

# Tijuana Airport Highway (Mexico)



## Project description

To improve access to the airport of the Mexican city of Tijuana, a new elevated highway of length 170 m excluding approaches has been constructed along the airport's eastern perimeter, passing over the junction with the Boulevard de las Bellas Artes.

Just a few hundred metres from the United States border and the city of San Diego, the structure is located in a highly seismic zone.

Resulting from the necessary seismic analysis and design, it was concluded that the structure would need specially designed key components – bearings and expansion joints – to enable it to survive earthquakes of the type that might be expected in the region.

## mageba scope

To isolate the bridge's deck from destructive ground movements, it is supported by RESTON®PENDULUM seismic isolators, two at each pier or abutment, designed for loads of up to 4,000 kN and movements of up to +/-300 mm. These are of the Duplo variety, with two curved sliding interfaces accommodated displacements (plus one for rotation).

The bridge's design also required the use of expansion joints at both ends. To enable the selected TENSA®MODULAR expansion joints – already very flexible due to their non-rigid design – to survive a strong earthquake, they were designed not only for longitudinal movements of 400 mm, but also for transverse movements of +/- 200 mm.

## Highlights & Facts

### mageba Products:

Type:	RESTON®PENDULUM seismic isolators, TENSA®MODULAR expansion joints of type LR5
Features:	Designed for large transverse movements
Installation:	2017

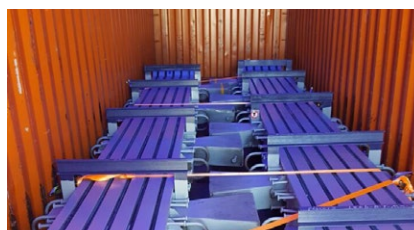
### Structure:

City:	Tijuana
Country:	Mexico
Built:	2017
Type:	Highway viaduct
Main span:	40 m
Length:	170 m
Owner:	SIDUE
Contractor:	Constructora Makro, S.A. de C.V.
Engineer:	GOLART / Ing. Rojas Guzman

The bridge is located in Tijuana, Mexico, close to the United States border



TENSA®MODULAR expansion joints as manufactured, during transport from factory to site



A RESTON®PENDULUM seismic isolator during the construction of the bridge

