

REF-A06

BASEPLATE CONNECTION FOR SD SEALING CAP FOR WATER PROOFING

PROJECT	Bridge 231, Brno Sealing cap for water proofing
LOCATION	Czech Republic
CLIENT	SUPER-CRETE CZECH
DESIGNER	
INSTALLATION	2023



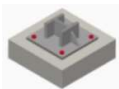
Application	Fixing of waterproof layer
Design std.	EN 1992-4 (post-installed anchors)
Hardware	HIT-RE 500-V4, HIW SD, SafeSet™
Software	PROFIS Engineering (anchor to concrete)
Services	Demonstration, training at jobsite

CHALLENGES

- Waterproofing layer between bridge deck and edge beam
- Optimal overflow, water tightness
- Two scenarios, post-installed rebar and anchor
- Lever arm and moment
- Inversely aligned

HILTI TOTAL SOLUTION

- ✓ Optimised solution with suitable product
- ✓ Safe installation
- ✓ Test conducted by Hilti to check moment value
- ✓ Hilti Plinth Anchoring technology (HPA)


LOAD/ CONDITIONS

Static / Optimal use of chemical

PROJECT HIGHLIGHT


Innovative technology, building confidence by conducting tests

APPLICATION AND REQUIREMENT



Application Details: Waterproofing connection

A waterproofing layer is used between the bridge deck and the edge beam. This results in a unique design scenario: the connection between the two concrete pieces through rebar and an upper part attached to a steel cantilever in the edge beam or acting alone as a headed anchor using a nut at the top.

Optimal overflow, water tightness

The fixing ensures that it penetrates the waterproof layer without compromising its watertightness by using a special plastic disc and overflow of epoxy mortar. The effectiveness of the watertight seal formed by the cured anchor beneath the sealing was validated through tests conducted at the Austrian Highway Institute.

APPROACH TOWARDS SOLUTION



Inverse application to conventional system

The top segment is approached as a pre-cast headed anchor; this setup is inversely aligned compared to conventional baseplates. Hilti introduced an innovative approach named "**Hilti Plinth Anchoring**". The HPA is composed of a threaded rod, available in either carbon steel with Hot Dip Galvanizing (HDG) or A4 stainless steel.

Post-installed anchors and other tools

- Post-installed chemical anchors- **HIT-RE 500-V4** with **HIW SD** plastic sealing
- **RVS 15.04.12** Austrian test method for watertightness under loading. Diameters **M12-M24** certified.
- **SafeSet™** solution battery-powered dispenser, **HDE 500** to ensure precise mortar dosing

THE FINAL OUTCOME



Ongoing anchor installation and finished post-installed connection

