ABSTRACT

The use of rubber tire waste in the development of porous asphalt technology as a part of flexible pavement aims to minimize the adverse effects of transportation facilities. The use of rubber tire waste as an added material in pavement can provide several advantages, namely increasing skid resistance and pavement age. This study aims to analyze the extent of the influence of seawater on porous asphalt durability and the effect of adding rubber tire waste as an added material in pavement.

In this study several stages were carried out, namely the first stage was testing material properties. The second step is to determine the optimum bitumen content of the porous asphalt mixture. The third stage is immersing samples of test specimens in seawater. The fourth stage is doing Marshall testing, Permeability, Immersion, Indirect Tensile Strength, Asphalt Flow Down and Cantabro. The last stage is to conduct analysis, discussion and conclusions from the tests that have been carried out.

The results showed the permeability of the mixture using Pen 60/70 asphalt and rubber asphalt showed the results of the indicator "moderate drainage". The results of testing the Marshall characteristics showed a decrease in the value of stability, flow, and MQ in the porous asphalt mixture with Pen 60/70 asphalt and rubber asphalt as the duration of sea water immersion increased. The porous asphalt mixture using Pen 60/70 asphalt and rubber asphalt has Index of Retained Strength values which tend to decrease with increasing sea water immersion duration. Indirect Tensile Stength test results due to seawater submersion indicate a decrease in ITS value in porous asphalt mixtures with Pen 60/70 asphalt and rubber asphalt. The Cantabro test results showed an increase along with the increasing duration of seawater immersion.

***Keywords** : Porous Asphalt, Rubber Tire Powder, Seawater*

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