

## RELATED REGULATIONS

(most current versions available on Regulatory Guidance Library at FAA website)

Note that the Class D classification has been removed from Sec. 25.857 and Part 121.314 required upgrade of airplanes with Class D cargo compartments.

### **Sec. 25.855 - Cargo or baggage compartments.**

[For each cargo and baggage compartment, the following apply:]

- (a) The compartment must meet one of the class requirements of Sec. 25.857.
- (b) Class B through E cargo or baggage compartments, as defined in Sec. 25.857, must have a liner, and the liner must be separate from (but may be attached to) the airplane structure.
- (c) Ceiling and sidewall liner panels of Class C compartments must meet the test requirements of Part III of Appendix F of this part or other approved equivalent methods.
- (d) All other materials used in the construction of the cargo or baggage compartment must meet the applicable test criteria prescribed in Part I of Appendix F of this part or other approved equivalent methods.
- (e) 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.
- (f) There must be means to prevent cargo or baggage from interfering with the functioning of the fire protective features of the compartment.
- (g) Sources of heat within the compartment must be shielded and insulated to prevent igniting the cargo or baggage.
- (h) Flight tests must be conducted to show compliance with the provisions of Sec. 25.857 concerning--
  - (1) Compartment accessibility,
  - (2) The entries of hazardous quantities of smoke or extinguishing agent into compartments occupied by the crew or passengers, and
  - (3) The dissipation of the extinguishing agent in Class C compartments.
- (i) During the above tests, it must be shown that no inadvertent operation of smoke or fire detectors in any compartment would occur as a result of fire contained in any other compartment, either during or after extinguishment, unless the extinguishing system floods each such compartment simultaneously.

Amdt. 25-116, Eff. 11/26/2004

### **Sec. 25.857 - Cargo compartment classification.**

- (a) *Class A.* A Class A cargo or baggage compartment is one in which--
  - (1) The presence of a fire would be easily discovered by a crewmember while at his station; and

- (2) Each part of the compartment is easily accessible in flight.
- (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 the 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) [Reserved.]
- (c) *Class C.* A Class C cargo or baggage compartment is one not meeting the requirements for either a Class A or B compartment but in which--
- (1) There is a separate approved smoke detector or fire detector system to give warning at the pilot or flight engineer station.
  - [(2) There is an approved built-in fire extinguishing or suppression system controllable from the cockpit.]
  - (3) There are means to exclude hazardous quantities of smoke, flames, or extinguishing agent, from any compartment occupied by the crew or passengers;
  - (4) There are means to control ventilation and drafts within the compartment so that the extinguishing agent used can control any fire that may start within the compartment; and
  - (5) [Reserved.]
- [(d) [Reserved.]]
- (e) *Class E.* A Class E cargo compartment is one on airplanes used only for the carriage of cargo and in which--
- (1) [Reserved]
  - (2) There is a separate approved smoke or fire detector system to give warning at the pilot or flight engineer station;
  - (3) There are means to shut off the ventilating airflow to, or within, the compartment, and the controls for these means are accessible to the flight crew in the crew compartment;
  - (4) There are means to exclude hazardous quantities of smoke, flames, or noxious gases, from the flight crew compartment; and
  - (5) The required crew emergency exits are accessible under any cargo loading condition.

Amdt. 25-93, Eff. 3/19/98

### **Sec. 25.858 - Cargo [or baggage compartment smoke or fire detection systems.]**

[If certification with cargo or baggage compartment smoke or fire detection provisions is requested, the following must be met for each cargo or baggage compartment with those provisions:]

- (a) The detection system must provide a visual indication to the flight crew within one minute after the start of a fire.

(b) The system must be capable of detecting a fire at a temperature significantly below that at which the structural integrity of the airplane is substantially decreased.

(c) There must be means to allow the crew to check in flight, the functioning of each fire detector circuit.

(d) The effectiveness of the detection system must be shown for all approved operating configurations and conditions.

Amdt. 25-93, Eff. 3/19/98

### **Sec. 25.1439 - Protective breathing equipment.**

[(a) Fixed (stationary, or built in) protective breathing equipment must be installed for the use of the flightcrew, and at least one portable protective breathing equipment shall be located at or near the flight deck for use by a flight crewmember. In addition, portable protective breathing equipment must be installed for the use of appropriate crewmembers for fighting fires in compartments accessible in flight other than the flight deck. This includes isolated compartments and upper and lower lobe galleys, in which crewmember occupancy is permitted during flight. Equipment must be installed for the maximum number of crewmembers expected to be in the area during any operation.

(b) For protective breathing equipment required by paragraph (a) of this section or by the applicable Operating Regulations:

(1) The equipment must be designed to protect the appropriate crewmember from smoke, carbon dioxide, and other harmful gases while on flight deck duty or while combating fires.

(2) The equipment must include--

(i) Masks covering the eyes, nose and mouth, or

(ii) Masks covering the nose and mouth, plus accessory equipment to cover the eyes.

(3) Equipment, including portable equipment, must allow communication with other crewmembers while in use. Equipment available at flightcrew assigned duty stations must also enable the flightcrew to use radio equipment.

(4) The part of the equipment protecting the eyes shall not cause any appreciable adverse effect on vision and must allow corrective glasses to be worn.

(5) The equipment must supply protective oxygen of 15 minutes duration per crewmember at a pressure altitude of 8,000 feet with a respiratory minute volume of 30 liters per minute BTPD. The equipment and system must be designed to prevent any inward leakage to the inside of the device and prevent any outward leakage causing significant increase in the oxygen content of the local ambient atmosphere. If a demand oxygen system is used, a supply of 300 liters of free oxygen at 70[deg] F. and 760 mm. Hg. pressure is considered to be of 15-minute duration at the prescribed altitude and minute volume. If a continuous flow open circuit protective breathing system is used, a flow rate of 60 liters per minute at 8,000 feet (45 liters per minute at sea level) and a supply of 600 liters of free

oxygen at 70[deg] F. and 760 mm. Hg. pressure is considered to be of 15-minute duration at the prescribed altitude and minute volume. Continuous flow systems must not increase the ambient oxygen content of the local atmosphere above that of demand systems. BTPD refers to body temperature conditions (that is, 37[deg] C., at ambient pressure, dry).

(6) The equipment must meet the requirements of Sec. 25.1441. ]

Amdt. 25-115, Eff. 8/2/2004

## **Sec. 121.314 - Cargo and baggage compartments.**

For each transport category airplane type certificated after January 1, 1958:

(a) Each Class C or Class D compartment, as defined in Sec. 25.857 of this Chapter in effect on June 16, 1986 (see Appendix L to this part), that is greater than 200 cubic feet in volume must have ceiling and sidewall liner panels which are constructed of:

(1) Glass fiber reinforced resin;

(2) Materials which meet the test requirements of part 25, appendix F, part III of this chapter; or

(3) In the case of liner installations approved prior to March 20, 1989, aluminum.

(b) For compliance with paragraph (a) of this section, the term "liner" includes any design feature, such as a joint or fastener, which would affect the capability of the liner to safely contain a fire.

(c) After March 19, 2001, each Class D compartment, regardless of volume, must meet the standards of Secs. 25.857(c) and 25.858 of this Chapter for a Class C compartment unless the operation is an all-cargo operation in which case each Class D compartment may meet the standards in Sec. 25.857(e) for a Class E compartment.

(d) *Reports of conversions and retrofits.*

(1) Until such time as all Class D compartments in aircraft operated under this part by the certificate have been converted or retrofitted with appropriate detection and suppression systems, each certificate holder must submit written progress reports to the FAA that contain the information specified below.

(i) The serial number of each airplane listed in the operations specifications issued to the certificate holder for operation under this part in which all Class D compartments have been converted to Class C or Class E compartments;

(ii) The serial number of each airplane listed in the operations specification issued to the certificate holder for operation under this part, in which all Class D compartments have been retrofitted to meet the fire detection and suppression requirements for Class C or the fire detection requirements for Class E; and

(iii) The serial number of each airplane listed in the operations specifications issued to the certificate holder for operation under this part that has at least one Class D compartment that has not been converted or retrofitted.

(2) The written report must be submitted to the Certificate Holding District Office by July 1, 1998, and at each three-month interval thereafter.

Amdt. 121-269, Eff. 3/19/98