

Pohang-Yeongdeok Expressway (South Korea)



Project description

The Pohang-Yeongdeok Expressway project involves the construction of a 8.18-km-long road from Cheongha-myeon to Songra-myeon in Pohang in North Gyeongsang.

In the early stage of the project to construct the Pohang-Yeongdeok Expressway, the challenge was to design a multi-span bridge. The concrete superstructure should be prefabricated to the length of each appropriate span and then stitched together with reinforcement and concrete at each pier.

The bridges’ design required the use of seismic isolators to support their superstructure and protect them in an event of an earthquake.

mageba scope

mageba’s RESTON®PENDULUM isolator bearings were selected for use on three of the project’s multi-span highway bridges: – Bangseok No. 1, Bangseok No. 2 and Seojeongri Cheon. In total, 86 isolators of the Duplo type were installed, with two curved surfaces facilitating translation and simultaneous lifting of the supported structure during an earthquake.

The bearings were designed with additional support elements between the upper and lower connection plates, one at each corner, to keep the connection plates parallel to accommodate any uneven loading that might arise. These were designed with inclined sliding surfaces to facilitate their easy removal when they are no longer needed – a solution originally developed by our South Korean and Chinese teams to meet the needs of the project. The solution is so smart that it has been patented in the meantime.

Highlights & Facts

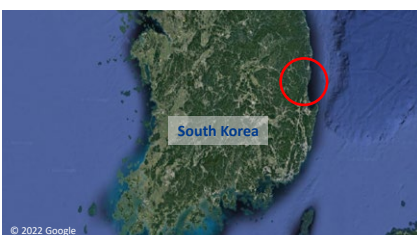
mageba products:

Type: RESTON®PENDULUM Duplo bearings
 Installation: 2021 – 2023

Structure:

City: Pohang - Yeongdeok
 Country: South Korea
 Type: Expressway
 Completion: 2023
 Length: 8.18 km
 Owner: Korea Expressway Corporation
 Contractor: DL E&C Co., Ltd
 Designer: Hong-Ik Engineering & Consultants Co., Ltd
 Kyong Dong Engineering Co., Ltd
 Soosung Engineering Co., Ltd
 Dream Eng Co., Ltd

The project is located in South Korea



Testing of a standard RESTON®PENDULUM isolator bearing



Preparation of some of the project’s 86 bearings for transportation to site

