§ 29.735  
the tire and any part of the structure or systems.  

§ 29.735 Brakes.  
For rotorcraft with wheel-type landing gear, a braking device must be installed that is—  
(a) Controllable by the pilot;  
(b) Usable during power-off landings; and  
(c) Adequate to—  
(1) Counteract any normal unbalanced torque when starting or stopping the rotor; and  
(2) Hold the rotorcraft parked on a 10-degree slope on a dry, smooth pavement.  

§ 29.737 Skis.  
(a) The maximum limit load rating of each ski must equal or exceed the maximum limit load determined under the applicable ground load requirements of this part.  
(b) There must be a stabilizing means to maintain the ski in an appropriate position during flight. This means must have enough strength to withstand the maximum aerodynamic and inertia loads on the ski.  
[FLOATS AND HULLS]

§ 29.751 Main float buoyancy.  
(a) For main floats, the buoyancy necessary to support the maximum weight of the rotorcraft in fresh water must be exceeded by—  
(1) 50 percent, for single floats; and  
(2) 60 percent, for multiple floats.  
(b) Each main float must have enough water-tight compartments so that, with any single main float compartment flooded, the mainfloats will provide a margin of positive stability great enough to minimize the probability of capsizing.  

§ 29.753 Main float design.  
(a) Bag floats. Each bag float must be designed to withstand—  
(1) The maximum pressure differential that might be developed at the maximum altitude for which certification with that float is requested; and  
(2) The vertical loads prescribed in §29.521(a), distributed along the length of the bag over three-quarters of its projected area.  
(b) Rigid floats. Each rigid float must be able to withstand the vertical, horizontal, and side loads prescribed in §29.521. An appropriate load distribution under critical conditions must be used.  

§ 29.755 Hull buoyancy.  
Water-based and amphibian rotorcraft. The hull and auxiliary floats, if used, must have enough watertight compartments so that, with any single compartment of the hull or auxiliary floats flooded, the buoyancy of the hull and auxiliary floats, and wheel tires if used, provides a margin of positive water stability great enough to minimize the probability of capsizing the rotorcraft for the worst combination of wave heights and surface winds for which approval is desired.  
[Amdt. 29-3, 33 FR 967, Jan. 26, 1968; as amended by Amdt. 27-26, 55 FR 8003, Mar. 6, 1990]

§ 29.757 Hull and auxiliary float strength.  
The hull and auxiliary floats if used, must withstand the water loads prescribed by §29.519 with a rational and conservative distribution of local and distributed water pressures over the hull and float bottom.  
[Amdt. 29-3, 33 FR 967, Jan. 26, 1968]  

PERSONNEL AND CARGO  
ACCOMMODATIONS  

§ 29.771 Pilot compartment.  
For each pilot compartment—  
(a) The compartment and its equipment must allow each pilot to perform his duties without unreasonable concentration or fatigue; and  
(b) If there is provision for a second pilot, the rotorcraft must be controllable with equal safety from either
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pilot position. Flight and powerplant controls must be designed to prevent confusion or inadvertent operation when the rotorcraft is piloted from either position;

(c) The vibration and noise characteristics of cockpit appurtenances may not interfere with safe operation;

(d) Inflight leakage of rain or snow that could distract the crew or harm the structure must be prevented.


§ 29.773 Pilot compartment view.

(a) Nonprecipitation conditions. For nonprecipitation conditions, the following apply:

(1) Each pilot compartment must be arranged to give the pilots a sufficiently extensive, clear, and undistorted view for safe operation.

(2) Each pilot compartment must be free of glare and reflection that could interfere with the pilot's view. If certification for night operation is requested, this must be shown by night flight tests.

(b) Precipitation conditions. For precipitation conditions, the following apply:

(1) Each pilot must have a sufficiently extensive view for safe operation—

(i) In heavy rain at forward speeds up to \( V_H \); and

(ii) In the most severe icing condition for which certification is requested.

(2) The first pilot must have a window that—

(i) Is openable under the conditions prescribed in paragraph (b)(1) of this section; and

(ii) Provides the view prescribed in that paragraph.


§ 29.775 Windshields and windows.

Windshields and windows must be made of material that will not break into dangerous fragments.

[Amdt. 29–31, 55 FR 38966, Sept. 21, 1990]

§ 29.777 Cockpit controls.

Cockpit controls must be—

(a) Located to provide convenient operation and to prevent confusion and inadvertent operation; and

(b) Located and arranged with respect to the pilot’s seats so that there is full and unrestricted movement of each control without interference from the cockpit structure or the pilot’s clothing when pilots from 5’2” to 6’0” in height are seated.

§ 29.779 Motion and effect of cockpit controls.

Cockpit controls must be designed so that they operate in accordance with the following movements and actuation:

(a) Flight controls, including the collective pitch control, must operate with a sense of motion which corresponds to the effect on the rotorcraft.

(b) Twist-grip engine power controls must be designed so that, for lefthand operation, the motion of the pilot’s hand is clockwise to increase power when the hand is viewed from the edge containing the index finger. Other engine power controls, excluding the collective control, must operate with a forward motion to increase power.

(c) Normal landing gear controls must operate downward to extend the landing gear.

[Amdt. 29–24, 49 FR 44437, Nov. 6, 1984]

§ 29.783 Doors.

(a) Each closed cabin must have at least one adequate and easily accessible external door.

(b) Each external door must be located, and appropriate operating procedures must be established, to ensure that persons using the door will not be endangered by the rotors, propellers, engine intakes, and exhausts when the operating procedures are used.

(c) There must be means for locking crew and external passenger doors and for preventing their opening in flight inadvertently or as a result of mechanical failure. It must be possible to open external doors from inside and outside the cabin with the rotorcraft on the ground even though persons may be crowded against the door on the inside.