中国民航大学
Civil Aviation University of China

航空器适航管理

SE42: Airworthiness

中国民航大学
Civil Aviation University of China

CCAR/FAR 25部
C、D分部

适航条款简介

25.303 Factor of Safety

- Unless otherwise specified, a factor of safety of 1.5 must be applied to the prescribed limit loads which are considered external loads on the structure. When a loading condition is prescribed in terms of ultimate loads, a factor of safety need not be applied unless otherwise specified.
- 除非另有规定，当以限制载荷作为结构的外载荷时，必须采用安全系数I.5；当用极限载荷来规定受载情况时，不必采用安全系数。（对）

25.561 General

(c) For equipment, cargo in the passenger compartments and any other large masses, the following apply:

(1) Except as provided in paragraph (c)(2) of this section, these items must be positioned so that if they break loose, they will be unlikely to:

(i) Cause direct injury to occupants;

(ii) Penetrate fuel tanks or lines or cause fire or explosion hazard by damage to adjacent systems; or

(iii) Nullify any of the escape facilities provided for use after an emergency landing.

(2) When such positioning is not practical (e.g. fuselage mounted engines or auxiliary power units) each such item of mass shall be restrained under all loads up to those specified in paragraph (b)(3) of this section. The local attachments for these items should be designed to withstand 1.33 times the specified loads if these items are subject to severe wear and tear through frequent removal (e.g. quick change interior items).

CCAR25-R4中规定的接头系数为1.33。 (错)

(d) Seats and items of mass (and their supporting structure) must not deform under any loads up to those specified in paragraph (b)(3) of this section in any manner that would impede subsequent rapid evacuation of occupants.

- 3 EASA CS-25对尾翼的抗鸟撞要求是鸟体重量不小于8磅。（错）
- 4波音787对其复合材料机身进行了坠撞试验来表明其具有与金属飞机相同的抗坠撞水平，垂直坠撞速度为30m/s。（错）
- 5航空座椅符合技术标准规定（CTSO）的要求就可以获得装机批准。（错）
- 6驾驶舱门能抵御一定的暴力入侵和子弹穿透。（对）
- 7 CCAR25-R4要求客座量44座以上的飞机，在模拟应急情况下，最大客坐量的乘客在90秒内撤离飞机。（错）
- 8 在只有一条旅客过道的飞机上，过道每侧任何一排的并排座椅数不得大于3。（对）

一、简述客舱安全的范畴和定义。

- 答：
- 客舱安全研究重点关注飞机乘员（乘客和机组成员）的安全和生存力。按照发生安全事件的时间分类，主要包括两个方面，一是飞行中的安全，二是飞机坠撞后乘员的可生存性。
- 飞行中的安全包括防火，湍流影响，释压，和空中紧急医疗四个方面的问题。
- 坠撞后生存力包括坠撞载荷下乘员保护，应急撤离，和坠撞后乘员生存力。

- **二、简述复合材料结构损伤的分类。**
- **答：**
- 类别1：定期检测或有意安排的外场检查可能漏检的允许损伤和允许的制造缺陷。
- 类别2：在规定的检测间隔期间进行定期或定向外场检查能可靠检测出的损伤。
- 类别3：可由没有复合材料检测专业技能的机组或外场维护人员在损伤出现后几个飞行起落后能可靠检出的损伤。

谢谢！