

Study of designing pavements for light aircraft

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Introduction : According to the Federal Aviation Administration, airport pavements are primarily constructed to provide adequate support for the loads imposed by aircraft using an airport. The Federal Aviation Administration states



that an adequate pavement design produces a firm and stable, all-year, all-weather surface. In order to effectively fulfill these requirements, the pavement must be of such quality and thickness that it will not fail under the loads imposed by the various aircrafts using the airport. It is also vital for the pavement throughout the airport to be durable and long-lasting in order to control operating costs. The pavement chosen must possess sufficient inherent stability to withstand the constant traffic, adverse weather conditions, and other deteriorating influences to a degree that it does not constantly have to be attended to.

Key words : pavements, aircraft, runway etc

Although aircraft landing gears are involved in the design of airport pavement, the Federal Aviation Administration does not specifically prescribe any component of landing gear design. In 1958, the Federal Aviation Administration adopted a policy of limiting maximum Federal participation in airport pavements to a pavement section designed to serve a 350,000 pound aircraft with a DC-S-50 series landing gear configuration. The main intent of this policy was to insure that future aircraft were equipped with landing gears that would not stress the pavements more than the referenced 350,000 pound aircraft.

Since, aircraft manufacturers have accepted and followed the 1958 policy. Even though aircraft gross weights have substantially exceeded 350,000 pounds they still have designed all aircraft landing gear to conform to the policy. This feat has been accomplished by increasing the number and spacing of landing gear wheels. Therefore, even though the policy of 1958 is not exactly the same as it was the year it was adopted, the landing gear stills falls to the responsibility of the aircraft designers and manufactures.

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