

(m) *Vertical end handholds.* Same as specified for "Box and other house cars" (see §231.1(j)).

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

§231.12 Passenger-train cars with wide vestibules.

(a) *Hand brakes*—(1) *Number.* Each passenger-train car shall be equipped with an efficient hand brake, which shall operate in harmony with the power brake thereon.

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

(b) *Side handholds*—(1) *Number.* Eight.

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, metal. Minimum clear length, 16 inches. Minimum clearance, 1¼, preferably 1½ inches.

(3) *Location.* Vertical, one on each vestibule door post.

(4) *Manner of application.* Side handholds shall be securely fastened with bolts, rivets, or screws.

(c) *End handholds*—(1) *Number.* Four.

(2) *Dimensions.* (i) Minimum diameters, five-eighths of an inch, wrought iron or steel. Minimum clear length, 16 inches. Minimum clearance, 2, preferably 2½ inches.

(ii) Handholds shall be flush with or project not more than 1 inch beyond vestibule face.

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

(4) *Manner of application.* End handholds shall be securely fastened with bolts or rivets. When marker sockets or brackets are located so that they can not be conveniently reached from platforms, suitable steps and handholds shall be provided for men to reach such sockets or brackets.

(d) *Uncoupling levers.* (1) Uncoupling attachments shall be applied so they can be operated by a person standing on the ground.

(2) Minimum length of ground uncoupling attachment, 42 inches, measured from center line of end of car to handle of attachment.

(3) On passenger-train cars used in freight or mixed-train service, the uncoupling attachment shall be so applied that the coupler can be operated from left side of car.

§231.13 Passenger-train cars with open-end platforms.

(a) *Hand brakes*—(1) *Number.* Each passenger-train car shall be equipped with an efficient hand brake, which shall operate in harmony with the power brake thereon.

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

(b) *End handholds*—(1) *Number.* Four.

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 16 inches. Minimum clearance, 2, preferably 2½ inches. Handholds shall be flush with or project not more than 1 inch beyond surface of end sill.

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

(4) *Manner of application.* End-handholds shall be securely fastened with bolts or rivets.

(c) *End-platform handholds*—(1) *Number.* Four. (Cars equipped with safety gates do not require end-platform handholds.)

(2) *Dimensions.* Minimum clearance, 2, preferably 2½ inches, metal.

(3) *Location.* Horizontal from or near door post to a point not more than 12 inches from corner of car, then approximately vertical to a point not more than 6 inches from top of platform. Horizontal portion shall be not less than 24 inches in length nor more than 40 inches above platform.

(4) *Manner of application.* End-platform handholds shall be securely fastened with bolts, rivets, or screws.

(d) *Uncoupling levers.* (1) Uncoupling attachments shall be applied so they can be operated by a person standing on the ground.

(2) Minimum length of ground uncoupling attachment, 42 inches, measured from center of end of car to handle of attachment.

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(3) On passenger-train cars used in freight or mixed-train service the uncoupling attachments shall be so applied that the coupler can be operated from left side of car.

§ 231.14 Passenger-train cars without end platforms.

(a) *Handbrakes*—(1) *Number*. Each passenger-train car shall be equipped with an efficient hand brake which shall operate in harmony with the power brake thereon.

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

(b) *Sill steps*—(1) *Number*. Four.

(2) *Dimensions*. Minimum length of tread, 10, preferably 12, inches. Minimum cross-sectional area, $\frac{1}{2}$ by $1\frac{1}{2}$ inches or equivalent, wrought iron or steel. Minimum clear depth, 8 inches.

(3) *Location*. (i) One near each end on each side not more than 24 inches from corner of car to center of tread of sill step.

(ii) Outside edge of tread of step shall be not more than 2 inches inside of face of side of car.

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

(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 $\frac{1}{2}$ -inch bolts with nuts outside (when possible) and riveted over, or with not less than $\frac{1}{2}$ -inch rivets.

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

(2) *Dimensions*. Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 16, preferably 24, inches. Minimum clearance, 2, preferably $2\frac{1}{2}$, inches.

(3) *Location*. Horizontal or vertical, one near each end on each side of car over sill step.

(i) If horizontal, not less than 24 nor more than 30 inches above center line of coupler.

(ii) If vertical, lower end not less than 18 nor more than 24 inches above center line of coupler.

(4) *Manner of application*. Side handholds shall be securely fastened with bolts, rivets or screws.

(d) *End handholds*—(1) *Number*. Four.

(2) *Dimensions*. Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 16 inches. Minimum clearance, 2, preferably $2\frac{1}{2}$, inches.

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

(4) *Manner of application*. (i) Handholds shall be flush with or project not more than 1 inch beyond face of end sill.

(ii) End handholds shall be securely fastened with bolts or rivets.

(iii) When marker sockets or brackets are located so that they can not be conveniently reached from platforms, suitable steps and handholds shall be provided for men to reach such sockets or brackets.

(e) *End handrails*. (On cars with projecting end sills.)

(1) *Number*. Four.

(2) *Dimensions*. Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clearance, 2, preferably $2\frac{1}{2}$, inches.

(3) *Location*. One on each side of each end, extending horizontally from doorpost or vestibule frame to a point not more than 6 inches from corner of car, then approximately vertical to a point not more than 6 inches from top of platform end sill; horizontal portion shall be not less than 30 nor more than 60 inches above platform end sill.

(4) *Manner of application*. End handrails shall be securely fastened with bolts, rivets or screws.

(f) *Side-door steps*—(1) *Number*. One under each door.

(2) *Dimensions*. Minimum length of tread, 10, preferably 12, inches. Minimum cross-sectional area, $\frac{1}{2}$ by $1\frac{1}{2}$ inches or equivalent, wrought iron or steel. Minimum clear depth, 8 inches.

(3) *Location*. Outside edge of tread of step not more than 2 inches inside of face of side of car. Tread not more than 24, preferably not more than 22, inches above the top of rail.

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