§ 31.25 Factor of safety.

(a) Except as specified in paragraphs (b) and (c) of this section, the factor of safety is 1.5.

(b) A factor of safety of at least two may be used if it is shown that the selected factor will preclude failure due to creep or instantaneous rupture from failure of the heater assembly, fuel cell system, gas value system, or maneuvering vent system, or from any single tear in the balloon envelope between tear stoppers:

(1) The maximum vertical velocity attained.

(2) The altitude loss from the point of failure to the point at which maximum vertical velocity is attained.

(3) The altitude required to achieve level flight after corrective action is initiated, with the balloon descending at the maximum vertical velocity determined in paragraph (a)(1) of this section.

§ 31.20 Controllability.

The applicant must show that the balloon is safely controllable and maneuverable during takeoff, ascent, descent, and landing without requiring exceptional piloting skill.

[Amdt. 31–3, 41 FR 55474, Dec. 20, 1976]

Subpart C—Strength Requirements

§ 31.21 Loads.

Strength requirements are specified in terms of limit loads, that are the maximum load to be expected in service, and ultimate loads, that are limit loads multiplied by prescribed factors of safety. Unless otherwise specified, all prescribed loads are limit loads.

§ 31.23 Flight load factor.

In determining limit load, the limit flight load factor must be at least 1.4.

§ 31.25 Factor of safety.

(a) Except as specified in paragraphs (b) and (c) of this section, the factor of safety is 1.5.

(b) A factor of safety of at least two may be used if it is shown that the selected factor will preclude failure due to creep or instantaneous rupture from

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