



机场道面承载力对大型运输机ACN及胎压的要求

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Requirement of ACN and tire press for future large transporter based on allowable load of present airport pavement

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摘要

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摘要 为了使未来的大型运输机尽量与我国现有机场道面能达到的承载力相适应,在调查大量机场道面结构类型、结构层厚度、道面承载强度、所受过的最大胎压的基础上,根据机场道面超载使用的相关规定,从尽量减少机场改造的角度,对未来大型运输机的ACN (Aircraft Classification Number)及胎压提出了建议值.建立了足尺9块道面板三维有限元分析模型,对大型运输机采用建议值以单轮、IL-76飞机以及C-5运输机等不同起落架构型作用下的道面结构响应进行了求解.为了达到尽量少改造有机场的目的,未来大型运输机的ACN在16.1~24.2之间取值以及胎压不高于0.80 MPa比较合理,现有机场道面承载力可保障其在50%以上的机场上正常起降.

关键词: 承载力 道面等级号 飞机等级号 胎压 大型运输机 道面 机场

Abstract: In order to make the future large transporter adapt to allowable load of present airport pavement-s requirement, after a great lot of investigations on pavement structure's type, thickness, allowable load and maximal tire press accepted, advisory value of aircraft classification number(ACN)and tire press of future large aircraft was given. A 3-D finite element model which had nine slabs was established, the mechanical responses of cement concrete pavement was analyzed with advisory ACN and tire press under single wheel and main landing gear of IL-76, C-5. With the aim to reconstruct present airports as little as possible, the ACN between 16.1 and 24.2 and tire press under 0.80 MPa is reasonable for future large transporter. Allowable load of present airport pavement can ensure the future large transporter operate normally on 50 percent of present airports without reconstructing.

Keywords: allowable load PCN(pavement classification number) ACN(aircraft classification number) tire press large transporter pavement airport

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