AVE Antequera-Granada railway (Spain)

Project description

Spain's AVE high-speed railway system is currently the longest high-speed rail network in Europe with a length of approximately 3100 km, and the second longest in the world (after China's). The system's first line commenced service in 1992, and its trains travel at speeds of up to 310 km/h.

A new line to Granada in southern Spain is to cross a highly seismic area with irregular topography. The project in question relates to the construction of a viaduct on the line - a single continuous pre-stressed concrete deck with 12 spans and a total length of 580 m.

mageba scope

The design of the viaduct requires its deck to be connected to one of its abutments by shock absorbers which generally act as rigid connections but which dissipate energy and protect the structure from overloading during a large earthquake. mageba's innovative solution is a shock absorber featuring a specially developed fused connection. The devices were designed and tested in accordance with EN 15129, with testing carried out at leading testing institutes in both Europe and the United States.

Highlights & facts

mageba products:

Type:	RESTON®SA shock absorber with fuse
Installation:	2014

Structure:

City:	Loja
Country:	Spain
Completed:	2015 (proj.)
Type:	Concrete rail viaduct
Length:	580 m
Contractor:	AZVI
Owner:	AVE Renfe Operadora

The viaduct is on the high-speed rail link serving the city of Granada in southern Spain

A fuse element (without shock absorber) in testing at Politecnico di Milano, Italy

A shock absorber, fully assembled with fuse element and ready for transport to site

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