

Reference

Extension of a Railway Bridge Riedgrabenweg, Zurich (CH)

Construction of Top Plates (Frame Girders) of a Railway Bridge with Rapid Hardening Concrete (Concretum® Q-FLASH 2h)



The prepared precast concrete unit before completed with the top plates by ready mix concrete (spaces with visible reinforcing steel)

Initial Status

The railway bridge at Riedgrabenweg in Zurich-Oerlikon had to be enlarged. At the same time the rail traffic had to be maintained as long as possible with only few restrictions over the whole construction period. Therefore the bridge deck had to be replaced in two parts, each track at a single weekend. Hence, precast concrete units had been prepared on site. Only the top plates, a kind of frame girders and bearings, were planned to be built and tied positively to the precast bridge decks by ready mix concrete.

Facts

Products:
Q-FLASH 2h

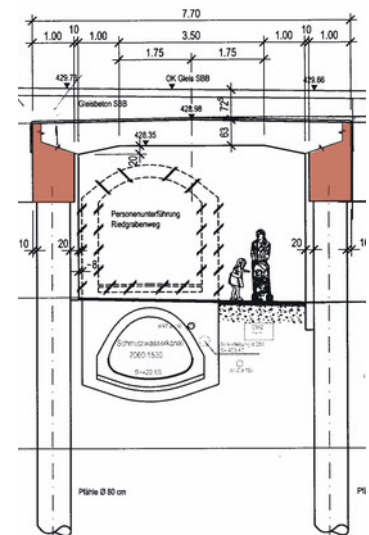
Project duration:
November 2007

Authority:
Municipality Zurich (City of Zurich)

Ready Mix Concrete:
Toggenburger AG,
Winterthur

Building Contractor:
Jak. Scheifele AG, Zürich

Querschnitt 2-2, 1:50



Top plates represented in section (Concretum® Q-FLASH 2h shaded in red)



Solution

Concretum Q-FLASH 2h has been chosen as ready mix concrete. Within the design stage, Concretum Q-FLASH 10h has been discussed too, as 20 N/mm² after ten hours would have been just sufficient to keep the tight construction schedule. But many times in rapid hardening concrete applications, the drying time plays a decisive role, in order to apply a sealant as early as possible. In this case, the sealant had to be applied latest seven hours after casting. This is possible with Q-FLASH 2h only. The fact that 20 N/mm² are reached after only 2 to 3 hours, was not decisive for the choice in this project. But it provided an increased flexibility and a greater buffer in the very tight construction schedule.

