

Oil refinery seismic isolation (Venezuela)



Project description

In the process of making an oil refinery in a seismically active part of Venezuela safe from the destructive effects of earthquakes, heat exchange tanks were seismically isolated from ground movements in 2012. The ongoing operation of such refineries is of great importance to the Venezuelan economy, with revenue from petroleum exports accounting for over 50 % of the country's GDP and roughly 95 % of total exports. Venezuela has the world's largest proven oil reserves (20 % of global reserves), and is one of the top four suppliers of foreign oil to the United States.

mageba scope

mageba supplied six LASTO®LRB lead rubber bearings with a diameter of 220 mm and height of 165 mm including 20 mm steel connection plates. Each bearing is designed for a vertical service load of 780 kN and to allow seismic displacements of up to 100 mm. The lead core at the bearing's vertical axis has a diameter of 44 mm and provides dissipation of seismic energy, while the natural rubber (NR) elastomer around it provides the desired re-centering after the earthquake. To ensure proper installation and functioning, mageba also supervised the installation.

Highlights & facts

mageba products:

Type: LASTO®LRB isolators
Installation: 2012
Supervision: Installation supervised by mageba

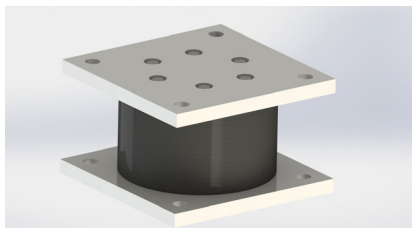
Structure:

Location: Falcón State
Country: Venezuela
Type: Oil refinery
Client: PDVSA

The refinery is located in Falcón State, one of Venezuela's 23 states, in northern Venezuela



A LASTO®LRB lead rubber bearing of the type supplied – with 220 mm diameter



The LASTO®LRBs protect heat exchange tanks from ground vibrations during earthquakes

