Essenza Building (India)

Project description

"Essenza" is the name of a four-storied residential apartment building currently under construction in the city of Bharuch, Gujarat. The region is located in seismic zone III that is classified as „Moderate Damage Risk Zone", liable to the macroseismic intensity scale MSK VII (very strong) and assigned to IS code zone factor 0.16.

The building is designed as a RCC framed structure in which the construction components and the foundation are inter-connected to each other as a unit. The elastomeric isolation devices will be placed in the open ground storey (isolation storey). In total, the two building blocks feature 40 columns each and have to be isolated from the base. This application type will be the first for a residential building built by a private developer in India.

mageba scope

The owner has awarded mageba with the design and supply of the seismic protection systems for the two buildings.

mageba thus proposed a very special solution for base isolation by using elastomeric isolators with lead core. These isolators, designed on the basis of the original site-specific response spectrum, assure flexibility of the column support by accomodating movements, rotations about horizontal and vertical directions for both normal and seismic events.

Additional damping and stiffness is provided by the lead core that reduces the horizontal force to be transferred to the structure during the seismic event. The elastomer portion of the isolator further helps the total system to re-center to its original position after a seismic event.

Highlights & facts

mageba products:

Type:	LASTO®LRB lead rubber bearings
Features:	80 units
Installation:	2016

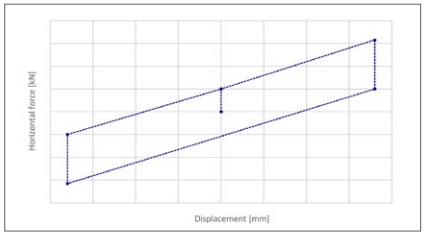
Structure:

City:	Bharuch
Country:	India
Completed:	2016
Type:	Residential building
Storeys:	4
Owner:	SLD Infrastructures
Contractor:	SLD Infrastructures
Designer:	IIT Kanpur Ez Structure Consulting Engineers

Bharuch is a city in the Gujarat province and located on the western cost of the country

Elastomeric isolators with central lead core, manufactured in the ISO-certified facilities in India

Hysteresis graph illustrating energy absorption per cycle



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