developed moulds for large sized stone systems or board configuration with offset or a mixed bond are a further technical innovation from Kobra. The com-

pany is thus reacting to the high worldwide high demand by concrete block producers for mixed installations 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 installed completely free of deformation 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 unnecessarily welded joints in the mould lower part

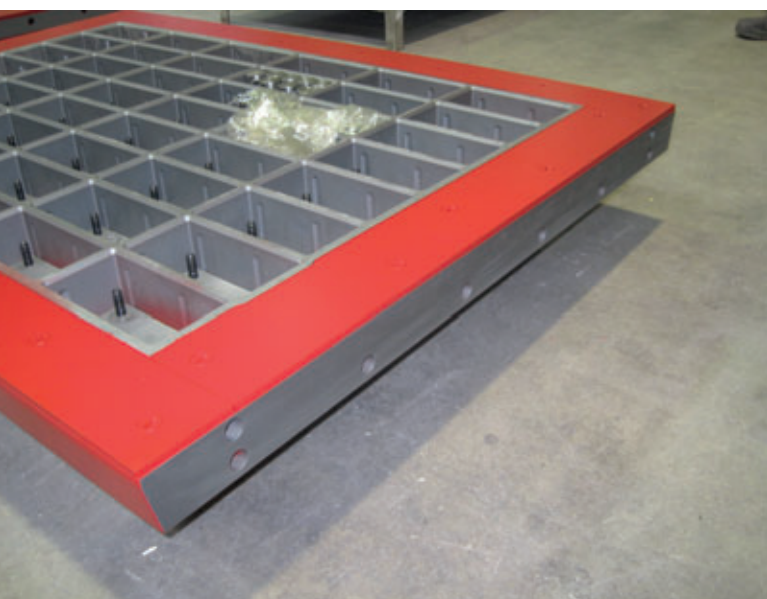


Fig. 1: Delivery condition of the 'Moduline2' mould lower part with self-assembly of the bolted flanges by the customer



Fig. 2: 'Moduline2' mould lower part with separately delivered pressure plates and mounting kit for bolted flanges

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Fig. 3: The innovative core unit for standard hollow block moulds with 'carbo'-hardened, single, bolted steel cores

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 lower part, 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 hardness technology in 2011.

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 lower part in order to be able to turn the advantages of the elevated hardness standard (68 HRC) into an actual extension of the service life.

The 'longlife' principle – permanent hardness without weak points – encompasses the following main factors:

- innovative design of the blank fields and wall thicknesses in the mould insert
- no welded joint in the form lower part borders directly onto the stone field
- covering of the blank fields by highly rigid, bolted wearing plates that precisely follow the contour of the stone field.

With the aid of bolted concrete block moulds, concrete workers can react much faster without heavy equipment in the case of damage. The moulds wear very evenly

FURTHER INFORMATION



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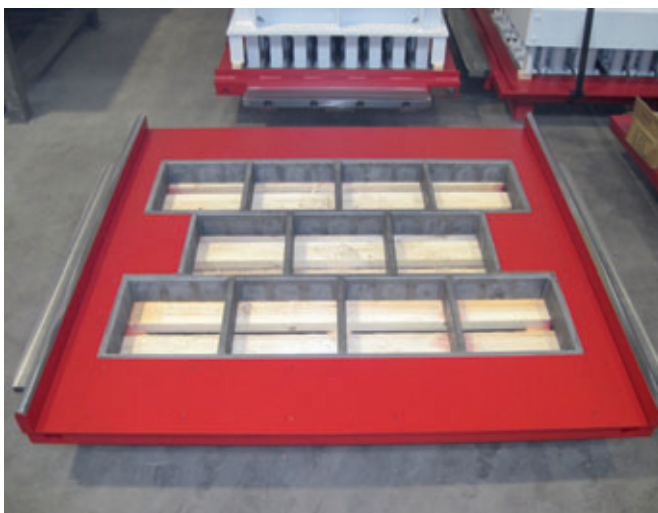


Fig. 4: 'Moduline 1™' paving stone mould with offset layout



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