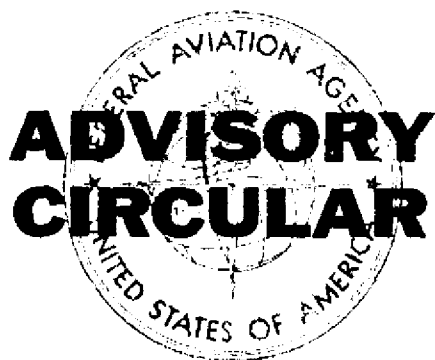


Federal Aviation Agency



AC NO : AC 150/5200-4

AIRPORTS

EFFECTIVE :

12/21/66

SUBJECT : FOAMING OF RUNWAYS

1. PURPOSE. This advisory circular discusses the foaming of runways and suggests procedures to be followed when this service is to be provided.
2. REFERENCE. AC 150/5210-6, Aircraft Fire and Rescue Facilities and Extinguishing Agents.
3. GENERAL.
 - a. Runway foaming may provide a degree of safety when an aircraft is forced to land with malfunctioning landing gear. It cannot be considered a panacea to assure that fire will not occur during landings of this type. It is essential to assure that when this service is provided the fire protection and rescue capability at an airport is not reduced below the minimum requirements suggested in the referenced advisory circular.
 - b. The effectiveness of a foam blanket to suppress a fire is materially reduced when the water content of the blanket is frozen. This condition could also adversely affect aircraft braking action.
 - c. Normally, the maximum effectiveness of the foam blanket can be obtained in from 15 to 60 minutes after the blanket has been laid.
 - d. If this service is to be provided, the Federal Aviation Agency recommends that the airport manager should:
 - (1) Ensure that this service can be provided without lessening the airport's firefighting and rescue potential suggested in the referenced advisory circular. At the majority of airports this may necessitate the modification of existing trucks or the procurement of additional vehicles designed specifically for this purpose. These modifications might include, but not be limited to, the installation of a complete foam producing system, rear-mounted foam dispensing spreader bars or nozzles, and a foam scraper for controlling blanket depth.

- (2) Conduct a time study to determine the actual time necessary to lay the foam blanket required for various types of aircraft emergencies and to recharge the trucks used.
 - (3) Maintain an additional stock of foam concentrate on the airport sufficient to satisfy the runway foaming service requirements. This supply should be over and above that required for firefighting operations.
 - (4) Develop local standard operating procedures which define responsibilities in detail and outline procedures to be followed in laying and removing the foam. These procedures should be made part of the Letter of Agreement between airport management and the FAA control tower where such a facility is operated. A typical procedure should clearly indicate that:
 - (a) This service will be provided only upon request of the aircraft pilot or a responsible official of the company or organization involved.
 - (b) Permission to comply with the request will be granted solely by the airport manager or his representative. Granting of this permission should be influenced by the ability of the airport firefighting unit to lay the requested foam blanket and continue to provide firefighting and rescue protection to other aeronautical operations being simultaneously conducted on the airport.
4. PROCEDURES AND TECHNIQUES. When a pilot requests that a runway be foamed:
- a. Airport management should advise the pilot through the FAA control tower, if in operation, of the time it will be necessary to remain aloft to permit laying the foam blanket and recharging the firefighting trucks used.
 - b. Radio contact should be maintained between the aircraft pilot, the FAA control tower, if in operation, and the officer in charge of firefighting operations. This contact is essential, as the type of emergency will govern the dimensions of the foam blanket and the distance between the threshold and leading edge of the blanket.

c. Prior to the aircraft landing, all firefighting units should be instructed to respond to predetermined locations and follow the operational procedures established for response to and operation at emergency incidents.

5. FOAM BLANKET DIMENSIONS. Table I, Foam Blanket Dimensions, shows the relationship of foam requirements to minimum recommended blanket dimensions for typical transport aircraft. The quantities of water and foam concentrate reflected are based on providing a blanket of foam two inches in depth.

TABLE I. FOAM BLANKET DIMENSIONS

	MALFUNC- TIONING NOSE WHEEL	WHEELS-UP LANDING		
		2-3 ENGINE	4-ENGINE	
		Piston or Jet	Piston	Jet
Width of blanket in feet	10	40	75	75
Length of blanket in feet	1,500	2,000	2,500	3,000
Runway area covered in sq. ft.	15,000	80,000	187,500	225,000
Water required in gals.	1,500	8,000	18,750	22,500
Foam concentrate required in gals.				
3% type	45	240	562	625
6% type	90	480	1,124	1,250
Distance from threshold to leading edge of foam blanket in feet	2,500	1,000	1,000	1,500

6. HOW TO OBTAIN PUBLICATIONS. Copies of the referenced circular and additional copies of this circular, AC 150/5200-4, Foaming of Runways, may be obtained from the Federal Aviation Agency, Distribution Unit, HQ-438, Washington, D.C. 20553.


Airports Service