

required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Tankhead handholds shall be securely fastened.

(f) *Safety railings*—(1) *Number.* One continuous safety railing running around sides and ends of tank, securely fastened to tank or tank bands at ends and sides of tank; or two running full length of tank at sides of cars supported by posts.

(2) *Dimensions.* Not less than three-fourths of an inch, iron.

(3) *Location.* Running full length of tank either at side supported by posts or securely fastened to tank or tank bands, not less than 30 nor more than 60 inches above platform.

(4) *Manner of application.* Safety railings shall be securely fastened to tank body, tank bands, or posts.

(g) *Uncoupling levers.* Same as specified for “Box and other house cars” (see § 231.1(k)).

(h) *End-ladder clearance.* (1) No part of car above end sills within 30 inches from side of car, except buffer block, brake shaft, brake-shaft brackets, brake wheel or uncoupling level shall extend to within 12 inches of a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill, and no other part of end of car or fixtures on same above end sills, other than exceptions noted in this subparagraph, shall extend beyond the outer face of buffer block.

(2) Carriers are not required to make changes to secure additional end-ladder clearance on cars in service July 1, 1911, that have 10 or more inches end-ladder clearance, within 30 inches of side of car, until car is shopped for work amounting to practically rebuilding body of car, at which time they must be made to comply with the standards prescribed.

§ 231.8 Tank cars without side sills and tank cars with short side sills and end platforms.

(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.* (i) Each hand brake shall be so located that it can be safely operated while car is in motion.

(ii) The brake shaft shall be located on end of car to the left of center.

(iii) Carriers are not required to change the brakes from right to left side on steel or steel-underframe cars with platform end sills, in service July 1, 1911, except when such appliances are renewed, at which time they must be made to comply with the standards prescribed.

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

(b) *Running boards*—(1) *Number.* One continuous running board around sides and ends; or two running full length of tank, one on each side.

(2) *Dimensions.* Minimum width on sides, 10 inches. Minimum width on ends, 6 inches.

(3) *Location.* Continuous around sides and ends of cars. On tank cars having end platforms extending to bolsters, running boards shall extend from center to center of bolsters, one on each side.

(4) *Manner of application.* (i) If side running boards are applied below center of tank, outside edge of running boards shall extend not less than 7 inches beyond bulge of tank.

(ii) The running boards at ends of car shall be not less than 6 inches from a point vertically above the inside face of knuckle when closed with coupler horn against the buffer block, end sill or back stop.

(iii) Running boards shall be securely fastened to tank or tank bands.

(c) *Sill steps*—(1) *Number.* Same as specified for “Box and other house cars” (see § 231.1(d)(1)).

(2) *Dimensions.* Same as specified for “Box and other house cars” (see § 231.1(d)(2)).

(3) *Location.* (i) One near each end on each side under side handhold.

(ii) Outside edge of tread of step shall be not more than 4 inches inside of face of side of car, preferably flush with side of car.

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(iii) Tread shall be not more than 24, preferably not more than 22, inches above the top of rail.

(iv) Carriers are not required to change the location of sill steps on cars in service July 1, 1911, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed in said order.

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

(d) *Ladders.* (If running boards are so located as to make ladders necessary.)

(1) *Number.* Two on cars with continuous running boards. Four on cars with side running boards.

(2) *Dimensions.* (i) Minimum clear length of tread, 10 inches. Maximum spacing of treads, 19 inches. Hardwood treads, minimum dimensions, 1½ by 2 inches.

(ii) Wrought iron or steel treads, minimum diameter five-eighths of an inch. Minimum clearance, 2, preferably 2½, inches.

(3) *Location.* On cars with continuous running boards, one at right end of each side. On cars with side running boards, one at each end of each running board.

(4) *Manner of application.* Ladders shall be securely fastened with not less than ½-inch bolts or rivets.

(e) *Side handholds—(1) Number.* Four or more.

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

(3) *Location.* (i) Horizontal, one on face of each side sill near each end on tank cars with short side sills, or one attached to top of running board projecting outward above sill steps or ladders on tank cars without side sills. Clearance of outer end of handhold shall be not more than 12 inches from end of car.

(ii) If side safety railings are attached to tank or tank bands four additional vertical handholds shall be applied, one as nearly as possible over each sill step and securely fastened to tank or tank bands.

(iii) Carriers are not required to change the location of handholds on cars in service July 1, 1911, except end

handholds under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

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

(f) *End handholds—(1) Number.* Four.

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

(3) *Location.* (i) Horizontal, one near each side of each end of car on face of end sill. Clearance of outer end of handhold shall be not more than 16 inches from side of car.

(ii) Carriers are not required to change the location of handholds on cars in service July 1, 1911, except end handholds under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

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

(g) *Tank-head handholds—(1) Number.* Two. (Not required if safety railing runs around ends of tank.)

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clearance, 2, preferably 2½, inches.

(3) *Location.* (i) Horizontal, one across each head of tank not less than 30 nor more than 60 inches above platform on running board. Clear length of handholds shall extend to within 6 inches of outer diameter of tank at point of application.

(ii) Carriers are not required to change the location of handholds on cars in service July 7, 1911, except end handholds under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Tankhead handholds shall be securely fastened.

(h) *Safety railings—(1) Number.* One running around sides and ends of tank or two running full length of tank.

(2) *Dimensions.* Minimum diameter, seven-eighths of an inch, wrought iron or steel. Minimum clearance, 2½ inches.

(3) *Location.* Running full length of tank, not less than 30 nor more than 60 inches above platform or running board.

(4) *Manner of application.* Safety railings shall be securely fastened to tank or tank bands and secured against end shifting.

(i) *Uncoupling levers.* Same as specified for "Box and other house cars" (see § 231.1(k)).

(j) *End-ladder clearance.* (1) No part of car above end sills within 30 inches from side of car, except buffer block, brake shaft, brake-shaft brackets, brake wheel, running boards or uncoupling lever shall extend to within 12 inches of a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill, and no other part of end of car or fixtures on same, above end sills, other than exceptions herein noted, shall extend beyond the outer face of buffer block.

(2) Carriers are not required to make changes to secure additional end-ladder clearance on cars in service July 1, 1911, that have 10 or more inches end-ladder clearance, within 30 inches of side of car, until car is shopped for work amounting to practically rebuilding body of car, at which time they must be made to comply with the standards prescribed.

§ 231.9 Tank cars without end sills.

(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) *Brake step.* Same as specified for "Box and other house cars" (see § 231.1(b)).

(c) *Running boards—(1) Number.* One.

(2) *Dimensions.* Minimum width on sides, 10 inches. Minimum width on ends, 6 inches.

(3) *Location.* Continuous around sides and ends of tank.

(4) *Manner of application.* (i) If running boards are applied below center of tank, outside edge of running boards shall extend not less than 7 inches beyond bulge of tank.

(ii) Running boards at ends of car shall be not less than 6 inches from a point vertically above the inside face of knuckle when closed with coupler horn against the buffer block, end sill or back stop.

(iii) Running boards shall be securely fastened to tank or tank bands.

(d) *Sill steps—(1) Number.* Four. (If tank has high running boards, making ladders necessary, sill steps must meet ladder requirements.)

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

(3) *Location.* (i) One near each end on each side, flush with outside edge of running board as near end of car as practicable.

(ii) Tread not more than 24, preferably not more than 22, inches above the top of rail.

(iii) Carriers are not required to change the location of handholds on cars in service July 1, 1911, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* (i) Steps exceeding 18 inches in depth shall have an additional tread and be laterally braced.

(ii) Sill steps shall be securely fastened with not less than ½-inch bolts with nuts outside (when possible) and, riveted over, or with ½-inch rivets.

(e) *Side handholds—(1) Number.* Four or more.

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

(3) *Location.* (i) *Horizontal,* one near each end on each side of car over sill step on running board, not more than 2