

Fuenlabrada Hospital

The Fuenlabrada Hospital has a surface area of 159.50 x 12300m on plan. From the beginning of the project, a pre-cast structure with rigid nodes and no expansion joints was considered.

The basic structure consists of frames with spans of 5.0m to 7.50m in one direction, and pre-cast slabs in the other. The frames are composed of 0.3 x 0.3m pre-cast columns which are installed in one piece and go throughout the six floors of the building. Afterwards, the pre-cast beams are propped up and the pre-cast hollow slabs placed between them. The concrete is then cast, simultaneously, over the upper layer of the slabs, the upper part of the beam and the column-beam joints,

offering a completely monolithic result. Designed without joints, the structure is anchored to the vertical circulation cores in order to prevent the effects caused by horizontal loads and weather-conditioned shrinkage. Although, initially, these cores were meant to be pre-cast elements, they were finally built in-situ. The building also contains several pre-cast footbridges.

This construction project is a fine example of how to achieve a highly modular building using non-standard pre-cast elements and at the same time, optimizing the construction period whilst taking advantage of the highest quality, industrialized construction may offer.



Spain /2004 Project data

Structural Type:
Pre-cast reinforced concrete
structure with rigid nodes
Location:
Fuenlabrada (Madrid)
Opening date:
2004
Proprietor:
National Health Service (INSALUD)
Architects:
Andrés Perea Ortega and
Luis González Sterling
Building Contractor:
ACS Proyectos Obras y
Construcciones - NECSO.
Scope of Works:
Construction Project and
Technical Assistance for the structure