

Millau Viaduct Mega Structure



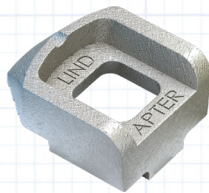
Lindapter Girder Clamps provided a solution for connecting a cable tray system across the length of the bridge.

Project Background

Location: Millau, Aveyron, France

Product: Type A Girder Clamps

Client / Contractor: Eiffage



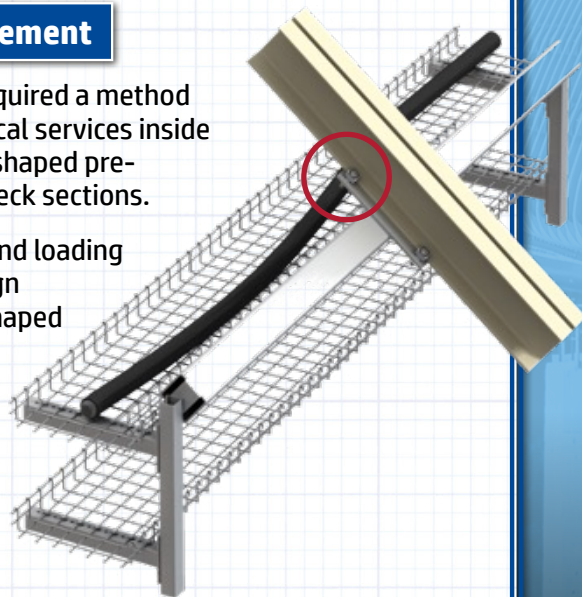
The Millau Viaduct is a multispan cable-stayed bridge completed in 2004 across the gorge valley of the River Tarn, Millau in Southern France. The design team was led by structural engineer and bridge specialist Michel Virlogeux and English architect Norman Foster.

On its completion it was the tallest bridge in the world, having a structural height of 336.4 metres (1,104 ft), and is 2.5km in length.

Client Requirement

The contractor required a method of housing electrical services inside aerodynamically shaped pre-fabricated steel deck sections.

For weight and wind loading reasons, the design incorporated U-shaped wire baskets, framed with hollow section that had to be attached to the bridge's inclined steelwork.



Design Solution

Lindapter worked with the wider project team to design a simple but effective connection solution using Type A Girder Clamps. The proposal included welding steel plates with four pre-drilled holes to the hollow section frame of the cable tray system off-site. Once delivered to site the cable basket frames would then be connected to the flange of the bridge steel channels using Type A girder clamps in a four-bolt configuration.



Installation

Installation was quick and easy as each bolt was simply inserted into the predrilled holes in the steel plates with the Type A on one end and nut on the other. The adjustability of the girder clamps allowed the contractor to align the cable tray system into the exact positions required. To complete the connection the recessed top of the clamp held the bolt captive while the nut was tightened with hand tools to the recommended tightening torque.

Result

The Type A provided fast installation and avoided the costly and dangerous activity of onsite drilling and welding at height. The adjustability of the girder clamps also gave the contractor flexibility to ensure correct alignment of the cable tray system over a distance of 2.5km.

The girder clamps have independent technical accreditations, including the CE mark (ETA-13/0300), TÜV, Lloyd's Register and Dynamic Load approvals. These accreditations verify the tensile and slip load capacities that led to a strong and safe installation.

