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ULTIMATE BEHAVIOUR OF PRESTRESSED CONCRETE SEGMENTAL BOX GIRDER BRIDGES

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ABSTRACT: Deployment of pre-stressed concrete box girder bridges has become increased day by day in highways and railways of the most developed countries including India. The advantages namely fast construction, no disruption at ground level, high controlled quality have made the box girder as best choice for bridges. Especially, the segmental box girder bridges offer easy and fast construction. METRO bridges, elevated highway bridges and sea-links are constructed using segmental box girders. However, there are many parameters need to be studied in detail to understand the ultimate behavior of pre-stressed box girders. They are namely stress increment in tendons, plastic hinge length, ductility and joint behavior of segmental box girder. This paper intends to review critically the ultimate behavior of box girders of both monolithic and segmental types and summarize the issues.

Keywords: Box Girder, Segmental, Cast in Place, Joints, Flexure, Stress in Tendons

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