

**G30 AIN ALLAH BRIDGE IN ALGER – 2<sup>nd</sup> SOLUTION**

The bow string bridge for a double carriageway and two side walkways over a 50.00 m span features a horizontal bent of the deck to comply with the Ain Allah crossing layout.

The box section steel arches are laid in two parallel inclined planes so that the relevant horizontal projections practically coincide with the deck edges (the approximation is between an ellipse and a circle).

The suspension bars from the arches are connected to the transverse beams which support three longitudinal girders; the structural steel is of high grade S355, while the bars are of S460 carbon alloy steel.

Prefabricated slabs and cast in situ concrete complete the composite deck section; the walkways are cast in situ in between prefabricated curbs in white concrete.

The concrete abutments are lined with in sight self passivating S355 plates which constitute part of the necessary reinforcement and enhance the bearing position of the arches.

The out of plane instability of the arches is elastically restrained by the suspension bar tension.

The structure is designed to resist the area seismic hazard with a PGA of 0.10g.

Owner: Municipality of Alger

Client: Safet - Torino

Construction firm: ENGOA - Alger

Year: 2005 – 2008

Structures value: 950.000 €

Services supplied: structural conception, complete design and assistance to work supervision



