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**STUDY ON STRUCTURAL BEHAVIOUR OF  
PRESTRESSED CONCRETE SLEEPER**

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## ABSTRACT

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The development of concrete sleeper becomes very important due to increase in train speed and development of the long welded rails. Due to this, it is necessary to increase the weight and the strength of the concrete sleepers to resist track buckling and reduce vibration in ballast.

Modern high speed trains impart considerable amount of impact energy to the track and this also generates high frequency vibrations in the rails. Sleeper should be able to absorb the impact energy and damp vibrations to a considerable extent and transmit the balance safely to the ballast.

At higher speed, the stress component of the Prestressed Concrete Sleeper developed on quasi-static response to dynamic force. This can lead to fairly high tensile stresses in sleepers and problem of concrete sleepers cracking. The investigation under the positive bending moment test will analyse the dynamic load of the Prestressed Concrete Sleeper.

The report of this experimental project is to make an analysis of the experiment on the structural behaviour of the Prestressed Concrete Sleeper under 3,000,000 and 5,000,000 cycles of dynamic load.

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