

# Ulsan Grand Harbor Bridge (South Korea)



## Project description

The Ulsan Grand Harbor Bridge is a single span suspension bridge which will span the harbor mouth of Ulsan City in Korea.

The bridge has a main span of 1,150 m. The approaching viaducts have a span of 303 m respectively 355 m to each side of the suspended span.

The viaducts are made of traditional steel box girder and pre-stressed concrete beams.

The bridge will have 4 traffic lanes, and a 300 m wide navigation clearance of at least 60 m height.

When completed in early 2015, Ulsan Grand Harbor Bridge will have the 3rd largest span as a single-span suspension bridge in the world.

## mageba scope

mageba TENSA®MODULAR expansion joints with a movement capacity of up to 1,760 mm each were chosen due to its elastic steering system. It ensures kinematic behavior and prevents damage from constraint forces which will occur at Ulsan Grand Harbor single-span suspension bridge.

mageba Hump-Seals will be installed to drastically reduce debris falling between the joint gaps.

mageba RESTON®SA hydraulic shock absorbers were chosen to allow slow movement of the Ulsan Grand Harbor bridge, as well as to damp brisk movements (e.g. from earthquakes or from the braking of heavy road vehicles).

In normal conditions, however, they permit free movement between the structure's parts.

## Highlights & Facts

### mageba Products:

Type: 4 x TENSA®MODULAR expansion joint LR22  
4 x RESTON®SA shock absorber

Features: Joints: max. movement 1,760 mm

Shock absorbers: load 3,000 kN

Installation: 2014

### Structure:

City: Ulsan  
Country: South Korea  
Built: 2008–2015  
Type: Suspension bridge  
Length: 1,150 m

Location of the bridge in Ulsan, around the Korean South/East Sea



Testing of a RESTON®SA shock absorber in Simalab, Shanghai



TENSA®MODULAR expansion joints 1,760 mm movement (LR22)

