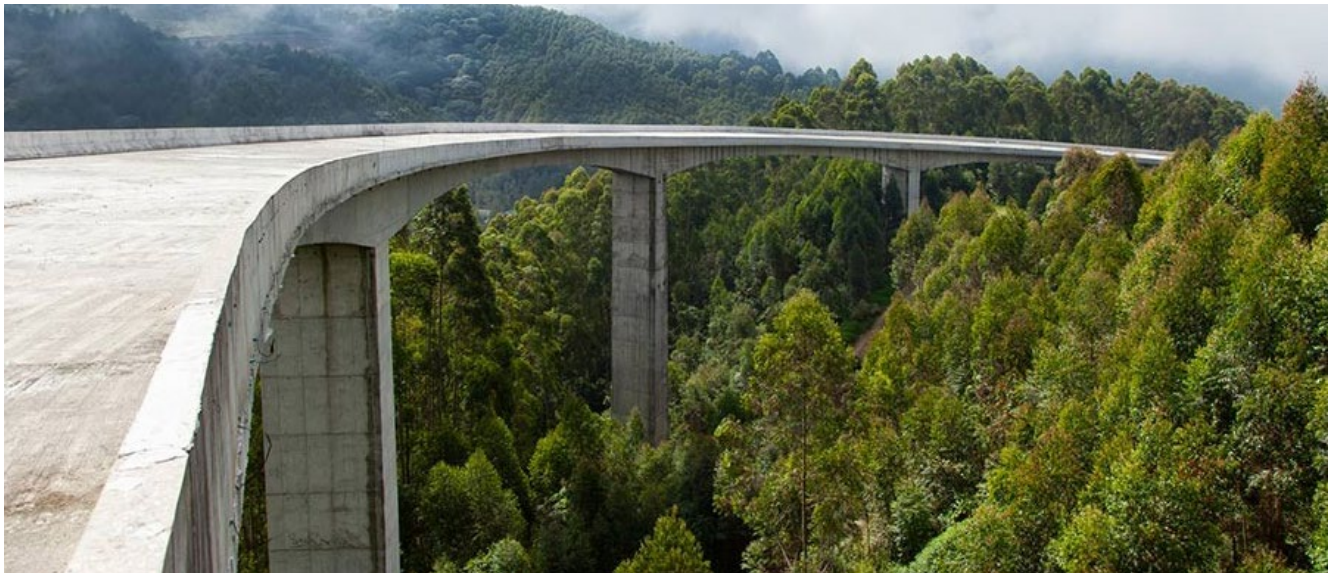
Cruce Cordillera Central (Colombia)



Project description

With its population of over 7 million people, Bogotá is situated high in the Andes mountains, at an altitude of 2,640 m above sea level.

The "Cruce Cordillera Central" project aims to connect the country's capital, Bogotá, with the key port city of Buenaventura, which lies at the other side of the mountains on the Pacific coast.

At a cost equivalent to over USD 800 million, the development involved the construction of numerous new viaducts and tunnels.

In the later stages of the project, attention turned to improve the seismic safety of some existing bridges along the route.

These include three multi-span structures; the Roblecito Bridge, the Virgen Blanca Bridge and the El Salado Bridge, each approximately 200 m long.

mageba scope

The 3 bridges were all equipped with RESTON®PENDULUM "Duplo" seismic isolators capable of supporting vertical loads of up to 22,000 kN.

During an earthquake, the isolators are designed to accommodate displacements of up to 380 mm, and at the same time they also lift the structure thanks to the "curved surface slider" design of the isolators – dissipating the earthquake's energy at the structure and protecting the bridge from destruction.

To ensure design and production quality and to confirm that the seismic isolators will perform as expected in case of an earthquake, full-scale testing according to EN 15129 was performed at an independent seismic testing laboratory prior to installation.

Highlights & Facts

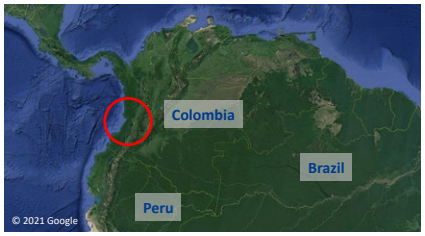
mageba Products:

Type:	RESTON®PENDULUM "Duplo" seismic isolators
Installation:	2021

Structure:

Region:	Cordillera Central
Country:	Colombia
Type:	Concrete bridges
Owner:	Instituto Nacional de Vías (INVIAS)
Contractor:	Consorcio Vía Americas
Designer:	Pedelta (Colombia)

The project is located in the Colombian Andes



Some of the RESTON®PENDULUM "Duplo" seismic isolators in the factory before shipping to site

A RESTON®PENDULUM "Duplo" seismic isolator on site ready to be installed

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