

THE WEAR OF RAILWAY DISC BRAKE PADS

As part of a programme concerned with the application of limits of disc brakes, the wear of disc brake pad materials has been studied. Several series of tests on a full scale inertia dynamometer have investigated the effects of initial rotation speed, initial disc temperature, brake torque, and disc design. In addition the wear of different pad formulations has been characterised.

The specific wear of friction disc brake pad materials has been demonstrated to have a primary dependence on the peak temperature at the disc surface. At low speed this temperature is defined by uniform heat generation; at higher speeds (greater than 100 km/h with present day materials) the temperature is defined by that of the localised hot spots.

Interruptions in the rubbing surface of discs have been shown to have significant effects on the wear rate of brake pads.