

# Osmangazi South Approach Viaduct (Turkey)



## Project description

The Osmangazi Bridge near Istanbul, opened to traffic in July 2016, with a main span of 1,550 m, carries six lanes of highway across the bay, greatly improving road connectivity between Istanbul and south-western Turkey.

The bridge is in an area of high seismic activity, with the Anatolian fault running perpendicular to the bridge alignment.

It is predicted that this fault will rupture during the next seismic event, causing severe ground movements.

The design of the bridge and its approach viaducts to resist and survive such seismic events was thus of critical importance.

## mageba scope

The seismic protection system selected for the south approach viaduct consists of 22 isolation units, each comprising two LASTO®LRB lead rubber bearings (with capacity up to 42 MN each) placed side by side, together with 108 RESTON®SA shock absorbers (with stroke of up to 1,175 mm) working in both the longitudinal and transverse directions.

RESTON®SPHERICAL bearings and specially designed uplift resisting devices are also required at each end of the structure.

The bearings are each designed to carry loads of 20 MN and to allow longitudinal sliding movements of +/- 1,470 mm.

## Highlights & facts

### mageba products:

Type: LASTO®LRB seismic isolators,  
RESTON®SA shock absorbers,  
RESTON®SPHERICAL bearings,  
uplift devices

Installation: 2014–2015

### Structure:

Country: Turkey  
Completed: 2016  
Type: Bridge viaduct  
Main span: 1,550 m  
Engineer: WIECON

The suspension bridge will cross Izmit Bay in the Sea of Marmara, 50 km south-east of Istanbul



The seismic safety of the structure is partially ensured by 108 RESTON®SA shock absorbers



The LRBs for this project can carry up to 42 MN each

