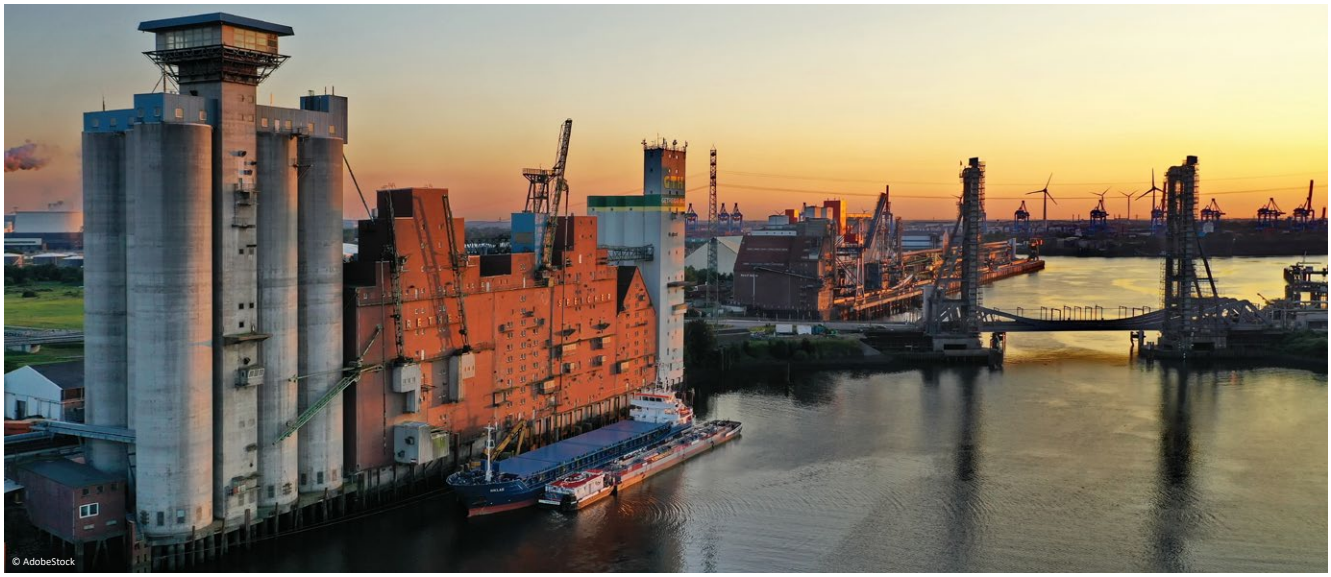
Rethe Bascule Bridge (Germany)



Project description

The Rethe bascule bridge is a combined rail and road bridge in the port of Hamburg. It crosses the Rethe at its mouth into the Reiherstieg and connects Hohe Schaar with Neuhof. This bascule bridge replaced the old Rethe lift bridge in 1934, which was directly adjacent to the east and was dismantled in 2018.

The Rethe bascule bridge has a span of 104 meters and opens a navigation channel unlimited in height, and 64 meters wide. The two bascule bridges (14 m width for road, 10 m width for rail), are independent hydraulically operated double-leaf bridges.

mageba scope

The newly built Rethe Bridge in the Port of Hamburg uses specially designed bearings.

The Rethe Bridge is designed as a double-leaf bascule bridge with a leaf length of approx. 52 m each. At the tip of each leaf, the two decks are designed with a „finger“ connection, to „lock“ the deck in place such that moments and shear forces are transmitted under traffic. To realize this function, sliding bearings with a special inlet geometry (separate for vertical and horizontal loads) were provided.

The sliding material, a highly stressable modified UHMWPE, was specially installed, since the upper part of the bearing (with the sliding material) is separated from the sliding track during the folding process.

Highlights & Facts

mageba products:

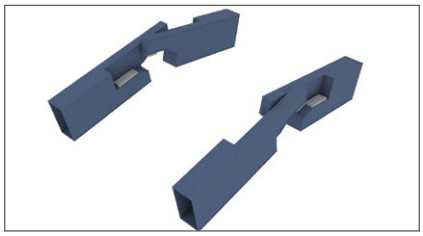
Type:	Vertical (8) and horizontal (4) force bearings
Installation:	2017

Structure:

City:	Hamburg
Country:	Germany
Type:	Bascule bridge / Rolling lift bridge
Completion:	2017
Length:	144,20 m
Owner:	HPA – Hamburg Port Authority
Contractor:	HPA
Design:	Ingenieurbüro Grassl GmbH Beratende Ingenieure Bauwesen

New Rethe Bridge in the Port of Hamburg

Schematic view of the finger lock



Support points of the finger lock

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