REPORT ON EXPERIMENTS CARRIED OUT ON CONCRETE SLEEPERS AT BRAIDWOOD SCR

An earlier report describes experimental work at a site (Abington) on the West Coast Main Line where cracking of concrete sleeper was a major problem. It was found that high impact loads from wheel irregularities could cause strains sufficient to crack the sleeper, and that the distribution of support between and across sleepers affected the level of strain produced. The stiffness of the pad was also a factor.

Changing the rail pads is an expensive operation while tamping is a normal maintenance procedure; it was clearly necessary to decide what action would be of most benefit.

A series of investigations have been carried out to provide more information on two main questions:

- Would tamping with a 50mm lift improve the situation?
- Would a change of rail pad reduce the high strains?

Samples of alternative rail pads were supplied by two manufacturers, Pandrol Ltd and James Walker Ltd.

The report concludes that tamping appears to reduce the chance of a cracking strain in a sleeper. Whilst the Pandrol pad was found to halve the chance of a cracking strain under the rail seat of a sleeper, the James Walker pad did not appear to make any difference.

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