Engineering Structures for Life

BUILDINGS - HOSPITALS

Centre Anti-Cancer

ABOUT

The Centre Anti-Cancer is a project located in Algeria. It is proposed to be constructed in the cities of Constantine and Oran. The new oncological hospitals have a covered area of 15.000 m^2, divided by 5 floors.

Structural solution

The structural solution adopted included the flat slab system. The benefits of using in-situ concrete flat slab system, considering the overall construction and operation process, comprises the simplification of the technical facilities installation, the reduction of the construction time and finally the future operation flexibility, allowing the occupier to easily alter the technical facilities layouts to accommodate changes in the use. This flexibility, especially relevant in hospital facilities, has been a result of the following design options: the use of a square grid (or near-square grid), the no existence of beams, downstands or drops.

Being an oncology hospital the project includes radiotherapy facilities. A series of bunker structures are designed to ensure a higher degree of radiation protection at points of maximum radiation. The bunkers are made of cast in situ reinforced concrete with wall thickness varying between 1,0 and 2,0 m. The roof slab varies in thickness between 1,0 and 2,0 m.

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FACTS

Year: 2014
Client: Andrade Gutierrez
Services: Preliminary design, Structural Engineering, Foundations design, Geological and geotechnical studies

TEAM

LOCATION

Oran and Constantine, Algeria