

A STUDY OF THE LATERAL STABILITY OF APT 300 FITTED WITH BT11, BT12 AND BP17 BOGIES

Theoretical calculations show that the performance of Advanced Passenger Train 250, in terms of lateral stability, can be extended to a speed of 300km/h without recourse to major suspension and component changes. This can be realised by restricting the conicity range to 0.05 - 0.15, which could probably be achieved by starting with a coned tyre profile of 1 in 20 (BRP1), and establishing by experiment the mileage between tyre turning to limit the conicity to the desired value.

An adequate lateral stability margin can be achieved with either solid or resilient wheels, providing the latter have a torsional stiffness of not less than 20MNm/rad per wheel.