

SKRIPSI

**Karakteristik Marshall Campuran *Asphalt Concrete Binder Course* (AC-BC)
Menggunakan Material Tras Lompotoo**

Oleh

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Hari/tanggal : Selasa, 15 Desember 2015

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Pembimbing Utama

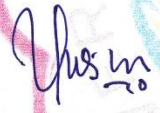
Tim Penguji I

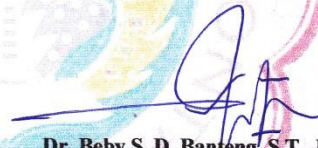

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INTISARI

Feriyanto Tahir. 2015. Karakteristik *Marshall* Campuran *Asphalt Concrete Binder Course* (AC-BC) Menggunakan Material Alam Tras Lompotoo. Pembimbing utama: Frice L. Desei, S.T., M.Sc, Pembimbing Pendamping: Yuliyanti Kadir, S.T., M.T. Jurusan Teknik Sipil, Fakultas Teknik Universitas Negeri Gorontalo.

Penelitian ini bertujuan untuk mengetahui karakteristik *marshall* sebagai bahan pengganti *filler* untuk campuran (AC-BC). Penelitian ini dilakukan berdasarkan spesifikasi Bina Marga 2010 (Revisi II) dengan teknik analisis data menggunakan metode *marshall*. Karakteristik *marshall* meliputi stabilitas, *flow*, *marshall quotient*, *voids in mix* (VIM), *voids in the mineral agregat* (VMA), *volume of voids filled with asphalt* (VFA). Agregat yang digunakan berasal dari sungai Gentuma hasil pemecah batu P.T Dinasty dan Tras berasal dari desa Lompotoo. Berdasarkan hasil pengujian untuk campuran aspal AC-BC, diperoleh nilai kadar aspal optimum (KAO) sebesar 5,85%, nilai ini selanjutnya digunakan untuk pembuatan campuran aspal dengan penambahan Tras Lompotoo sebagai *filler* dengan variasi antara 0% - 50% (0%, 10%, 20%, 30%, 40% dan 50%). Benda uji berjumlah 30 buah (sampel) masing-masing sampel berjumlah 5 buah untuk setiap Tras. Hasil penelitian menunjukkan presentasi penggunaan Tras sebesar 20% yang sangat memberikan pengaruh pada sifat *marshall* campuran AC-BC, dengan nilai-nilai *marshall* yang diperoleh adalah sebagai berikut: Stabilitas 2945,160 kg, kepadatan 2,263 gram/cm³, *void in mixture* (VIM) 4,104%, *void in mineral agregat* (VMA) 16,112%, *flow* 11,074 mm, *marshall quotient* (MQ) 300,786.

Kata kunci : Karakteristik Marshall, *Asphalt Concrete – Binder Course*, Tras

ABSTRACT

Feriyanto Tahir. 2015. Marshall Characteristics on mixed of Asphalt Concrete Binder Course (AC-BC) using Natural Material of Trass in Lompotoo Village. The principal supervisor was Frice L. Desei, S.T., M.Sc and the co-supervisor was Yuliyanti Kadir, S.T., M.T. Department of Civil Engineering, Faculty of Engineering, State University of Gorontalo.

This research aimed at knowing the Marshall Characteristics as the replacement of filler on mixed of AC-BC. This research was conducted based on the Bina Marga 2010 (2nd revised) specification, while the technique of analyzing the data used Marshall Method. The characteristics of marshall involved stability, flow, marshall quotient, voids in mix (VIM), voids in the mineral agregat (VMA), volume of voids filled with asphalt (VFA). The Aggregate used from the Gentuma River of the result of stone breaker of PT Dinasty and Trass from Lompotoo Village.

Based on the test result of mixed of AC-BC, the values of Asphalt Optimum level (KAO) about 5,85%, this research then used on the mixing of asphalt with the additional of Trass from Lompotoo Village as filler, the variation between 0% - 50% (0%, 10%, 20%, 30%, 40%, and 50%). Testing was done to 30 (as sample). Each sample has 5 pieces on each trass. The result of the research showed the presentation of the using 20% of trass gives effect on Marshall Characteristic on mixed of AC-BC, with the values of marshall are; *stability* 2945,160 kg, *density* 2,263 gram/cm³, *Void in Mixture* (VIM) 4,104%, *Void of Mineral Aggregate* (VMA) 16,112%, *flow* 11,074 mm, *Marshall quotient* (MQ) 300,786.

Keywords: *Trass, Asphalt Concrete – Binder Course, Marshall, Flow, Stability.*