

PENGARUH KADAR AIR LAPISAN *SUB-BASE COURSE* TERHADAP AMBLESAN PERKERASAN *PAVING BLOCK*

Oleh :

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ABSTRAK

Diantara beberapa macam penutup atau pengerasan permukaan tanah, *paving block* memiliki beberapa kelebihan dibandingkan penutup atau pengerasan lainnya. Penelitian mengenai struktur perkerasan *paving block* banyak dilakukan seiring perkembangannya. Indonesia sendiri masih belum banyak dikembangkan penelitian mengenai perilaku *paving block* sebagai bahan perkerasan. Oleh karena itu, peneliti tertarik untuk mengetahui kadar air dapat mempengaruhi *subgrade* pada *paving block*.

Data yang digunakan pada penelitian ini yaitu data primer dan sekunder. Langkah – langkah dalam pengujian Tugas Akhir ini yaitu pencampuran air pada *base coarse* sesuai dengan kadar (%) yang telah ditentukan, penghamparan *base coarse* dan pasir, penataan *paving block* pada alat uji *paving block*, dan yang terakhir pengujian kuat tekan sehingga didapatkan hasil amblesan pada lapisan *base coarse*. Untuk mengetahui pengaruh kadar air dalam menahan gaya vertikal, digunakan sebuah alat uji sederhana yang berukuran 75 x 75 cm² dengan memberi beban gaya menggunakan *hydraulic jack* atau dongkrak hidrolik dari arah vertikal maupun variasi *laying pattern*.

Hasil kuat tekan vertical pada kadar air 0% (*base course* asli dari Brown Canyon) memiliki kuat tekan sebesar 210 kg/cm² atau 3 ton, kadar air 10% memiliki kuat tekan sebesar 200 kg/cm² atau 2,8 ton, kadar air 20% memiliki kuat tekan sebesar 170 kg/cm² atau 2,5 ton dan kadar air 30% memiliki kuat tekan sebesar 140 kg/cm² atau 2 ton. Pada *laying pattern* strecherbond dengan kadar air 0%, 10%, 20%, dan 30% dengan ketebalan 8 cm. *Base course* dengan kadar air 5% mengalami penurunan 3 cm setelah ditekan dengan Vertical creep. Sedangkan pada *base course* 10% mengalami penurunan 4 cm, untuk *base course* 20 % mengalami penurunan 8 cm dan *base course* 30% mengalami penurunan 12 cm. Setiap penambahan kadar air 10% dapat mengalami 4% penurunan pada uji 0% sampe 30%. Semakin banyak kadar air yang tercampur pada tanah maka penurunan pada tanah akan semakin dalam jika di tekan menggunakan *vertical creep* pada *vertical force test* maupun *push in test paving block*.

Kata kunci: *Paving block*, kadar air, penurunan

THE EFFECT OF SUB-BASE COURSE COATING WATER CONTENT ON PAVING BLOCK PAVING SUBSTANCE

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ABSTRACT

Among the various types of covering or surface hardening, paving blocks have several advantages over other coverings or hardenings. Research on the structure of paving block pavements has been carried out along with its development. Indonesia itself has not developed much research on the behavior of paving blocks as a pavement material. Therefore, researchers are interested in knowing the water content can affect the subgrade on paving blocks.

The data used in this study are primary and secondary data. The steps in this final project are mixing water on the base coarse according to the predetermined content (%), spreading the base coarse and sand, arranging the paving blocks on the paving block test equipment, and finally testing the compressive strength so that the results of subsidence are obtained. base coarse layer. To determine the effect of water content in resisting vertical forces, a simple test tool measuring 75 x 75 cm² is used by applying a force load using a hydraulic jack or hydraulic jack from the vertical direction and variations of laying patterns.

The results of vertical compressive strength at 0% water content (original base course from brown canyon) had a compressive strength of 210 kg/cm² or 3 tons, 10% water content had a compressive strength of 200 kg/cm² or 2.8 tons, 20% moisture content has a compressive strength of 170 /cm² or 2.5 tons and 30% water content has a compressive strength of 140 kg/cm² or 2 tons. In laying pattern stretcherbond with moisture content of 0%, 10%, 20%, and 30% with a thickness of 8 cm. Base course with a moisture content of 5% decreased by 3 cm after being pressed with Vertical creep. While the 10% base course experienced a decrease of 4 cm, for the 20% base course there was a decrease of 8 cm and the 30% base course experienced a decrease of 12 cm. Each addition of 10% water content can experience a 4% decrease in the 0% to 30% test. The more water content mixed in the soil, the deeper the soil settlement will be if it is pressed using vertical creep in the vertical force test or push in test paving block.

Keywords : Paving block, water content, deflation