



Santiago de Compostela Airport. Car Park Building

Santiago de Compostela, Spain / 2011

Structural type
Owner
Client
Constructor
Scope
Architect

composite prefabricated beams and prestressed lattice girder floor slabs
AENA
UTE Lavacolla (Corsan - Tecnología de la Construcción)
isolux corsán (grupo corsán-corvian) y copcisa
detailed design and construction support
Noguerol y Díez Arquitectura



The car park building at Santiago Airport Terminal has surface area dimensions of 325.50m x 92.10m. It is a semi-below grade structure for vehicles, which has 5 basements plus a lower level dedicated to the installations. The spans between columns vary between one direction and another. On axis Y the span is 8.0m or 8.33m and on axis X the span is 8.33m.

The roof level is destined to a Pedestrian Square, a carriageway for fire brigade usage, a drop-off point for vehicles and two rows of columns which support the roof of the Terminal building.

Pedestrian links to the car parks are fulfilled via 8 stairways situated in the central area of the building.

Due to the heterogeneity of the soil conditions, it has been deemed necessary to employ three different foundation types: with piles in the areas where the load-bearing soil is at great depth, direct foundations set on fill when the competent soil is near grade level or direct foundations upon grade.

The soil retention system is conditioned by the placement of joints in the prefabricated slabs, which do not permit the compensation of thrust between opposing walls. Therefore, the walls have been dimensioned as cantilevers as they are not able to transmit forces to the slabs.

To execute the basement slabs, a system of composite prefabricated beams and pretensed pre-slab slabs has been employed. This solution allows a reduction in the execution time as well as in the self-weight of the slabs. The ground floor slab was fulfilled employing reinforced concrete solid slabs.

Upon the ground floor there is a vehicle dockway which allows the connection over the building between the entrance and exit viaducts. This structure is composed of a series of steel frames which are set apart every 8.33m and have hollow planks placed atop of them.



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