

## Expansion railway station Bern CH

Reinforcement of insufficient reinforcement as a result of planned alterations

### Project

The Bern main station will be greatly expanded in the next few years. As part of this work, a new passenger underpass will be created in the area of track 13/14. This underpass leads under the existing retaining wall next to the track 14. In order to reinforce these for the planned conversion work, the retaining wall was posttensioned externally.

Due to the low quality of the concrete, a previous test was arranged on site to check the force transmission of the anchorages. For this purpose, four anchors were installed close to each other and pressed against each other to test the anchorages individually, as well as in group action.

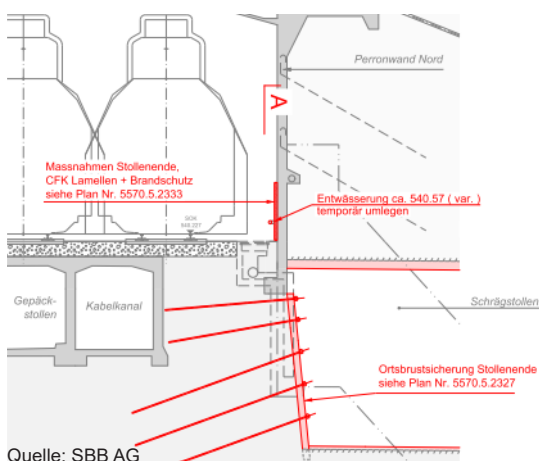


### Solution

**Posttensioning:** The strengthening was done with four StressHead CarboStress tensioning systems; each of them was prestressed with 180kN. Anchorages used for the prestressed systems were the shear pins type III.

**Monitoring:** Two of the lamellas were installed with and two without gluing to verify their preload force after the underpass is built.

**Fire protection:** Due to its location right next to the railway tracks, fire protection with Promat panels was required.



### Facts

Object: SBB Bern, Main station  
 Construction time: March 2018  
 Strengthening system: StressHead-CarboStress  
 Number of systems: 4

### Involved parties

Owner: SBB AG  
 Project manager: **Bern**verbindet  
 Contractor: ARGE Länggasse

### STRESSHEAD AG

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