

Vasco da Gama Bridge (Portugal)



Project description

In 1998, after 3 years of construction, the 17.2 km-long Vasco da Gama Bridge near Lisbon, which is the second longest bridge in Europe was opened. The cable stayed bridge, with approach viaducts on both sides, spans the Tejo River. To maintain the unhindered navigation of ships, the main section of the crossing has a cable-stayed design with an 825 m span, elevated 45 m above the river. The bridge carries a six-lane motorway with the possibility to upgrade its deck to carry eight lanes.

mageba scope

For the bridge mageba delivered pot bearings as well as TENSA®MODULAR LR9 joints and shock absorbers.

In order to provide the two main suspension towers of the structure with the highest level of safety from ship impacts, the modular expansion joints were fitted with

mageba's Fuse-Box system, and the towers were equipped with 8 RESTON®SA shock absorbers.

The Fuse-Box is constructed with a pre-defined fracture location, therefore a sudden extreme impact on the joints and the counter bearings would be limited to an absolute minimum. This design requirement was meant to ensure that maximum two out of the six lanes would be out of service during an earthquake, allowing the passage of emergency vehicles.

Under normal conditions the shock absorber acts like a spring, but during a seismic event the flexible capacity of the absorber would be exceeded and an energy absorbing effect (up to 2,150 kN) would be activated.

In 2024 after 26 years of service, the modular expansion joints of the bridge have been refurbished by replacing their sealings and also their steering and guiding systems.

Highlights & facts

mageba products:

Type:	TENSA®MODULAR LR9 joints, RESTON®POT bearings, RESTON®SA shock absorbers
Feature:	Expansion joints feature Fuse-Box
Installed:	1998 (expansion joints refurbished in 2024)

Structure:

City:	Lisbon
Country:	Portugal
Built:	1995–1998
Type:	Cable-stayed bridge
Length:	825 m

The cable-stayed bridge is located near Lisbon



Shock absorbers ready to be delivered



Both modular joints of the bridge have been refurbished in 2024

