ABSTRAK

Nama : Faisal Abdul Yusuf , NIM : 15512847 , Dosen Pembibing I : Dr. Ahmad Ridwan S.E, S.T, Dosen Pembimbing II : Yosef Cahyo SP, S.T, M.T, M.Eng. Prodi Teknik Sipil Fakultas Teknik Universitas Kadiri, dengan judul Tugas Akhir : **Penelitian Penambahan Bahan Serbuk Dolomite dan Pasir Brantas Pada Campuran Aspal Beton.**

Aspal Beton (Hotmix) adalah campuran agregat kasar, agregat halus, dan bahan pengisi (Filler) dengan bahan pengikat **aspal** dalam kondisi suhu tinggi (panas) dengan komposisi yang diteliti dan diatur oleh spesifikasi teknis. Aspal beton sebagai bahan untuk konstruksi jalan sudah lama dikenal dan digunakan secara luas dalam pembuatan jalan, penggunaannya pun di Indonesia dari tahun ke tahun makin meningkat. Pada penelitian ini, campuran aspal beton diberi bahan tambahan serbuk dolomite sebagai campuran pada filler agar menjadi bahan alternativ campuran filler semen portaland untuk meminimalisir harga semen portaland yang semakin mahal dan pasir brantas sebagai agregat halus untuk mempelajari dan mengetahui pengaruh serbuk dolomit dan pasir brantas pada campuran aspal beton dengan penambahan kadar 5%, 10%, dan 15%. Benda uji kuat tekan berupa silinder dengan diameter 10,09 cm dan tinggi rata rata 7,8 cm dengan 9 sempel per kadar 3 sempel dari masing-masing kadar. Pengujian dilakukan setelah 2 hari. Dari hasil penelitian didapat nilai VIM (Void in Mix) sebesar 11,99% pada kadar 5%, 15,28% pada kadar 10% dan 10,29% pada kadar 15%. Pada VMA(Void Mineral Aggregate) dimana nilai VMA pada kadar 5%, 10%, 15% adalah 26,30%, 29,05% dan 24,88%. Hasil VFB (Void Filled Bitumen) dengan kadar 5%, 10%, 15% adalah 54,49%, 48,33%, 58,81%. Pada nilai stabilitas ketika kandungan kadar serbuk dolomite bertambah maka nilai stabilitas menurun hingga mencapai suatu nilai minimum diperoleh hasill dari kadar 5%, 10%, 15% sebesar 3402,503 kg, 3294,030 kg, 1958,946 kg. Pada hasil Marshall Quotient (MQ) penambahan serbuk dolomit 5% sebesar 733,8130 kg, 10% sebesar 456,1891 kg, 15% sebesar 471,9089 kg. Dari grafik perhitungan lewat pengujian marshall kadar optimum campuran serbuk dolomit pada aspal beton pada kadar 5,5% sampai 8% dan kadar maximum pada kadar 5%.

Kata kunci: Serbuk Dolomit, Pasir Brantas, Aspal Beton, Pengaruh Serbuk dolomite.

ABSTRACT

Name: Faisal Abdul Yusuf, NIM: 15512847, Nursing Lecturer I: Dr. Ahmad Ridwan S.E, S.T, Advisor II: Yosef Cahyo SP, S.T, M.T., M.Eng. Civil Engineering Study Program, Faculty of Engineering, University of Kadiri, with the title Final Project: **Research on the Addition of Dolomite Powder and Brantas Sand in Concrete Asphalt Mixes.**

Asphalt Concrete (Hotmix) is a mixture of coarse aggregates, fine aggregates and fillers (fillers) with asphalt binder in high temperature conditions with the composition examined and regulated by technical specifications. Concrete asphalt as material for road construction has long been known and widely used in road construction, its use in Indonesia from year to year is increasing. In this study, the concrete asphalt mixture was added with dolomite powder as a mixture on the filler to be an alternative material for portal cement filler mixture and to minimize the price of increasingly expensive portaland cement and brantas sand as fine aggregate to study and determine the effect of dolomite and brantas sand in the mixture asphalt concrete with the addition of 5%, 10% and 15%. Compressive strength specimens in the form of cylinders with a diameter of 10.09 cm and an average height of 7.8 cm with 9 samples per grade of 3 samples from each level. Testing is done after 2 days. From the results of the study, the VIM (Void in Mix) value was 11.99% at 5%, 15.28% at 10% and 10.29% at 15%. In VMA (Void Mineral Aggregate) where the value of VMA at levels of 5%, 10%, 15% is 26.30%, 29.05% and 24.88%. VFB (Void Filled Bitumen) results with levels of 5%, 10%, 15% were 54.49%, 48.33%, 58.81%. At the value of stability when the content of the content of dolomite powder increases, the value of stability decreases until it reaches a minimum value obtained by the content of 5%, 10%, 15% of 3402.503 kg, 3294,030 kg, 1958,946 kg. In the results of Marshall Quotient (MQ) the addition of 5% dolomite powder was 733.8130 kg, 10% was 456.191 kg, 15% was 471.9089 kg. From the calculation graph through the Marshall test the optimum level of mixture of dolomite powder on concrete asphalt at levels of 5.5% to 8% and maximum levels at 5% levels.

Keywords: Dolomite Powder, Brantas Sand, Concrete Asphalt, Powder Effect dolomite.