



## Eric Warburg 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 were 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

### 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<sup>2</sup>

Bridge category: 60/30 accord-  
ing to DIN 1072

### Construction period:

May 2004 to December 2006

## Uninterrupted shipping

The leaf which spans the Trave has a length of 58 meters and a width of almost 20 meters. The 600-ton steel construction was installed using a floating crane. For operating the bascule bridge, another 800 tons of ballast weight was required to open the leaf in an angle of up to 87 degrees. All installation works prior to the first opening of the leaf were completed in the short time of 60 hours.

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 were needed to carry out the foundation works offshore. Thanks to well organized logistics, shipping on the Trave could continue without interruption during almost the entire construction period. For installing the leaf, traffic was stopped for 15 hours only.

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