

(i) For an airplane certified in accordance with §25.1420(a)(1), the pre-existing ice accretion must be based on the icing conditions defined in Appendix C of this part.

(ii) For an airplane certified in accordance with §25.1420(a)(2), the pre-existing ice accretion must be based on the more critical of the icing conditions defined in Appendix C of this part, or the icing conditions defined in part I of this Appendix in which the airplane is capable of safely operating.

(c) *Ice accretions for airplanes certified in accordance with §§25.1420(a)(2) or (3).* For an airplane certified in accordance with §25.1420(a)(2), only the portion of the icing conditions of part I of this Appendix in which the airplane is capable of operating safely must be considered.

(1) *Takeoff ice* is the most critical ice accretion on unprotected surfaces, and any ice accretion on the protected surfaces, occurring between the end of the takeoff distance and 400 feet above the takeoff surface, assuming accretion starts at the end of the takeoff distance in the icing conditions defined in part I of this Appendix.

(2) *Final takeoff ice* is the most critical ice accretion on unprotected surfaces, and any ice accretion on the protected surfaces appropriate to normal ice protection system operation, between 400 feet and either 1,500 feet above the takeoff surface, or the height at which the transition from the takeoff to the en route configuration is completed and V_{FTO} is reached, whichever is higher. Ice accretion is assumed to start at the end of the takeoff distance in the icing conditions defined in part I of this Appendix.

(3) *En route ice* is the most critical ice accretion on the unprotected surfaces, and any ice accretion on the protected surfaces appropriate to normal ice protection system operation, during the en route flight phase in the icing conditions defined in part I of this Appendix.

(4) *Holding ice* is the most critical ice accretion on the unprotected surfaces, and any ice accretion on the protected surfaces appropriate to normal ice protection system operation, resulting from 45 minutes of flight within a cloud with a 17.4 nautical miles horizontal extent in the icing conditions defined in part I of this Appendix, during the holding phase of flight.

(5) *Approach ice* is the ice accretion on the unprotected surfaces, and any ice accretion on the protected surfaces appropriate to normal ice protection system operation, resulting from the more critical of the:

(i) Ice accumulated in the icing conditions defined in part I of this Appendix during a descent from the maximum vertical extent of the icing conditions defined in part I of this Appendix, to 2,000 feet above the landing surface in the cruise configuration, plus transition to the approach configuration and

flying for 15 minutes at 2,000 feet above the landing surface; or

(ii) Holding ice as defined by part II, paragraph (c)(4), of this Appendix.

(6) *Landing ice* is the ice accretion on the unprotected surfaces, and any ice accretion on the protected surfaces appropriate to normal ice protection system operation, resulting from the more critical of the:

(i) Ice accretion defined by part II, paragraph (c)(5)(i), of this Appendix, plus ice accumulated in the icing conditions defined in part I of this Appendix during a descent from 2,000 feet above the landing surface to a height of 200 feet above the landing surface with a transition to the landing configuration, followed by a go-around at the minimum climb gradient required by §25.119, from a height of 200 feet above the landing surface to 2,000 feet above the landing surface, flying for 15 minutes at 2,000 feet above the landing surface in the approach configuration, and a descent to the landing surface (touchdown) in the landing configuration; or

(ii) Holding ice as defined by part II, paragraph (c)(4), of this Appendix.

(7) For both unprotected and protected parts, the ice accretion for the takeoff phase must be determined for the icing conditions defined in part I of this Appendix, using the following assumptions:

(i) The airfoils, control surfaces, and, if applicable, propellers are free from frost, snow, or ice at the start of takeoff;

(ii) The ice accretion starts at the end of the takeoff distance;

(iii) The critical ratio of thrust/power-to-weight;

(iv) Failure of the critical engine occurs at V_{EF} ; and

(v) Crew activation of the ice protection system is in accordance with a normal operating procedure provided in the airplane flight manual, except that after beginning the takeoff roll, it must be assumed that the crew takes no action to activate the ice protection system until the airplane is at least 400 feet above the takeoff surface.

(d) The ice accretion before the ice protection system has been activated and is performing its intended function is the critical ice accretion formed on the unprotected and normally protected surfaces before activation and effective operation of the ice protection system in the icing conditions defined in part I of this Appendix. This ice accretion only applies in showing compliance to §§25.143(j) and 25.207(h).

(e) In order to reduce the number of ice accretions to be considered when demonstrating compliance with the requirements of §25.21(g), any of the ice accretions defined in this Appendix may be used for any other flight phase if it is shown to be at least