§ 29.1047  Takeoff cooling test procedures.

(a) Category A. For each category A rotorcraft, cooling must be shown during takeoff and subsequent climb as follows:

(1) Each temperature must be stabilized while hovering in ground effect with—
   (i) The power necessary for hovering;
   (ii) The appropriate cowl flap and shutter settings; and
   (iii) The maximum weight.

(2) After the temperatures have stabilized, a climb must be started at the lowest practicable altitude and must be conducted with one engine inoperative.

(3) The operating engines must be at the greatest power for which approval is sought (or at full throttle when above the critical altitude) for the same period as this power is used in determining the takeoff climbout path under § 29.59.

(4) At the end of the time interval prescribed in paragraph (a)(3) of this section, the power must be reduced to maximum continuous power and the climb must be continued for at least five minutes after the occurrence of the highest temperature recorded.

(b) Category B. For each category B rotorcraft, cooling must be shown during takeoff and subsequent climb as follows:

(1) Each temperature must be stabilized while hovering in ground effect with—
   (i) The power necessary for hovering;
   (ii) The appropriate cowl flap and shutter settings; and
   (iii) The maximum weight.

(2) The operating engines must be at the greatest power for which approval is sought (or at full throttle when above the critical altitude) for the same period as this power is used in determining the takeoff climbout path under § 29.59.

(3) At the end of the time interval prescribed in paragraph (b)(3) of this section, the power must be reduced to maximum continuous power and the climb must be continued for at least five minutes after the occurrence of the highest temperature recorded.

§ 29.1049  Hovering cooling test procedures.

The hovering cooling provisions must be shown—

(a) At maximum weight or at the greatest weight at which the rotorcraft can hover (if less), at sea level, with the power required to hover but not more than maximum continuous power, in the ground effect in still air, until at least five minutes after the occurrence of the highest temperature recorded; and

(ii) At least 5 minutes after the occurrence of the highest temperature recorded, if continuous OEI power or maximum continuous power is used.

The speeds must be those used in determining the takeoff flight path under § 29.59.