



EXECUTION STUDY TRAMWAY VIADUCT ERASMUS - 14.045

Program

Studies for the implementation of the steel viaduct, including the mounting by pushing.

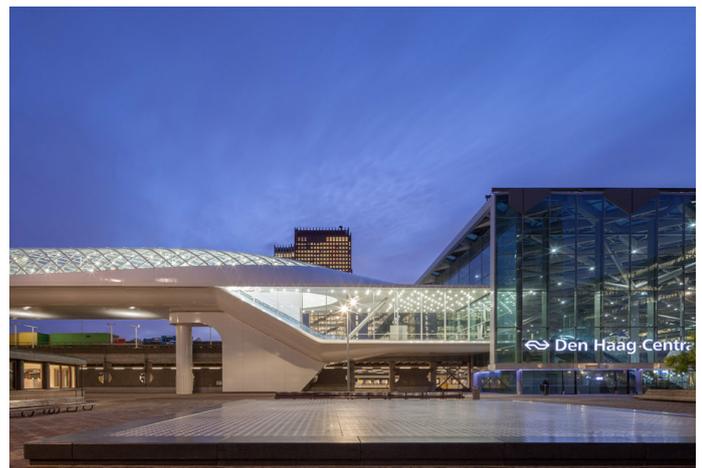
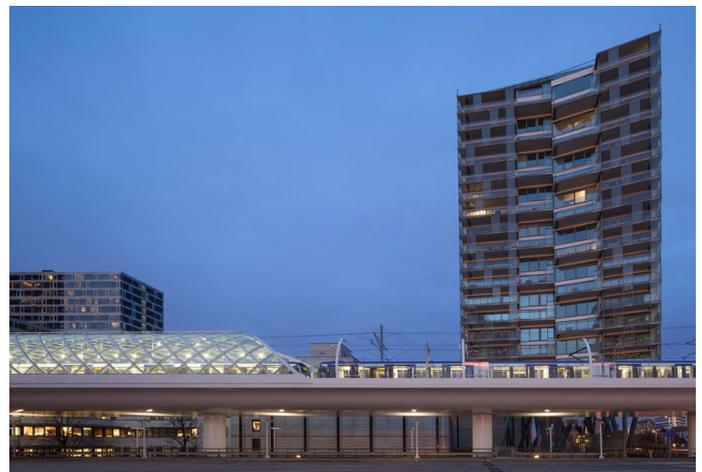
Concept

In the context of the development of the Erasmus line, a rapid tramway connecting Rotterdam and the Hague, a new above-ground station needed to be built alongside the central station of the Hague. The tramway arrives at the station by means of a 323m long viaduct. Ney & Partners was commissioned by the steelwork fabricator Iemants NV to develop the construction plans of the viaduct.

Specific features

The steel framed viaduct has a total length of 323m which is divided into 10 spans of differing lengths (from 22 to 39m). The width of the bridge also varies, from 10.5m at its furthest end to 16.5m at the station. In cross section the bridge is a closed steel box. The form of the upper surface is based on functional requirements whereas the lower edge is curved in order to slim down the edge and accentuate the lightness of the bridge. The total weight of steel is 2600T. The complete structure rests on central circular pillars of 2m diameter and 10m height. The 323m of the viaduct is free of intermediate movement joints, all movements being accommodated at the station end. Each of the pillars is equipped with a pair of bearings that enable them to carry the asymmetric loads of the bridge. In order to limit uplift effects on the bearings the bridge was surcharged with 3,200T of concrete, which was placed in the box section. The railway station at the end of the bridge is covered with a 90m long glazed canopy and system of sliding supports was provided to allow the free movement of the bridge under the canopy. As the bridge was constructed on an urban site part of it was put in place by horizontal jacking.

Study:	2014
Execution:	2015 - 2016
Architect:	Zwarts & Jansma
Client:	Iemants
Site:	Den Haag, The



Netherlands Length: 323 m
Area: 4200 m²
Total budget: 45.000.000 € Vat Excl.
State: Completed
Images credits: Zwarts & Jansma, J. Zeer
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