

Run Yang Bridges (China)



Project description

The Run Yang – Nan Cha Bridge, opened in 2005, crosses the Yangtze River near the Chinese city of Zhenjiang. The cable supported structure, with a 1.49 km main span, total length of 2.5 km and 210 m high towers, is one of the longest suspension bridges in the world.

The exceptional structure required exceptional expansion joints to facilitate its enormous absolute deck movements, and these were supplied by mageba at the time of the bridge's construction.

Several years later, mageba was also requested to assess the bridge's larger-than-expected accumulated deck movements, in support of ongoing maintenance work and optimised long-term performance.

mageba scope

TENSA®MODULAR expansion joints with 27 individual movement gaps (a world record) were installed in 2005, each joint facilitating 2160 mm of movement.

During the bridge's first years in service, its expansion joints and bearings were found to be suffering from accelerated wear, and the cause of this wear was believed to be very large accumulated deck movements (the total distance moved by a point on the deck during a period of time).

A ROBO®CONTROL "Portable" system was used to evaluate the movements during a two-week period. This concluded that the movements greatly exceeded expected values, and enabled the bridge engineer to optimise planning of remedial works

Highlights & facts

mageba Products:

Type: TENSA®MODULAR expansion joints of type LR27,
ROBO®CONTROL SHM Portable monitoring system

Features: max. movement 2,160 mm

Installed: 2003–2009

Structure:

City: Zhenjiang
Country: China
Built: 2005
Type: Suspension bridge
Length: 2,500 m
Owner: Jiangsu Provincial Yangtze River Highway Bridge Construction Commanding

The bridges cross the Yangtze river near Zhenjiang



The enormous 27-gap TENSA®MODULAR joints during final assembly on the bridge due to size



View of the underside of a TENSA®MODULAR joint of type LR27, prior to installation

