

THE EFFECT OF AXLE LOAD ON THE VERTICAL SETTLEMENT OF TRACK

The report discusses tests carried out to investigate the effect of axle load on track settlement, using the Rolling Rig Load, in the Track Research Laboratory, Derby. Outlined in the report is a summary of the tests carried out, which details the test data and procedures.

It is concluded that:

- Total settlement is proportional to axle load for axle loads between 10 and 30 tonnes for lifts (produced by tamping) of between 10 and 15mm.
- By reducing axle load from 23 to 10 tonnes, a reduction in total settlement of at least 50% can be achieved.
- Elastic deflection remains nearly constant through out a test and was proportional to axle load for axle loads between 10 and 30 tonnes.
- Sleeper bending increases very rapidly as the axle load is increased above 23 tonnes.