

FAA Regulations Related to Class B Cargo Compartment Fire Protection

14 CFR Part 25 regulations applicable to the design of the 747-200B related to cargo compartment fire protection are listed below. Note that some of these regulations were amended after the versions listed below. Historical and current regulations are available for review online at the Federal Aviation Administration website. § 25.857 is listed first because it establishes the Class B cargo compartment classification.

14 CFR part 25 § 25.857 Cargo compartment classification. (issued 11/3/64)

- (b) Class B. A Class B cargo or baggage compartment is one in which –
- (1) There is sufficient access in flight to enable a crewmember to effectively reach any part of the compartment with the contents of a hand fire extinguisher;
 - (2) When the access provisions are being used, no hazardous quantity of smoke, flames, or extinguishing agent, will enter any compartment occupied by crew or passengers;
 - (3) There is a separate approved smoke detector or fire detector system to give warning at the pilot or flight engineer station; and
 - (4) There is a fire-resistant lining.

14 CFR part 25 § 25.851 Fire extinguishers. (issued 11/3/64)

- (a) Hand fire extinguishers.
- (1) Each hand fire extinguisher must be approved.
 - (2) The types and quantities of each extinguishing agent used must be appropriate to the kinds of fires likely to occur where used.
 - (3) Each extinguisher for use in a personnel compartment must be designed to minimize the hazard of toxic gas concentrations.
 - (4) A readily accessible hand fire extinguisher must be available for use in each Class A or Class B compartment.

14 CFR part 25 § 25.855 Cargo and baggage compartments. (issued 11/3/64)

- (a) Each cargo and baggage compartment (including tie-down equipment) must be constructed of materials that are at least flame resistant.
- (b) No compartment may contain any controls, wiring, lines, equipment, or accessories whose damage or failure would affect safe operation, unless those items are protected so that -

- (1) They cannot be damaged by the movement of cargo in the compartment;
and
 - (2) Their breakage or failure will not create a fire hazard.
- (c) There must be a means to prevent cargo or baggage from interfering with the functioning of the fire-protective features of the compartment.
- (d) Sources of heat within the compartment must be shielded and insulated to prevent igniting the cargo.
- (e) Cargo compartments must meet one of the class requirements of Sec. 25.857. In addition, flight tests must be conducted to show compliance with the provisions of Sec. 25.857 concerning -
- (1) Compartment accessibility;
 - (2) Entry of hazardous quantities of smoke or extinguishing agent into the compartments occupied by the crew or passengers; and
 - (3) The dissipation of the extinguishing agent in Class C compartments.

During these tests, it must be shown that no inadvertent operation of smoke or fire detectors in any compartment would occur as the result of fire contained in any one compartment, either during or after extinguishment, unless the extinguishing system floods each such compartment simultaneously.