



Engineering Structures for Life



TRANSPORTS - BRIDGES & VIADUCTS

Abi Bakr As Siddique Road – Pedestrian Bridges

ABOUT

This intervention came within the reprofiling project of the Abi Bakr As Siddique road, one of the main arteries that communicate directly with the old airport, in a length of approximately 12 km.

The project consisted in the development of a solution in steel structure for three elevated walkways, to connect the two sides of the Abi Bakr Siddique road, allowing pedestrians to cross safely, without interrupting the flow of vehicles.

The structural section adopted for all walkways is composed of two steel beams made of welded Z-shaped plates, placed symmetrically on each side of the cross-section. The total height of the beams varies between 2.20m and 1.30m.

The total weight of the steel structures of each walkway is approximately 62 Tons, including the access stairs.

The walkways also feature a slab consisting of a profiled steel sheet and a complementary layer of concrete 50 mm thick. The composite slab has a total thickness of 190 mm and is connected to the Z-beams, thus creating the pedestrian circulation zone. The support columns of the inner spans have an “elliptical tubular” section with approximately 5.90 m height.

A wave-shaped structure, composed of tubular steel sections, is installed on each of the side beams. These elements were assumed to be secondary elements, and their objective is to approximate the aesthetic concept of architecture, also providing support to the shading screens in order to make the passage more comfortable for users.

FACTS

Year: 2018-2019

Client: Martifer

Services: Bridge and Viaduct Engineering

TEAM

LOCATION

Riade, Arábia Saudita