



Pedestrian bridge over the River Elbe in Hradec Králové

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Abstract

The new bridge over the Elbe River will be a rather unusual structure made of modern materials. The design solution is truly a challenge for the architects, designers and the contractor and requires their close cooperation. In its final static scheme, the structure forms a virtual Vierendeel truss of variable height. The designing of the structure involves the necessity to cope with many complex details, which are often beyond the limits of applicable design standards and regulations. The contractor will use uncommon technologies for construction of the structure. These methods will facilitate the installation process while carrying an ecological aspect.

Keywords: pedestrian bridge, UHPFRC, full locked coil tendons, steel structure, Vierendeel truss, long-term monitoring, construction process, structural analysis

1 Introduction

The new pedestrian bridge in Hradec Králové was designed to connect the centre of the city to the developing area around the congress centre Aldis. The growth of the area was accelerated by the project of the newly built ČSOB offices and the aim of the bridge is to support the further development.

On both banks of the Elbe River run bicycle paths, which provide the access to the area. The main aim of the bridge is to redirect the cyclists and the pedestrians from the nearby bridge on the ring road and to facilitate the transfer between both parts of the city. The construction of the pedestrian bridge shall also provide a desirable access to the ČSOB offices.