

PROJECT TITLE

Design of the New Acropolis Museum

LOCATION

Athens, Greece

CLIENT

Organization for the erection of the New Acropolis Museum (OANMA)

DESCRIPTION

ADK Consulting Engineer S.A. was **member** of the **consortium** that won the first prize of the **international architectural competition** for the **erection of the New Acropolis Museum**. The consortium consisted of the consulting firms association “Bernard Tschumi Architects – AR.SY. Architectural Cooperation Ltd - ADK Consulting Engineers S.A. – Michaniki-Geostatiki Civil Company - MMB Design Group S.A.”, and was also awarded the contract of the project.

ADK delivered the structural design and the E-M design (in association).

The museum is designed as a **five-story building above ground with two underground levels**. The top-floor **Parthenon Gallery** is supported by a steel post-and-beam cantilevered structure. In plan, it is **quadrilateral** with sides measuring 50,2 m, 65,4 m, 40,1 m, and 99,0 m. The **structural system** is **reinforced concrete frame mixed with shear walls**. The distribution of **gravity-carrying elements** of the structure is highly **asymmetric** due to the existence of **archaeological findings** that could not be moved or disturbed. Moreover, the site is bound on one side by the **tunnel** of the **Athens metro**.



The museum is both constructed on a **seismic base isolation system**, but also designed to meet all **capacity provisions** of the **Greek Seismic Code**. It is built as a conventional structure with the seismic isolation bearings placed directly below the foundations and with a second grid of beams and a foundation slab below the bearings. In this way, the structure behaves as conventionally founded but with substantially reduced seismic forces, due to the effects of the seismic base isolation system. The seismic isolation system used is that of FPS bearings (Friction Pendulum System).

The new Acropolis museum E/M design included **all systems** such as **heating, ventilation and air-conditioning, normal and emergency power/UPS, general lighting, security systems** (motion detectors, CCTV, access control, fire detection systems), **audio visual** (interpretive visitors guide audio programs, ticket control system, visitors control system, multimedia services, etc.), **fire suppression systems** (sprinklers and systems using FM-200, CO2, or other agents), **elevators/escalators, building management for mechanical and electrical system monitoring, lightning protection, etc.**

The budget of the museum amounted to 130.000.000 Euros and was inaugurated in 2009.

