

§ 25.789

§ 25.789 Retention of items of mass in passenger and crew compartments and galleys.

(a) Means must be provided to prevent each item of mass (that is part of the airplane type design) in a passenger or crew compartment or galley from becoming a hazard by shifting under the appropriate maximum load factors corresponding to the specified flight and ground load conditions, and to the emergency landing conditions of § 25.561(b).

(b) Each interphone restraint system must be designed so that when subjected to the load factors specified in § 25.561(b)(3), the interphone will remain in its stowed position.

[Amdt. 25-32, 37 FR 3969, Feb. 24, 1972, as amended by Amdt. 25-46, 43 FR 50596, Oct. 30, 1978]

§ 25.791 Passenger information signs and placards.

(a) If smoking is to be prohibited, there must be at least one placard so stating that is legible to each person seated in the cabin. If smoking is to be allowed, and if the crew compartment is separated from the passenger compartment, there must be at least one sign notifying when smoking is prohibited. Signs which notify when smoking is prohibited must be operable by a member of the flightcrew and, when illuminated, must be legible under all probable conditions of cabin illumination to each person seated in the cabin.

(b) Signs that notify when seat belts should be fastened and that are installed to comply with the operating rules of this chapter must be operable by a member of the flightcrew and, when illuminated, must be legible under all probable conditions of cabin illumination to each person seated in the cabin.

(c) A placard must be located on or adjacent to the door of each receptacle used for the disposal of flammable waste materials to indicate that use of the receptacle for disposal of cigarettes, etc., is prohibited.

(d) Lavatories must have "No Smoking" or "No Smoking in Lavatory" placards conspicuously located on or adjacent to each side of the entry door.

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(e) Symbols that clearly express the intent of the sign or placard may be used in lieu of letters.

[Amdt. 25-72, 55 FR 29780, July 20, 1990]

§ 25.793 Floor surfaces.

The floor surface of all areas which are likely to become wet in service must have slip resistant properties.

[Amdt. 25-51, 45 FR 7755, Feb. 4, 1980]

§ 25.795 Security considerations.

(a) *Protection of flightcrew compartment.* If a flightdeck door is required by operating rules:

(1) The bulkhead, door, and any other accessible boundary separating the flightcrew compartment from occupied areas must be designed to resist forcible intrusion by unauthorized persons and be capable of withstanding impacts of 300 joules (221.3 foot pounds).

(2) The bulkhead, door, and any other accessible boundary separating the flightcrew compartment from occupied areas must be designed to resist a constant 250 pound (1,113 Newtons) tensile load on accessible handholds, including the doorknob or handle.

(3) The bulkhead, door, and any other boundary separating the flightcrew compartment from any occupied areas must be designed to resist penetration by small arms fire and fragmentation devices to a level equivalent to level IIIa of the National Institute of Justice (NIJ) Standard 0101.04.

(b) Airplanes with a maximum certificated passenger seating capacity of more than 60 persons or a maximum certificated takeoff gross weight of over 100,000 pounds (45,359 Kilograms) must be designed to limit the effects of an explosive or incendiary device as follows:

(1) *Flightdeck smoke protection.* Means must be provided to limit entry of smoke, fumes, and noxious gases into the flightdeck.

(2) *Passenger cabin smoke protection.* Means must be provided to prevent passenger incapacitation in the cabin resulting from smoke, fumes, and noxious gases as represented by the initial combined volumetric concentrations of 0.59% carbon monoxide and 1.23% carbon dioxide.

(3) *Cargo compartment fire suppression.* An extinguishing agent must be capable of suppressing a fire. All cargo-compartment fire suppression systems must be designed to withstand the following effects, including support structure displacements or adjacent materials displacing against the distribution system:

(i) Impact or damage from a 0.5-inch diameter aluminum sphere traveling at 430 feet per second (131.1 meters per second);

(ii) A 15-pound per square-inch (103.4 kPa) pressure load if the projected surface area of the component is greater than 4 square feet. Any single dimension greater than 4 feet (1.22 meters) may be assumed to be 4 feet (1.22 meters) in length; and

(iii) A 6-inch (0.152 meters) displacement, except where limited by the fuselage contour, from a single point force applied anywhere along the distribution system where relative movement between the system and its attachment can occur.

(iv) Paragraphs (b)(3)(i) through (iii) of this section do not apply to components that are redundant and separated in accordance with paragraph (c)(2) of this section or are installed remotely from the cargo compartment.

(c) An airplane with a maximum certificated passenger seating capacity of more than 60 persons or a maximum certificated takeoff gross weight of over 100,000 pounds (45,359 Kilograms) must comply with the following:

(1) *Least risk bomb location.* An airplane must be designed with a designated location where a bomb or other explosive device could be placed to best protect flight-critical structures and systems from damage in the case of detonation.

(2) *Survivability of systems.* (i) Except where impracticable, redundant airplane systems necessary for continued safe flight and landing must be physically separated, at a minimum, by an amount equal to a sphere of diameter

$$D = 2\sqrt{(H_0/\pi)}$$

(where H_0 is defined under § 25.365(e)(2) of this part and D need not exceed 5.05 feet (1.54 meters)). The sphere is applied everywhere within the fuselage—

limited by the forward bulkhead and the aft bulkhead of the passenger cabin and cargo compartment beyond which only one-half the sphere is applied.

(ii) Where compliance with paragraph (c)(2)(i) of this section is impracticable, other design precautions must be taken to maximize the survivability of those systems.

(3) *Interior design to facilitate searches.* Design features must be incorporated that will deter concealment or promote discovery of weapons, explosives, or other objects from a simple inspection in the following areas of the airplane cabin:

(i) Areas above the overhead bins must be designed to prevent objects from being hidden from view in a simple search from the aisle. Designs that prevent concealment of objects with volumes 20 cubic inches and greater satisfy this requirement.

(ii) Toilets must be designed to prevent the passage of solid objects greater than 2.0 inches in diameter.

(iii) Life preservers or their storage locations must be designed so that tampering is evident.

(d) Each chemical oxygen generator or its installation must be designed to be secure from deliberate manipulation by one of the following:

(1) By providing effective resistance to tampering,

(2) By providing an effective combination of resistance to tampering and active tamper-evident features,

(3) By installation in a location or manner whereby any attempt to access the generator would be immediately obvious, or

(4) By a combination of approaches specified in paragraphs (d)(1), (d)(2) and (d)(3) of this section that the Administrator finds provides a secure installation.

(e) *Exceptions.* Airplanes used solely to transport cargo only need to meet the requirements of paragraphs (b)(1), (b)(3), and (c)(2) of this section.

(f) *Material Incorporated by Reference.* You must use National Institute of Justice (NIJ) Standard 0101.04, Ballistic Resistance of Personal Body Armor, June 2001, Revision A, to establish ballistic resistance as required by paragraph (a)(3) of this section.

§ 25.801

(1) The Director of the Federal Register approved the incorporation by reference of this document under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You may review copies of NIJ Standard 0101.04 at the:

(i) National Institute of Justice (NIJ), <http://www.ojp.usdoj.gov/nij>, telephone (202) 307-2942; or

(ii) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

(3) You may obtain copies of NIJ Standard 0101.04 from the National Criminal Justice Reference Service, P.O. Box 6000, Rockville, MD 20849-6000, telephone (800) 851-3420.

[Amdt. 25-127; 121-341, 73 FR 63879, Oct. 28, 2008, as amended at 74 FR 22819, May 15, 2009; Amdt. 25-138, 79 FR 13519, Mar. 11, 2014; Doc. No. FAA-2018-0119, Amdt. 25-145, 83 FR 9169, Mar. 5, 2018]

EMERGENCY PROVISIONS

§ 25.801 Ditching.

(a) If certification with ditching provisions is requested, the airplane must meet the requirements of this section and §§ 25.807(e), 25.1411, and 25.1415(a).

(b) Each practicable design measure, compatible with the general characteristics of the airplane, must be taken to minimize the probability that in an emergency landing on water, the behavior of the airplane would cause immediate injury to the occupants or would make it impossible for them to escape.

(c) The probable behavior of the airplane in a water landing must be investigated by model tests or by comparison with airplanes of similar configuration for which the ditching characteristics are known. Scoops, flaps, projections, and any other factor likely to affect the hydrodynamic characteristics of the airplane, must be considered.

(d) It must be shown that, under reasonably probable water conditions, the flotation time and trim of the airplane will allow the occupants to leave the airplane and enter the liferafts required by § 25.1415. If compliance with this provision is shown by buoyancy and trim computations, appropriate al-

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lowances must be made for probable structural damage and leakage. If the airplane has fuel tanks (with fuel jettisoning provisions) that can reasonably be expected to withstand a ditching without leakage, the jettisonable volume of fuel may be considered as buoyancy volume.

(e) Unless the effects of the collapse of external doors and windows are accounted for in the investigation of the probable behavior of the airplane in a water landing (as prescribed in paragraphs (c) and (d) of this section), the external doors and windows must be designed to withstand the probable maximum local pressures.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-72, 55 FR 29781, July 20, 1990]

§ 25.803 Emergency evacuation.

(a) Each crew and passenger area must have emergency means to allow rapid evacuation in crash landings, with the landing gear extended as well as with the landing gear retracted, considering the possibility of the airplane being on fire.

(b) [Reserved]

(c) For airplanes having a seating capacity of more than 44 passengers, it must be shown that the maximum seating capacity, including the number of crewmembers required by the operating rules for which certification is requested, can be evacuated from the airplane to the ground under simulated emergency conditions within 90 seconds. Compliance with this requirement must be shown by actual demonstration using the test criteria outlined in appendix J of this part unless the Administrator finds that a combination of analysis and testing will provide data equivalent to that which would be obtained by actual demonstration.

(d)-(e) [Reserved]

[Doc. No. 24344, 55 FR 29781, July 20, 1990]

§ 25.807 Emergency exits.

(a) *Type*. For the purpose of this part, the types of exits are defined as follows:

(1) *Type I*. This type is a floor-level exit with a rectangular opening of not less than 24 inches wide by 48 inches