

Weight per axle (weight on drivers divided by number of pairs of driving wheels)	Diameter of wheel center (inches)	Minimum thickness (inches)
Over 45,000 to 50,000 pounds .....	44 and under .....	1½
	Over 44 to 50 .....	1 <sup>9</sup> / <sub>16</sub>
	Over 50 to 56 .....	1 <sup>5</sup> / <sub>8</sub>
	Over 56 to 62 .....	1 <sup>11</sup> / <sub>16</sub>
	Over 62 to 68 .....	1¾
	Over 68 to 74 .....	1 <sup>3</sup> / <sub>4</sub>
	Over 74 .....	1 <sup>7</sup> / <sub>8</sub>
Over 50,000 to 55,000 pounds .....	44 and under .....	1 <sup>9</sup> / <sub>16</sub>
	Over 44 to 50 .....	1 <sup>5</sup> / <sub>8</sub>
	Over 50 to 56 .....	1 <sup>11</sup> / <sub>16</sub>
	Over 56 to 62 .....	1¾
	Over 62 to 68 .....	1 <sup>3</sup> / <sub>4</sub>
	Over 68 to 74 .....	1 <sup>7</sup> / <sub>8</sub>
	Over 74 .....	1 <sup>5</sup> / <sub>8</sub>
Over 55,000 pounds .....	44 and under .....	1 <sup>5</sup> / <sub>8</sub>
	Over 44 to 50 .....	1 <sup>11</sup> / <sub>16</sub>
	Over 50 to 56 .....	1¾
	Over 56 to 62 .....	1 <sup>3</sup> / <sub>4</sub>
	Over 62 to 68 .....	1 <sup>7</sup> / <sub>8</sub>
	Over 68 to 74 .....	1 <sup>5</sup> / <sub>8</sub>
	Over 74 .....	2

(e) *Tire width.* Flanged tires shall be no less than 5½ inches wide for standard gage and no less than 5 inches wide for narrow gage. Plain tires shall be no less than 6 inches wide for standard gage and no less than 5½ inches wide for narrow gage.

**§ 230.113 Wheels and tire defects.**

Steam locomotive and tender wheels or tires developing any of the defects listed in this section shall be removed from service immediately and repaired. Except as provided in § 230.114, welding on wheels and tires is prohibited. A wheel that has been welded is a welded wheel for the life of the wheel.

(a) *Cracks or breaks.* Wheels and tires may not have a crack or break in the flange, tread, rim, plate, hub or brackets.

(b) *Flat spots.* Wheels and tires may not have a single flat spot that is 2½ inches or more in length, or two adjoining spots that are each two or more inches in length.

(c) *Chipped flange.* Wheels and tires may not have a gouge or chip in the flange that is more than 1½ inches in length and ½ inch in width.

(d) *Broken rims.* Wheels and tires may not have a circumferentially broken rim if the tread, measured from the flange at a point ⅝ inch above the tread, is less than ¾ inches in width.

(e) *Shelled-out spots.* Wheels and tires may not have a shelled-out spot 2½

inches or more in length, or two adjoining spots that are each two or more inches in length, or so numerous as to endanger the safety of the wheel.

(f) *Seams.* Wheels and tires may not have a seam running lengthwise that is within ¾ inches of the flange.

(g) *Worn flanges.* Wheels and tires may not have a flange worn to a 1<sup>5</sup>/<sub>16</sub> inch thickness or less, as measured at a point ⅜ inch above the tread.

(h) *Worn treads.* Wheels and tires may not have a tread worn hollow ⅝ inch or more.

(i) *Flange height.* Wheels and tires may not have a flange height of less than 1 inch nor more than 1½ inches, as measured from the tread to the top of the flange.

(j) *Rim thickness.* Wheels may not have rims less than 1 inch thick.

(k) *Wheel diameter.* Wheels may not have wheel diameter variance, for wheels on the same axle or in the same driving wheel base, greater than ⅜ inch, when all tires are turned or new tires applied to driving and trailing wheels. When a single tire is applied, the diameter must not vary more than ⅜ inch from that of the opposite wheel on the same axle. When a single pair of tires is applied the diameter must be within ⅜ inch of the average diameter of the wheels in the driving wheel base to which they are applied.