

Flehe Bridge (Germany)



Project description

The Flehe Bridge in Düsseldorf carries the A46 autobahn across the River Rhine. The bridge was opened in 1979, and has the highest pylon of any bridge in Germany, as well as the longest span of any cable stayed bridge in the country.

Between 2011 and 2013, bridge improvement works were carried out with the main objective of reducing the noise caused by traffic crossing the bridge, which had been a source of significant disturbance to the local population. In addition to the construction of noise protection walls, the expansion joints at each end of the deck were replaced.

mageba scope

In order to minimise the noise from traffic crossing the bridge's expansion joints, they were replaced with new TENSA®MODULAR joints featuring noise-reducing sinus plates on the surface. These plates bridge over the individual movement gaps of a normal modular joint, avoiding the impacts that cause vibrations and noise. The joints are of type LR7-LS100 (with 7 gaps) and LR8-LS100 (with 8 gaps). Each joint is 42m long and was installed in 3 phases. Mageba's work also included strengthening of the deck and installation of the joints, with both welded and concreted connections to the deck and abutments.

Highlights & facts

mageba products:

Type: TENSA®MODULAR expansion joints (LR-LS)
Features: Noise-reducing surface plates ("sinus plates")
Installation: 2012 – 2013, by mageba

Structure:

City: Düsseldorf
Country: Germany
Type: Cable-stayed bridge
Completed: 1979
Length: Main span 368 m
Carries: A46 autobahn
Crosses: River Rhine

The bridge crosses the River Rhine in Düsseldorf, western Germany



The underside of one of the expansion joints, showing its gap width control system



The surface of a TENSA®MODULAR joint during bolting of noise-reducing sinus plates

