PENGARUH BATU KAPUR SEBAGAI FILLER PADA CAMPURAN LASTON LAPIS AUS (AC-WC)

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ABSTRAK

Penelitian tentang agregat pengganti maupun filler untuk campuran perkerasan lentur telah dilakukan mengingat banyaknya material yang memungkinkan untuk digunakan salah satunya adalah batu kapur. Menggunakan material lain sebagai bahan pengganti memungkinkan mutu perkerasan lentur memiliki stabilitas yang tinggi dan daya tahan yang lama, dapat juga sebaliknya. Pada penelitian ini digunakan campuran laston lapis aus gradasi kasar. Penelitian terkait pengganti agregat perlu dilakukan sebagai bahan evaluasi untuk penguji selanjutnya.

Penelitian bertujuan mengevaluasi pengaruh batu kapur sebagai filler pada campuran laston lapis aus (AC-WC). Penelitian ini menggunakan tiga jenis persentase kadar filler yang berbeda, yaitu 100% abu batu; 50% abu batu dan 50% batu kapur; 100% batu kapur. Metode yang digunakan dalam penelitian yaitu Metode Marshall.

KAO yang diperoleh, yaitu 6,7%. Hasil analisis Marshall pada kadar aspal optimum dari ketiga jenis kadar filler menghasilkan parameter Marshall yang hampir sesuai dengan spesifikasi. Seiring dengan bertambahnya kadar filler batu kapur, nilai stabilitas mengalami penurunan dari 1941,881kg menjadi 1104,898kg. Nilai pelelehan mengalami peningkatan dari 3,817mm pada 100% abu batu menjadi 5,173mm pada batu kapur 100%. Hal tersebut menyebabkan nilai MQ pada 100% batu kapur tidak memenuhi spesifikasi. Nilai VMA mengalami penurunan dari 16,872% menjadi 14,248% pada kadar filler 50% abu batu dan 50% batu kapur, selanjutnya 10,891% adalah yang terendah pada kadar filler 100% batu kapur sehingga tidak memenuhi spesifikasi batas minimum 15%. Variasi kapur yang bagus untuk laston lapis aus hanya sampai pada kadar kapur maksimum 50%.

Kata kunci: Laston Lapis Aus, Abu Batu, Batu Kapur, Bahan Pengisi, Stabilitas, Pelelehan
THE EFFECT OF LIMESTONE AS FILLER MATERIALS IN ASPHALT CONCRETE – WEARING COURSE (AC-WC)

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ABSTRACT

Research on aggregate substitutes or filler for flexible pavement mixture has been done considering the amount of material that makes it possible to use one of them is limestone. Using other materials as substitutes enables flexible pavement quality has high stability and long durability, can also be the opposite. In this study the use of asphalt concrete wearing course coarse gradation. Related research aggregate replacement needs to be done to evaluate candidates for further testing.

The study aims to evaluate the effect of limestone as a substitute in the Asphalt Concrete-Wearing Course (AC-WC). This study used three different percentage levels of filler, including 100% stone dust; 50% stone dust and 50% limestone; 100% limestone. The method used in the study of methods Marshall.

KAO obtained at a percentage of 6.7%. Marshall analysis results in optimum asphalt content of the three types of filler content produces nearly Marshall parameter according to specifications. Along with increasing levels of limestone filler, the value decreased stability of 1941.881kg be 1104.898kg. Values increased from 3.817mm melting at 100% stone dust into limestone 5.173mm at 100%. This caused the value of MQ at 100% limestone does not meet specifications. VMA value decreased from 16.872% to 14.248% at a level of 50% of stone dust filler and 50% limestone, hereinafter 10.891% is the lowest at the rate of 100% limestone filler that does not meet the minimum specification of 15%. Variations lime nice to asphalt concrete wearing course only up to a maximum of 50% limestone content.

Keywords: Asphalt Concrete-Wearing Course, Stone Dust, Limestone, Filler, Stability, Flow
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