

## ABSTRAK

Nama : Andi aria Sakti, Nim : 15512944, Dosen Pembimbing I : Dr. Ahmad Ridwan, SE.ST.MT Dosen Pembimbing II : Yosep Cahyo SP., ST., MT., M.Eng., Prodi Teknik Sipil Fakultas Teknik Universitas Kadiri, dengan Judul Tugas Akhir : PENELITIAN PENGGUNAAN ABU SISA PEMBAKARAN KAYU SEBAGAI *FILLER* PADA ASPAL CAMPURAN AC-WC (ASPHALT CONCRETE – WEARING COURSE). Penelitian ini bertujuan untuk mengetahui filler abu kayu bakar dengan menggunakan metode Marshall, dan untuk mengetahui kadar aspal optimum yang dihasilkan pada campuran aspal beton dengan menggunakan filler abu kayu bakar, di tinjau dari stabilitas marshall, *flow*, VIM (*voids In Mix*), VMA (*Void In Mineral Agregate*), VFB (*Void Filled Bitumen*), dan *Marshall quotient* (MQ). Metode campuran aspal beton dalam penelitian ini menggunakan aspal minyak AC 60/70. Penelitian ini masing-masing menggunakan kadar aspal yang berbeda yaitu: 4%, 5%, 6%, 7%, 7,5%. Dengan masing-masing sampel terdiri dari 3 varian sampel benda uji. Penelitian ini dilaksanakan di Laboratorium Teknik, universitas kadiri. Tahapan penelitian meliputi agregat kasar batu koral tertahan saringan no. 8 (2,36mm), agregat halus pasir dengan lolos saringan no. 8 (2,36mm), dan *filler* menggunakan abu kayu bakar dengan lolos saringan no. 200 (0,075mm). Hasil uji dari penelitian ini pada karakteristik Marshall didapat kadar Aspal Optimum 6 % dengan nilai rerata Stabilitas 1757, nilai rerata *Flow* 2,9 mm, nilai rerata VIM (*voids In Mix*) 5,60%, nilai rerata VMA (*Void In Mineral Agregate*) 20,22%, nilai rerata VFB (*Void Filled Bitumen*) 71,81%, dan nilai rerata *Marshall quotient* (MQ) 522 kg/mm.

**Kata Kunci:** Abu Kayu Bakar, Metode Marshall, VIM, VMA, VFB, MQ

## ABSTRACT

Name: Andi aria Sakti, Nim: 15512944, First Advisor: Dr. Ahmad Ridwan, SE.ST.MT Supervisor II: Yosep Cahyo SP., ST., MT., M.Eng., Civil Engineering Study Program, Faculty of Engineering, University of Kadiri, with the title Final Project: RESEARCH ON THE USE OF THE REST OF THE WOOD Burning AS A FILLER IN AC-WC MIX (ASPHALT CONCRETE - WEARING COURSE). This research aims to determine the wood ash ash filler using the Marshall method, and to determine the optimum asphalt content produced in concrete asphalt mixtures using wood ash ash fillers, in terms of stability marshall, flow, VIM (voids In Mix), VMA (Void In Mineral Aggregate), VFB (Void Filled Bitumen), and Marshall quotient (MQ). The method of concrete asphalt mixture in this study uses AC 60/70 asphalt. Each study used different asphalt levels, namely: 4%, 5%, 6%, 7%, 7.5%. With each sample consisting of 3 test sample variants. This research was conducted at the Laboratory of Engineering, the university attended. The stages of the study included coarse coral aggregate suspended by sieve no. 8 (2,36mm), fine aggregate of sand by passing filter no. 8 (2,36mm), and the filler uses firewood ash to pass filter no. 200 (0.075mm). Test results from this study on Marshall characteristics obtained Optimum Asphalt content of 6% with a Stability average value of 1757, a mean flow value of 2.9 mm, a mean VIM (voids in mix) value of 5.60%, a mean value of VMA (Void In Mineral Agregate) 20.22%, average VFB (Void Filled Bitumen) value 71.81%, and Marshall quotient (MQ) average value of 522 kg / mm.

**Keywords:** Firewood Ash , Marshall Method , VIM , VMA , VFB , MQ