Bridges (2B y 3A) for the South Metropolitan Highway Bypass. Bilbao

Vizkaya, Spain / 2006

Owner	Diputación Foral de Bizcaia
Client	Interbiak. Diputación Foral de Bizkaia
Constructor	Saitec
Scope	detailed design and construction support

The reinforced hollow slabs cover a maximum span of 23.0m with maximum depths of 1.15m (L/20) and have been projected as bridges free of supports or expansion joints which therefore greatly reduce the maintenance costs. To do this, the circular shafts are embedded in the deck and the load beams and are founded on micro-piles.

The beam extension has the aim to permit the access of a new branch road to the main A-8 motorway which is located below the existing viaduct. The solution employed has been developed so as to maintain the greatest homogeneity possible with the structure to be extended.

The composite box girders cross maximum spans of 57.0m in the case of ST-3 and 46.75m for ST-7. The minimum depth for the boxes is 1.40m in both steel box solutions and 0.70m for the cantilevered ST-3 and 0.60m for St-7, with 0.25m compression slabs in the first and 0.35m in the latter (depth/span ratios of 1/35 and 1/24 for ST-3 and L/27 and L/27 for St-7). The St-7 has a greater compression slab thickness so as to bear a 13.50m platform (more than 12.0m of vehicular traffic)

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