

**PERENCANAAN TEBAL DAN ANALISIS KEKUATAN LAPIS  
PERKERASAN LENTUR *RUNWAY* BANDAR UDARA YOGYAKARTA  
INTERNATIONAL AIRPORT DENGAN METODE MANUAL FAA,  
PROGRAM KOMPUTER FAARFIELD 1.42 DAN COMFAA 3.0**

**INTISARI**

Bandar Udara Yogyakarta International Airport merupakan bandara baru yang dibangun untuk menyediakan kapasitas yang lebih besar dibanding Bandar Udara Adisutjipto Yogyakarta. Pada tahun 2018, Bandar Udara Adisutjipto Yogyakarta telah melayani 8,4 juta penumpang dan 85 ribu pergerakan pesawat. Melihat pertumbuhan penumpang dan pesawat yang terjadi, PT. Angkasa Pura I (Persero) melakukan peningkatan kapasitas pelayanan kebandarudaraan dengan membangun bandar udara baru yaitu Bandar Udara Yogyakarta International Airport dengan penyediaan fasilitas sisi udara berupa landas pacu (*runway*) dengan panjang 3.250 m x 45 m. Oleh karena itu, untuk mendukung pergerakan pesawat maka struktur perkerasan *runway* perlu dirancang dengan baik. Pada penelitian ini dilakukan analisis mengenai kebutuhan tebal lapis dan kekuatan perkerasan lentur *runway* Bandar Udara Yogyakarta International Airport.

Analisis kebutuhan tebal lapis perkerasan lentur dilakukan dengan metode FAA (*Federation Aviation Administration*) dengan cara manual dan menggunakan program komputer FAARFIELD 1.42. Analisis kekuatan perkerasan *runway* menggunakan metode ACN-PCN pada program komputer COMFAA 3.0.

Berdasarkan hasil analisis, kebutuhan tebal lapis perkerasan lentur *runway* dengan metode manual FAA diperoleh tebal total perkerasan adalah 146 cm, tebal *surface* 12.5 cm, tebal *base course* 52 cm yang terdapat *stabilized base course* sebesar 32.5 cm, dan tebal *subbase course* 81.5 cm. Sedangkan dengan menggunakan program komputer FAARFIELD 1.42 diperoleh tebal total perkerasan adalah 143 cm. Tebal *surface* 10 cm, tebal *base course* 36.5 cm yang terdapat *stabilized base* sebesar 12.5 cm, dan tebal *subbase course* 96.5 cm. Nilai kekuatan perkerasan dengan metode ACN-PCN pada program komputer COMFAA 3.0 diperoleh PCN 180/F/C/W/T dan PCN 114/F/C/W/T.

Kata kunci : FAA, *Runway*, Perkerasan lentur, Metode FAA, Metode ACN-PCN.

***THICKNESS PLANNING AND ANALYSIS STRENGTH OF THE LAYER FLEXIBLE PAVEMENT RUNWAY YOGYAKARTA INTERNATIONAL AIRPORT WITH MANUAL FAA METHOD, FAARFIELD 1.42 AND COMFAA 3.0 SOFTWARE***

***ABSTRACT***

*Yogyakarta International Airport is a new airport that was built to provide a larger capacity than Adisutjipto International Airport Yogyakarta. In 2018, Adisutjipto International Airport Yogyakarta served 8.4 million passengers and 85 thousand aircraft movements. Seeing the growth of passengers and aircraft, PT. Angkasa Pura I (Persero) has increased the capacity of airport services by building a new airport, namely Yogyakarta International Airport by providing air-side facilities in the form of a runway with a length of 3,250 m x 45 m. Therefore, to support aircraft movement, the runway pavement structure needs to be designed properly. In this research, an analysis of the flexible pavement thickness requirements and strength of pavement for the flexible pavement layer of the runway Yogyakarta International Airport was carried out.*

*Analysis of the flexible pavement thickness was carried out by the FAA (Federation Aviation Administration) method manually and using the FAARFIELD 1.42 software. The runway pavement strength analysis used the ACN-PCN method on the COMFAA 3.0 software.*

*Based on the results of the analysis, the need for a flexible pavement thickness runway using the FAA manual method was obtained that the total pavement thickness was 146 cm, the surface thickness was 12.5 cm, the base course thickness was 52 cm, which contained a stabilized base course of 32.5 cm, and the subbase course thickness was 81.5 cm. Meanwhile, using the FAARFIELD 1.42 software, the total thickness of the pavement was 143 cm. The surface thickness is 10 cm, the thickness of the base course is 36.5 cm where there is a stabilized base of 12.5 cm, and the thickness of the subbase course is 96.5 cm. The pavement strength values using the ACN-PCN method in the COMFAA 3.0 software were obtained PCN 180/F/C/W/T and PCN 114 /F/C/W/T*

*Keywords : FAA, runway, flexible pavement, FAA method, ACN-PCN method.*