Marmara University

Turkey

BUSINESS ACTIVITIES

Repair & Maintenance/Fields of activity/Seismic retrofitting of buildings

Repair & Maintenance/Repair and Protection of Structures/Complementary products for concrete structures/Premix micro-concrete

General contractor :	Zeksan
Customer/Owner :	Marmara University Basibuyuk Training and Research Hospital, Turkey
Engineer :	Prota
Freyssinet subsidiary	Alga Spa (Milano)
Start of works period	06/2012
End of works period	06/2014

PROJECT DESCRIPTION

The Marmara University Basibuyuk Traning and Research Hospital is a large complex (112,500 sqm footprint) which consists of several different building blocks of various heights. After a previous seismic strengthening operation in 2002, a modern approach to Base-Isolate the structure was proposed. For this Zeksan, a local Turkish contractor was engaged to strengthen the building. A combination of Lead Rubber and Friction Pendulum bearings was proposed as a retrofit option in order to base isolate the structure, as well as general strengthening works.
Freyssinet was engaged to design the base isolation system and bearings, manufacture and deliver the bearings, as well as install these in place.

FREYSSINET MISSION

This works involves the supply and installation of 687 Lead Rubber Bearings, and 142 Friction Pendulum bearings of 700mm-1000mm diameter, specified dependent on the superstructure geometries and loads. These base isolators are to be installed by cutting the existing columns and walls and inserting and loading the isolators in place. Additional works includes the design-supply and installation on movement provisions, as well as strengthening the columns and walls in order to accommodate the new actions of the building structure under seismic loading. A Freyssinet team of 20 workers are executing the works.
This project is complicated by the fact that the entire building footprint is to act as a single structure, yet the complex is made up of several different buildings blocks which are of different heights and stiffness.