Code of Federal Regulations

This Section of CFR is No Longer Current.

Sec. 25.305

Part 25 AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES	
Subpart C--Structure	General

Sec. 25.305

Strength and deformation.

(a) The structure must be able to support limit loads without detrimental permanent deformation. At any load up to limit loads, the deformation may not interfere with safe operation.
[(b) The structure must be able to support ultimate loads without failure for at least 3 seconds. However, when proof of strength is shown by dynamic tests simulating actual load conditions, the 3-second limit does not apply. Static tests conducted to ultimate load must include the ultimate deflections and ultimate deformation induced by the loading. When analytical methods are used to show compliance with the ultimate load strength requirements, it must be shown that--
(1) The effects of deformation are not significant;
(2) The deformations involved are fully accounted for in the analysis; or
(3) The methods and assumptions used are sufficient to cover the effects of these deformations**.]**
(c) Where structural flexibility is such that any rate of load application likely to occur in the operating conditions might produce transient stresses appreciably higher than those corresponding to static loads, the effects of this rate of application must be considered.
[(d) The dynamic response of the airplane to vertical and lateral continuous turbulence must be taken into account.**]**

Amdt. 25-23, Eff. 5/8/70