

# PRESTRESSED ULTRA-HIGH-PERFORMANCE FIBRE-REINFORCED CONCRETE FOOTBRIDGE

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Keywords: context, architecture, prefabrication, super slim, prestressing, UHP-FRC

## Summary

The regional plan for the Bulle conurbation places special emphasis on soft mobility networks. This footbridge spans the Trême river in a super slim and elegant line, offering walkers and cyclists a new route between the future neighbourhood of Bois de Bouleyres and La Tour-de-Trême. The low arch, spanning 25 metres, has a three-metre deck: ample width for cyclists to pass comfortably in both directions at once. With its trough-shaped section the parapets play a key role in the structure's performance. The use of ultra-high-performance fibre-reinforced concrete (UHP-FRC), combined with prestressing, allows thicknesses to be reduced to the minimum while ensuring optimal durability. As a result the parapets are just ten centimetres thick at the upper edge and twelve at the base. Apertures, aligned with the main stresses, vary in density, length, width and direction from the upper to the lower part of the structure. They visibly express how the structure works, while also optimising the quantity of concrete used. The footbridge was prefabricated in ten equal elements with a single steel formwork. The segments were assembled in the factory, transported to the site in a special convoy and then lifted in place with a crane.

