

## INTISARI

Bandar Udara Internasional Soekarno-Hatta merupakan bandara terbesar dan tersibuk di Indonesia. Pertumbuhan pengguna pesawat terbang dipenuhi PT Angkasa Pura II dengan memperluas Terminal 3 menjadi Terminal 3 Ultimate. Analisis perkerasan kaku Apron Terminal 3 bertujuan untuk mengetahui tebal lapis perkerasan ideal agar konstruksi apron dapat bekerja secara maksimal.

Adapun metode perencanaan yang dipakai adalah metode FAA (*Federal Aviation Administration*). Langkah pertama yang perlu diperhatikan adalah nilai CBR (*California Bearing Ratio*) tanah dasar, penentuan nilai *modulus of subgrade*, pemilihan pesawat rencana, MTOW pesawat, beban satu roda pesawat ( $w_2$ ), keberangkatan terkoreksi ( $R_2$ ), beban satu roda pesawat rencana ( $w_1$ ) dan *equivalent annual departures* pesawat rencana ( $R_1$ ). Analisis perkerasan ini menggunakan pesawat rencana Boeing 777-300ER. Berdasarkan data yang didapatkan, selanjutnya nilai MTOW pesawat rencana, mutu beton, nilai *modulus of subgrade* dan nilai  $R_1$  diplotkan pada kurva FAA sehingga didapatkan tebal perkerasan.

Hasil kajian ini menunjukkan bahwa untuk pesawat rencana Boeing 777-300 ER dibutuhkan tebal perkerasan 71 cm dengan 48 cm lapisan slab beton dan 23 cm lapisan *subbase*. Hasil ini lebih tipis dibandingkan perkerasan apron Terminal 3 Ultimate yaitu sebesar 85 cm dengan 55 cm slab beton dan 30 cm *subbase* (15 cm *cement treated basecourse* dan 15 cm *basecourse*).

Kata kunci : perkerasan, apron, pesawat, bandar udara, Soekarno Hatta.

## ABSTRACT

International Soekarno Hatta Airport is the biggest and busiest airport in Indonesia. The growth of aircraft traffic in the airport made PT Angkasa Pura II expand Terminal 3 become Terminal 3 Ultimate. Analytical of rigid pavement in apron Terminal 3 Ultimate aimed to determine the ideal thickness of rigid pavement, so the apron can be used optimally.

The analysis used FAA (Federal Aviation Administration) method. The first step that need to be considered in the planning was the value of CBR (California Bearing Ratio) on subgrade, defining of the aircraft plan, maximum takeoff weight of aircraft, load wheel of the aircraft (W2), corrected departures (R2), load wheel of the aircraft plan (W1) and equivalent annual departures of aircraft (R1). After all data were obtained, the values of MTOW aircraft plan, flexural strength rigid, modulus of subgrade reaction, equivalent annual departures were plotted on FAA curve to determine the thickness of rigid pavement.

The analysis used Boeing 777-300 ER being aircraft plan, and got the thickness of pavement was 71 cm, which were a layer of rigid (48 cm) and subbase (23 cm). The apron Terminal 3 which was designed by PT Angkasa Pura II has 85 cm thickness. The pavement consist of three layers, the first was rigid (55 cm), the second was cement treated base course (15 cm) and the third was basecourse (15 cm). The pavement was build above soil replacement of compacted sands (60 cm).

Keywords: pavement, apron, aircraft, airport, Soekarno Hatta.