DESIGNING AIRFIELD PAVEMENTS TO PREVENT DISTRESSES AND ENHANCE AIRCRAFT SAFETY

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ABSTRACT
The aviation community should consider that all airports be regarded as international once any flight at the most remote airfield in the world may have a foreigner on board. Therefore, the engineer must have a global knowledge of the technologies not only to reduce maintenance costs, that can cause an accident risks, but also to deal with a foreign regulation. This paper aims to discuss permanent deformation and irregularities on asphalt pavements of runways, high-speed exit, taxiways, and aprons. When the pilot use pedals to apply the wheel brakes, all kinetic energy is transferred to the pavement, which can damage the flexible surface resulting on rutting and roughness. Rutted areas accumulate rainwater, more often in tropical regions, and pose hydroplaning hazards. Finally, the longitudinal joint of an asphalt pavement can generate cracking and failure if positioned within the path of landing gear wheels. Hence, this paper presents the causes and the possible ways of avoiding airfield accidents, while still in the design phase.