

Fehmarn Sound Bridge (Germany)



Project description

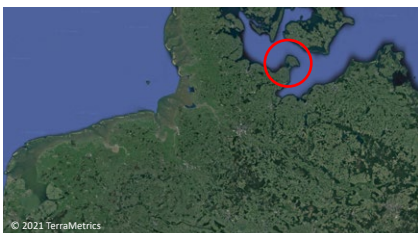
As a dual purpose bridge for road traffic and railway, the Fehmarn Sound Bridge connects the island of Fehmarn in the Baltic Sea with the mainland near Großenbrode.

It was built in 1963, simultaneously with the Puttgarden ferry port on Fehmarn. Thanks to the crossing, the average travel time between Hamburg and Copenhagen had been significantly reduced.

The total length of the bridge is 963 meters with 337 meter-long ramps, which carries traffic over the 1,300 meter-wide Fehmarn Sound. The main span of the structure stretches 23 meters above the sea level and provides a 240 meter-wide clearance for ships.

The bridge has a steel superstructure consisting of three smaller substructures. The test report on the main bridge found that the existing bearings (pot bearings) are in poor condition, thus had to be replaced with new ones.

The bridge crosses the Baltic Sea and connects the mainland with the island of Fehmarn



mageba scope

For this structure mageba produced two RESTON®SPHERICAL bearings.

The maximum displacement of the bearings is 500 mm, with a load capacity of 2,500 tons. Each bearing weighs approximately 2 tons.

During the design stage of the products, the fact, that road vehicles and trains run parallel on the bridge, had also been taken into account.

Since the client requested the replacement to be implemented without traffic restrictions on the bridge, mageba developed a concept using a pontoon and a telescopic forklift. A 30 x 20 meter pontoon was "floated" to the installation site, carrying a large telescopic forklift with the capacity to lift the bearings 25 meters high.

Fixed pontoon at the bridge's pier



Highlights & Facts

mageba product:

Type: RESTON®SPHERICAL bearings
Installation: 2021

Structure:

City: Fehmarn – Großenbrode, Kreis Ostholstein
Country: Germany
Type: Network arch bridge
Built: 1963
Main span: 240 m
Length: 963 m
Owner: Deutsche Bundesbahn
Contractor: Deutsche Bundesbahn Bundesrepublik Deutschland
Architect: Gerd Lohmer

A new spherical bearing after installation

