

FUTURE REQUIREMENTS FOR TRACK MAINTENANCE

Traffic loading on the track causes deterioration of the level and line of the track, through differential movement of the ballast support and lateral constraint.

This report is concerned with the vertical loading case and the loss of vertical level which leads to vertical longitudinal profile, cross level, and twist faults. In particular it focuses on vertical longitudinal profile, based on the assumption that if this is corrected for both rails, the majority of the larger cross level faults will also be removed.

The report concludes that:

- Several processes have been identified which can be applied to improve the maintenance of the track.
- Track maintenance by tamping only substantially improves the quality of the track for a short time. For the remainder of the maintenance cycle the quality remains only marginally better than existed prior to maintenance.
- Track quality appears to reach a level where improvement by tamping is equal to the deterioration during the maintenance cycle. However, if the maintenance cycle were reduced, no substantial improvement would be achieved.
- By substantially altering the track conditions by rail bending and overlifting, it may be possible for the track quality to oscillate around a new level and thus achieve the aims of less maintenance in total and better track quality.