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Precast concrete revetment blocks

Rivers in Japan are characterized by considerably steep gradients and flows. In addition, due to recent climate change, flooding and torrential downpours occur frequently. They highly evolved the blocks used for revetment and various functions are developed and added to these blocks. In this issue, "Furusato", which have advantages of both construction efficiency and environmental function, will be introduced.

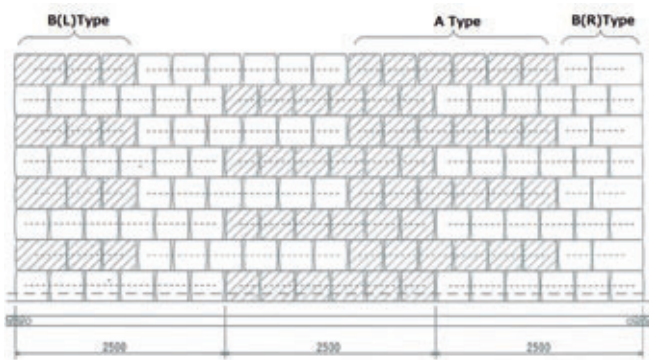


"Furusato"- blocks can be adapted to individual situations by freely adjusting its radius.

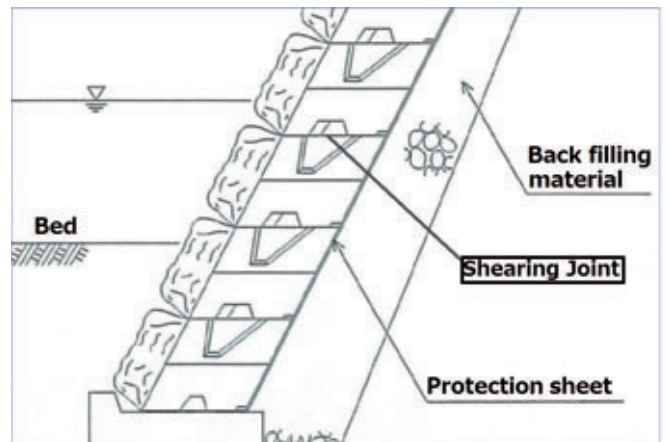
The feature of "Furusato" is 6 blocks integrated style linked with a rebar, which enables the high flexibility and therefore high construction efficiency. Previous laying-type blocks were required to combine with exclusive curve-purposed blocks or cast-in place concrete blocks in order to correspond to an individual situation. "Furusato", however, can solve these problems with standard product by freely adjusting its radius.

Because previous blocks styles were mainly for straight construction, it was a case to destroy river's natural flow variability (such as curves) and re-shape into straight line due to the cost and construction efficiency. Thus, the revetment construction sites were tended to "artificial".

The high flexibility of "Furusato" enables to lay blocks with making curves and requires no cutting of blocks or difficult construction technology. It is very important to construct river protection with keeping the original river line.



Construction layout drawing



Cross-section



Examples of application



The moulds made by Toyota Forms can be operated easily by one person.

This Block system has a structural stability against earth pressure by 1) having enough unit weight for each product, and 2) connecting with shearing joint by male and female, laying the 6 pieces- linked blocks in a zigzag pattern. Having flexibility means even if the product connection and positioning is not so exactly, the blocks can be fit and constructed with no problem.

In addition, there is no need of filling concrete after construction which can greatly reduce construction term. From this characteristic, "Furusato" is well suitable product for disaster relief work which is required emergency response.

For example, it is normally possible to use this block-system even when the curve is with small radius. It will be very difficult and cost a lot if using the traditional blocks.

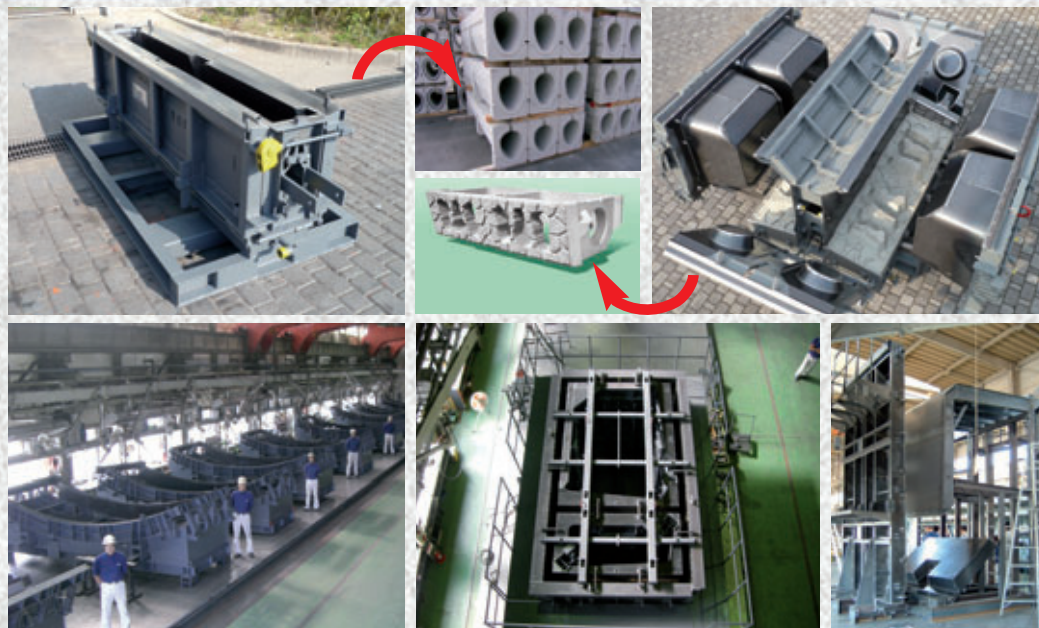
The high flexibility of "Furusato" is not only on making free curves, but also free slope. Fig.8 shows the changing from 1:2 slope of backside to 1:1 slope in the front. This makes many difficult construction sites with different curve and slope easier.

However, no matter how great function the product has, it will be useless if it is not productivity. Since "Furusato" is 6 blocks integrated in one piece, the side jackets of the mould are very complicated and need to be opened carefully and widely when de-moulding. Toyotaforms makes it possible to open/close the side jackets easily and quickly by hand without using hydraulic or electrical device.

FURTHER INFORMATION



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