Toyota Kohki Co., Ltd., Tokio, 183-0035 Japan

## Box culverts in many different design types and sizes

A box culvert, one of the most representative precast concrete products, is widely used at countries all over the world. A box culvert has a wide range of its sizes and types for various purposes by both dry and wet cast method. In advanced countries, box culverts have been used for sewerage, underground bypass for waterway/river, underpass road, common utility duct and so on. Many countries which are actively working for developing the infrastructural field, have now shifted their construction method from traditional site-cast to precast concrete in terms of its product quality and safety when constructing.





Fig. 1,2: Box culverts at construction site

Box culverts have been expanded in many different design types and sizes due to various usages and purposes so that the mould of the box culvert needs to meet the various demands as well. Actually in many cases, since the box culverts are generally large-sized products and have a series of sizes, the adjustable moulds are much in demands for cost reduction.

The adjustable mould of box culvert manufactured by Toyota Kohki, a mould manu-

Fig. 3

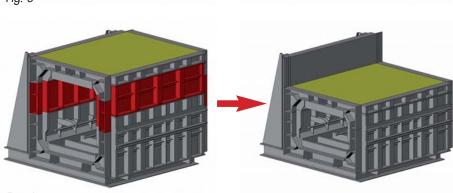
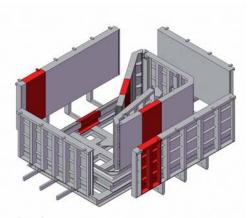


Fig. 4

facturer for precast concrete products in Japan, enables to change the wall thickness along with its different heights and spans. In addition, the size also can be adjustable by setting and removing attachment parts on the body mould (see the redpart in Fig 3 through Fig 6). This operation can be done by customers themselves in their own factory. Even after the change of the size, its highly sophisticated design of Toyotaforms keeps the accuracy of the finished products.

Toyotaforms have also a well considered design for one of the best solutions of the pouring direction (pouring in vertical or horizontal).

As shown in the drawing picture (Fig 3 through Fig 6), Toyotaforms provide high quality mould for box culverts such as (Fig. 5) a vertically pouring mould that its inner core can be collapsed by one-touch (no need of breaking down and taking any parts out of inner core) or (Fig. 6) a horizontally pouring mould that is also with a collapsible inner core opening/closing easily by some mechanical devices and moving it away with the usage of goose neck tool or forklift. Moreover, there is no need of using a hydraulic for the inner core. This mechanics enables to open and close



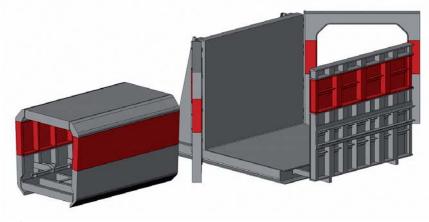


Fig. 5 Fig. 6

the inner core by manual easily. All Toyotaforms are rubber gasketed to prevent from water leaking.

The accuracy of mould equals to the accuracy of concrete product. The quality of moulds also greatly influences the efficiency and productivity. That is, a mould plays a crucial role of manufacturing precast concrete products. Further, the quality of concrete product influences on the quality and productivity at construction site.

Toyotaforms is highly regarded for its accuracy, productivity, and durability. Nowadays, the Toyota Kohki has increased their construction achievement of box culverts in overseas countries as well as in Japan

Since its foundation of 1966, Toyota Kohki has been developed its technologies and contributed to the concrete industry as a leading mould manufacturing company in Japan. All their moulds are custom design to meet individual customer's request. Toyotaforms that is water-tight, high durability, high productivity, and ease of use, have widely been used more and more countries

At the BC India 2011 and ICCX Oceania 2011, Toyotaforms got great responses to its high technology mould from the visitors. Toyota Kohki will also participate in MATEXPO 2011 in Belgium, ICCX Russia 2011, and NPACA 2012 and is seeking for opportunities to expand their business more international.

## FURTHER INFORMATION

## TOYOTA FORMS

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Fig. 7: Toyota mould



Fig. 8: Box culvert products at construction site, manufactured by Toyotaforms