Zeitschrift: IABSE reports = Rapports AIPC = IVBH Berichte
Band: 55 (1987)

Artikel: Sliding without using temporary bridges
Autor: Kuiper, J.C.
DOI: https://doi.org/10.5169/seals-42819

Sliding Without Using Temporary Bridges

Einschieben ohne Hilfsbrücken

Glisser sans ponts provisoires

J.C. KUIPER
Civil Eng.
Dutch Railway Company
Utrecht, The Netherlands

The Dutch Railway Company (NS) developed a new building method for underpasses. This method does not use temporary emergency bridges.

This building method has three advantages:
1) No long-continued slow running.
2) No reservation, planning, renting, maintenance of temporary emergency bridges.
3) Only one "big night's work", instead of two or three nights.

Characteristic of this method is sliding the definite reinforced concrete slab, on sliding beams which are fitted -just in the sliding night- on temporary piles. These piles are driven in in steel casings. These casings are brought in by vibrating, just next to the railway tracks. The casing makes it possible to finish the pile head during (train) operation.

The definite concrete slab ITSELF is used as a kind of temporary bridge, under which the rest of the underpass can be completed.

Sheet-piles (below the tracks combined with horizontal wooden beams) are used to stem the soil during the excavation.

After the bottom slab and the walls are concreted and hardened, the construction is completed by making concrete connections between walls and slab.

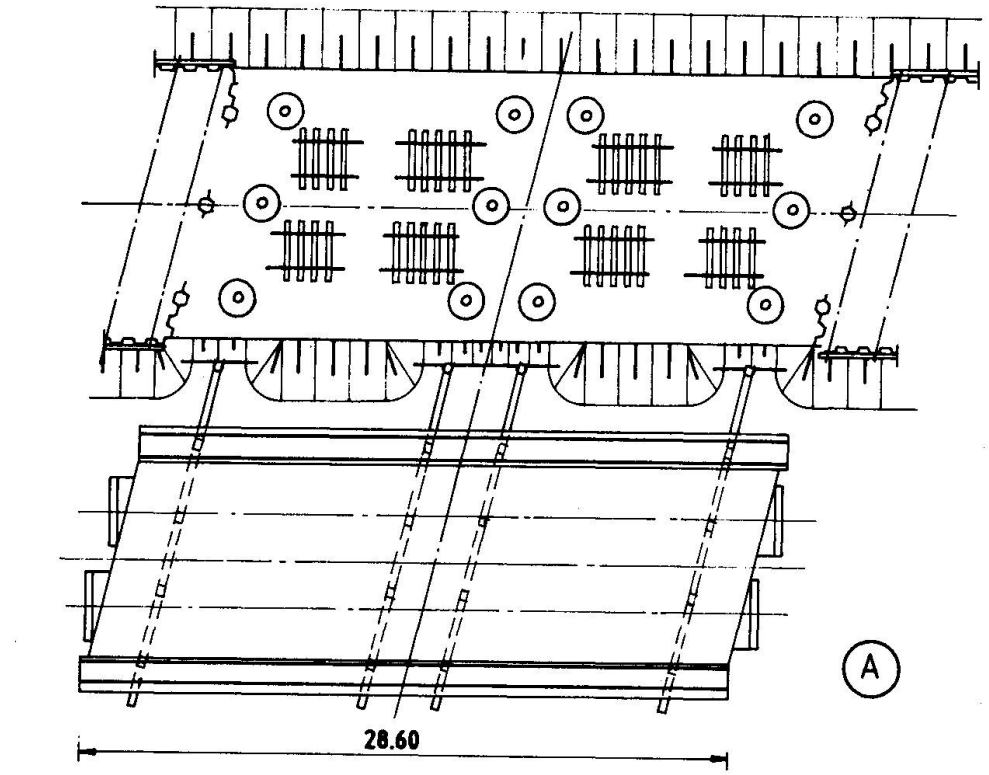
This method has been used several times successfully in the Netherlands for high-ways crossing railways by underpasses.

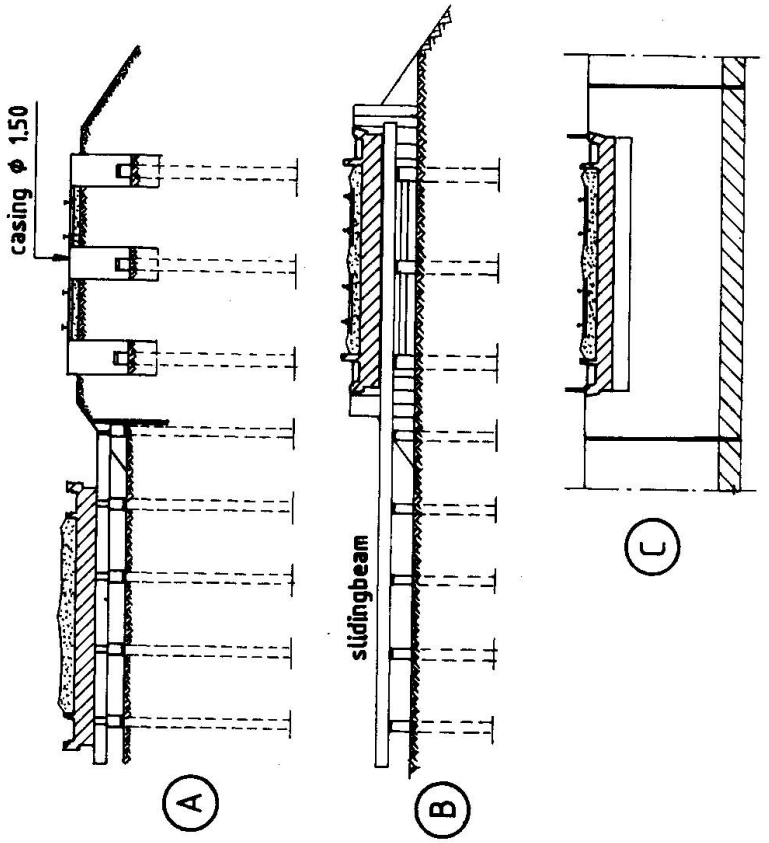
The method is explained in [1] with the help of a practical example. See also next page.

In 1985 the first application of this building method received an honourable mention within the framework of the Dutch "Betonprijs" ("Concrete Award").

REFERENCES

[1] KUIPER J.C., Schuiven zonder hulpbruggen. CEMENT, November 1984





A Situation just before sliding
B Situation after sliding
C Finished construction

SLIDING WITHOUT USING TEMPORARY BRIDGES