

THE EFFECT OF SLEEPER SPACING, AND OF CONSOLIDATION FOLLOWING TAMPING, ON THE VERTICAL DEFORMATION OF TRACK UNDER TRAFFIC.

This report gives an initial comparison of the results of tests measuring the vertical deformation of track in the Track Research Laboratory, Derby. These tests were carried out for track having 500mm, 600mm and 760mm sleeper spacing and for track that had been consolidated by a Plasser VIM 800 Consolidator following tamping.

The conclusions reached are:

- The settlement for all the test conditions and sleeper spacings was found to be dependent on the lift given during maintenance.
- The shape of the 'settlement – number of load cycles' relationship appears to be unique and is independent of lift or test conditions.
- Considering the total and differential settlement, the 500 and 600mm spacings are consistently better than the 760mm spacing. It appears that for the 760mm spacing, the consolidator gives an improvement but does not reduce settlements to those associated with the closer sleeper spacings.
- The differential settlement is greatly influenced by the presence of the rail. The wave shapes demonstrated in the report further substantiate this interaction.