

FMVSS 105 outlines braking requirements for vehicles braking under level, straight, dry, clean pavement conditions. Requirements for vehicle wet braking as well as parking brake performance on grades are also outlined. Table 4 lists the general categories of tests and the evaluation criteria used to determine brake performance. Specific braking requirements are outlined in the following section.

3.5.1.1 Stopping Distance Requirements. FMVSS 105 outlines a series of tests for brake effectiveness and dictates required stopping distances without wheel lock-up for passenger cars, vehicles (non-passenger cars) with GVWR of less than 8,000 lbs, vehicles weighing between 8,000 and 10,000 lbs, and vehicles with a GVWR of greater than 10,000 lbs. The procedures describe required performance for new brake linings and for burnished linings that have accumulated a specified history of brake performance. Performance requirements for partially disabled brake systems also are outlined.

Appendix A lists the procedures for evaluating braking system stopping distances under "normal" braking duty. The performance under brake fade conditions is determined by measuring the brake pedal force required to stop the vehicle under severe braking conditions.

3.5.1.2 Parking Brake Requirements. The vehicle parking brake must be capable of holding the vehicle stationary for 5 minutes on a grade (30 percent for cars, 20 percent for light trucks and vehicles over 10,000 lbs). This can be accomplished in part by using the transmission to brake the vehicle, provided the parking mechanism in the transmission must be engaged before the ignition key can be removed.

With respect to replacement friction materials, the ability of alternative materials to provide static friction levels sufficient to satisfy these criteria can only be assessed by actual vehicle tests.