

## Metromar Shopping Centre

The Metromar Shopping Center is located in Mairena del Aljarafe next to Ciudad Expo (the World Fair City) in front of the future Line 1 Metro Station in Seville and the Aljarafe Central Transport Exchange.

The building, situated on a 30,000m<sup>2</sup> plot, consists of 7 storeys, 3 of which are below grade for car parking. The floors above grade are destined to commercial usage, with a supermarket on the ground floor and shopping outlets and a multiplex cinema on the upper floors.

Albeit the size of the building, which could be inscribed in a 175.0m x 85.0m rectangle, it has been constructed with but one expansion joint on its longest side.

Regarding the site excavation, the soil retention was fulfilled by using continuous 0.65m thick diaphragm walls which had up to 3 levels of anchoring. The existence of water along with a marked difference in level on site forced the height of the walling to vary between 14.50m and 25.50m (including embedment).

The foundation unit consisted of a 0.80m thick solid slab.

The structural solution employed for the slabs up to and including the second floor was reinforced concrete solid slabs supported on a column grid layout 7.75m x 7.50m (over most of the surface area) in which the slabs were either 0.28m, 0.30m or 0.35m deep depending on the imposed loads in each area.

The structural solution for the third floor above grade and roof was a steel structure composed of steel beams supported on steel columns. The roof was executed employing a light steel plate upon trusswork except in those areas of heavy machinery in which the slab is composite.

An outstanding feature, worthy of mention, is the steel structure designed for the large canopies which exist on the main façade of the building on the second floor above grade.



Spain /2006  
Project data

Structural Type:  
Anchored diaphragm walls, reinforced concrete solid slabs and steel structure  
Location:  
Mairena del Aljarafe (Seville)  
Opening Date:  
November 2006  
Client:  
L35  
Proprietor:  
Grupo Novaindes  
Scope of Works:  
Construction Project and  
Technical Assistance for the Structure