

Reinforcement with pre-stressed S&P CFK-Laminates

Project: Repair Underground Garage, Coop Kasparstrasse in Bern, Switzerland / BE (CH)

Year: 2014

Solution concept: With pre-stressed S&P CFK-Laminates, as well as concrete bearers, the dilation joints of the parking deck on the third basement level (-3) are coupled using frictional force-transferring connections. To achieve this, max. 2 x 4 laminates are applied onto the upper deck surface, to the left and right of the columns. The low-modulus laminates (E-Modul 170 kN/mm²) are pre-stressed to ca. 14 tons or 6 per mil (‰) using a press, and simultaneously stuck on to the deck using the epoxy-mortar S&P Resin 220. The small installation thickness of the pre-stressed laminates enable its application in the 4cm thick top concrete layer.

Quantities: 44 pre-stressed S&P CFK-Laminates 150/2000 Type 100/1.4 mm, length 4.00 m

Schedule: The application of the pre-stressed CFK-Laminates was carried out in three parts in a total of seven working days.

Images: *a) Setting of anchors for the pre-stressing direction according to template
b) Pre-stressing the laminate with a hydraulic cylinder and a hand-operated press
c) Installation of end anchors / Remove of clamping unit / Cut to length of the laminate
d) Completed pre-stressed laminates*

