



Trave bascule bridge, Lübeck

The idea of crossing the Trave river north of the old Hanseatic city of Lübeck via a movable bridge is more than a hundred years old. With traffic volume growing pressure increased to implement the idea, and eventually the city of Lübeck decided to have a new northern tangent built.

The project provides a modern, technically demanding solution: a single-leaf bascule bridge with a deep-lying counterweight. The project with its total length of 182 meters is both innovative and complex: three bridge

piers and their foundations have to be constructed directly in the Trave. A joint venture led by HOCHTIEF Construction AG's business unit Civil Engineering and Marine Works is responsible for constructing the project.

Project data

Client:

Hanseatic City of Lübeck

Execution:

Joint venture „Arge Traveklapp-
brücke – Nordtangente“

HOCHTIEF Construction AG,
Civil Engineering and
Marine Works

Victor Buyck Steel Construction, Eeklo
IPM, Leipzig

Technical data:

Total span:	180.55 m
Individual spans:	33.40 m
	46.30 m (leaf)
	51.75 m
	28.25 m
	20.85 m
Railing-to-railing width:	19.00 m to 22.87 m
Bridge surface:	approx. 3,500 m ²
Bridge category:	60/30 accord- ing to DIN 1072

Construction period:

May 2004 to October 2006

Uninterrupted shipping

The leaf which will span the Trave has a length of 58 meters and a width of almost 20 meters. The 600-ton steel construction is installed using a floating crane. For operating the bascule bridge, another 800 tons of ballast weight is required to open the leaf in an angle of up to 87 degrees. All installation works prior to the first opening of the leaf will be completed in the short time of four days.

The shallow foundation of the bascule bridge's load-bearing pier was constructed at a depth of 13 meters. For the 41 x 21 meter foundation, 2,500 cubic meters of reinforced underwater concrete were cast in a single pour. A floating crane placed the required reinforcement cage to the required precision.

Several pontoons are needed to carry out the foundation works offshore. Thanks to well organized logistics, shipping on the Trave can continue without interruption during almost the entire construction period.

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