PEMANFAATAN LIMBAH BETON K250 DIAMETER 10-15 MM SEBAGAI SUBSTITUSI AGREGAT KASAR PADA CAMPURAN LASTON *ASPHALT CONCRETE -WEARING COURSE* (AC-WC).

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ABSTRAK

Perkembangan transportasi di Indonesia membutuhkan infrastruktur yang memadai, terutama dalam perkerasan jalan yang memengaruhi kualitas jalan secara keseluruhan. Salah satu pendekatan untuk meningkatkan kualitas perkerasan jalan adalah melalui pengembangan teknologi daur ulang. Penelitian ini mengusulkan pemanfaatan limbah beton sebagai substitusi agregat kasar dalam campuran aspal untuk lapisan AC-WC. Material limbah beton yang digunakan adalah mutu beton K250 dengan ukuran 10-15 mm. Penelitian ini menggunakan metode eksperimen di laboratorium PT.Trie Mukty Pertama putra Tasikmalaya. Benda uji disusun dengan variasi limbah beton sebagai substitusi agregat kasar (0%, 15%, 25%, dan 35%) dan diuji menggunakan Marshall Test. Tujuan dibuat 4 jenis campuran dengan kadar yang berbeda adalah agar didapatkan pengaruh limbah beton dan kadar limbah beton optimum yang dapat digunakan sebagai substitusi agregat kasar pada campuran *Asphalt Concrete-Wearing Course* (AC-WC). Hasil yang dididapat dari pengujian karakteristik marshall terhadap berat campuran aspal dengan kadar aspal perkiraan 5%, 5,5%, 6%, 6,5%, dan 7% pada Kadar Aspal optimum dengan Variasi 0% *(standart)* mendapat KAO sebesar 5,3%, variasi 15% mendapat KAO sebesar 5,3%, variasi 25% mendapat KAO sebesar 5,4%, dan pada variasi 35% mendapat KAO sebesar 5,6%. Dan hasil Benda uji Kadar Aspal Optimum (KAO) terhadap parameter marshall semua hasil nilai Karakteristik marshal Memenuhi persyaratan. Dengan ini semua nilai parameter Marshall setiap variasi limbah beton sebagai substitusi agregat kasar tersebut memenuhi dengan persyaratan yang ditentukan oleh Spesifikasi Teknis Bina Marga 2018 Revisi 2.

Kata kunci : Agregat Kasar, Laston, Limbah Beton, Substitusi

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UTILIZATION OF K250 CONCRETE WASTE WITH A DIAMETER OF 10-15 MM AS A SUBSTITUTE FOR COARSE AGGREGATE IN THE LASTON ASPHALT CONCRETE - WEARING COURSE (AC-WC) MIXTURE.

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ABSTRACT

The development of transportation in Indonesia requires adequate infrastructure, especially in road pavement which affects the overall quality of the road. One approach to improving the quality of road pavement is through the development of recycling technology. This research proposes the use of concrete waste as a substitute for coarse aggregate in asphalt mixtures for AC-WC layers. The concrete waste material used is K250 quality concrete with a size of 10-15 mm. This research uses experimental methods in the laboratory of PT Trie Mukty Pertama Putra Tasikmalaya. Test specimens were prepared with variations of concrete waste as a substitute for coarse aggregate (0%, 15%, 25%, and 35%) and tested using the Marshall Test. The aim of making 4 types of mixtures with different levels is to obtain the effect of concrete waste and optimum levels of concrete waste which can be used as a substitute for coarse aggregate in the Asphalt Concrete-Wearing Course (AC-WC) mixture. The results obtained from testing Marshall characteristics on the weight of the asphalt mixture with an estimated asphalt content of 5%, 5.5%, 6%, 6.5% and 7% at the optimum asphalt content with a variation of 0% (standard) obtained an KAO of 5. 3%, a 15% variation gets a KAO of 5.3%, a 25% variation gets a KAO of 5.4%, and a 35% variation gets a KAO of 5.6%. And the results of the Optimum Asphalt Content (KAO) test object for the marshall parameters all the marshal characteristic value results meet the requirements. With this, all Marshall parameter values for each variation of concrete waste as a substitute for coarse aggregate meet the requirements determined by the 2018 Bina Marga Technical Specifications Revision 2.

Keywords: Coarse Aggregate, Laston, Concrete Waste, Substitutes

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