

ILM Application in 66m Span PC Continuous Beam

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ABSTRACT

The South Africa MTENTU Bridge project is designed with a total length of 1.13km and it adopts a multi-span prestressed concrete continuous rigid frame box girder structure. The bridge span is arranged as $53.7+5\times 66+150+260+150+2\times 66+53.7\text{m}$, and the whole deck adopts a single-box single-chamber section, with a top width of 16.8m (4 lane dual carriageways and a bottom width of 8.7m). The bridge deck structure is designed with @2.5% slope, the approach road is 19m wide including 2.5m shoulder lanes on each side. The approach spans superstructure is to be constructed by the Incremental Launching method and the main spans constructed by the balance cantilever method.

The 260m middle span ranks the No.6 big span over the world, in the terms of PC continuous rigid frame bridge. The height of main pylon is 148.5m.



The main research topic: ILM applied on 66m span PC Beam without pile foundation

Methodology: Comparative Analysis (Cast-en-situ with Brackets; Formwork Traveller; ILM)

Result: ILM method can applied in 66m span Concrete Beam launching Construction

Conclusion: In the large span concrete box girder bridge, ILM construction method could be used especially in great gorge where the brackets supporting could not be installed. ILM construction method does not require the flat ground and navigation clearance.

Keywords: Bridge Construction, ILM, Large span concrete Beam, PC Box Girder.