

DETERMINATION OF THE COOLING RATE OF FREIGHTLINER AXLE MOUNTED DISCS

The braking duty specified for Intercity 225 km/h trains (IC225) on the West Coast Main Line is arduous giving high disc temperatures which would significantly reduce pad, and probably disc, life. R & DD were asked to carry out measurements of cooling rate on Freightliner discs that are similar to discs proposed for IC225. This memorandum reports tests carried out both on the dynamometer at Derby and with discs installed under Lab. Coach 1.

The measured cooling values were lower than initially predicted but the agreement with calculated values was improved after a further investigation of the cooling equations. These improved calculations are included. The agreement achieved should improve the confidence with which the cooling rates of other similar discs can be predicted. The peak service temperatures calculated for the IC225 discs using the measured cooling rates were higher than Lucas Girling's predictions.