§ 1512.10 Requirements for tires.

The manufacturer’s recommended inflation pressure shall be molded into or onto the sidewall of the tire in lettering no less than 3.2 mm (⅜ in.) in height. The statement of recommended inflation pressure shall be in the English language utilizing Arabic numerals. (The following language is suggested to indicate recommended inflation pressure: “Inflate to ___ PSI.”) After inflation to 110 percent of the recommended inflation pressure, the tire shall remain intact on the rim, including while being tested under a load of 2,000 N (450 lbf) in accordance with the rim test, §1512.18(j). Tubular sew-up tires, nonpneumatic tires, and non-molded wired-on tires are exempt from this section.

§ 1512.11 Requirements for wheels.

(a) Spokes. There shall be no missing spokes.

(b) Alignment. The wheel assembly shall be aligned such that no less than 1.6 mm (½₈ in.) clearance exists between the tire and fork or any frame member when the wheel is rotated to any position.

(c) Rims. Rims shall retain the spokes and tire when side-loaded with 2000 N (450 lbf) and tested in accordance with the rim test, §1512.18(j). Sidewalk bicycles need not meet this requirement.

§ 1512.12 Requirements for wheel hubs.

All bicycles (other than sidewalk bicycles) shall meet the following requirements:

(a) Locking devices. Wheels shall be secured to the bicycle frame with a positive lock device. Locking devices on threaded axles shall be tightened to the manufacturer’s specifications.

(1) Rear wheels. There shall be no relative motion between the axle and the frame when a force of 1,780 N (400 lbf) is applied symmetrically to the axle for a period of 30 seconds in the direction of wheel removal.

(2) Front wheels. Locking devices, except quick-release devices, shall withstand application of a torque in the direction of removal of 17 N-m (12.5 ft-lb).

(b) Quick-release devices. Lever-operated quick-release devices shall be adjustable to allow setting the lever position for tightness. Quick-release levers shall be clearly visible to the rider and shall indicate whether the levers are in a locked or unlocked position. Quick-release clamp action shall emboss the frame or fork when locked.

(c) Front hubs. Front hubs not equipped with lever-operated quick-release devices shall have a positive retention feature that shall be tested in accordance with the front hub retention test, §1512.18(j)(3), to assure that when the locking devices are released the wheel will not separate from the fork.

§ 1512.13 Requirements for front fork.

The front fork shall be tested for strength by application of at least 39.5 J (350 in-lb) of energy in accordance with the fork test, §1512.18(k)(1), without visible evidence of fracture. Sidewalk bicycles need not meet this requirement.

§ 1512.14 Requirements for fork and frame assembly.

The fork and frame assembly shall be tested for strength by application of a load of 890 N (200 lbf) or at least 39.5 J