

Application of Seismic Isolators in Kutahya City Hospital Project Utilizing Double Friction Pendulum Type Devices

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Abstract : Seismic isolators have been utilized around the world to protect the structures, nonstructural components and contents from the damaging effects of earthquakes. In Structural Engineering, seismic isolation is used for protecting buildings and its vibration-sensitive contents from earthquakes. Seismic isolation is a passive control system that lowers effective earthquake forces by utilizing flexible bearings. One of the most significant isolation systems is seismic isolators. In this paper, double pendulum type Teflon coated seismic isolators utilized in a city hospital project by Guris Construction and Engineering Co. Inc, located in Kutahya, Turkey, have been investigated. Totally, 498 seismic isolators were applied in the project. These isolators are double friction pendulum type seismic isolation devices. The review of current practices is also examined in this study. The focus of this study is related to the application of passive seismic isolation systems for buildings as practiced in Kutahya City Hospital Project. Based on the study, the acceleration at the top floor will be 0.18 g and it will decrease 0.01 g in every floor. Therefore, seismic isolators are very important for buildings located in earthquake zones.

Keywords : maximum considered earthquake, moment resisting frame, seismic isolator, seismic design

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