

Hipódromo de La Zarzuela [Hippodrome of La Zarzuela]

Spain

Avenida del Padre Huidobro s/n. A6 kilómetro 8 Madrid 28023 Madrid

Commission

1934

Completion

1941

Original use

sports/hippodrome

Current use

sports/hippodrome

Architects

Carlos Arniches Moltó, Martín Domínguez Esteban

Engineers

Eduardo Torroja Miret

Others

AGROMAN, building contractor, Sociedad Españo para el Fomento de la Cría Caballar y Patrimonio Nacional

Concrete by reinforcement

Reinforced concrete

Construction method

Cast-in-place concrete, in-situ concrete

Architectural concrete

Architectural concrete

Structural types

Two-dimensional/[cantilever] roof, [suspended] roof, Two-dimensional/folded plate structure

Description

During the Second Spanish Republic, just before the Civil War, a competition was held to replace the old existing horseracing track on Paseo de la Castellana and move it to the Monte de El Pardo. Shortly after construction began, it was interrupted by the military uprising and, later on, the site became a battleground during the fascist siege of the city of Madrid. The architects Carlos Arniches and Martín Domínguez – who had won the competition, together with the engineer Eduardo Torroja – were stripped of their qualifications and could not finish the project. Despite the difficulties in its construction, the racetrack is a masterpiece of 20th-century architecture in Spain. The design mixes abstract and avant-garde language with figurative elements that tie in with tradition. The racetrack is also noteworthy for its delicate landscaping, as well as for the rationality of its programmatic and functional approach, and, it goes without saying, for the beauty and simplicity of the spectacular shade structure over the grandstands. From the time of its opening, the segregation of the different circulations in section generated a new standard for the racetrack typology.

Eduardo Torroja took to the structural calculation of concrete to its limits in the grandstands with their famous section. The stands and roofs (and the betting rooms below them) form a structural system, while at the same time responding to functional and programmatic requirements. The reinforced concrete structure of the roofs is only six centimeters thick at the end of the cantilevers, and it relies on its folded shape to improve its strength and structural performance. Torroja's masterful design is rounded out by a pair of pillars, one working in tension and the other in compression, and a delicate design that ensures the counterweights necessary to balance the structure.

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