Continuous Reinforced Concrete Pavement on Bridges

Ch. Van BEGIN
Civil Eng.
Public Works Ministry, Bridges Office
Brussels, Belgium

Continuous reinforced concrete pavement is widely used in Belgium since 1970. It consists of a 20 cm thick slab lying on an adequate fundation.

The longer the segments are, without transversal joints, the better. It is therefore very useful to pass over the under bridges and to avoid expansion joints.

The problem is important in Belgium because of the high density of the highway network and the short intervals between bridges.

Small frame bridges (10-20 m span) can be overpassed without problem.

More complex is the case of bridges with precast guirders, the pavement lying on the deck slab with a friction interface.

The last evolution is to use the pavement as bridge slab, supported on the superstructure frame by "neopreen" bearings. Steel beams are incorporated in the pavement.

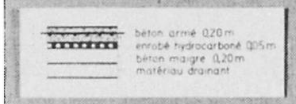
The main problems are :

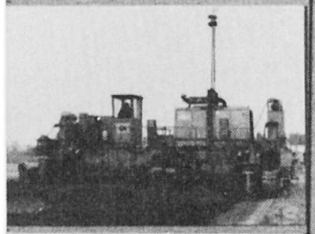
- behaviour of the pavement between the embankments, behind the abutments, and the bridge (differential settling)
- interaction between pavement and bridge deck (deflection, expansion)

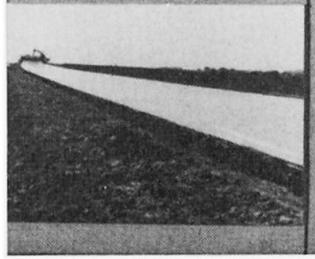
1400 Km continuous reinforced concrete pavement (2 ways) are in service in Belgium. The longest bridge overpassed is 136 m long and the greatest span is 65 m long.

CONTINUOUS REINFORCED CONCRETE PAVEMENT ON BRIDGES

I Revêtement routier en béton armé continu

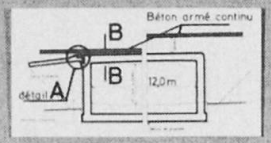




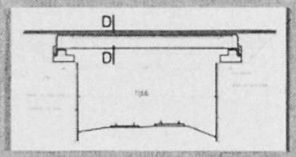


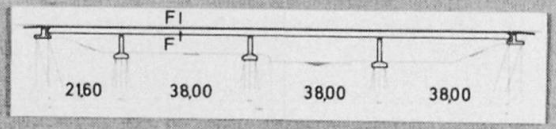
II Le franchissement des ponts

Ponts inférieurs rigides et massifs

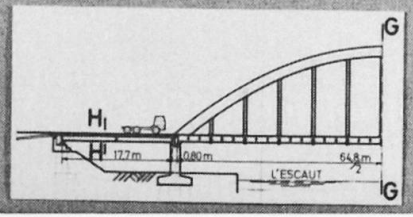


Ponts à poutres et dalle

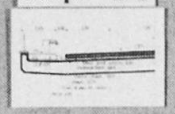




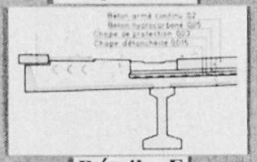
Ponts de grande portée



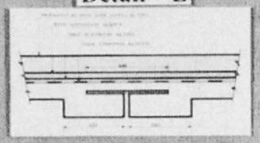
Coupe B-B



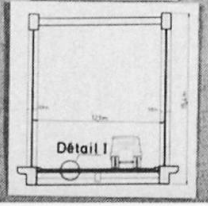
Coupe D-D



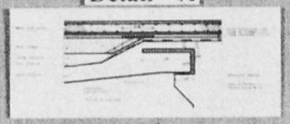
Détail E



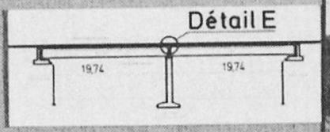
Coupe G-G



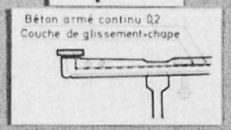
Détail A



Détail E

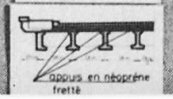


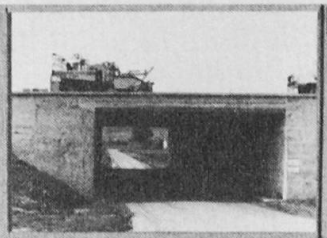
Coupe F-F

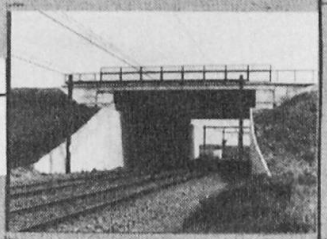


Détail I

Coupe H-H

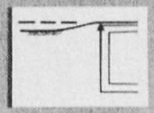






III Particularités, problèmes

Transition remblai-tablier



Interaction revêtement-tablier