

(2) A suitable metal end or side ladder shall be applied to all tanks more than 48 inches in height, measured from the top of end sill, and securely fastened with bolts or rivets.

(f) *Couplers.* Locomotives shall be equipped with automatic couplers at rear of tender and front of locomotive.

§ 231.18 Cars of special construction.

Cars of construction not covered specifically in the foregoing sections in this part, relative to handholds, sill steps, ladders, hand brakes and running boards may be considered as of special construction, but shall have, as nearly as possible, the same complement of handholds, sill steps, ladders, hand brakes, and running boards as are required for cars of the nearest approximate type.

§ 231.19 Definition of "Right" and "Left."

Right or *Left* refers to side of person when facing end or side of car from ground.

§ 231.20 Variation in size permitted.

To provide for the usual inaccuracies of manufacturing and for wear, where sizes of metal are specified, a total variation of 5 percent below size given is permitted.

§ 231.21 Tank cars without underframes.

(a) *Hand brakes*—(1) *Number.* Same as specified for "Box and other house cars" (see § 231.1(a)(1)).

(2) *Dimensions.* Same as specified for "Box and other house cars" (see § 231.1(a)(2)).

(3) *Location.* Each hand brake shall be so located that it can be safely operated while car is in motion. The brake shaft shall be located on end of car to the left of center.

(4) *Manner of application.* Same as specified for "Box and other house cars" (see § 231.1(a)(4)).

(b) *End platforms*—(1) *Number.* Two.

(2) *Dimensions.* Minimum width, ten inches. Minimum thickness, one and three-quarters inches.

(3) *Location.* One on each end extending across car a distance equal to or greater than any other portion of car. Outside edge of end platform shall ex-

tend not less than seven inches beyond bulge of tank head and safety railing.

(4) *Manner of application.* End platforms shall be securely fastened to the draft sills and be sufficiently rigid to prevent sagging.

(c) *Sill steps.* Same as specified for "Box and other house cars" (see § 231.1(d)).

(d) *End platform safety railing*—(1) *Number.* Two.

(2) *Dimensions.* Minimum of seven-eighths inch diameter, wrought iron or steel, or one and one-quarter inch pipe. Minimum clearance, two and one-half inches.

(3) *Location.* One safety railing at each end of car shall extend horizontally across car not less than thirty-six inches nor more than fifty-four inches above end platform and extend downward within three inches of the end of the platform. The safety railing shall be located not more than six inches from the inside edge of the platform.

(4) *Manner of application.* Safety railings shall be supported at center of car and at each end by extending downward at the ends and attaching to the platform.

(e) *Side railing*—(1) *Number.* Two.

(2) *Dimensions.* One and one-quarter inch pipe. Minimum clearance two and one-half inches.

(3) *Location.* One on each side of car, extending from end platform to end platform at a distance of not less than 51 inches from centerline of car, except that where break in side railing is necessary for side ladder or operating cabinet, the side railing shall be securely attached to such ladder and/or cabinet.

(4) *Manner of application.* Safety railings shall be securely attached to end platforms and supported from the car at intervals not exceeding ten feet.

(f) *Side handholds*—(1) *Number.* Four.

(2) *Dimensions.* Same as specified for "Box and other house cars" (see § 231.1(h)(2)).

(3) *Location.* Four horizontal; one on face of end platform end, over sill step, projecting downward or outward. Clearance of outer end of handhold shall be not more than twelve inches from end of car. Vertical portion of end platform safety railing shall be considered as a side vertical handhold.