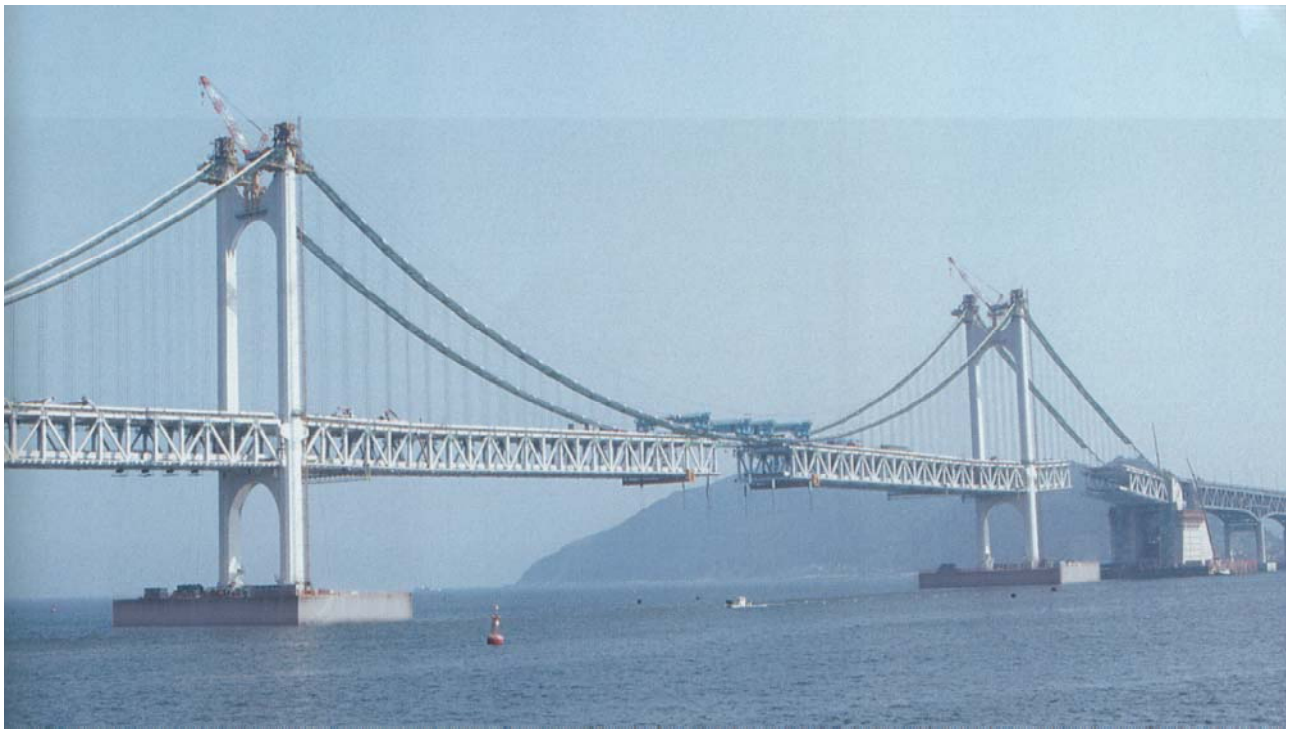
Project Info

Kwang-Ahn Bridge, Pusan

South-Korea's largest suspension bridge
MAURER Swivel Joist Expansion Joints



Figures and Facts

Location: Pusan / South Korea
Owner: City of Pusan
Contractor: Samwhan Corporation
Design: Yoo Shin Engineering Corp.
Total investment costs: 60 million US-$
Design: Twin deck suspension bridge
Utilisation: Roadway bridge
Total Bridge Length: 900 m
Main spans: 200 m- 500 m - 200 m

Korea's longest suspension-bridge has a double-deck superstructure with four driving lanes for each direction

Involvement of Maurer Soehne

Supply and installation of six **MAIRER Swivel Joist Expansion joints**, each 18 m long.

Movement capacity:
2 pieces DS 400 (± 200 mm)
2 pieces DS 720 (± 360 mm)
2 pieces DS 1200 (± 600 mm)

South Korea's third and biggest suspension Bridge, located in the coastal waters of Kwanganri Beach / Pusan, consists of a 2-storey roadway bridge, providing 4 lanes in each driving direction. The main span has a length of 500 m. Including the side spans of 200 m each, the total length of the main bridge comes to 900 m. Considering the approaching steel truss bridges, the whole bridge system shows a length of more than 5 km.

Maurer Soehne delivered in total 6 swivel joist expansion joints with a length of 18 m each: 2 pieces of DS 400, allowing a longitudinal movement of ± 200 mm, 2 joints DS 720 with a longitudinal movement capacity of ± 360 mm and two 15-seal joints (DS 1200), offering a movement of ± 600 mm.

The patent-protected motion control system of the single centre beams by means of skewed support bars, connected with each other by pretensioned pairs of elastomeric springs and bearings, guarantees a very exact distribution of the total bridge deck movement to all strip seals also in case of a very high strip seal number. This is achieved by replacing the standard control mechanism of conventional modular joints (serially connected centre beams by means of flexible control springs) by a "parallel connection" of the centre beams. The skewed movement of the support bars leads to a flexible but compulsory movement of the centre beams, implying a minimization of the mismatch between the single gap sizes.

Apart from that, the transverse movement capacity of the joints can be adapted to the requirements of each structure. This is very important for structures located in seismically active regions. All occurring longitudinal and transverse movements can be accommodated by the expansion joint without restraint.

Installed 15 seal MAURER Swivel Joist Expansion Joint DS 1200