ABSTRAK

Indonesia termasuk negara penyumbang limbah ban karet terbesar. Sehingga munculnya inovasi limbah ban karet sebagai bahan tambah pada perkerasan jalan raya. Indonesia sendiri merupakan negara kepulauan yang dikeliligi air laut. Dimana sering terjadinya kenaikan air laut ke permukaan tanah. Kenaikan air laut membuat jalan cepat rusak dikarenakan kandungan air laut yang bersifat asam dan proses deformasi yang berlebihan setiap harinya. Tujuan penelitian ini untuk mengetahui Pengaruh Rendaman Air Laut terhadap Penurunan Kinerja Campuran *Superpave* yang Menggunakan Limbah Ban Karet Sebagai *Additive.*

Penelitian dimulai dengan pemeriksaan sifat fisik material, menentukan KAO, perendaman benda uji, melakukan uji *Marshall*, Permeabilitas, *Immersion*, *Indirect Tensile Strength*, dan *Cantabro*. Standar yang digunakan mengacu pada Bina Marga 2010 dan *Asphalt Institut* (1993).

Hasil penelitian penambahan ban karet menunjukkan nilai stabilitas dan *flow* mengalami kenaikan sampai pada 8% dan menurun kembali. Berbanding terbalik dengan nilai *MQ* yang menurun. Pada perendaman nilai stabilitas dan *flow* menurun selama perendaman 96 jam air laut, nilai penurunan sebesar 3,94% dan 7,98% untuk stabilitas dan *flow*. Nilai *MQ* naik selama perendaman sebesar 7,06% dan 3,71% pada persen 0% dan 10% ban karet. Nilai permeabilitas pada tekanan 1 dan 2 terjadi kenaikan nilai koefisian permeabilitas. Nilai *IRS* pada penambahan kadar ban karet menurun tidak signifikan sebesar 2,19%, 1,96% dan 4,16%. Sedangkan pada perendaman air laut menurun sebesar 1,06%, 1,02%, 2,15% dan 3,01%. Nilai *ITS* pada penambahan kadar ban karet menurunan signifikan sebesar 34,20%, 35,46% dan 34,37% pada rendaman 0 jam, 48 jam, dan 96 jam, sedangkan akibat perendaman naik tidak signifikan sebesar 1,84%, 13,17%, 21,26% dan 3,05% tiap 0%, 6%, 8% dan 10% ban karet. Nilai *Cantabro* menurun selama penambahan kadar Ban Karet sebesar 38,11%, 41,89%, dan 47,52%. Naik saat lamanya waktu perendaman air laut yaitu sebesar 5,93%, 4,77%, 4,31% dan 3,37%.

Kata kunci: Serbuk Ban Karet, Air Laut.

ABSTRACT

Indonesia is one of the biggest contributors of rubber tire waste. So that the emergence of innovation is in rubber tire waste as an ingredient added to highway pavement. Indonesia is an archipelagic state which is protected by sea water. Where there is often an increase in sea water to the surface of the land. The increase in sea water makes the road quickly damaged because the acid contained in sea water and excessive deformation everyday. The purpose of this study is to reduce the mixture of superpave mixture performance using rubber tire waste as an additive.

The study of physical properties of materials, determines the KAO, immersing the specimen, performing Marshall test, Permeability, Immersion, Indirect Tensile Strength, and Cantabro. The standard used refers to DGH 2010 and Asphalt Institute (1993).

The results of this research on adding rubber tires showed increased stability and flow to 8% and declined again. inversely proportional to the decreasing MQ value. In the soaking value of stability and flow decreased during 96 hours of life immersion, the decrease value is 3.94% and 7.98% for stability and flow. The value of MQ rose during immersion by 7.06% and 3.71% at 0% percent and 10% rubber tires. Permeability values at pressure 1 and 2 increase the permeability coefficient value. The IRS is reduced by 2.19%, 1.96% and 4.16%. While the seawater immersion decreased by 1.06%, 1.02%, 2.15% and 3.01%. The value of ITS is significantly lower by 34.20%, 35.46% and 34.37% in the immersion 0 hours, 48 hours and 96 hours, while due to so it increases not significantly by 1.84%, 13, 17% , 21.26% and 3.05% per 0%, 6%, 8% and 10% of rubber tires. Cantabro value of 38.11%, 41.89%, and 47.52%. And the sea level is equal to 5.93%, 4.77%, 4.31% and 3.37%.

Keywords: Rubber Tire Powder, Sea Water.