

§ 393.60

and shall have the means for connection of this ABS malfunction circuit to the towing vehicle. In addition, each trailer manufactured on or after March 1, 2001, subject to the requirements of paragraph (c)(2) of this section, that is designed to tow another air-brake equipped trailer shall be capable of transmitting a malfunction signal from the antilock brake system(s) of the trailer(s) it tows to the vehicle in front of the trailer. The ABS malfunction circuit and signal shall meet the requirements of FMVSS No. 121 (49 CFR 571.121, S5.2.3.2).

(e) *Exterior ABS malfunction indicator lamps for trailers.* Each trailer (including a trailer converter dolly) manufactured on or after March 1, 1998 and before March 1, 2009, and subject to the requirements of paragraph (c)(2) of this section, shall be equipped with an ABS malfunction indicator lamp which meets the requirements of FMVSS No. 121 (49 CFR 571.121, S5.2.3.3).

[63 FR 24465, May 4, 1998]

Subpart D—Glazing and Window Construction

§ 393.60 Glazing in specified openings.

(a) *Glazing material.* Glazing material used in windshields, windows, and doors on a motor vehicle manufactured on or after December 25, 1968, shall at a minimum meet the requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 205 in effect on the date of manufacture of the motor vehicle. The glazing material shall be marked in accordance with FMVSS No. 205 (49 CFR 571.205, S6).

(b) *Windshields required.* Each bus, truck and truck-tractor shall be equipped with a windshield. Each windshield or portion of a multi-piece windshield shall be mounted using the full periphery of the glazing material.

(c) *Windshield condition.* With the exception of the conditions listed in paragraphs (c)(1), (c)(2), and (c)(3) of this section, each windshield shall be free of discoloration or damage in the area extending upward from the height of the top of the steering wheel (excluding a 51 mm (2 inch) border at the top of the windshield) and extending from a 25 mm (1 inch) border at each side of the

49 CFR Ch. III (10–1–06 Edition)

windshield or windshield panel. *Exceptions:*

(1) Coloring or tinting which meets the requirements of paragraph (d) of this section;

(2) Any crack that is not intersected by any other cracks;

(3) Any damaged area which can be covered by a disc 19 mm ($\frac{3}{4}$ inch) in diameter if not closer than 76 mm (3 inches) to any other similarly damaged area.

(d) *Coloring or tinting of windshields and windows.* Coloring or tinting of windshields and the windows to the immediate right and left of the driver is allowed, provided the parallel luminous transmittance through the colored or tinted glazing is not less than 70 percent of the light at normal incidence in those portions of the windshield or windows which are marked as having a parallel luminous transmittance of not less than 70 percent. The transmittance restriction does not apply to other windows on the commercial motor vehicle.

(e) *Prohibition on obstructions to the driver's field of view—*(1) *Devices mounted at the top of the windshield.* Antennas, transponders, and similar devices must not be mounted more than 152 mm (6 inches) below the upper edge of the windshield. These devices must be located outside the area swept by the windshield wipers, and outside the driver's sight lines to the road and highway signs and signals.

(2) *Decals and stickers mounted on the windshield.* Commercial Vehicle Safety Alliance (CVSA) inspection decals, and stickers and/or decals required under Federal or State laws may be placed at the bottom or sides of the windshield provided such decals or stickers do not extend more than 115 mm (4½ inches) from the bottom of the windshield and are located outside the area swept by the windshield wipers, and outside the driver's sight lines to the road and highway signs or signals.

[63 FR 1387, Jan. 9, 1998]

§ 393.61 Truck and truck tractor window construction.

Each truck and truck tractor (except trucks engaged in armored car service) shall have at least one window on each side of the driver's compartment. Each window must have a minimum area of

1,290 cm² (200 in²) formed by a rectangle 33 cm by 45 cm (13 inches by 17¾ inches). The maximum radius of the corner arcs shall not exceed 152 mm (6 inches). The long axis of the rectangle shall not make an angle of more than 45 degrees with the surface on which the unladen vehicle stands. If the cab is designed with a folding door or doors or with clear openings where doors or windows are customarily located, no windows shall be required in those locations.

[70 FR 48052, Aug. 15, 2005]

§ 393.62 Emergency exits for buses.

(a) *Buses manufactured on or after September 1, 1994.* Each bus with a GVWR of 4,536 kg (10,000 pounds) or less must meet the emergency exit requirements of FMVSS No. 217 (S5.2.2.3) in effect on the date of manufacture. Each bus with a GVWR of more than 4,536 kg (10,000 pounds) must have emergency exits which meet the applicable emergency exit requirements of FMVSS No. 217 (S5.2.2 or S5.2.3) in effect on the date of manufacture.

(b) *Buses manufactured on or after September 1, 1973, but before September 1, 1994.* (1) Each bus (including a school bus used in interstate commerce for non-school bus operations) with a GVWR of more than 4,536 kg (10,000 lbs) must meet the requirements of FMVSS No. 217, S5.2.2 in effect on the date of manufacture.

(2) Each bus (including a school bus used in interstate commerce for non-school bus operations) with a GVWR of 4,536 kg (10,000 lbs) or less must meet the requirements of FMVSS No. 217, S5.2.2.3 in effect on the date of manufacture.

(c) *Buses manufactured before September 1, 1973.* For each seated passenger space provided, inclusive of the driver there shall be at least 432 cm² (67 square inches) of glazing if such glazing is not contained in a push-out window; or, at least 432 cm² (67 square inches) of free opening resulting from opening of a push-out type window. No area shall be included in this minimum prescribed area unless it will provide an unobstructed opening of at least 1,290 cm² (200 in²) formed by a rectangle 33 cm by 45 cm (13 inches by 17¾ inches). The maximum radius of the corner arcs

shall not exceed 152 mm (6 inches). The long axis of the rectangle shall not make an angle of more than 45 degrees with the surface on which the unladen vehicle stands. The area shall be measured either by removal of the glazing if not of the push-out type, or of the movable sash if of the push-out type. The exit must comply with paragraph (d) of this section. Each side of the bus must have at least 40 percent of emergency exit space required by this paragraph.

(d) *Laminated safety glass/push-out window requirements for buses manufactured before September 1, 1973.* Emergency exit space used to satisfy the requirements of paragraph (c) of this section must have laminated safety glass or push-out windows designed and maintained to yield outward to provide a free opening.

(1) *Safety glass.* Laminated safety glass must meet Test No. 25, Egress, of American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways—Safety Standards ANSI/SAE Z26.1/96, August 1997. (See § 393.7 (b) for information on incorporation by reference and availability of this document.)

(2) *Push-out windows.* Each push-out window shall be releasable by operating no more than two mechanisms and allow manual release of the exit by a single occupant. For mechanisms which require rotary or straight (parallel to the undisturbed exit surface) motions to operate the exit, no more than 89 Newtons (20 pounds) of force shall be required to release the exit. For exits which require a straight motion perpendicular to the undisturbed exit surface, no more than 267 Newtons (60 pounds) shall be required to release the exit.

(e) *Emergency exit identification.* Each bus and each school bus used in interstate commerce for non-school bus operations, manufactured on or after September 1, 1973, shall meet the applicable emergency exit identification or marking requirements of FMVSS No. 217, S5.5, in effect on the date of manufacture. The emergency exits and doors on all buses (including school buses used in interstate commerce for non-school bus operations) must be marked “Emergency Exit” or “Emergency